Exhibit A

DATE: September 25, 2017
TO: Public Agencies, Organizations and Interested Parties

FROM: Aaron Hollister, Project Planner

SUBJECT: **NOTICE OF PUBLIC REVIEW AND INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION**

Pursuant to the State of California Public Resources Code and the "Guidelines for Implementation of the California Environmental Quality Act of 1970" as amended to date, this is to advise you that the City of Santa Rosa has prepared an Initial Study on the following project:

Project Name:

Round Barn Village General Plan Amendment and Rezone

Location:

0 Round Barn Boulevard, Santa Rosa, Sonoma County, California, APNs: 173-020-030 through 173-020-036.

Property Description:

The 40.18-acre Project site is located south and east of Round Barn Boulevard and north of the Fountaingrove Center office complex and Fountaingrove Parkway in the northern part of the City of Santa Rosa, Sonoma County, California. The Project site is bounded by Round Barn Boulevard to the west, north, and east, and bounded by the Fountaingrove office complex, and Fountaingrove Parkway to the south and southeast. To the north are various commercial and medical offices, beyond which are Lake Harris Open Space, Nagasawa Park, and Oakmont of Varenna with the Fountaingrove Golf & Athletic Club just beyond.

The Project site is characterized by mixed oak woodland occupying the hillsides along the southern and western sides of the site, ruderal annual grassland located in the relatively flat interior area of the site, and a paved parking lot dominated by non-native grasses and forbs. The foundations of two previous structures located north of the parking lot, which consisting of approximately 27,000 square feet are part of a former winery site. A pedestrian pathway encircles the exterior of most of the Project site. A small segment of Nagasawa Creek is located near the northwest perimeter of the site. An open space easement of approximately 11.6 acres encumbers the southwestern corner of the Project site including the hillside, oak woodland along the southern border extending to the west, an area on the south side of the middle of the site, and a riparian strip along the northeastern border.

The site is within the Santa Rosa city limits and the Urban Growth Boundary (UGB) as approved by voters in 1996. The 40.18-acre site consists of seven parcels, APNs 173-020-030 through 173-020-036. Current access to the site is provided from the west or east via Round Barn Boulevard, with regional access available via Fountaingrove Parkway from US 101. The General Plan land use designation applicable to the site is Business Park. All Project parcels are zoned Planned Development (PD 72-001—Highway/Tourist/Office Commercial).

Project Description:

The proposed project would amend the General Plan Land Use designation of the project site (40.18 acres) from Business Park to Medium Low Density Residential (18.26 acres) and Open Space (21.92 acres), and rezone the site from PD zoning (PD72-001—Highway/Tourist/Office Commercial) to R-1 (Single-Family Residential) (18.26 acres) and Open Space Conservation (OSC) (21.92 acres). No development is proposed. The proposed amendment and rezone will allow future development of residential uses (subject to separate permit approval) and protection of the oak woodland and riparian areas on the site.

Environmental Issues:

The proposed project would result in potentially significant impacts in Air Quality, Biological Resources, Cultural Resources, Hazards/Hazardous Materials, Noise, and Transportation/Traffic. The project impacts would be mitigated to a less-than-significant level through implementation of recommended mitigation measures or through compliance with existing Municipal Code requirements or City standards. Recommended measures are summarized in the attached Mitigation Monitoring and Reporting Plan (MMRP) and Initial Study/Mitigated Negative Declaration. The Initial Study/Mitigated Negative Declaration document has been prepared in consultation with local, and state responsible and trustee agencies and in accordance with Section 15063 of the California Environmental Quality Act (CEQA). Furthermore, the Initial Study/Mitigated Negative Declaration will serve as the environmental compliance document required under CEQA for any subsequent phases of the project and for permits/approvals required by a responsible agency.

A 30-day public review period shall commence on **September 25, 2017**. Written comments must be sent to the City of Santa Rosa, Planning and Economic Development Department, 100 Santa Rosa Avenue, Room 3, Santa Rosa CA 95404 **by October 25, 2017**. The City of Santa Rosa Planning Commission will hold a public hearing on the Initial Study/Mitigated Negative Declaration and project merits on **October 26, 2017,** in the Santa Rosa City Council Chambers at City Hall (address listed above). **Correspondence and comments can be delivered to Aaron Hollister, project planner, phone: (707) 543-4634, email: ahollister@srcity.org**

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DRAFT
Round Barn Village Project
Initial Study/Mitigated Negative Declaration
City of Santa Rosa, Sonoma County, California

Prepared for:
City of Santa Rosa
Planning and Economic Development Department
100 Santa Rosa Avenue
Santa Rosa, CA 95404

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Report Date: September 20, 2017

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ACRONYMS AND ABBREVIATIONS

°C	degrees Celsius (Centigrade)
°F	degrees Fahrenheit
µg/m^3	micrograms per cubic meter
ABAG	Association of Bay Area Governments
afy	acre-feet per year
APN	Assessor's Parcel Number
AQP	air quality plan
ARB	California Air Resources Board
ASCE	American Society of Civil Engineers
ASF	age sensitivity factors
AST	aboveground storage tank
BAAQMD	Bay Area Air Quality Management District
BMPs	best management practices
CalEEMod	California Emissions Estimator Model
CalFire	California Department of Forestry and Fire Protection
CAP	Clean Air Plan
CBC	California Building Code
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CGS	California Geological Survey
CHL	California Historical Landmarks
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	carbon monoxide
CPHI	California Points of Historical Interest
CR	California Register of Historic Resources
CWA	Clean Water Act
cy	cubic yards
dB	decibel
dBA	A-weighted decibel scale
DBR	daily breathing rates
DHS	California Department of Health Services
DOT	U.S. Department of Transportation
DPM	diesel particulate matter

DTSC	California Department of Toxic Substances Control
EDR	Environmental Data Resources
EPA	U.S. Environmental Protection Agency
EPS	Economic and Planning Systems, Inc.
FCS	FirstCarbon Solutions
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FMMP	Farmland Mapping and Monitoring Program
FTA	Federal Transit Administration
HCP	Habitat Conservation Plan
HRCQ	highway route controlled quantities
HRI	California State Historic Resources Inventory
in/sec	inch per second
IS/MND	Initial Study/Mitigated Negative Declaration
ITE	Institute of Transportation Engineers
L_{dn}	day/night sound level
L_{eq}	equivalent continuous sound level
LHMP	Local Hazard Mitigation Plan
L_{max}	maximum noise levels
LOS	Level of Service
MBTA	Migratory Bird Treaty Act
mgd	million gallons of water per day
MIR	Maximum Impacted Sensitive Receptor
MM	Mitigation Measure
MM	Mitigation Measure
mph	miles per hour
MS4	Municipal Separate Storm Sewer System
NAHC	California Native American Heritage Commission
NCCP	Natural Community Conservation Plan
NCRWQCB	North Coast Regional Water Quality Control Board
NHMRR	National Hazardous Materials Route Registry
NO_2	nitrogen dioxide
NPDES	National Pollutant Discharge Elimination System
NR	National Register of Historic Places
NRCS	Natural Resource Conservation Service
NRHM	nonradioactive hazardous material
NWIC	Northwest Information Center
OEHHA	California Office of Environmental Health Hazard Assessment

OSHA	California Division of Occupational Safety and Health
PG&E	Pacific Gas and Electric Company
PPV	peak particle velocity
PRC	Public Resources Code
RCRA	Resource Conservation and Recovery Act of 1976
rms	root mean square
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SCAPOSD	Sonoma County Agricultural Preservation and Open Space District
SCWA	Sonoma County Water Agency
SMARA	Surface Mining and Reclamation Act of 1975
SO_2	sulfur dioxide
SRCSD	Santa Rosa City School District
SRFD	Santa Rosa Fire Department
SRPD	Santa Rosa Police Department
SUSMP	Standard Urban Stormwater Mitigation Plan
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resource Control Board
TAC	toxic air contaminant
TAH	time at home factors
TCMs	Transportation Control Measures
TCRs	Tribal Cultural Resources
UCMP	University of California Museum of Paleontology
UGB	Urban Growth Boundary
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	U.S. Geological Survey
UST	underground storage tanks
VHFHS	Very High Fire Hazard Severity Zones
VOC	volatile organic carbon
VOC	volatile organic compounds
WWTP	Wastewater Treatment Plant
$\mu g/m_3$	micrograms per cubic meter

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SECTION 1: INTRODUCTION

1.1 - Purpose

The purpose of this Initial Study/Mitigated Negative Declaration (IS/MND) is to identify any potential environmental impacts from implementation of the Round Barn Village Project General Plan Amendment and Rezone (Project) in the City of Santa Rosa, California. Pursuant to California Environmental Quality Act (CEQA) Guidelines Section 15367, the City of Santa Rosa (City) is the Lead Agency in the preparation of this IS/MND and any additional environmental documentation required for the Project. The City has discretionary authority over the proposed Project. The intended use of this document is to determine the level of environmental analysis required for the Project and to provide the basis for input from public agencies, organizations, and interested members of the public.

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

1.2 - Project Location

The proposed Project site is located south and east of Round Barn Boulevard and north of the Fountaingrove Center office complex and Fountaingrove Parkway in the northern part of the City of Santa Rosa, Sonoma County, California (Exhibit 1). The site is within the city limits and the Urban Growth Boundary (UGB) as approved by voters in 1996. The 40.18-acre site consists of seven parcels, Assessor's Parcel Numbers (APNs) 173-020-034, 173-020-033, 173-020-032, 173-020-035, 173-020-036, 173-020-031, and 173-020-030. Current access to the site is provided from the west or east via Round Barn Boulevard, with regional access available via Fountaingrove Parkway from US 101.

1.3 - Environmental Setting

The 40.18-acre Project site is located in the Fountaingrove Area, which is characterized by hilly terrain. The site is at an elevation of approximately 300 feet above mean sea level and the regional topographic gradient is to the southwest. There is a mix of adjacent land uses including open space, residential, and commercial uses. The Project site is bounded by Round Barn Boulevard to the west, north, and east, and bounded by the Fountaingrove office complex, and Fountaingrove Parkway to the south and southeast. The Project site is approximately 0.65 mile southwest of Fountaingrove Lake, a reservoir fed from the east by Piner Creek and formed by the Fountaingrove Dam. To the north are various commercial and medical offices, beyond which are Lake Harris Open Space, Nagasawa Park, and Oakmont of Varenna with the Fountaingrove Golf & Athletic Club just beyond. Other prominent existing land uses near the Project site include the Kaiser Permanente Vista Family Health Center, other medical and commercial offices, two hotels, a church, apartment complexes, and single-family homes (Exhibit 2).

The Project site is characterized by rolling and steep topography, dense trees, and significant vegetation. One of the primary vegetation types on the Project site is ruderal annual grassland dominated by non-native grasses and forbs. This vegetation type is typical of the type both on the Santa Rosa Plain and in the lower slopes of the Mayacamas Mountains, which border the Santa Rosa Plain and are part of the Inner Coast Range. The mixed oak woodland within the Project site is dominated by coast live oak (*Quercus agrifolia*), black oak *(Quercus kelloggii*), valley oak (*Quercus lobata*), and blue oak (*Quercus douglasii*). Trees within the Project site protected under the City's Heritage tree program include coast live oak, valley oak, and black oak.

Approximately 5.5 acres of the site are paved as a surface parking lot, which was previously used as overflow parking for the adjacent office complex, but it is currently fenced off and is not in use (with the notable exception of temporary use as staging for the Tour de California and other local events). The foundations of two previous structures, which are remains of the Fountaingrove Winery complex, are located north of the parking lot and consist of approximately 27,000 square feet. A pedestrian pathway encircles the exterior of most of the Project site, and is well-used by nearby residents and employees. A small segment of Nagasawa Creek is located near the northwest perimeter of the site. An open space easement of approximately 11.6 acres encumbers the southwestern corner of the Project site, a strip of area along the southern border extending to the west, an area on the south side of the middle of the site, and a strip along the northeastern border (Document Record Number 85-88223). Overall, the site contains approximately 18.26 acres that is considered developable.

The General Plan land use designation applicable to the site is Business Park. All Project parcels are zoned Planned Development (PD 72-001—Highway/Tourist/Office Commercial).

1.4 - Project Description

The Project Applicant, City Ventures, is proposing General Plan Land Use and Zoning Map Amendments to allow for the future development of allowable residential and related uses and preservation of open space within the "developable" portion of the Project site (Exhibit 3 and Exhibit 4). No on-site development is currently proposed. The purpose of the Project is threefold:

- Allow future on-site residential development to be planned for on a currently underutilized business/office zoned parcel.
- Ensure that future on-site residential development is designed to respect the topography, pedestrian connections, open space designations, and infrastructure limitations that encumber the site.
- Promote the City's Housing Action Plan by increasing supply of the City's residentially developable land.

1.4.1 - Land Use and Zoning Amendments

The purpose of the land use and zoning amendments is to amend the City's General Plan and Zoning land use designations to allow for future residential development within the Project site. The Project Applicant, City Ventures, requests that the City amend the General Plan Land Use

designation from Business Park to a mixture of Medium Low Density Residential (18.26 acres) and Open Space (21.92 acres) (Exhibit 3). Similarly, a rezone of the site from the existing PD zoning (PD72-001—Highway/Tourist/Office Commercial) to a mixture of Single-Family Residential (R-1) (18.26 acres), and Open Space Conservation (OSC) (21.92 acres) would occur (Exhibit 4). Approval of the General Plan amendment and rezone would allow the future development of residential uses on the site instead of business park-type uses while ensuring that on-site topography, pedestrian connections, open space, and infrastructure limitations are respected.

There are two main reasons why the Project Applicant is seeking an amendment to the General Plan. First, there are natural and physical development constraints presented by the site that make it relatively undevelopable as a large-scale office complex. These constraints include the topography and vegetation that encumber the site. Significant grading, cut and fill, and vegetation removal would need to occur to allow for development of flat building pads for office construction and associated parking spaces. However, a multi-family residential development could be designed to be more accommodating of the existing on-site topography. The inclusion of open space land use and zoning designations on the site would ensure that significant topography and vegetation would be preserved.

Secondly, Santa Rosa is facing a housing shortage. The City of Santa Rosa Housing Action Plan released in October of 2016 identifies five programs to help address the historic housing shortage:

- Increase inclusionary affordable housing
- Achieve “affordability-by-design” in market rate projects
- Assemble and offer public land for housing development
- Improve development readiness
- Increase affordable housing investment and partnerships

The Project would facilitate achieving these goals by improving development readiness and re-designating an underutilized office parcel to allow for future residential development. Note that the 21.92 acres of Open Space designated lands would include the existing open space easement area and be maintained by the property owners. The City would not be made responsible for maintenance of the Open Space lands.

The Medium Low Density Residential land use designation would allow a density of 8.0 to 13.0 units per gross acre. Therefore, the General Plan would permit a density range of 146 to 237 units on the 18.26-acre developable portion of the Project site. As such, this document programmatically considers the development of up to 237 future residential units on the 18.26 developable acres (Exhibit 5).

The Single-Family Residential (R-1) zoning designation applies to areas of the City intended to be maintained as residential neighborhoods consisting of detached and attached single-family houses, clustered residential hillside projects, and small multi-family projects, together with compatible accessory uses. The maximum allowable density ranges from two to 13 dwelling units per acre. Permitted uses within the R-1 zone include:

- Community gardens
- Agricultural employee housing
- Community care facilities

- Mobile homes/manufactured housing units
- Residential accessory structures and uses
- Rooming or boarding houses and accessories
- Single-family dwellings
- Small health care facility
- Small family day care
- Utility infrastructure

While these uses are permitted, any subdivision or new land use developed on portions of the site exceeding 10 percent slope will be subject to hillside development review. As listed in Section 20-22.030 of the City of Santa Rosa Zoning Code, other uses within the R-1 zone, including multi-family dwellings and small lot residential projects, would require a use permit and design review. Any future proposed use or development requiring one of these discretionary approvals would require separate CEQA review.

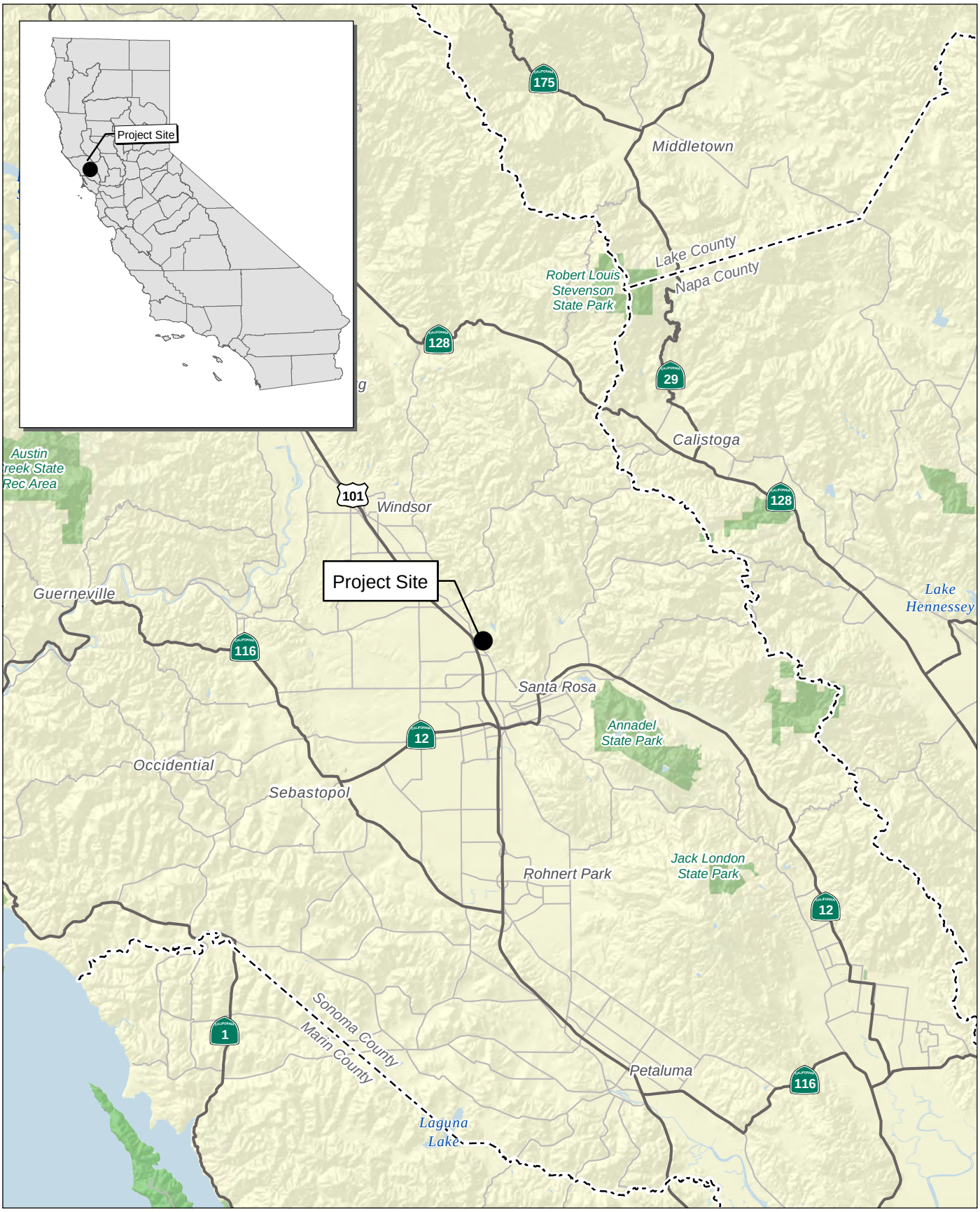
1.4.2 - Future Residential Development

While the General Plan Amendment and Rezone would not result in direct or primary environmental effects, indirect or secondary effects would result from future development on the project site. The redesignation and rezone of the project site could allow for a maximum future development of 237 residential units on the developable 18.26 acres that would be redesignated Medium Low Density Residential and R-1-6 for residential and related allowable uses (Exhibit 5). This maximum is based on the land use and zoning maximum density of 13 dwelling units per acre. As such, for the purpose of analyzing the indirect impact of the General Plan Land Use and Zoning Map Amendments, 237 residential units are considered the maximum future allowed development on-site. However, as previously noted, no on-site residential development is proposed at this time. Also previously noted, any future on-site residential development would be subject to separate approval, including zoning clearance, use permit, and/or hillside development, as applicable and indicated by Zoning Code Section 20-22.030. Separate CEQA review would be required for all discretionary permits.

The following describes the assumptions for indirect impacts of the future maximum residential development of 237 residential units on the Project site.

All existing on-site foundations (as described under Section 1.3, above), including the parking lot (approximately 223,000 square feet), would be demolished. Approximately 237,150 square feet of paved roads would be constructed on-site, including the roadway courts. As shown in Exhibit 5, the approximately 18.26 acres to be developed is located primarily in the center and northwest portions of the Project site. The future residential development would be situated to respect the existing topography, pedestrian connections, and existing open space easement. The future residential development area would mostly avoid Heritage trees, thereby allowing on-site tree removal to be limited. Nagasawa Creek would be located within an area designated as Open Space and, therefore, would not be disturbed by future development. The 237 residential units could provide housing for up to 628 residents.[1]

[1] Assuming an average household size of 2.65. Source: United States Census Bureau. 2014. American Factfinder. Website: https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_14_5YR_B25010&prodType=table. Accessed April 20, 2017.



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

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Exhibit 1
Regional Location Map

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Source: Bing Imagery

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Exhibit 2
Local Vicinity Map
Aerial Base

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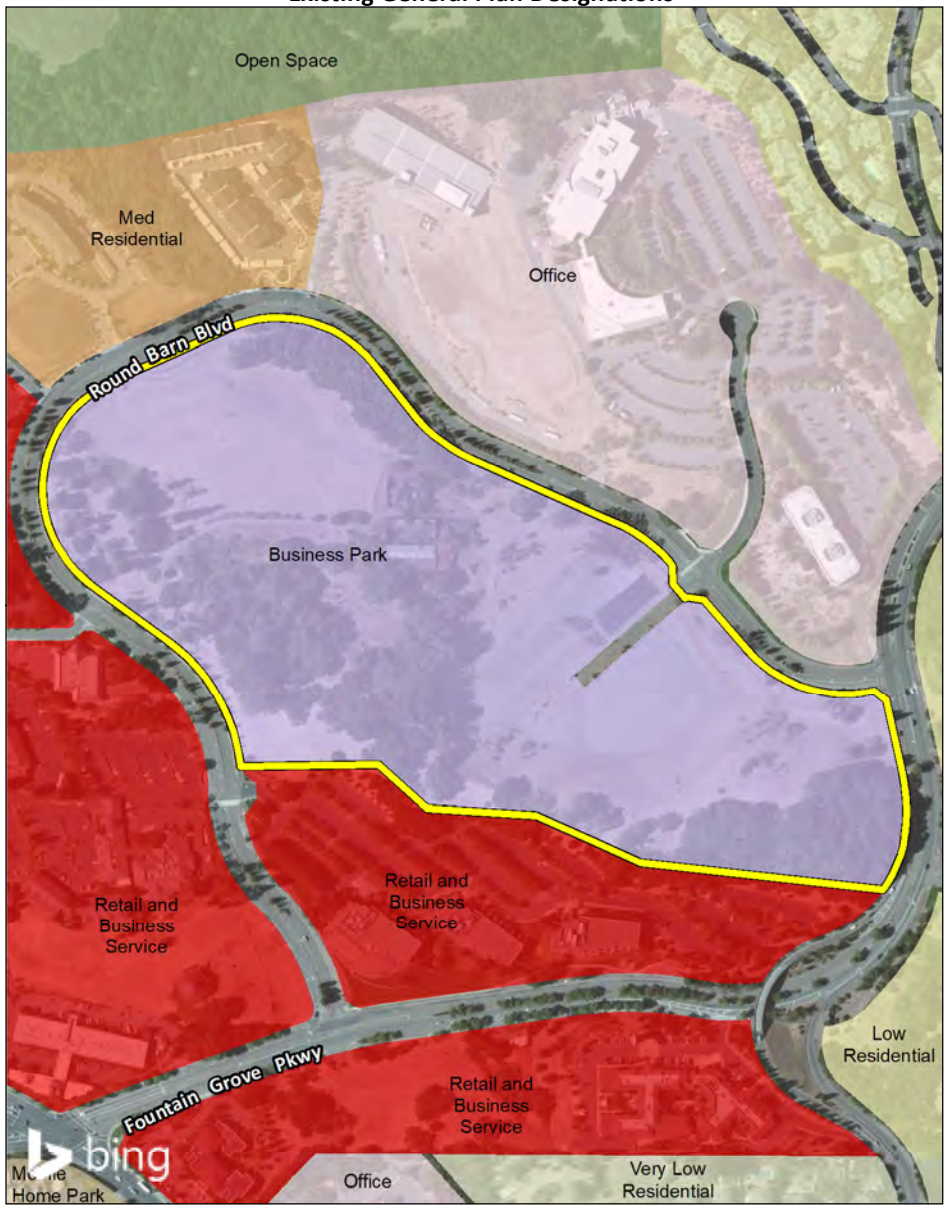
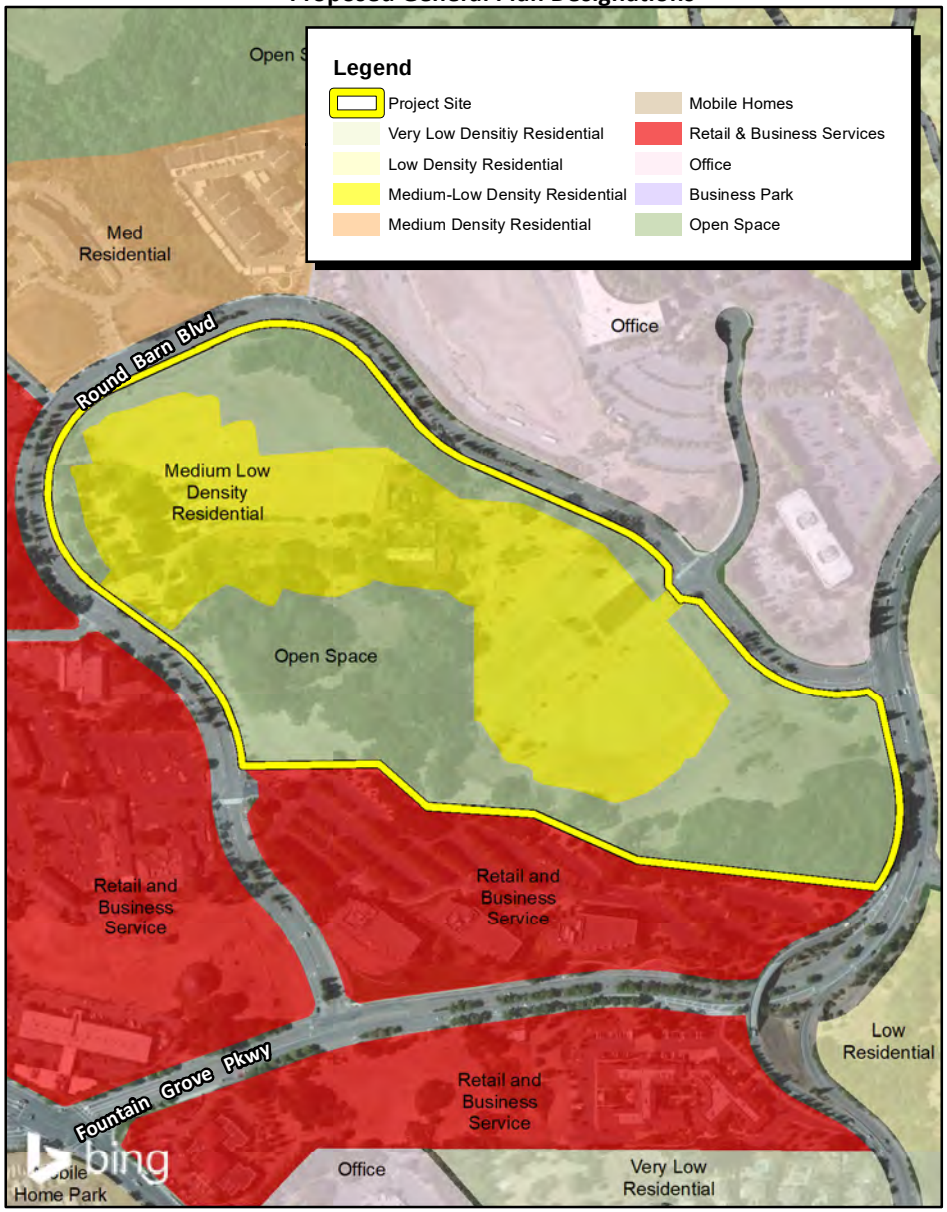
Existing General Plan Designations



Proposed General Plan Designations



Source: Bing Imagery; City of Santa Rosa

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Exhibit 3
General Plan Designations Existing and Proposed

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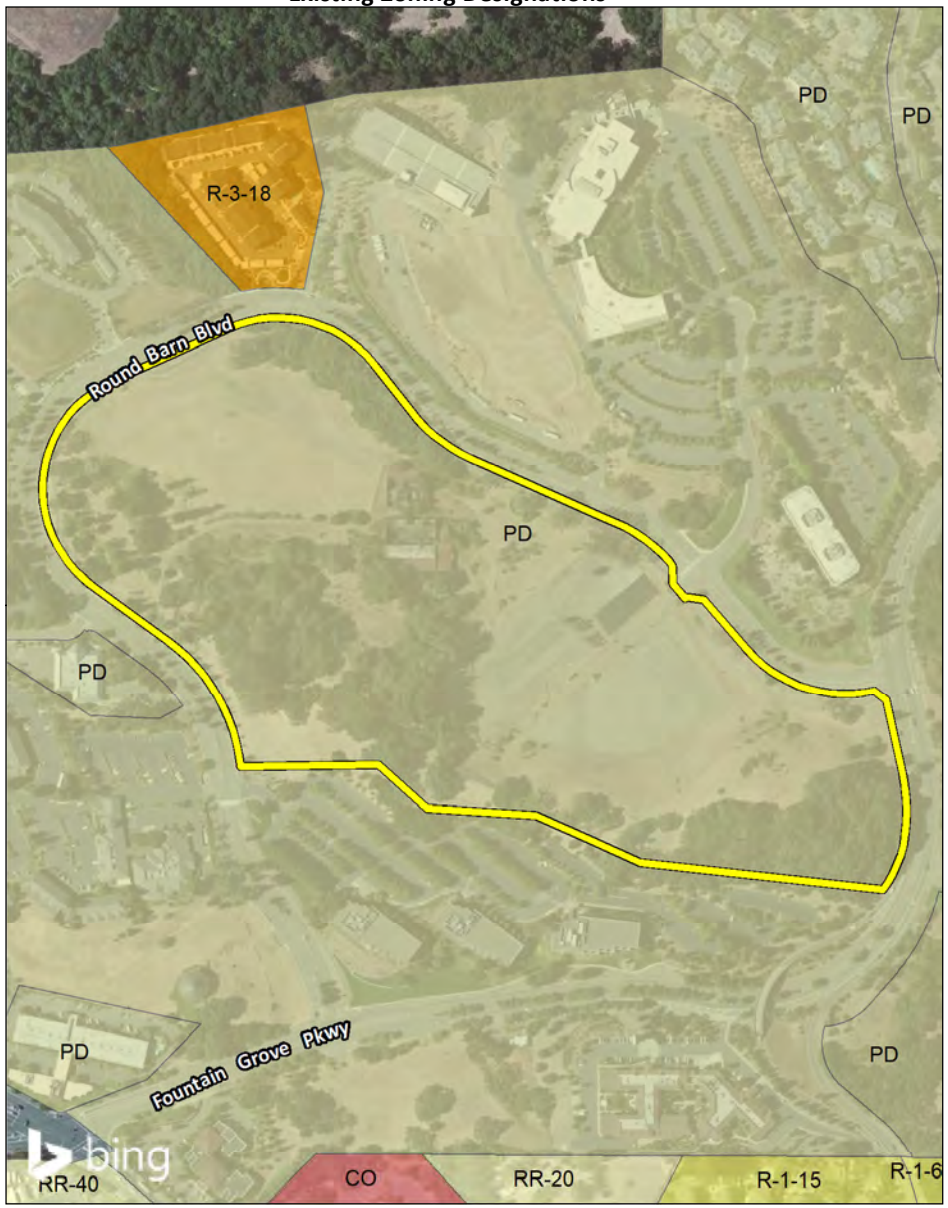
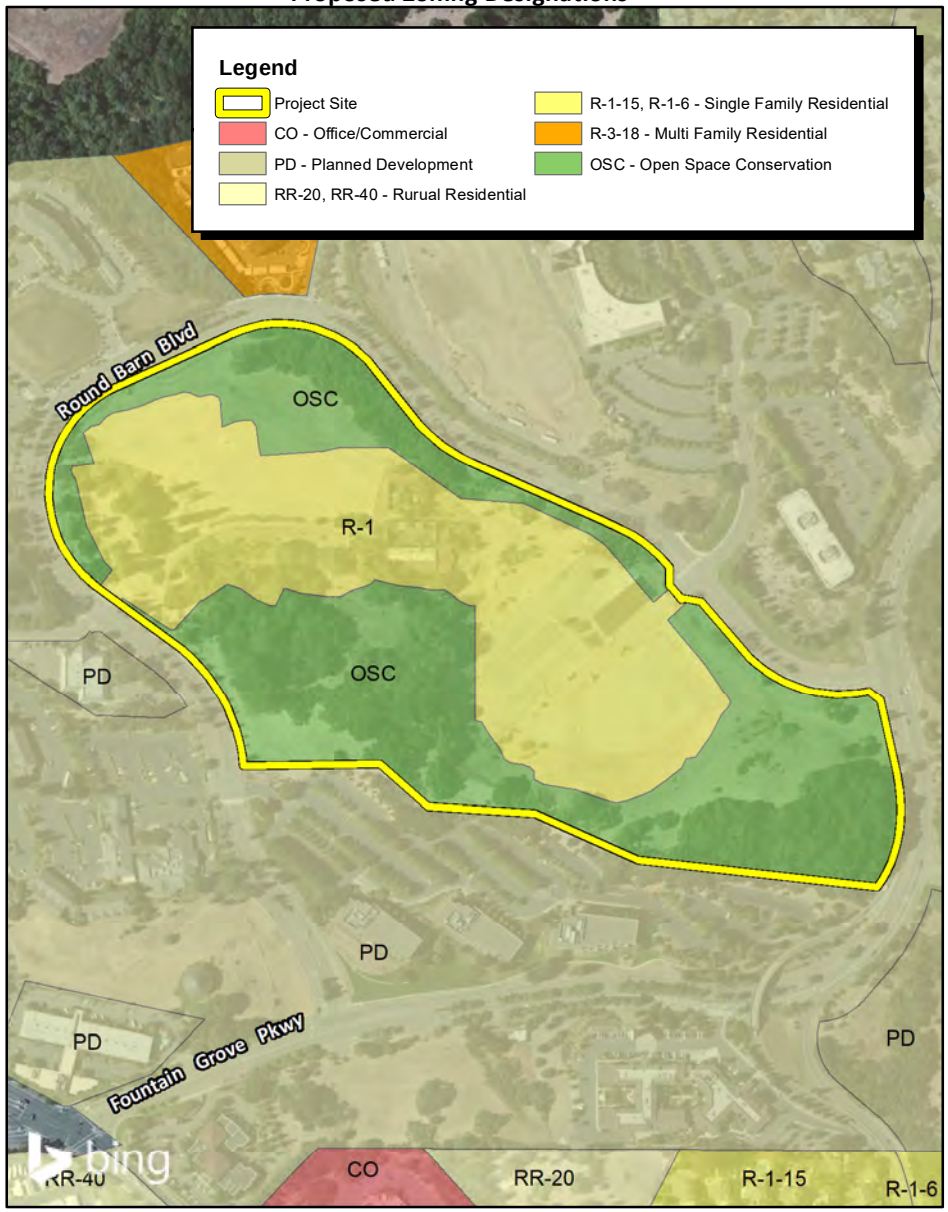
Existing Zoning Designations



Proposed Zoning Designations



Source: Bing Imagery; City of Santa Rosa

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Exhibit 4
Zoning Designations Existing and Proposed

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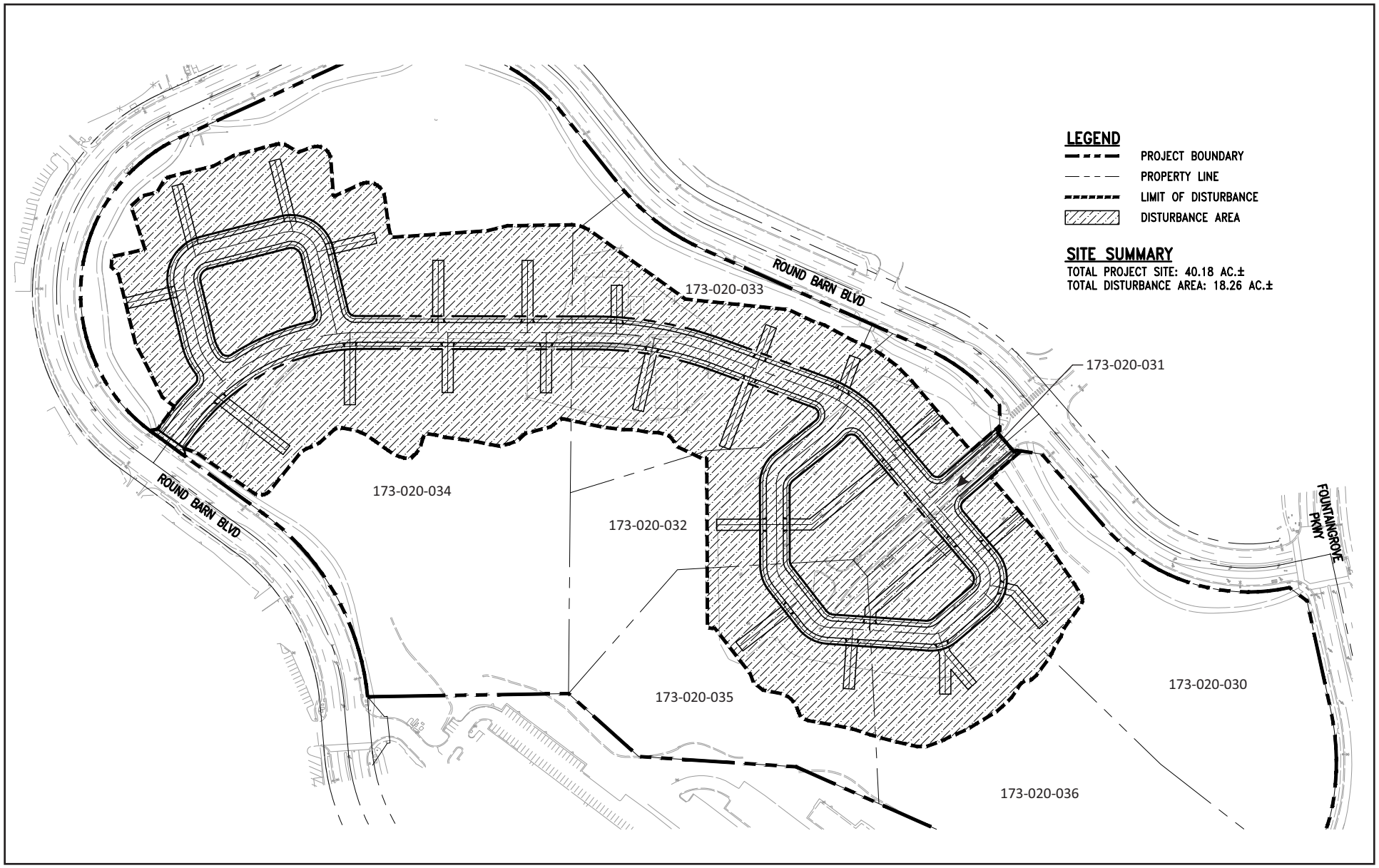

Source: C&V Consulting, 2017

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Exhibit 5
Conceptual Site Plan

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Site Access and Parking

Primary access to the 18.26 acres of the site most suitable for development would be provided by an internal roadway connecting the east and west segments of Round Barn Boulevard that loops around the project site. The existing pedestrian pathway, which currently encircles most of the Project site, would remain as it is located primarily within the proposed Open Space designation. Parking would be provided in accordance with City standards for residential parking requirements.

Amenities and Landscaping

On-site future residential development would conform to the City's Water Efficient Landscape Ordinance (WELO) and other outdoor water efficiency requirements. Major landscape screening would be included as part of the Project through design review. Grading would be kept to a practical minimum, and the affected areas would be replanted and landscaped to maintain the natural appearance. Strict architectural and landscape treatment controls would be exercised to preserve the hillsides in their natural state through design review and hillside development permitting. As discussed above, Heritage trees within the open space areas would be preserved. Trees within the development area would be removed in accordance with the City's Heritage tree ordinance stipulations.

Utilities

Potable water and sewer services would be provided by the City of Santa Rosa via connections to pipelines located in Round Barn Boulevard. Stormwater would be managed on-site through a network of gutters, drains, bioswales, and retention basins. Natural gas and electric services would be provided by Pacific Gas and Electric Company. Trash enclosures would be located as appropriate throughout the site and serviced by the City's contracted waste hauler.

1.4.3 - Construction

For programmatic analysis purposes, construction of the future residential development is anticipated to start in summer 2018 and last for up to 24 months, to be completed in summer 2020. Demolition of the existing foundations and parking lot is estimated to take approximately 5 months. Development would occur on the flatter portions of the Project site to avoid sloped areas. Construction would include excavation and grading activities. Grading activities would be balanced on-site.

1.5 - Required Discretionary Approvals

The General Plan Amendment and Rezone would require the following discretionary approvals from the City of Santa Rosa:

- General Plan Amendment
- Rezone

The future residential development would be subject to further discretionary review and therefore would be subject to subsequent CEQA analysis. Future approvals from the City of Santa Rosa would include but would not be limited to the following:

- Tentative Subdivision Map
- Hillside Development Permit
- Use Permit
- Design Review

1.6 - Intended Uses of this Document

This IS/MND will be used by the City of Santa Rosa as supporting environmental documentation for the proposed General Plan Amendment and Rezone. This IS/MND may also be used as supporting environmental documentation for approvals related to the future residential development; however, additional information from project plans and special studies (including any change to the proposed number of residential units on-site) may require additional analysis. As defined by CEQA Guidelines Section 15381, Responsible Agencies for the development of future development may include but would not be limited to the San Francisco Bay Regional Water Quality Control Board (RWQCB) and the Bay Area Air Quality Management District (BAAQMD). This document will also serve as a basis for soliciting comments and input from members of the public and public agencies regarding the proposed Project. The Draft IS/MND will be circulated for a minimum of 30 days, during which period comments concerning the analysis contained in the IS/MND should be sent to:

Aaron Hollister, Project Planner
City of Santa Rosa
Planning and Economic Development
100 Santa Rosa Avenue
Phone: 707.543.3236
Fax: 707.543.4634
Email: ahollister@srcity.org

SECTION 2: ENVIRONMENTAL CHECKLIST AND ENVIRONMENTAL EVALUATION

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

Environmental Determination

On the basis of this initial evaluation:

☐ I find that the proposed Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed Project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the Project have been made by or agreed to by the Project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed Project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measure based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed Project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed Project, nothing further is required.

Date: September 20, 2017 Signed: _____

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
1. Aesthetics *Would the Project:*				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic building within a state scenic highway?	☐	☐	☒	☐
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

Environmental Evaluation

Environmental Setting

According to the City General Plan, the natural ridgelines, and landmarks such as the Taylor and Bennett Mountains are open space lands within the City's Urban Growth Boundary. Taylor Mountain is located approximately 5.97 miles south of the Project site, while Bennett Mountain is located approximately 6.89 miles to the southeast. Views of the Sonoma Mountains, visible from many flatland areas of the City, are also recognized as a scenic resource. Lake Harris Open Space is located directly north of the Project site (Santa Rosa General Plan Figure 7-1). There are several designated ridgelines to the east and north of the Project site, as well as the ridgeline on the southwest corner of the Project site as identified on Santa Rosa General Plan Figure 7-3.

The California Department of Transportation identifies officially designated scenic highways through the California Scenic Highway Mapping System. The Project site is not located in the vicinity of an officially designated State Scenic Highway.[2] The closest officially designated State Scenic Highways are State Route 12 (SR-12) and SR-116, located approximately 4.22 miles east and 8.09 miles west of the Project site, respectively. In addition, the Project site is not located within the vicinity of an eligible State Scenic Highway. The City's General Plan and Municipal Code identify scenic roads in the project vicinity, including US 101 and Fountaingrove Parkway. The Project site is approximately 1,300 feet from US 101; however, views of the site are obscured by an upward-sloping hillside that is developed with a sprawling hotel complex and other intervening development. Only the very top of large trees on the western side of the site can be seen at a distance from US 101. The southern portion of the Project site abuts Fountaingrove Parkway, but the existing ridgeline and vegetation obscure views from Fountaingrove Parkway further north into the Project site, with the exception of brief views into the middle of the Project site as seen from the intersection of Fountaingrove

[2] Shultis, Brian. "Officially Designated State Scenic Highways and Historic Parkways." *Officially Designated State Scenic Highways and Historic Parkways*. California Department of Transportation, n.d. Web. 10 Oct. 2016.

Parkway and Round Barn Boulevard. This view of the Project site currently consists of trees, vegetation, and the on-site parking lot.

The existing visual character of the Project site is characterized by its rolling and steep topography, dense trees, and significant vegetation. The Project site also contains various "dry" shrubs that are spread throughout the site. The existing visual character of the surrounding area generally consists of office buildings north, west, south, and east of the site. Residential properties are located beyond these office complexes north, east, and south of the site. The Project site currently consists of the previously mentioned 5.5-acre paved surface parking lot and two building foundations formerly used for agricultural purposes north of the parking lot.

The Project would include a rezone of the site from the existing PD zoning to a residential zone, R-1, which would allow the future construction of residential development on the Project site. The City's Municipal Code establishes site planning and development standards for the R-1 zone, which is applied to areas of the City intended to be maintained as residential neighborhoods and comprises detached and attached single-family houses, clustered residential hillside projects, and small, multi-family projects, together with compatible accessory uses. The City's Zoning Code (Chapter 20-22.050) proscribes height limits, setbacks, site design, landscaping, and lot coverage stipulations. Future residential development would be required to comply with applicable stipulations, and to be consistent with the allowable residential development type.

The Project site is located within the urbanized context of the City of Santa Rosa, where existing development within the city limits contributes substantial nighttime light. Existing sources of light in the vicinity of the Project site include streetlights, vehicle lights, and lighting from both single- and multi-family homes and the surrounding office buildings. Existing sources of glare in the vicinity include building windows and vehicle windshields.

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

Less than significant impact. As noted above, the Project site is bounded by Round Barn Boulevard to the west, north, and east, and by the Fountaingrove office complex and Fountaingrove Parkway to the south and southeast. To the north are various commercial and medical offices, beyond which are Lake Harris Open Space, Nagasawa Park, and Oakmont of Varenna, with the Fountaingrove Golf & Athletic Club just beyond. Other prominent existing land uses near the Project site include the Kaiser Permanente Vista Family Health Center, other medical and commercial offices, two hotels, a church, apartment complexes, and single-family homes. As such, views from within the site consist of commercial buildings, and single- and multi-family residences, beyond which are areas of open space elements.

The City's General Plan seeks to respect natural features in the design and construction of hillside development. The Project would conform to this General Plan policy by preserving 21.92 acres of open space on-site as well as situating allowed development on the Project site to minimize changes to the existing topography. This would avoid disturbance to the ridgeline identified by the General Plan on the southern portion of the Project site. The existing open space easements located on the Project site, inclusive of this ridgeline, will remain. Furthermore, the Project is located within the

urban context of the City, and, therefore, future on-site development would be consistent with existing views in the area. As a result, the Project would not have a substantial adverse effect on any scenic vista. Impacts would be less than significant.

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

Less than significant impact. There are no State Designated Scenic Highways in the vicinity of the Project site. However, the General Plan designates both US 101 and Fountaingrove Parkway as scenic roads. As previously mentioned, views from US 101 are obscured by an upward-sloping hillside that is developed with a sprawling hotel complex and other intervening development. Only the very top of large trees on the western side of the site can be seen at a distance from US 101. These trees are located within the existing open space easement and proposed Open Space land use designation and therefore would not be impacted by future development. Views from Fountaingrove Parkway consist of the ridgeline and trees along the southern portion of the site, which are also located within the existing open space easement and proposed Open Space land use designation and therefore would not be impacted by future development. With the development of residential uses in the future, views of the Project site, as seen from the intersection of Fountaingrove Parkway and Round Barn Boulevard, would change from ruderal vegetation and a 5.5-acre parking lot to residential development. However, such development would be consistent with other development in the area and the majority of views would be screened by existing vegetation and vegetation that would be implemented as part of the residential development. Overall, the proposed Project would not have any impacts on scenic resources such as trees, rock outcroppings, or historic buildings within an officially designated state scenic highway and impacts to views as seen from locally designated scenic roads would be less than significant.

c) Substantially degrade the existing visual character or quality of the site and its surroundings?

Less than significant impact. As noted above, the Project site is located in an urbanized area of Santa Rosa with varying residential densities, commercial development, and open space. The Project would allow the future development of up to 237 residential units on the interior 18.26 acres of the 40.18-acre site. The site is currently vacant with the exception of an approximately 5.5-acre paved surface parking lot and two structure foundations located toward the northern portion of the site (Exhibit 3). All existing foundations and parking surfaces within the site would be demolished and future development would be constructed on the north and northwestern portion of the site to adhere to the open space designation that surrounds the site. The pedestrian pathway encircling the site would remain as it is located primarily within the area designated as Open Space. Over half the site would remain undeveloped, thereby preserving the existing habitat and open space. Future residential development would be subject to design review by the City to ensure the building's style is compatible with established community standards and is consistent with surrounding urban development. Furthermore, a Hillside Development permit would be required for all development on slopes equal to or greater than 10 percent. As such, the Project would not substantially degrade the existing visual character or quality of the site or its surroundings and associated impacts would be less than significant.

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. As noted above, the Project site is located within the urbanized context of Santa Rosa, where existing development contributes a substantial amount of light. Existing sources of lighting and glare in the immediate vicinity of the Project include streetlights, vehicle lights, and lighting from both single- and multi-family homes and the surrounding office buildings. Future residential development would be required to meet the City of Santa Rosa Zoning Code Section 20-30.080, which requires that lighting fixtures be shielded or recessed to reduce light spillage onto adjoining properties, and that each light fixture be directed downward and away from adjoining properties and public rights-of-way, so that no on-site light fixture directly illuminates an area off-site. Additionally, on-site trees and surrounding topography, which in large part would be preserved within the Open Space area, would obscure the future residential development's nighttime lighting and glare impacts. Additional consistency analysis with General Plan policies concerning development is provided in more detail in Section 10, Land Use and Planning. Conformance with the above-referenced Design Guidelines and Zoning Code would ensure that the future residential development's contribution to existing light and glare sources would be minimal, and impacts to existing day and nighttime views would be less than significant.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
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 non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

Environmental Evaluation

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

- Prime Farmland comprises the best combination of physical and chemical features able to sustain long-term agricultural production. Irrigated agricultural production is a necessary land use four years prior to the mapping date. The land must be able to store moisture and produce high yields.

- Farmland of Statewide Importance possesses similar characteristics to Prime Farmland with minor shortcomings, such as less ability to hold and store moisture and more pronounced slopes.
- Unique Farmland has a production history of propagating crops with high-economic value.
- Farmland of Local Importance is important to the local agricultural economy. Local advisory committees and county specific board of supervisors determine this status.
- Grazing Land is suitable for browsing or grazing of livestock.

The FMMP classifies the Project site and its surroundings as urban and built-up land and also Farmland of Local Importance.[3] However, the Project site contains no Prime Farmland or Farmland of Statewide Importance. The Project site is zoned by the City for Planned Development.[4]

The Williamson Act, codified in 1965 as the California Land Conservation Act, allows local governments to enter into contracts with private landowners with the intent of restricting the use of land to agricultural or related open space through tax incentives. These incentives tax farmers based on an open space designation, which is a much lower rate than the full market value tax. Through this contract, farmers agree to freeze development of their land for 10 years. The current Sonoma County Williamson Act Map does not identify the Project site as located within a Williamson Act contract land.[5] There is an approximately 320-acre plot of land located approximately 0.31 mile north of the Project site, outside the city limits in unincorporated Sonoma County, that is subject to a Williamson Act contract with a designation of "Mixed Enrollment Agricultural Land."[6]

The Sonoma County Agricultural Preservation and Open Space District (SCAPOSD) "permanently protects the diverse agricultural, natural resource, and scenic open space lands of Sonoma County for future generations."[7] The SCAPOSD does not list the Project site as protected lands.[8]

Public Resources Code (PRC) Section 4526 provides that the California Board of Forestry and Fire Protection defines "Timberland" as land, not owned by the federal government, nor designated as experiential forest land, which is capable and available for growing any commercial tree species. The board defines commercial trees on a district basis following consultation with district committees and other necessary parties. PRC Section 12220 (g) defines forest land as ". . . land that can support 10-percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits."[9] Neither the Santa Rosa General Plan 2035 nor the Santa Rosa General Plan 2035 EIR specifies any forestry or logging

[3] California Department of Conservation, California Important Farmland Finder. Website: http://maps.conservation.ca.gov/ciff/ciff html. Accessed April 18, 2017.
[4] City of Santa Rosa Zoning Code.
[5] Sonoma County. 2016. Website: www.sonoma-county.org/prmd/gisdata/pdfs/wact.pdf. Viewed April 18, 2017.
[6] City of Santa Rosa, General Plan 2035 Draft Environmental Impact Report, page 4.L-4.
[7] "Mission," Sonoma County Agricultural Preservation and Open Space District. Website: http://www.sonomaopenspace.org/who-we-are/mission/. Accessed October 7, 2016.
[8] Sonoma County. 2009. Sonoma County Protected Lands. Website: http://landpaths.org/media/9143/park_space_map_big.jpg. Viewed April 18, 2017.
[9] "Public Resources Code Section 12220," CA codes. Website: http://www.leginfo.ca.gov/cgi-bin/displaycode?section=prc&group=12001-13000&file=12220. Accessed October 7, 2016.

companies within City boundaries. The Project site is within the city limits and within the UGB. There is no forest or timberland and no property zoned Timberland Production on or near the Project site.[10]

Would the Project:

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

No impact. The FMMP designates the Project site as "Farmland of Local Importance" and "Grazing Land." The Project site is not classified as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, and therefore would not convert these types of lands to non-agricultural use. Additionally, the Santa Rosa General Plan has designated the Project site "Business Park," indicating that the General Plan EIR already evaluated the conversion of this land to urban uses. No impacts would occur.

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

No impact. The site is zoned Planned Development "PD 72-001" by the Santa Rosa Zoning Map, which is a non-agricultural zoning district. The site is not encumbered by a Williamson Act contract. No impacts would occur.

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

No impact. The site is zoned Planned Development "PD-72-001" by the Santa Rosa Zoning Map, which is a non-forest land zoning district. This condition precludes the possibility of a conflict with a forest zoning designation. No impacts would occur.

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

No impact. The Project site is located on mostly vacant land zoned for planned development and is adjacent to existing residential, health services, and business development. The Project site does not contain, nor is it adjacent to, any forested land. These conditions preclude the possibility of the Project resulting in the loss of forest land or converting forest land to non-forest use. No impacts would occur.

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

No impact. The Project site is adjacent to existing residential, health services, and business development. The future allowable residential use is consistent with the surrounding residential

[10] Santa Rosa General Plan 2035 Draft Environmental Impact Report, 4.L-6-9.

uses and there are no agricultural uses within the project vicinity. As previously indicated, the Project site does not contain, nor is it adjacent to, any forested land. As such, the Project would not result in conversion of farmland or forest land on- or off-site. No impacts would occur.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
3. Air Quality *Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the Project:*				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☒	☐	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☒	☐	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

Environmental Evaluation

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Air quality modeling data that was used in the analysis below is included in Appendix A of this document.

Would the Project:

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

Less than significant impact. The Project site is located in the San Francisco Bay Area Air Basin (Air Basin), where air quality is regulated by the Bay Area Air Quality Management District (BAAQMD). The United States Environmental Protection Agency (EPA) is responsible for identifying nonattainment and attainment areas for each criteria pollutant within the Air Basin. The Air Basin is designated nonattainment for state standards for 1-hour and 8-hour ozone, 24-hour respirable particulate matter (PM_{10}), annual PM_{10}, and annual fine particulate matter ($PM_{2.5}$).[11]

[11] BAAQMD. 2017. Air Quality Standards and Attainment Status. January. Website: http://www.baaqmd.gov/research-and-data/air-quality-standards-and-attainment-status. Accessed May 22, 2017.

To address regional air quality standards, the BAAQMD has adopted several air quality policies and plans, and in April 2017, BAAQMD adopted their 2017 Clean Air Plan (2017 CAP),[12] which serves as the regional air quality plan (AQP) for the Air Basin for attaining federal ambient air quality standards. The primary goals of the 2017 CAP are to protect public health and protect the climate. The 2017 CAP acknowledges that the BAAQMD's two stated goals of protection are closely related. As such, the 2017 CAP identifies a wide range of control measures intended to decrease both criteria pollutants[13] and greenhouse gases[14]. In September 2010, BAAQMD adopted their final Bay Area 2010 Clean Air Plan (2010 CAP),[15] which became the most recent ozone plan for the Air Basin. The 2010 CAP identifies how the Air Basin would achieve compliance with the state 1-hour air quality standard for ozone, and how the region will reduce ozone from transporting to other basins downwind wind of the Air Basin. The 2017 CAP updates the BAAQMD's 2010 CAP, pursuant to air quality planning requirements defined in the California Health & Safety Code.

The 2017 CAP also accounts for projections of population growth provided by Association of Bay Area Governments and vehicle miles traveled provided by the Metropolitan Transportation Commission, and identifies strategies to bring regional emissions into compliance with federal and State air quality standards. A project would be judged to conflict with or obstruct implementation of the 2017 CAP if it would result in substantial new regional emissions not foreseen in the air quality planning process.

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

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

Criterion 1

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

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

As discussed under Impacts 3a, 3b, 3c and 3d and GHG Impacts 7a and 7b, future residential development would not create a localized violation of state or federal air quality standards, significantly contribute to cumulative nonattainment pollutant violations, expose sensitive receptors

[12] BAAQMD. 2017. Final 2017 Clean Air Plan. Website: http://www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?la=en. Accessed May 24, 2017.

[13] 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").

[14] A greenhouse gas is any gaseous compound in the atmosphere that is capable of absorbing infrared radiation, thereby trapping and holding heat in the atmosphere. By increasing the heat in the atmosphere, greenhouse gases are responsible for the greenhouse effect, which ultimately leads to global warming.

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

to substantial pollutant concentrations, or result in significant greenhouse gas emissions. The Project is therefore consistent with Criterion 1.

Criterion 2

The 2017 CAP contains 85 control measures aimed at reducing air pollutants and GHGs at the local, regional, and global levels. Along with the traditional stationary, area, mobile source, and transportation control measures, the 2017 CAP contains a number of control measures designed to protect the climate and promote mixed use, compact development to reduce vehicle emissions and human exposure to pollutants from stationary and mobile sources.[16] The 2017 CAP also includes an account of the implementation status of control measures identified in the 2010 CAP.

None of the stationary source control measures contained in the 2017 CAP are directly applicable to the Project, which is a General Plan amendment and rezone for future residential development that would not contain any stationary sources. In addition, none of the mobile source measures or land use and local impact measures contained in the 2017 CAP directly apply to the Project. Future residential development would be consistent with Transportation Control Measures (TCMs) D-2 and D-3 of the 2017 CAP as follows:

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

The Project site would be served by Santa Rosa City Bus service. Route 10 of the bus service makes four stops within 0.25 mile of the project site. The nearest bus stop is located on Round Barn Boulevard at Round Barn Circle, less than 0.1 mile west of the Project site, and has scheduled stops Monday through Friday from 6:48 a.m. to 7:48 a.m. with approximately one-half-hour headways. The bus stop does not receive bus service on Saturdays or Sundays. The next-closest bus stop serving the project area is located on Old Redwood Highway, approximately 0.2 mile west of the project site.

Future residential development would include pedestrian and bicycle facilities that would connect to existing infrastructure.[17] Continuous pedestrian facilities exist between nearby transit stops and the Project site. An existing Class I bicycle route and an existing paved trail run parallel to Round Barn Boulevard and encircle the exterior of most of the Project site. The existing routes connect to the regional bicycle circulation network at the intersections of Round Barn Boulevard and Fountaingrove Parkway. Additionally, continuous sidewalks effectively link the Project site to the nearest transit facilities.

[16] BAAQMD 2017. Final 2017 Clean Air Plan. Website: http://www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?la=en. Accessed May 24, 2017.

[17] Sonoma County. 2017. Creek Trails of Santa Rosa. Creek Trails of Santa Rosa. Website: http://srcity.org/documentcenter/view/8501. Accessed May 26, 2017.

Implementation of the future residential development on the project site would provide housing near a mix of existing land uses. To the north of the Project site are various commercial and medical offices, beyond which are Lake Harris Open Space, Nagasawa Park, and the Fountaingrove Golf & Athletic Club. Other prominent existing land uses near the Project site include the Kaiser Permanente Vista Family Health Center, other medical and commercial offices, two hotels, a church, apartment complexes, and single-family homes. Future residents of the Project would have easy access to nearby commercial uses for daily shopping needs. For the reasons listed above, the project would be consistent with TCM D-2 and D-3 of the 2017 CAP.

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

- **Energy Efficiency:** The Project Applicant would be required to conform to the energy efficiency requirements of the California Building Standards Code, also known as Title 24, as applied to residential land uses. Specifically, the future residential development must implement the requirements of the most recent Building Energy Efficiency Standards, which is the current version of Title 24. The 2016 Building Energy Efficiency Standards (which are updated on an approximately three-year cycle) went into effect on January 1, 2017, which continue to improve upon the 2013 Standards for new construction of, and additions and alterations to, residential and nonresidential buildings. For each year of construction, in both newly constructed buildings and alterations to existing buildings, the 2013 Standards (for residential and nonresidential buildings) were expected to reduce the growth in electricity use by 555.5 gigawatt-hours per year and to reduce the growth in peak electrical demand by 148.4 megawatts on a statewide basis. The 2013 Standards were also expected to reduce the growth in natural gas use by 7.04 million therms per year beyond the prior 2008 Standards. Overall, the 2013 Standards used 25 percent less energy for lighting, heating, cooling, ventilation, and water heating than the 2008 Standards. For comparison purposes, single-family homes built to the new 2016 standards will use about 28 percent less energy for lighting, heating, cooling, ventilation, and water heating than those built to the 2013 standards. In 30 years, California will have saved enough energy to power 2.2 million homes, reducing the need to build 12 additional power plants.
- **Renewable Energy.** Pacific Gas and Electric Company (PG&E) would provide electricity and natural gas service to the project site. PG&E facilities include nuclear, natural gas, and hydroelectric facilities. PG&E's 2012 power mix consisted of nuclear generation (21.0 percent), large hydroelectric facilities (11.0 percent) and renewable resources (19.0 percent), such as wind, geothermal, biomass, and small hydro. The remaining portion came from natural gas (27.0 percent), and unspecified sources (21.0 percent).
- **Urban Heat Island Mitigation and Shade Tree Planting.** Future residential development would incorporate landscaping, including shade trees, throughout the developed portion of the Project site. In addition, the hillsides and vegetation within the Open Space areas would be preserved in their natural state.

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

Criterion 3

The Project would not preclude extension of a transit line or bike path, propose excessive parking beyond parking requirements, or otherwise create an impediment or disruption to implementation of any AQP control measures. As shown above, the future residential development would incorporate several AQP control measures as project design features. The Project is therefore consistent with Criterion 3.

As addressed in Impacts 3b through 3e below, with incorporation of Mitigation Measure AIR-1 and Mitigation Measure AIR-2 the Project would not violate air quality standards, result in a cumulative contribution of a non-attainment pollutant, expose sensitive receptors to substantial air pollution concentrations, or create objectionable odors affecting a substantial number of people. As discussed in GHG Impacts 7a and 7b, the Project would not result in significant greenhouse gas emissions. Thus, the Project would not conflict with the 2017 CAP. Therefore, with mitigation, impacts associated with conflicting with or obstructing implementation of the 2017 CAP would be less than significant.

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Less than significant impact with mitigation incorporated. This impact relates to localized criteria pollutant impacts. Potential localized impacts would consist of exceedances of state or federal standards for $PM_{2.5}$, PM_{10}, carbon monoxide (CO), sulfur dioxide (SO_2), and nitrogen dioxide (NO_2). Particulate matter emissions (both PM_{10} and $PM_{2.5}$) are of concern during project construction because of the potential to emit fugitive dust during earth-disturbing activities. CO emissions are of concern during project operation because operational CO hotspots are related to increases in on-road vehicle congestion. In addition, emissions of volatile organic carbon (VOC) are important because of their participation in the formation of ozone. VOC emissions result from motor vehicles, and hydrocarbon evaporation from solvent use and painting. Regional construction and operational impacts are not addressed in this section, but are addressed under Impact 3c.

Short-term Construction Impacts

Construction Fugitive Dust

Future residential development would require general site clearing and grading/earthwork activities during construction. Emissions from construction activities are generally short-term in duration, but may still cause adverse air quality impacts. Future on-site residential development would generate emissions from construction equipment exhaust, worker travel, and fugitive dust as PM_{10} and $PM_{2.5}$. The potential impacts related to equipment exhaust are evaluated separately under Impact 3c, below.

BAAQMD does not recommend a numerical threshold for fugitive dust particulate matter emissions. Instead, BAAQMD bases the determination of significance for fugitive dust on a consideration of the control measures to be implemented. If all appropriate emissions control measures are

implemented for a project as recommended by BAAQMD, then fugitive dust emissions during construction are not considered significant.

As required by Mitigation Measure AIR-1, the future residential development would implement the best management practices (BMPs) recommended by BAAQMD for fugitive dust emissions during construction. Therefore, with mitigation, short-term construction impacts associated with violating an air quality standard or contributing substantially to an existing or projected air quality violation would be less than significant.

Long-term Operational Impacts

Operational CO Hotspot

CO emissions from project-related traffic would be the greatest pollutant of concern at the local level, since congested intersections with a large volume of traffic have the greatest potential to cause high, localized concentrations of CO.

BAAQMD recommends a screening analysis to determine whether a project has the potential to contribute to a CO hotspot. The screening criteria identify when subsequent site-specific CO dispersion modeling is necessary.

BAAQMD considers a project's local CO emissions to be less than significant if the following screening criteria are met:

- The project is consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, regional transportation plan, and local congestion management agency plans; or
- The project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour; or
- 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).

Based on traffic modeling developed for the traffic analysis conducted by Stantec (Appendix H), implementation of the future residential development would increase daily traffic volumes by an additional 1,560 vehicles per day. No intersections impacted by the future residential development would experience intersection traffic volumes of 44,000 vehicles per hour. According to the traffic analysis, the intersection of Fountaingrove Parkway and Mendocino Avenue will experience the highest cumulative peak-hour traffic volumes among the study intersections, with 5,594 vehicles per hour during the PM peak hour in 2040 without the Project (Appendix H). With the additional 1,560 vehicles per day from the future residential development on 237 residential units, none of the study intersections would experience intersection traffic volumes of 44,000 vehicles per hour. Therefore, the proposed Project would not exceed the CO screening criteria. Furthermore, the adjacent roadways are not located in an area where vertical or horizontal mixing is substantially limited. Therefore, based on the above criteria, the project would have a less than significant impact related to CO.

Based on the above, long-term operational impacts associated with violating an air quality standard or contributing substantially to an existing or projected air quality violation would be less than significant.

c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors)?

Less than significant impact. Non-attainment pollutants of concern include ozone, PM_{10} and $PM_{2.5}$. In developing thresholds of significance for air pollutants, BAAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. If a project exceeds the identified thresholds of significance, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions. The analysis considers construction and operation period impacts separately, as described below.

Short-term Construction Impacts

A preliminary screening method is provided in BAAQMD's 2017 Guidelines for construction-related impacts associated with criteria air pollutants and precursors. The preliminary screening is used to indicate whether a project's construction-related air pollutant or precursors emissions could potentially exceed BAAQMD's thresholds of significance. The future construction of the 237 residential units would result in a less than significant impact to air quality if the following screening criteria are met:

1. The project is below the applicable screening level size (Table 1).
2. All Best Management Practices would be included in the project design and implemented during construction.
3. Construction-related activities would not include any of the following:
   a) Demolition activities inconsistent with District Regulation 11, Rule 2: Asbestos Demolition, Renovation, and Manufacturing;
   b) Simultaneous occurrence of more than two construction phases;
   c) Simultaneous construction of more than one land use type (e.g., project would develop residential and commercial uses on the same site), (not applicable to high density infill development);
   d) Extensive site preparation (i.e., greater than default assumptions used by the California Emissions Estimator Model (CalEEMod) for grading, cut/fill, or earth movement); or
   e) Extensive material transport (e.g., greater than 10,000 cubic yards (cy) of soil import/export) requiring a considerable amount of haul truck activity.

Table 1: Construction Criteria Air Pollutants and Precursors Screening Level Sizes

Land Use Type	Construction-Related Screening Size	Project Size	Project Percent of Screening Size
Condo/townhouse, General[1]	240 du	237 du	98.8%

Notes:
[1] Land use type with a density similar to the maximum future residential development.
du = dwelling units
Source: Bay Area Air Quality Management District (BAAQMD). 2017. California Environmental Quality Act Air Quality Guidelines. May. Website: http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en. Accessed May 22, 2017.

As shown in Table 1 the maximum future residential development of 237 residential units does not exceed the screening size for construction-related criteria air pollutants and precursors. Additionally, based on preliminary grading reports, future residential development would not exceed the 10,000-cubic-yard (cy) screening threshold for soil import or export during construction since it is expected that future residential development grading activities would be balanced on-site. However, it is expected that the future residential development would export approximately 4,625 cy of material during the demolition phase related to removal of the on-site parking lot and building foundations. Since the demolition phase is estimated to occur over 5 months, additional analysis was conducted to determine potential significance relating to the generation of construction-related criteria pollutants and precursors.

The future residential development's annual construction emissions in each year are presented in Table 2 and converted to average pounds per day in Table 3. As shown in Table 3**,** the construction emissions in each year are well below the recommended thresholds of significance. Therefore, impacts from construction emissions would be less than significant. In addition, the future residential development would implement MM AIR-1 as recommended by the BAAQMD. As such, the dust control measures described above and BMPs that reduce fugitive dust emissions from the construction equipment will be incorporated into the Project to further reduce potential impacts.

Table 2: Annual Construction Emissions (Unmitigated)

Construction Phase	Tons/Year			
	ROG	NO_x	PM_{10} (Exhaust)	$PM_{2.5}$ (Exhaust)
2018				
Demolition	0.21	2.27	0.11	0.10
Site Preparation	0.02	0.24	0.01	0.01
Grading	0.08	0.89	0.04	0.04
Paving (2018)	0.01	0.05	<0.01	<0.01
2018 Total Emissions	*0.32*	*3.46*	*0.16*	*0.15*
2019				
Paving (2019)	0.02	0.11	0.01	0.01
Building Construction (2019)	0.50	3.78	0.17	0.16
2019 Total Emissions	*0.52*	*3.89*	*0.18*	*0.16*
2020				
Building Construction (2020)	0.10	0.74	0.03	0.03
Architectural Coating	1.73	0.05	0.00	0.00
2020 Total Emissions	*1.83*	*0.79*	*0.03*	*0.03*
Total Construction Emissions	**2.67**	**8.13**	**0.37**	**0.35**

Table 2 (cont.): Annual Construction Emissions (Unmitigated)

Construction Phase	Tons/Year			
	ROG	NO_x	PM_{10} (Exhaust)	$PM_{2.5}$ (Exhaust)
Notes: ROG = reactive organic gases NOx = oxides of nitrogen PM_{10} = particulate matter 10 microns in diameter $PM_{2.5}$ = particulate matter 2.5 microns in diameter Calculations use unrounded numbers. Source: CalEEMod. California Emissions Estimator Model. Version 2016.3.1. Website: http://caleemod.com/. Accessed May 22, 2017 (see Appendix A).				

Table 3: Construction Emissions (Unmitigated Average Daily Rate)

Parameter	Air Pollutants			
	ROG	NO_x	PM_{10}[1]	$PM_{2.5}$[1]
Total Emissions (tons/yr)	2.67	8.13	0.37	0.35
Total Emissions (lbs/yr)	5,342	16,268	745	697
Average Daily Emissions (lbs/day)[2]	10.20	31.05	1.42	1.33
Significance Threshold (lbs/day)	**54**	**54**	**82**	**54**
Exceeds Significance Threshold?	No	No	No	No
Notes: [1] Exhaust only [2] Calculated by dividing the total number of pounds by the total 524 working days of construction for the duration of construction (2018–2020). Calculations use unrounded totals. lbs = pounds ROG = reactive organic gases NO_x = oxides of nitrogen PM_{10} = particulate matter 10 microns in diameter $PM_{2.5}$ = particulate matter 2.5 microns in diameter Source of thresholds: BAAQMD 2017 Source of emissions: CalEEMod Output (see Appendix A).				

Long-term Operational Impacts

Generally, long-term operational emissions could result from future residential-related traffic and through the routine use of landscape equipment and consumer products. Other sources of long-term operational emissions could result from occasional repainting of the buildings and use of natural gas. BAAQMD's 2017 Guidelines provide guidance and screening criteria for determining if a project could potentially result in significant air quality impacts. As shown in Table 4, the future residential development would not result in operational-related air pollutants or precursors that would exceed BAAQMD's thresholds of significance. The operational criteria pollutant screening size for the condo/townhouse land use (the land use type with a density similar to the maximum future residential development) is 451 dwelling units. The Project is well below BAAQMD's screening threshold, indicating that ongoing project operations would not be considered to have the potential to generate a significant quantity of air pollutants. Therefore, the indirect, long-term operational

impacts associated with criteria pollutant emissions generated by future residential development associated with the Project would be less than significant.

Table 4: Operational Criteria Air Pollutants and Precursors Screening Level Sizes

Land Use Type	Operational Criteria Pollutant Screening Size	Project Size	Project Percent of Screening Size
Condo/townhouse, General[1]	451 du	237 du	52.5%

Notes:
[1] Land use type with a density similar to the maximum future residential development.
du = dwelling units
Source: BAAQMD 2017 Guidelines.

d) Expose sensitive receptors to substantial pollutant concentrations?

Less than significant impact with mitigation incorporated. This impact addresses whether the future residential development would expose sensitive receptors to asbestos during demolition, construction-generated fugitive dust (PM_{10} and $PM_{2.5}$) from earth-moving activities, construction-generated diesel particulate matter (DPM as $PM_{2.5}$ exhaust) from construction equipment and vehicles, operational-related toxic air contaminants (TACs), or operational CO hotspots.

BAAQMD considers a sensitive receptor to be any facility or land use that includes members of the population who are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. If a project is likely to be a place where people live, play, or convalesce, it should be considered a receptor. It should also be considered a receptor if sensitive individuals are likely to spend a significant amount of time there. Examples of receptors include residences, schools and school yards, parks and play grounds, daycare centers, nursing homes, and medical facilities. Playgrounds could be play areas associated with parks or community centers. As a residential development, the Project itself is a sensitive receptor. The nearest non-project sensitive receptor is an existing residential apartment located approximately 134 feet north of the Project site across Round Barn Boulevard.

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

- A (new) source of air pollutants is located close to existing sensitive receptors.
- A (new) sensitive receptor is located near an existing source of air pollutants.

To address both of these types of impacts, BAAQMD has established as part of its 2017 Guidelines the following health risk and hazards significance thresholds, as shown in Table 5. These thresholds were adopted for the purpose of this analysis.

Table 5: BAAQMD Health Risk Screening Analysis

Scenario	Cancer Risk(in a million)	Chronic Hazard Index	Acute Hazard Index	$PM_{2.5}(\mu g/m^3)$
Individual Impact	10	1	1	0.3
Community Cumulative Impact	100	10	10	0.8
Source: BAAQMD 2017.				

The following analysis evaluates whether the Project would result in construction or operational-period impacts to sensitive receptors.

Construction Period Toxic Air Contaminant Impacts

Future residential development would implement the BAAQMD BMPs through the implementation of MM AIR-1. This includes requirements for reduced idling time and proper equipment maintenance for diesel construction equipment, which would reduce emissions from this equipment and therefore would reduce potential impacts to nearby receptors. However, residents and other receptors located adjacent to the Project site and within the vicinity would be exposed to construction contaminants only for the duration of construction.

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

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

For purposes of this analysis, exhaust emissions of $PM_{2.5}$ are represented as diesel particulate matter (DPM), a major component of $PM_{2.5}$. Studies indicate that DPM poses the greatest health risk among airborne TACs. A 10-year research program demonstrated that DPM from diesel-fueled engines is a human carcinogen and that chronic (long-term) inhalation exposure to DPM poses a chronic long-term health risk[18]. DPM differs from other TACs in that it is not a single substance but a complex mixture of hundreds of substances. Although DPM is emitted by diesel-fueled, internal combustion engines, the composition of the emissions varies, depending on engine type, operating

[18] California Air Resources Board. 1998. The Toxic Air Contaminant Identification Process: Toxic Air Contaminant Emissions from Diesel-fueled Engines. Website: www.arb.ca.gov/toxics/dieseltac/factsht1.pdf. Accessed May 7, 2013 and May 26, 2017.

conditions, fuel composition, lubricating oil, and whether an emission control system is present. Unlike the other TACs, however, no ambient monitoring data are available for DPM because no routine measurement method currently exists. The California Air Resources Board (ARB) has made preliminary concentration estimates based on a DPM exposure method. This method uses the ARB emissions inventory's PM_{10} database, ambient $PM_{2.5}$ monitoring data, and the results from several studies to estimate concentrations of DPM.

In addition to the DPM (as exhaust $PM_{2.5}$ emissions), the construction of the future residential development would also result in emissions of fugitive dust primarily from earth-moving activities. During grading, in particular, the Project would involve the movement and removal of dirt to establish the proper drainage pattern and foundation requirements that would generate fugitive dust. As discussed in Impact 3b, BAAQMD bases the determination of significance for fugitive dust on a consideration of the control measures to be implemented. Future residential development would implement the BMPs recommended by BAAQMD, as required by Mitigation Measure AIR-1. Therefore, fugitive dust emissions during construction would be less than significant with mitigation.

The health risk significance thresholds adopted for this assessment were derived from the BAAQMD significance thresholds as follows:

- Cancer Risk: 10 in one million
- Non-cancer Hazard Index: 1.0
- Annual $PM_{2.5}$: 0.3 $\mu g/m^3$

Estimation of DPM (as $PM_{2.5}$ Exhaust)

The $PM_{2.5}$ construction emissions were estimated using the CalEEMod Land Use Emission Model (Version 2016.3.1). Table 6 summarizes the unmitigated annual construction emissions of $PM_{2.5}$.

Table 6: Project Annual DPM (as $PM_{2.5}$ Exhaust) Unmitigated Construction Emissions

Year	On-site DPM (as $PM_{2.5}$ Exhaust) (tons/year)	Off-site DPM (as $PM_{2.5}$ Exhaust) (tons/year)	Total $PM_{2.5}$ (tons/year)
Annual Construction Emissions (No Mitigation)[1]			
2018	1.502E-01	4.218E-05	2.661E-01
2019	1.498E-01	6.784E-04	1.551E-01
2020	3.080E-02	1.023E-04	3.204E-02

Note:
[1] The emissions without mitigation are those emissions that the CalEEMod land use model calculates assuming a default population of construction equipment and rates of air emissions.
Source: CalEEMod and FirstCarbon Solutions; see Appendix A.

Air Dispersion Modeling

An air dispersion model is a mathematical formulation used to estimate the air quality impacts at specific locations (receptors) surrounding a source of emissions given the rate of emissions and

prevailing meteorological conditions. The air dispersion model applied in this assessment was the EPA AERMOD (Version 16216r) air dispersion model that is approved by the BAAQMD for preparing air dispersion assessments. Specifically, the AERMOD model was used to estimate levels of TACs at sensitive receptor locations from the project's construction $PM_{2.5}$ exhaust emissions. The use of the AERMOD model provides a refined methodology for estimating construction impacts by utilizing long-term measured, representative meteorological data for the Project site and a representative construction schedule.

Two sources were used to represent the Project's $PM_{2.5}$ on-site and off-site construction emissions within the air dispersion model. One source represented the generation of on-site construction DPM exhaust emissions (as $PM_{2.5}$ exhaust) from the off-road construction equipment. Generation of emissions from the on-site construction emission source was assumed to cover a construction area of approximately 18.26 acres, which represents approximately 45 percent of the entire Project site. The remainder of the Project site was assumed to remain as undisturbed open space, consistent with the General Plan amendment and rezone. An additional emission source was included to account for the off-site DPM (as $PM_{2.5}$) emissions and paved road dust from worker, haul truck, and vendor truck construction vehicles. Construction vehicles were assumed to travel from the Project site along Round Barn Boulevard and Fountaingrove Parkway to US 101. Construction of the Project is assumed to start in summer 2018 and last for up to 24 months, to be completed in summer 2020. Construction is assumed to take place on an 8-hour-per-day/5-day-per-week basis for the years 2018, 2019, and 2020.

Receptor locations within the AERMOD model were placed at locations of existing residences surrounding the Project. The air dispersion model assessment used meteorological data from the Santa Rosa Airport for the time period of 2009 to 2014.

Estimation of Cancer Risks

The BAAQMD has developed a set of guidelines[19] for estimating cancer risks that provide adjustment factors that emphasize the increased sensitivities and susceptibility of young children to exposures to TACs. These adjustment factors include age-sensitivity weighting factors, age-specific daily breathing rates, and age-specific time-at-home factors. The recommend method for the estimation of cancer risk is shown in the equations below with the cancer risk adjustment factors provided in Table 7 for various sensitive/residential receptors (infant, child, and adult) over the construction time period (2018, 2019, and 2020).

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

Where:

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

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

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

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

Inhalation Exposure Factor = CPF x EF x ED AAF/AT

Where:

CPF = Inhalation cancer potency factor for the TAC: 1.1 $(mg/kg\text{-}day)^{-1}$ for DPM
EF = Exposure frequency (days/year)
ED = Exposure duration (years)
AAF = set of age-specific adjustment factors that include age sensitivity factors (ASF), daily breathing rates (DBR), and time at home factors (TAH)—see Table 7.
AT = Averaging time period over which exposure is averaged (days)

Table 7: Exposure Assumptions for Cancer Risk

Receptor Type	Exposure Frequency		Exposure Duration During Construction (years)	Age Sensitivity Factors (ASF)	Time at Home Factor (TAH) (%)	Daily Breathing Rate (DBR) [(1)] (l/kg-day)
	Hours/day	Days/year				
Sensitive/Residential—Infant						
3rd Trimester	24	350	0.25	10	85	361
0–2 years	24	350	2	10	85	1,090
Sensitive Receptor—Child						
3–16 years	24	350	3	3	72	572
Sensitive Receptor—Adult						
> 16 years	24	350	3	1	73	261

Notes:
[(1)]The daily breathing rates recommended by the BAAQMD for sensitive/residential receptors assume the 95th percentile breathing rates for all individuals less than 2 years of age and 80th percentile breathing rates for all older individuals.
(l/kg-day) = liters per kilogram body weight per day
Source: BAAQMD 2016.

The HRA is done for the time period only during which construction occurs, i.e., 2018 to 2020. The DPM emissions are estimated for each year of construction, and the health risks are also estimated for each year and then summed to get a total cancer risk during the construction time period. The exposure duration for estimating cancer risk is 30 years. So the risks after 2020 are zero since there are no construction emissions.

Estimation of Non-Cancer Hazards

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

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

$$HI = C_{ann}/REL$$

Where:

HI = chronic hazard index
C_{nn} = annual average concentration of TAC as derived from the air dispersion model ($\mu g/m^3$)
REL = reference exposure level above which a significant impact is assumed to occur ($\mu g/m^3$)

The hazard index assumes that chronic sub-threshold exposures adversely affect a specific organ or organ system (toxicological endpoint). For each discrete chemical exposure, target organs presented in regulatory guidance were used. To calculate the hazard index, each chemical concentration or dose is divided by the appropriate toxicity reference exposure level. For compounds affecting the same toxicological endpoint, this ratio is summed. Where the total equals or exceeds one (1), a health hazard is presumed to exist. For purposes of this assessment, the TAC of concern is DPM for which the OEHHA has defined a REL for DPM of 5 $\mu g/m^3$. The principal toxicological endpoint assumed in this assessment was through inhalation.

Estimation of $PM_{2.5}$ Hazards

The BAAQMD has included significance thresholds for $PM_{2.5}$ from recent studies that show health impacts from exposure to this pollutant. The construction emissions of $PM_{2.5}$ incorporated into this assessment included both DPM (as $PM_{2.5}$ exhaust) and $PM_{2.5}$ fugitive dust.

Estimates of Health Risks and Hazards from Project Construction

The estimated health and hazard impacts at the maximum impacted sensitive receptor from the Project's construction emissions are provided in Table 8. The maximum impacted sensitive receptor (MIR) was found at an existing residential apartment complex located approximately 134 feet north of the Project site across Round Barn Boulevard. As noted from Table 8, the future residential development's construction DPM emissions would exceed the cancer risk significance thresholds adopted for this assessment at the maximum impacted sensitive receptor and thus would result in a potentially significant impact to nearby sensitive receptors prior to the application of mitigation during construction.

Table 8: Estimated Health Risks and Hazards: Project Construction—No Mitigation

Source	Cancer Risk (risk per million)	Chronic Non-Cancer Hazard Index[2]	Annual $PM_{2.5}$ Concentration ($\mu g/m^3$)
Risks and Hazards at the Maximum Impacted Sensitive Receptor (MIR): Infant[1]	21.2	0.02	0.16
Risks and Hazards at the Maximum Impacted Sensitive Receptor (MIR): Child[1]	3.1	0.02	0.16
Risks and Hazards at the Maximum Impacted Sensitive Receptor (MIR): Adult[1]	0.5	0.02	0.16
BAAQMD Significance Threshold	10	1	0.3
Exceeds Individual Source Threshold?	**Yes (Infants)**	No	No

Notes:
[1] Maximum impacted sensitive receptor is a located approximately 134 feet north of the Project at the Meadow apartments over the length of the construction time period from 2018 to 2020.
[2] Chronic non-cancer hazard index was estimated by dividing the annual DPM concentration (as $PM_{2.5}$ exhaust) by the REL of 5 $\mu g/m^3$.
Source: CalEEMod and FirstCarbon Solutions; see Appendix A

MM AIR-2 would be required to reduce the future residential development's construction health risk impacts to less than significant levels.

Residual Impact

The $PM_{2.5}$ construction emissions were estimated using the CalEEMod Land Use Emission Model (Version 2016.3.1). Table 9 summarizes the annual $PM_{2.5}$ construction emissions of after the implementation of MM AIR-2.

Table 9: Project Annual DPM (as $PM_{2.5}$ Exhaust) Mitigated Construction Emissions

Year	On-site DPM (as $PM_{2.5}$ Exhaust) (tons/year)	Off-site DPM (as $PM_{2.5}$ Exhaust) (tons/year)	Total $PM_{2.5}$ (tons/year)
Annual Construction Emissions (Tier IV Mitigation)			
2018	5.330E-03	2.666E-05	5.747E-03
2019	1.700E-02	6.784E-04	2.227E-02
2020	3.420E-03	1.023E-05	4.659E-03
Source: CalEEMod and FirstCarbon Solutions; see Appendix A.			

Table 10 summarizes the Project's DPM construction impacts after the application of BMPs and the application of Mitigation Measure AIR-2 that includes the use of off-road construction equipment meeting Tier 4 Emission standards.

Table 10: Estimated Health Risk and Hazards: Project Construction—Tier IV Mitigation

Source	Cancer Risk (risk per million)	Chronic Non-Cancer Hazard Index[(2)]	Annual $PM_{2.5}$ Concentration ($\mu g/m^3$)
Risks and Hazards at the Maximum Impacted Sensitive Receptor (MIR): Infant[(1)]	1.4	<0.01	0.03
Risks and Hazards at the Maximum Impacted Sensitive Receptor (MIR): Child[(1)]	0.2	<0.01	0.03
Risks and Hazards at the Maximum Impacted Sensitive Receptor (MIR): Adult[(1)]	<0.1	<0.01	0.03
BAAQMD Significance Threshold	10	1	0.3
Exceeds Individual Source Threshold?	No	No	No

Notes:
(1) Maximum impacted sensitive receptor is a located approximately 134 feet north of the Project at the Meadow apartments.
(2) Chronic non-cancer hazard index was estimated by dividing the annual DPM concentration (as $PM_{2.5}$ exhaust) by the REL of 5 $\mu g/m^3$.
Source: CalEEMod and FirstCarbon Solutions; see Appendix A

As noted in Table 10, construction emissions would not exceed the BAAQMD's significance threshold after application of mitigation at the maximum impacted sensitive receptor, and therefore would represent a less than significant health risk impact on a project level during future on-site residential construction.

Because Table 10 shows that the annual construction emissions without mitigation are below the significance thresholds, Mitigation Measure AIR-2 (requiring the use of construction equipment meeting Tier IV standards) would further reduce construction emissions.

Asbestos

The Department of Conservation, Division of Mines and Geology (DMG) published a guide for generally identifying areas that are likely to contain naturally occurring asbestos (NOA). The associated DMG map indicates that there are several locations within Sonoma County that are likely to contain NOA; however, none of these sites are located in the Project vicinity[20].

Project as a Sensitive Receptor

The Project would locate new sensitive receptors (residents) that could be exposed to existing sources of TACs. However, the California Supreme Court in *California Building Industry Association v. Bay Area Air Quality Management District* concluded that agencies generally subject to CEQA are not required to analyze the impact of existing environmental conditions on a project's future users or residents. Therefore, impacts from existing sources of TAC emissions on sensitive receptors in the

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

Project are not subject to CEQA. The Project allows for the future development of up to 237 residential units, which are considered sensitive receptors; therefore, potential TAC risks to the Project's future residents are analyzed for informational purposes.

Long-term Operational Impacts

When siting a new receptor, the existing or future proposed sources of TACs and $PM_{2.5}$ emissions that would adversely affect individuals within the project were examined, including:

- The extent to which existing sources would increase risk levels, hazard index, and/or $PM_{2.5}$ concentrations near the planned receptor.
- Whether the existing sources are permitted or non-permitted by BAAQMD.
- Whether there are freeways or major roadways near the planned receptor.

BAAQMD recommends that lead agencies identify all TAC and $PM_{2.5}$ sources located within a 1,000-foot radius of a project. A lead agency should enlarge the 1,000-foot radius on a case-by-case basis if an unusually large source or sources of risk or hazard emissions that may affect a project is beyond the recommended radius. Permitted sources of TAC and $PM_{2.5}$ should be identified and located, as should freeways, major roadways, and other potential sources.

The operational analysis used the methodology in BAAQMD's Recommended Methods for Screening and Modeling Local Risks and Hazards:

- The project site is approximately 1,400 feet from U.S. Route 101, which is outside the 1,000-foot radius for the project site.
- There are no stationary sources within the 1,000-foot radius of the project site.
- There are no railroads within the 1,000-foot radius of the project site.

Based on the above, the future residential development would not be exposed to substantial pollutant concentrations; therefore, long-term operational impacts associated with exposure of sensitive receptors to substantial pollutant concentrations would be less than significant.

e) Create objectionable odors affecting a substantial number of people?

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

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

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

Project Construction

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

Project Operation

Land uses typically considered associated with odors include wastewater treatment facilities, waste-disposal facilities, or agricultural operations. The General Plan Amendment and rezone does not allow for land uses typically associated with emitting objectionable odors. During operation of the future residential development, odors would primarily consist of vehicles traveling to the site. These occurrences would not produce significant odors; therefore, operational impacts would be less than significant.

Mitigation Measures

MM AIR-1 The following Best Management Practices (BMPs), as recommended by the BAAQMD, shall be stipulated by any development permit or land use entitlement related to on-site future residential development design and implemented during construction:

a. All active construction areas shall be watered at least two times per day.
b. All exposed non-paved surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and access roads) shall be watered at least three times per day and/or non-toxic soil stabilizers shall be applied to exposed non-paved surfaces.
c. All haul trucks transporting soil, sand, or other loose material off-site shall be covered and/or shall maintain at least 2 feet of freeboard.
d. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
e. All vehicle speeds on unpaved roads shall be limited to 15 miles per hour.
f. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
g. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of CCR). Clear signage regarding idling restrictions shall be provided for construction workers at all access points.

h. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
i. The prime construction contractor shall post a publicly visible sign with the telephone number and person to contact at the BAAQMD regarding dust complaints. BAAQMD and the construction contractor shall take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

MM AIR-2 The developer or Project Applicant shall ensure all off-road construction equipment in excess of 50 horsepower used on-site by the developer or contractors is equipped with engines meeting the EPA Tier IV off-road engine emission standards. The construction contractor shall maintain a log of equipment use at the construction site with make, model, serial number, and certification level of each piece of construction equipment that will be available for review by City building inspection staff. These requirements shall be stipulated by any development permit or land use entitlement related to on-site future residential development.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
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 Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☒	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of wildlife nursery sites?	☐	☒	☐	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

Environmental Evaluation

This section evaluates potential effects on biological resources that may result from Project implementation. Descriptions and analysis in this section are based upon search results of the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB), California Native Plant Society (CNPS) inventory of rare and endangered plants, and United States Fish and Wildlife Service (USFWS) database, as well as review of, a preliminary biological assessment prepared by Laurence P. Stromberg, PhD, (as cited in Appendix B) and a reconnaissance-level biological resources survey completed by FirstCarbon Solutions (FCS) on May 3, 2017 and May 28, 2017. The surveys conducted are appropriate for ascertaining the potential effects of implementation of the project on biological resources. Specifically, these surveys consisted of

identifying any potential impacts with an emphasis on identifying mitigation measures to reduce effects to a less than significant level.

The Project site is located in Sonoma County in the City of Santa Rosa and is composed of several habitats. The 40.18-acre Project site is bounded by Round Barn Boulevard to the west, north, and east, and bounded by the Fountaingrove office complex, and Fountaingrove Parkway to the south and southeast. The Project site is located within the urbanized context of the City of Santa Rosa, surrounded by commercial and medical offices, two hotels, a church, apartment complexes, and single-family homes. Existing land uses in the vicinity of the Project site include the Lake Harris Open Space, Nagasawa Community Park, and the Fountain Grove Golf & Athletic Club. The Project site is characterized by its rolling and steep topography, dense trees, and significant vegetation. The Project site has been previously developed, with existing building foundations and a 5.5-acre paved surface parking lot present.

Would the Project:

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

Less than significant impact with mitigation incorporated. Special-status plant and wildlife species were determined from a U.S. Geological Survey (USGS) quadrangle search of the California Natural Diversity Database (CNDDB), a CNPS search (CNPS 2017), and a USFWS quadrangle search for the Santa Rosa 7.5-minute quadrangle. The results of the database search are included in Appendix B.[21,22,23]

Special-status species refers to all species formally listed as threatened and/or endangered under ESA or CESA; California Species of Special Concern; designated as Fully Protected by CDFW; given a status of 1A, 1B, or 2 by CNPS; or designated as special-status by city, county, or other regional planning documents. Federal and state listed threatened and/or endangered species are legally protected under ESA/CESA. The designated special-status species listed by CNPS have no direct legal protection, but they require an analysis of the significance of potential impacts under CEQA guidelines.

Special-status plant and wildlife species typically occur in undeveloped areas. Although less likely, it is also possible for them to occur within developed areas. The Project site, in part, has characteristics of land that has been previously developed, including disturbed soils and the presence of a parking lot, building foundations, and invasive and non-native plant species. While 21 special-status plant and nine special-status wildlife species were considered to occur on-site, it is not likely that they would use or inhabit the site because of the absence of suitable and preferred habitat. However, potential impacts to special-status species, if they were found on-site, would be potentially significant.

[21] California Department of Fish and Wildlife RareFind tool, Santa Rosa quadrangle. Accessed May 9, 2017. Website: https://map.dfg.ca.gov/rarefind/view/RareFind.aspx.

[22] California Native Plant Society search tool, Santa Rosa, CA, accessed May 9, 2017. http://www.rareplants.cnps.org/result.html?adv=t&cnps=1A:1B:2A:2B&quad=3812246

[23] U.S. Fish and Wildlife Service IPaC tool, accessed May 9, 2017. https://ecos.fws.gov/ipac/location/TWR57LB33ZAAZDAWNIXBK7VJG4/resources

Mixed Oak Woodland Habitat

Mixed oak woodland is the dominant terrestrial habitat type on-site (approximately 13.66 acres) and includes coast live oak (*Quercus agrifolia*), valley oak (*Quercus lobata*), and blue oak (*Quercus douglasii*). Other tree species observed on the May 3, 2017 site survey include madrone (*Arbutus menziesii*), California bay (*Umbellularia californica*), and various ornamental species such as cedars, eucalyptus, and palms. Understory and species observed at the margins consisted of rose clover (*Trifolim hirtum*), snowberry (*Symphoricarpos* sp.), Himalayan blackberry (*Rubus armeniacus*), wild oats (*Avena occidentalis*) and various brome species (*Bromus* spp.).

Special-status Plant Species Potentially Occurring within the Project Site

A plant's species potential to occur on the Project site was based on the presence of suitable habitats, soil types, and occurrences recorded by the USFWS, CNPS, or CNDDB in the region, previous biological studies, and observations made during the site survey on May 3, 2017. Based on the aforementioned studies, potential habitat suitability was determined for 21 special-status plant species within the Project site. However, based upon the analysis, none of these species are expected to occur on-site. Furthermore, the location of the Project site outside the Santa Rosa Plain and disturbances such as past development and the presence of non-native plants minimize the likelihood of these species occurring on-site. No special-status plants were observed during the reconnaissance-level survey on May 3, 2017. Therefore, construction and implementation of the Project would not result in impacts to special-status plants. These species are annotated in Table 11.

Table 11: Special-status Plant Species with the Potential to Occur in Project Site

Scientific Name Common Name	Regulatory Status			Habitat Description[4]	Potential to Occur and Rationale	Included in Impact Analysis
	USFWS[1]	CDFW[2]	CNPS[3]			
Amorpha californica var. *napensis* Napa false indigo	—	—	1B.2	Dicot shrub found in broadleafed upland forest, chaparral, cismontane woodland. Prefers openings in forest or woodland or in chaparral. **Bloom period: April–July** 120–2,000 m	**Unlikely to occur**: Species was not found during field survey.	No
Amsinckia lunaris Bent-flowered fiddleneck	—	—	1B.2	Dicot, annual herb found in cismontane woodland, valley and foothill grassland, coastal bluff scrub. **Bloom period: May–July** 3-795 m.	**Unlikely to occur**: Species was not found during field survey.	No
Arctostaphylos stanfordiana ssp. *decumbens* Rincon ridge manzanita	—	—	1B.2	Dicot shrub found in chaparral, and cismontane woodland. Highly restricted endemic to red rhyolites. **Bloom period: February–April** 90-375 m.	**Unlikely to occur**: Species was not found during field survey.	No
Astragalus claranus Clara Hunt's milk-vetch	FE	ST	1B.1	Dicot, annual herb found in cismontane woodland, valley and foothill grassland, chaparral. **Bloom period: March–May** 95-235 m.	**Unlikely to occur**: Species was not found during field survey.	No
Balsamorhiza macrolepis Big-scale balsamroot	—	—	1B.2	Dicot, perennial herb found in chaparral, valley and foothill grassland, cismontane woodland. **Bloom period: March–June** 35-1,465 m.	**Unlikely to occur**: Species was not found during field survey**.**	No

Table 11 (cont.): Special-status Plant Species with the Potential to Occur in Project Site

Scientific Name Common Name	Regulatory Status			Habitat Description[4]	Potential to Occur and Rationale	Included in Impact Analysis
	USFWS[1]	CDFW[2]	CNPS[3]			
Blennosperma bakeri Sonoma sunshine	FE	SE	1B.1	Dicot, annual herb found in vernal pools, swales, valley and foothill grassland. **Bloom period: March–May** 10–110 m.	**Unlikely to occur**: Species was not found during field survey**.**	No
Brodiaea leptandra Narrow-anthered brodiaea	—	—	1B.2	Monocot, perennial herb found in broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland. **Bloom period: May–July** 30–590m.	**Unlikely to occur**: Species was not found during field survey**.**	No
Ceanothus confusus Rincon Ridge ceanothus	—	—	1B.1	Dicot shrub, found in closed-cone coniferous forest, chaparral, cismontane woodland in volcanic or serpentine soils. **Bloom period: February–June** 150–1,280 m.	**Unlikely to occur**: Species was not found during field survey**.**	No
Ceanothus divergens Calistoga ceanothus	—	—	1B.2	Dicot shrub, found in chaparral and cismontane woodland. **Bloom period: February–April** 100–950 m.	**Unlikely to occur**: Species was not found during field survey**.**	No
Ceanothus purpureus Holly-leaved ceanothus	—	—	1B.2	Dicot shrub, found in chaparral and cismontane woodland. **Bloom period: March–May** 145–780 m.	**Unlikely to occur**: Species was not found during field survey**.**	No

Table 11 (cont.): Special-status Plant Species with the Potential to Occur in Project Site

Scientific Name Common Name	Regulatory Status			Habitat Description[4]	Potential to Occur and Rationale	Included in Impact Analysis
	USFWS[1]	CDFW[2]	CNPS[3]			
Ceanothus sonomensis Sonoma ceanothus	—	—	1B.2	Dicot shrub found in chaparral habitat with sandy, serpentine, or volcanic soils **Bloom period: February–April** 140–795 m.	**Unlikely to occur**: Species was not found during field survey**.**	No
Fritillaria liliacea Fragrant fritillary	—	—	1B.2	Monocot, perennial herb found in coastal scrub, valley and foothill grassland, coastal prairie, cismontane woodland. **Bloom period: February–April** 3–400 m.	**Unlikely to occur**: Species was not found during field survey**.**	No
Hemizonia congesta ssp. *congesta* Congested-headed hayfield tarplant	—	—	1B.2	Dicot, annual herb found in valley, foothill grassland, and sometimes along roadsides. **Bloom period: April–November** 20–560 m.	**Unlikely to occur**: Species was not found during field survey**.**	No
Lasthenia burkei Burke's goldfields	FE	SE	1B.1	Dicot, annual herb found in vernal pools, meadows, and seeps. **Bloom period: April–June** 15–600 m.	**Unlikely to occur**: Species was not found during field survey**.**	No
Layia septentrionalis Colusa layia	—	—	1B.2	Dicot, annual herb found in chaparral, cismontane woodland, valley and foothill grassland. **Bloom period: April–May** 15–1,100 m.	**Unlikely to occur**: Species was not found during field survey**.**	No
Leptosiphon jepsonii Jepson's leptosiphon	—	—	1B.2	Dicot, annual herb found in chaparral and cismontane woodland. **Bloom period: March–May** 55–855 m.	**Unlikely to occur**: Species was not found during field survey**.**	No

Table 11 (cont.): Special-status Plant Species with the Potential to Occur in Project Site

Scientific Name Common Name	Regulatory Status			Habitat Description[4]	Potential to Occur and Rationale	Included in Impact Analysis
	USFWS[1]	CDFW[2]	CNPS[3]			
Limnanthes vinculans Sebastopol meadowfoam	—	—	1B.1	Dicot, annual herb found in meadows and seeps, vernal pools, valley and foothill grassland. **Bloom period: April–May** 15–115 m.	**Unlikely to occur**: Species was not found during field survey**.**	No
Navarretia leucocephala ssp. *bakeri* Baker's navarretia	—	—	1B.1	Dicot, annual herb found in cismontane woodland, meadows and seeps, vernal pools, valley and foothill grassland, lower montane coniferous forest. **Bloom period: April–July** 3–1,680 m.	**Unlikely to occur**: Species was not found during field survey**.**	No
Trifolium amoenum Two-fork clover	—	—	1B.1	Dicot, annual herb found in valley and foothill grassland, coastal bluff scrub. **Bloom period: April–June** 5–310 m.	**Unlikely to occur**: Species was not found during field survey**.**	No
Trifolium hydrophilum Saline clover	—	—	1B.2	Dicot, annual herb found in marshes and swamps, valley and foothill grassland, vernal pools. **Bloom period: April–June** 1–335 m.	**Unlikely to occur**: Species was not found during field survey**.**	No
Triquetrella californica Coastal triquetrella	—	—	1B.2	Bryophyte moss found in coastal bluff scrub, coastal scrub. 10–100 m.	**Unlikely to occur**: Species was not found during field survey**.**	No

Table 11 (cont.): Special-status Plant Species with the Potential to Occur in Project Site

[1] Federal Status: 2015 USFWS Listing	[2] State Status: 2015 CDFW Listing	[3] CNPS: 2015 CNPS Listing
FE = Listed as endangered under the Endangered Species Act **FT** = Listed as threatened under the Endangered Species Act **FC** = Candidate for listing (threatened or endangered) under Endangered Species Act **FD** = Delisted in accordance with the Endangered Species Act — = Not federally listed	**SE** = Listed as endangered under the California Endangered Species Act **ST** = Listed as threatened under the California Endangered Species Act **SSC** = Species of Special Concern as identified by CDFW **CFP** = Listed as fully protected under FGC **CR** = Species identified as rare by CDFW — = Not state listed	**1A** = Plants species that presumed extinct in California. **1B** = Plant species that are rare, threatened, or endangered in California and elsewhere. **List 2** = Plant species that are rare, threatened, or endangered in California, but more common elsewhere. **Blooming period:** Months in parentheses are uncommon.
[4] **Habitat description:** Habitat description adapted from CNDDB (CDFW 2016) and CNPS online inventory (CNPS 2016).		

Special-Status Wildlife Species Potentially Occurring within the Project Site

Based upon the types of habitat that each special-status wildlife species occupies, and on observations made during the May 3, 2017 site survey, each wildlife species was evaluated for its potential to occur within the Project site. There was one federally and state listed special-status species identified as having the potential to occur within the Project site, California tiger salamander (*Ambystoma californiense*). However, the Project site does not support suitable habitat for this species and is located outside the range of the California tiger salamander and outside the critical habitat established for the species. Trees within and adjacent to the Project site provide potential habitat for special-status bird and bat species, as well as non-special-status migratory raptors and passerine bird species protected by the Migratory Bird Treaty Act (MBTA). No special-status wildlife species were found during the field survey on May 3, 2017.

Future residential construction activities on the Project site could disturb nesting and breeding birds in trees and shrubs near the construction site. Potential indirect Project impacts on special-status and migratory birds that could result from the construction and operation of the future residential development include the destruction of eggs or occupied nests, mortality of young, and the abandonment of nests with eggs or young birds prior to fledging. Impacts on special-status bat species could result from increased noise due to construction and operation, or through a reduction of habitat. If these species were found to be present, impacts to these species would be significant. MM BIO-1 would reduce impacts to special-status birds as well as migratory and nesting raptors and passerines protected under the MBTA to less than significant. MM BIO-2 would reduce impacts to special-status bat species to less than significant.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

Less than significant impact.

Riparian Woodland Habitat

Approximately, 1.3 acres of riparian woodland habitat is present in the northeastern portion of the Project site as a result of an incised channel, Nagasawa Creek (Exhibit 6 and Exhibit 7). The width of the canopy and creek ranges from approximately 80 to 110 feet; with coast live oak (*Quercus agrifolia*) as the most abundant species. Other species include Bay Laurel (*Umbellularia californica*), California Buckeye (*Aesculus californica*), and various willow species (*Salix spp.*). The understory is made up of mostly periwinkle (*Vinca minor*), Himalayan blackberry (*Rubus armeniacus*), and poison oak (*Toxicodendron diversilobum*). Disturbance to the riparian woodland habitat and Nagasawa Creek would not occur as a result of its location within the Open Space designated area. Future residential construction would be located in the interior 18.26 acres of the 40.18-acre site, avoiding any potential adverse effect on any riparian habitat or sensitive natural community identified in local or regional plans, policies, and regulations by the CDFW or the USFWS (Exhibit 6). As shown on Exhibit 7, the riparian habitat as well as other areas of existing vegetation will be preserved within the area to be designated as Open Space. As such, impacts would be less than significant.

Source: Bing Imagery

FIRSTCARBON SOLUTIONS™

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Feet

Exhibit 6
Nagasawa Creek

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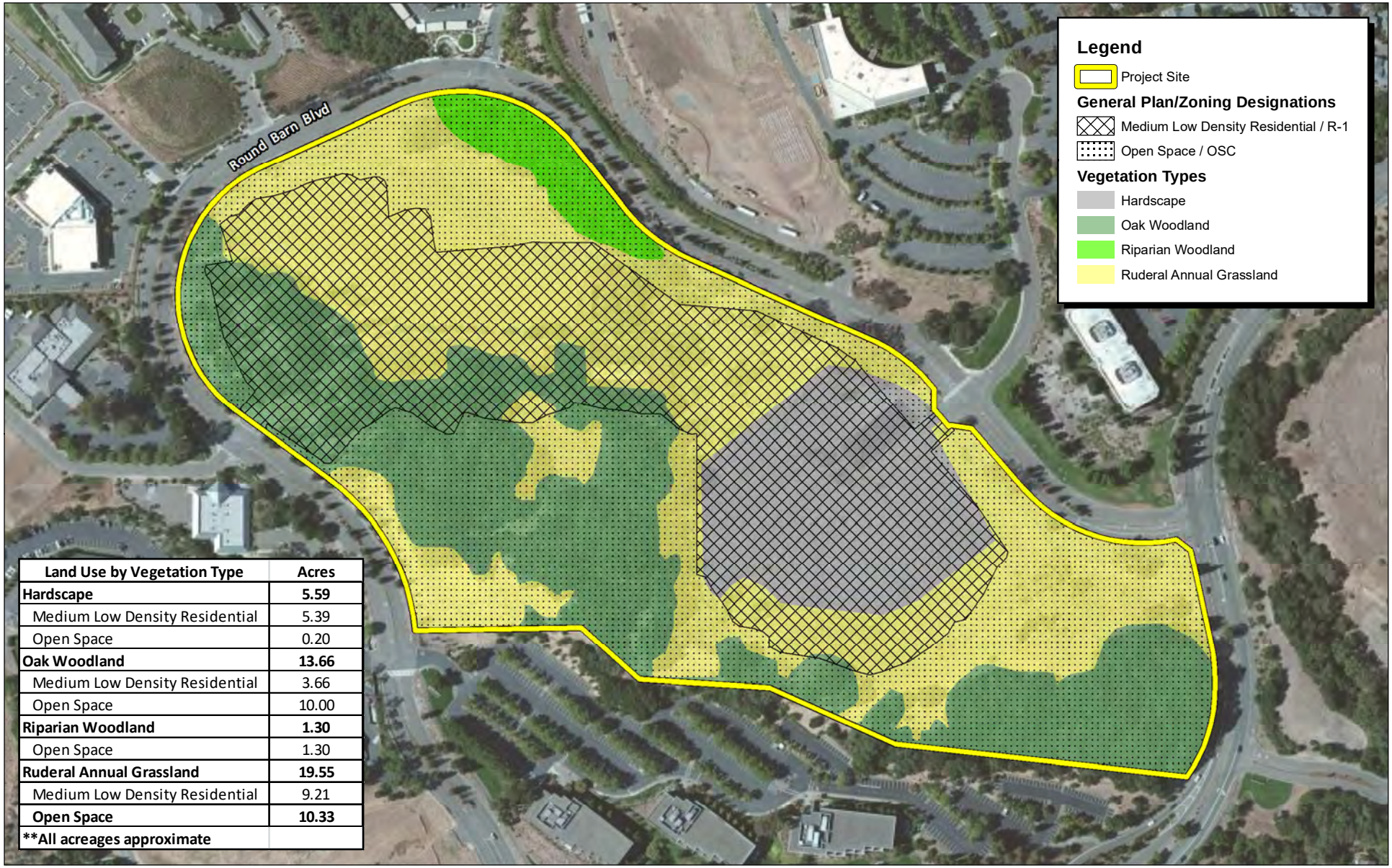

Land Use by Vegetation Type	Acres
Hardscape	**5.59**
Medium Low Density Residential	5.39
Open Space	0.20
Oak Woodland	**13.66**
Medium Low Density Residential	3.66
Open Space	10.00
Riparian Woodland	**1.30**
Open Space	1.30
Ruderal Annual Grassland	**19.55**
Medium Low Density Residential	9.21
Open Space	**10.33**
**All acreages approximate	

Source: Bing Imagery; City of Santa Rosa; Stromberg, 2015

FIRSTCARBON SOLUTIONS™

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Exhibit 7
Vegetation Types

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c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Less than significant impact. Nagasawa Creek has the possibility to contain small areas of seasonal wetland habitat above the ordinary high water mark along the banks of the creek. However, as referenced above in Impact 4b, future residential development would not result in removal, fill, or hydrological interruption of the creek and subsequently this potential seasonal wetland area. Exhibit 6 illustrates the location of the creek in relation to the residentially developable area. There are no other areas of potentially jurisdictional wetlands on the Project site. As such, Project impacts would be less than significant.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of wildlife nursery sites?

Less than significant impact with mitigation incorporated. The Project site contains both undeveloped and disturbed areas, and is surrounded by residential, commercial, and recreational developments as well as adjacent open space and park areas. Although the Project site may offer a corridor for native wildlife migration, the site is limited in size and connectivity when compared with surrounding open space and developed land uses. Furthermore, a significant portion of the Project site would remain undeveloped and available for wildlife movement. As such, interference with the movement of wildlife would be less than significant.

As referenced above in the analysis of question 4a, future residential development may have adverse effects on special-status bat species and nesting birds and raptors, including special-status birds and species protected under the MBTA. However, implementation of MM BIO-1 and MM BIO-2 would reduce potential indirect Project impacts to nesting sites to less than significant.

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

Less than significant impact. The City of Santa Rosa tree protection ordinance, outlined in Chapter 17-24, Trees, of the City Code indicates that "No person shall alter, remove or relocate, or permit or cause the alteration, removal or relocation, of any tree, including heritage, protected, or street tree, situated in the City, without a permit as provided in this chapter [17-24]." A protected tree is defined as any tree, including a heritage tree, designated to be preserved on an approved development plan or as a condition of approval of a tentative map, a tentative parcel map, or other development approved by the City. Heritage trees are defined as a tree or trees designated by the Planning Commission as having a special significance or native trees species included on the specified species list with a diameter or circumference equal to or greater than that specified therein. Trees within the Project site that may qualify as heritage trees include coast live oak, valley oak, and black oak.

City Code Chapter 17-24.050 outlines tree alteration or removal requirements for property proposed for development, such as the Project site. As indicated therein, as part of the development proposal

and subdivision application for future residential development, all trees and heritage trees on the Project site must be clearly marked on project plans by trunk location and drip line, and tree removal or alteration must clearly be indicated. Further, the development plan or tentative subdivision map must indicate the genus and species, shape, drip line, and trunk circumference of each tree and heritage tree. Trees and heritage trees not permitted for removal must be protected and preserved to the greatest extent possible and as outlined in the code. The City has established a Tree Replacement Program that requires the applicant to replace trees and heritage trees to be removed. The ordinance requires that for each 6 inches or fraction thereof of the diameter of a tree, two trees of the same species as the removed tree, each of a minimum 15-gallon container size shall be replanted within the Project site.

As a result of focusing development on the interior 18.26 acres of the Project site, future development would avoid, to the extent feasible, heritage trees, and limit on-site tree removal. As a part of approval for any future residential development on-site, the Applicant would be required to demonstrate and implement consistency with the City's tree ordinance, including tree removal permits and protection of maintained trees. This would help to ensure that impacts to protected trees and heritage trees would be minimized. As such, impacts would be less than significant.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No impact. The Project site is not located within, an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional, or state HCP. Therefore, the proposed Project would result in no impact related to conflicts with an adopted HCP, NCCP, or other approved local, regional, or state HCP. No mitigation is required.

Mitigation Measures

MM BIO-1 Migratory Birds and Nesting Raptors

Any development permit or land use entitlement involving ground disturbance or vegetation removal on the Project site shall stipulate the following migratory bird and nesting raptor protections.

In the event that tree removal activities occur during the nesting bird season from March 1 through August 31, the following shall be implemented:

1. To prevent impacts to Migratory Bird Treaty Act-protected birds and their nests, removal of trees shall be limited to only those necessary to construct the project.
2. For trees that must be removed to construct the project, the applicant shall target the removal of trees to occur outside the nesting season between September 1 and February 28.
3. If construction or tree removal is proposed during the breeding/nesting season for local avian species (typically March 1 through August 31), a focused survey for active nests of raptors and migratory birds within the vicinity of the

Project site (no less than 250 feet outside the project boundaries, where possible) shall be conducted by a qualified biologist. Two surveys shall be conducted, at least one week apart, with the second survey occurring no more than two days prior to tree removal. If no active nests are found, tree removal or construction activities may proceed.

4. If an active nest is located during pre-construction surveys, construction activities shall be restricted as necessary to avoid disturbance of the nest until it is abandoned or the biologist deems disturbance potential to be minimal. Restrictions may include establishment of exclusion zones (no ingress of personnel or equipment at a minimum radius of 100 feet around an active raptor nest and a 50-foot radius around an active migratory bird nest) or alteration of the construction schedule. Regulatory agencies including the USFWS and/or CDFW (as appropriate) may be notified regarding the status of the nest and/or to recommend measures to avoid or minimize adverse effects to the nest.

No action is necessary if no active nests are found or if construction shall occur during the non-breeding season (generally September 1 through February 28).

MM BIO-2 Bat Mitigation

Any development permit or land use entitlement involving ground disturbance or vegetation removal on the Project site shall stipulate the following bat protection.

A bat survey shall be conducted between March 1 and July 31 by a qualified wildlife biologist in the year prior to the removal of any trees or buildings. If no bat roosts are detected, then no further action is required if the trees and buildings are removed prior to the next breeding season (typically March 1 to July 31). If removal is delayed, but is still within the breeding season, then an additional pre-demolition survey shall be conducted 30 days prior to removal to ensure that a new colony has not established itself. If a colony of bats is found roosting on-site, then the following mitigation shall be implemented to reduce the potential disturbance:

1. If maternity roosts are identified during the maternity roosting season (typically March 1 to July 31), a qualified biologist shall determine appropriate buffer zones and roosts must remain undisturbed until the qualified biologist has determined the young bats are no longer roosting.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
5. Cultural Resources *Would the Project:*				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☒	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐

Environmental Evaluation

This section describes the existing cultural resources setting and potential effects from project implementation on the Project site and its surrounding area. Descriptions and analysis in this section are based on information provided by the California Native American Heritage Commission (NAHC), Northwest Information Center (NWIC), National Register of Historic Places (NR), California Register of Historic Resources (CR), California Historical Landmarks (CHL) list, California Points of Historical Interest (CPHI) list, the California State Historic Resources Inventory, the University of California Museum of Paleontology (UCMP) Paleontological Database, and a pedestrian survey of the site conducted by FCS. The record search results, NAHC correspondence, historic and paleontological reports and pedestrian survey photographs are provided in Appendix C.

Northwest Information Center

In order to determine the presence or absence of cultural and historical resources within the proposed project area, a records search and literature review was conducted for the Project site and a 0.50-mile radius surrounding it on May 5, 2017 at the NWIC, located at Sonoma State University. The purpose of this review was to access existing cultural resource survey reports, archaeological site records, and historic maps and evaluate whether any previously documented prehistoric or historic archaeological sites, architectural resources, cultural landscapes, or other resources exist within or near the project area.

Results from the NWIC indicate that thirteen resources (P-49-000480, P-49-000481, P-49-001035, P-49-00144, P-49-001145, P-49-001146, P-49-00147, P-49-001752, P-49-002737, P-49-003243, P-49-004841, P-49-004842, and P-49-004985) are on file within a 0.5-mile radius of the project area. Of the 13 resources, one is located within the Project site, and is historic in nature. In addition, 18 area-specific

survey reports (S-000061, S-000288, S-000606, S-000955, S-001473, S-001516, S-001778, S-005912, S-013497, S-016455, S-022011, S-022736, S-031710, S-32771, S-037608, S-044557, S-046053, S-048317) are on file with the NWIC for the 0.5-mile search radius. Of the 15 previous surveys, one (S-016455,) surveyed the Project site in its entirety in 1994, indicating that the site has been previously surveyed for cultural resources. A records search map, identifying the project boundaries and 0.5-mile search radius along with relevant records search materials may be found in Appendix C-1.

Pedestrian Cultural Resources Survey

FCS Senior Archaeologist Dana DePietro, PhD conducted a pedestrian survey of the project area for cultural resources on May 15, 2017. The Project site is roughly oval in shape, and is located within Township 7 north, Range 8 west, Sections 2 and 3 of the USGS Santa Rosa quadrangle (1980) 7.5-series topographic map. The project is situated in the Fountaingrove neighborhood east of U.S. 101 and north of the City of Santa Rosa. The site is characterized by steep and rolling topography, dense trees, and significant vegetation. A large portion of the southeastern area of the site is occupied by a large paved parking lot, and a small segment of the Nagasawa Creek is located along the northwest perimeter of the site. The surrounding neighborhood includes open space, single-family homes, office complexes, and senior care facilities. The historic Fountaingrove Winery Complex (P-49-001144) once lay at the center of the Project site; however, it has been entirely demolished with only the building foundations remaining. No buildings or structures are present at the site.

The survey began in the southeast of the Project site and moved northwest using north-south transects at 15-meter intervals whenever possible. Soil visibility was poor, ranging from 10 to 30 percent across the site due to pavement, foundations and ground cover. Open areas in the west of the site generally had higher visibility than those in the east. Soils in these sections of poor visibility were intermittently inspected using a hand trowel. Observed soils were largely composed of medium brown/tan silt interspersed with small water worn stones (4 to 7 centimeters) composed of quartz, basalt, and schist.

Survey conditions were documented using digital photographs and field notes. During the survey, Dr. DePietro examined all areas of the exposed ground surface for prehistoric artifacts (e.g., fire-affected rock, milling tools, flaked stone tools, tool-making debris, ceramics), soil discoloration and depressions that might indicate the presence of a cultural midden, faunal and human osteological remains, and features indicative of the former presence of structures or buildings (e.g., postholes, standing exterior walls, foundations) or historic debris (e.g., glass, metal, ceramics). Particular attention was paid to natural resources including the Nagasawa Creek in the north of the Project site, as well as the foundations of the historic Fountaingrove winery complex.

No unrecorded historic or prehistoric cultural resources were found within the Project site; however, the presence of the demolished historic winery complex within the project boundaries increases the likelihood of archaeologically significant historic subsurface deposits in the area. Survey photographs may be found in Appendix C-3.

Would the Project:

a) Cause of a substantial adverse change in the significance of a historical resource as defined in § 15064.5?

Less than significant impact with mitigation incorporated. The results of the NWIC records search show that 13 cultural resources lie within 0.5 mile of the Project site. Of these resources, seven are historic buildings or districts, one of which (P-49-001144, the Historic Fountaingrove Winery Complex) is located within the project area itself. The winery complex was evaluated in 1994 and found to be historically significant, however the complex was completely removed in July 2015 in accordance with an approved demolition permit. Archeological monitoring was conducted during demolition. No features or concentrations of artifacts were observed; however, it was noted that further monitoring could be necessary if additional earth disturbance were required.[24] The presence of the demolished complex within the project boundaries increases the likelihood of archaeologically significant historic subsurface deposits in the area. For these reasons, the potential for the proposed project to have an adverse effect on historic resources is considered moderate to high.

Subsurface construction activities always have the potential to damage or destroy previously undiscovered historic and prehistoric resources, particularly construction in close proximity to P-49-001144. 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. Accordingly, implementation of MM CUL-1 would be required to reduce potential impacts to historic resources that may be discovered during future residential development construction. With the incorporation of mitigation, impacts associated with historic resources would be less than significant.

b) Cause of a substantial adverse change in the significance of an archaeological resources pursuant to § 15064.5 or Public Resources Code 21074?

Less than significant impact with mitigation incorporated. Records search results from the NWIC indicate that thirteen cultural resources lie within 0.5 mile of the Project site. Of these resources, six are associated with prehistoric archaeological resources in the vicinity of the project area. No Tribal Cultural Resources (TCRs) were identified as part of the NAHC Sacred Lands File search or through subsequent outreach and correspondence with Native American representatives. An intensive pedestrian survey of the Project site conducted by FCS on May 15, 2017 also failed to identify additional prehistoric archaeological resources within the Project site. The presence of Nagasawa Creek in the north of the project area, which has been associated with the six prehistoric resources within a 0.5 mile of the project increases the likelihood that undiscovered resources may be located within the project boundaries. The Project site is therefore considered to have moderate to high sensitivity for undiscovered prehistoric archaeological resources.

Such resources could consist of but are not limited to stone, bone, wood, or shell artifacts or features, including hearths and structural elements. Accordingly, this is a potentially significant impact. Implementation of MM CUL-1 would ensure that this potential impact is reduced to a less than significant level.

[24] Tom Origer & Associates. Summary of Archeological monitoring for the Fountain Grove Winery Demolition Project. September 1, 2015.

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less than significant impact with mitigation incorporated. Dr. Finger's report concluded that the eastern half of the Project site consists of Holocene alluvium (Qal) deposits that are adjacent to and overlay late Pleistocene alluvial fan deposits (Qpoaf) in the western half of the site. While Holocene alluvium is too young to be considered fossiliferous, late Pleistocene alluvium has been a primary source of the Rancholabrean vertebrate fauna. Vertebrate fossils in alluvium tend to have spotty occurrences that are usually unpredictable; thus, late Pleistocene alluvium typically has a low potential but high sensitivity for significant paleontological resources. Late Pleistocene deposits in Solano and neighboring counties have yielded vertebrate fossils. Therefore, the potential for the proposed project to have an adverse effect on paleontological resources is considered moderate.

Although not anticipated, sub-surface construction activities associated with the proposed project, such as grading and trenching in the western half of the site, could result in a significant impact to paleontological resources, if encountered. Paleontological resources may include but are not limited to fossils from mammoths, saber-toothed cats, rodents, reptiles, and birds. Accordingly, implementation of MM CUL-2 will be required to reduce potential impacts to paleontological resources that may be discovered during future residential construction. With the incorporation of mitigation, impacts associated with paleontological resources would be less than significant.

d) Disturb any human remains, including those interred outside of formal cemeteries?

Less than significant impact with mitigation incorporated. No human remains or cemeteries are known to exist within or near the Project site. However, there is always the possibility that subsurface construction activities associated with future residential development, such as trenching and grading, could potentially damage or destroy previously undiscovered human remains. Accordingly, this is a potentially significant impact. In the event of the accidental discovery or recognition of any human remains, CEQA Guidelines Section 15064.5, Health and Safety Code Section 7050.5, Public Resources Code Section 5097.94 and Section 5097.98 must be followed.

In the unlikely event human remains are discovered, implementation of MM CUL-3 would reduce this potential impact to a less than significant level.

Mitigation Measures

MM CUL-1 Any development permit or land use entitlement involving ground disturbance or vegetation removal on the Project site shall stipulate the following cultural resource protection measures.

Because of the high potential for undiscovered cultural resources within the project area, all construction activity resulting in sub-surface disturbance during initial ground clearing and grading shall be monitored by an archaeologist who meets the Secretary of Interior's Professional Qualification Standards for archaeology. Based on initial monitoring, the archaeologist shall determine if continued monitoring is required throughout future construction activities involving ground disturbance. The

archaeologist shall prepare an archaeological monitoring plan (AMP) in conjunction with the project applicant and City of Santa Rosa prior to project construction that will be adhered to over the course of the project. The Applicant shall include a standard inadvertent discovery clause in every construction contract to inform contractors of compliance with the AMP.

The AMP shall indicate the following:

1. In the event a potentially significant cultural resource is encountered during subsurface earthwork activities, all construction activities within a 100-foot radius of the find (or a radius as recommended by the consulting archaeologist) shall cease and workers should avoid altering the materials until the archaeologist has evaluated the situation.
2. Any previously undiscovered resources found during construction activities shall be recorded on appropriate Department of Parks and Recreation (DPR) forms and evaluated for significance in terms of CEQA criteria by a qualified archaeologist. Potentially significant cultural resources consist of but are not limited to stone, bone, glass, ceramics, fossils, wood, or shell artifacts, or features including hearths, structural remains, or historic dumpsites.
3. If the resource is determined significant under CEQA, the qualified archaeologist shall prepare and implement a research design and archaeological data recovery plan that will capture those categories of data for which the site is significant in accordance with Section 15064.5 of the CEQA Guidelines.
4. The archaeologist shall also perform appropriate technical analyses, prepare a comprehensive report complete with methods, results, and recommendations, and provide for the permanent curation of the recovered resources. The report shall be submitted to the City of Santa Rosa, the Northwest Information Center, and the State Historic Preservation Office (SHPO), if required.

MM CUL-2 Any development permit or land use entitlement involving ground disturbance or vegetation removal on the Project site shall stipulate the following cultural resource protection measure.

A professional paleontologist should be present during the initial phase of ground disturbance in order to check for the inadvertent exposure of fossils or other resources of paleontological value. This may be followed by regular periodic or "spot-check" paleontological monitoring during ground disturbance as needed, but full-time monitoring is not required at this time. In the event that fossils or fossil-bearing deposits are discovered during construction activities, excavations within a 100-foot radius of the find shall be temporarily halted or diverted. The Project contractor shall notify a qualified paleontologist to examine the discovery. The applicant shall include a standard inadvertent discovery clause in every construction contract to inform contractors of this requirement. The paleontologist shall document the discovery as needed in accordance with Society of Vertebrate Paleontology standards and assess the significance of the find under the criteria set

forth in CEQA Guidelines Section 15064.5. The paleontologist shall notify the appropriate agencies to determine procedures that would be followed before construction activities are allowed to resume at the location of the find. If the Applicant determines that avoidance is not feasible, the paleontologist shall prepare an excavation plan for mitigating the effect of construction activities on the discovery. The plan shall be submitted to the City of Santa Rosa for review and approval prior to implementation, and the Applicant shall adhere to the recommendations in the plan.

MM CUL-3 Any development permit or land use entitlement involving ground disturbance or vegetation removal on the Project site shall stipulate the following cultural resource protection measure

In the event of the accidental discovery or recognition of any human remains during construction activities, CEQA Guidelines Section 15064.5; Health and Safety Code Section 7050.5; Public Resources Code Section 5097.94 and Section 5097.98 must be followed. If during the course of project development there is accidental discovery or recognition of any human remains, the following steps shall be taken:

1. There shall be no further excavation or disturbance within 100 feet of the remains until the County Coroner is contacted to determine if the remains are Native American and if an investigation of the cause of death is required. If the coroner determines the remains to be Native American, the coroner shall contact the Native American Heritage Commission (NAHC) within 24 hours, and the NAHC shall identify the person or persons it believes to be the most likely descendant (MLD) of the deceased Native American. The MLD may make recommendations to the landowner or the person responsible for the excavation work within 48 hours, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in PRC Section 5097.98.
2. Where the following conditions occur, the landowner or his or her authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity either in accordance with the recommendations of the most likely descendant or on the Project site in a location not subject to further subsurface disturbance:
   - The NAHC is unable to identify a most likely descendent or the most likely descendent failed to make a recommendation within 48 hours after being notified by the commission.
   - The descendant identified fails to make a recommendation.
   - The landowner or his authorized representative rejects the recommendation of the descendant, and mediation by the NAHC fails to provide measures acceptable to the landowner.

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

- When an initial study identifies the existence of, or the probable likelihood of, Native American Remains within a project, a lead agency shall work with the appropriate Native Americans as identified by the Native American Heritage Commission 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 Native American Heritage Commission.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
6. Geology and Soils *Would the Project:*				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐		☒	☐
ii) Strong seismic ground shaking?	☐	☒	☐	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☒	☐	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☒	☐	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒

The Alquist-Priolo Earthquake Fault Zoning Act requires the State Geologist to establish regulatory zones known as earthquake fault zones around the surface traces of active faults and to issue appropriate maps. The Seismic Hazards Mapping Act addresses non-surface fault rupture earthquake hazards, including liquefaction and seismically induced landslides. The act resulted in a mapping program identifying areas that have the potential for liquefaction, landslide, strong ground shaking, or other earthquake and geologic hazards.

The Rodgers Creek Fault Zone is the nearest Fault Zone to the Project site and is located approximately 1,000 feet to the east. In the surrounding area, the Maacama Fault is located approximately 4.1 miles

northeast and the San Andreas Fault is located approximately 19 miles southwest of the Project site. These and other active faults in the region are capable of causing significant ground shaking on the site. Ground movement during an earthquake can vary depending on the overall magnitude, distance to the fault, focus of earthquake energy, and type of geologic material. The composition of underlying soils, even those relatively distant from faults, can intensify ground shaking. According to the Association of Bay Area Governments (ABAG) Liquefaction Susceptibility Map; however, the Project site is located in a very low susceptibility area. Liquefaction is the process by which water-saturated soil materials lose strength and fail during strong seismic ground shaking.

The State of California has established minimum standards for building design through the California Building Code (CBC), which contain specific requirements for seismic safety, excavation, foundations, retaining walls, and site demolition. The American Society of Civil Engineers (ASCE) has also published standards for minimum design loads for buildings in the 2010 ASCE-7 standards.

The CBC also contains standards for grading activities, including drainage and erosion control (Chapter 18, Appendix J). The City of Santa Rosa has adopted the 2013 CBC and incorporated it into the Municipal Code. The Municipal Code also contains numerous other provisions intended to promote geotechnical and seismic safety, including construction limitations and requirements for geologic reports and building permits within earthquake fault zones (Title 17) as well as grading and soil requirements for structural foundations (Title 19).

The United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) has characterized the majority of native, undisturbed soils in Santa Rosa as clayey alluvial soils and riverwash, as well as some silty and gravelly soils and loams. Based on California Geological Survey (CGS) mapping, the Project area is underlain by the Petaluma Formation.[25]

The ABAG GIS Landslide Susceptibility map indicates that the Project site is located within an area with the potential for earthquake induced landslides, but not for landslides derived from rain events.[26]

Environmental Evaluation

Would the Project:

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

Less than significant impact. The Project site does not lie within an identified Alquist-Priolo fault zone. However, the Project site is located approximately 1,000 feet east of the Rodgers Creek Fault

[25] California DOC. 2017. Geologic Map of the Santa Rosa Quadrangle. Website: http://www.quake.ca.gov/gmaps/RGM/santarosa/santarosa.html. Viewed April 18, 2017.
[26] ABAG. 2017. Hazards Map. Website: http://gis.abag.ca.gov/website/Hazards/. Viewed April 18, 2017.

Zone. Consistent with applicable guidelines set forth in the General Plan Policies NS-C-1-8 for new structures built along the Rodgers Creek Fault Zone, the future residential development would be designed to withstand possible mudflows, which is an identified hazard along this Fault Zone. As such, impacts would be less than significant.

ii) Strong seismic ground shaking?

Less than significant impact with mitigation incorporated. The Project site could experience strong to violent ground shaking as a result of an earthquake on the Hayward-Rodgers Creek fault, as well as ground shaking associated with seismic activity on other regional faults. The intensity of ground shaking would vary with the distance and magnitude of the earthquake causing the ground shaking. According to the Association of Bay Area Governments Hazards maps, Sonoma County has been categorized under the "Very Strong" shaking category. Therefore, to minimize the risk of loss, injury or death involving seismic shaking to the maximum extent practicable, implementation of MM GEO-1 is required for future residential development, which would ensure that design of proposed structures is in conformance with the seismic provisions of the 2013 CBC and the recommendations of a Geotechnical Report. Implementation of this measure would reduce impacts to a less than significant level.

iii) Seismic-related ground failure, including liquefaction?

Less than significant impact. Based on a review of the interactive ABAG GIS Liquefaction Susceptibility Map, the Project site is located within a very low liquefaction hazard area. Likewise, the County of Sonoma Major Earthquake Faults & Areas of Liquefaction Map does not identify the Project site within a very high, high, or medium liquefaction zone.[27] Based on these conditions, the on-site soils have a low risk for potential and impacts associated with liquefaction and impacts would be less than significant.

iv) Landslides?

Less than significant impact with mitigation incorporated. As described in Section 1.3, the Project site is located in hilly terrain adjacent to medical and commercial offices, two hotels, a church, apartment complexes, and single-family homes. Based on a review of the ABAG GIS Landslide Susceptibility map, the Project site is not located within a rainfall induced landslide distribution area but could experience earthquake induced landslides.[28] The California Landslide Inventory from California Geological Survey does not list the Project site under any landslide susceptibility criteria. As shown in Exhibit 5, the approximately 18.26 acres to be developed are located primarily in the central and northwest portions of the Project site. The 18.26-acre development area has been situated to minimize required changes to the existing topography. Any future on-site development would be required to obtain Hillside Development permits. Furthermore, implementation of CBC requirements contained in the Santa Rosa Municipal Code—including removing excess material from the upslope swales, reshaping the hillside profile to reduce the driving forces, lowering the slope

[27] Sonoma County Hazard Mitigation Plan. "Figure 8.1-Major Earthquake Faults & Areas of Liquefaction." Website: http://www.sonoma-county.org/prmd/docs/hmp_2011/figures/8_1.pdf. Accessed April 27, 2017.

[28] ABAG. 2017. Website: http://gis.abag.ca.gov/website/Hazards/?hlyr=cgsLndsldZones. Accessed April 26, 2017.

gradient, and restricting water inflow into the soil mass—would reduce impact to the maximum extent practicable. In addition, implementation of Mitigation Measure GEO-1, which would ensure that design of proposed structures conforms to the seismic provisions of the 2013 CBC and the recommendations of a Geotechnical Report, would ensure that impacts would be less than significant.

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

Less than significant impact. Soil exposed by construction activities during development of future on-site residences could be subject to erosion if exposed to heavy rain, winds, or other storm events. However, future development would be required to adhere to standard conditions, including conformance with the NPDES permit and standards, which mandates the reduction of erosion that occurs on-site. Furthermore, grading and excavation activities would be required to comply with the applicable provisions of the City's Municipal Code, including requirements for grading and excavation contained in Title 18 Buildings and Construction. Compliance with applicable regulations would reduce the potential for erosion on-site from construction activities to the maximum extent practicable. Impacts would be less than significant.

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

Less than significant impact with mitigation incorporated. As noted above, there is a very low risk for potential liquefaction on the Project site; however, there is a potential for earthquake induced landslides. As such, implementation of Mitigation Measure GEO-1 is required, which would ensure that design of proposed structures is in conformance with the seismic provisions of the 2013 CBC and the recommendations of a geotechnical report, and would ensure that impacts would be less than significant.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

Less than significant impact. Soils on the Project site are made up primarily of Spreckles loams, Goulding cobbly clay loams, and Raynor clays. Spreckles soils are well-drained loam soils and occur in a band toward the northern half of the Project site. The Goulding series soils are shallow, quickly drained soils formed in material weathered from metavolcanic or metasedimentary rocks. The Goulding series soils occur on the north-facing slopes of the hills and also in the area where the current parking lot has been constructed. The Raynor clay soils are very deep, moderately well drained clay soils that have formed in volcanic rock and in the derived alluvium. Raynor clay soils occur in the northern portion of the Project site. Because of the lack of soils that exhibit high shrink and swell potential on-site, soils would not be likely to experience drastic expansion. As such, expansive soils hazards would be less than significant.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

No impact. Future residential development would be served with sanitary sewer service provided by the City of Santa Rosa, and no alternative wastewater disposal systems would be implemented. This condition precludes the possibility of related impacts. No impacts would occur.

Mitigation Measures

MM GEO-1 Prior to issuance of building permits for habitable structures, the project applicant shall submit plans to the City of Santa Rosa for review and approval demonstrating project compliance with the 2013 CBC seismic requirements and the recommendations of a design-level geotechnical investigation. All soil engineering recommendations and structural foundations shall be designed by a licensed professional engineer. The approved plans shall be incorporated into the proposed Project. A qualified geotechnical engineer shall review the final foundation and building plans to ensure conformance with the recommendations.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
7. Greenhouse Gas Emissions *Would the Project:*				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

Environmental Evaluation

The following analysis is based in part on CalEEMod modeling conducted by FCS and included in this IS/MND as Appendix A.

Would the Project:

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

Less than significant impact. This analysis is restricted to greenhouse gases identified by Assembly Bill (AB) 32, which include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Construction of the future residential development would generate a variety of greenhouse gases during construction and operation, including several defined by AB 32 such as carbon dioxide, methane, and nitrous oxide.

Future residential development may also emit greenhouse gases that are not defined by AB 32. For example, it may generate aerosols. Aerosols are short-lived particles that remain in the atmosphere for about one week. Black carbon is a component of aerosol. Studies have indicated that black carbon has a high global warming potential; however, the Intergovernmental Panel on Climate Change states that it has a low level of scientific certainty29 (IPCC 2007). Water vapor could be emitted from evaporated water used for landscaping, but this is not a significant impact because water vapor concentrations in the upper atmosphere are primarily due to climate feedbacks rather than emissions from project-related activities. The Project would emit nitrogen oxides and volatile organic compounds, which are ozone precursors. Ozone is a greenhouse gas; however, unlike the other greenhouse gases, ozone in the troposphere is relatively short-lived and can be reduced in the troposphere on a daily basis. Stratospheric ozone can be reduced through reactions with other pollutants.

[29] Intergovernmental Panel on Climate Change (IPCC). 2007. Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller [eds.]). Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. Website: www.ipcc.ch/publications_and_data/ar4/wg1/en/contents.html. Accessed April 25, 2016.

Certain greenhouse gases defined by AB 32 would not be emitted by the Project. Perfluorocarbons and sulfur hexafluoride are typically used in industrial applications, none of which would be used by the Project. Therefore, it is not anticipated that the Project would emit perfluorocarbons or sulfur hexafluoride.

An upstream emission source (also known as life cycle emissions) refers to emissions that were generated during the manufacture of products to be used for construction of the Project. Upstream emission sources for the Project include but are not limited emissions from the manufacture of cement, emissions from the manufacture of steel, and/or emissions from the transportation of building materials to the seller. The upstream emissions were not estimated because they are not within the control of the project and to do so would be speculative. Additionally, the California Air Pollution Control Officers Association White Paper on CEQA and Climate Change supports this conclusion by stating, "The full life-cycle of GHG [greenhouse gas] emissions from construction activities is not accounted for . . . and the information needed to characterize [life-cycle emissions] would be speculative at the CEQA analysis level" (CAPCOA 2008).[30] Therefore, pursuant to CEQA Guidelines Sections 15144 and 15145, upstream/life cycle emissions are speculative and no further discussion is necessary.

Short-term Construction Impacts

During future residential construction, greenhouse gases would be generated by construction activities such as site clearing/preparation and grading/earthwork, the operation of heavy-duty construction vehicles, materials and debris hauling, asphalt paving, and construction worker vehicle trips. These emissions would be considered short-term in duration. BAAQMD does not have an adopted threshold of significance for construction-related greenhouse gas emissions; however, BAAQMD does recommend that lead agencies quantify, disclose, and provide a significance determination for construction-related greenhouse gas emissions. Thus, the operational emissions bright-line threshold of 1,100 metric tons of carbon dioxide equivalents (MT CO_2e) per year is used for this analysis to determine significance of the Project's construction-related emissions.

Construction emissions were estimated using CalEEMod version 2016.3.1. Construction of the future residential development was anticipated to start in summer 2018 and end in summer 2020. The timing for construction is approximately 24 months. The construction phases included demolition, site preparation, site grading, building construction, paving, and architectural coating. Table 12 shows the greenhouse gas emissions estimated to be generated by project construction, indicating that the construction-related GHG emissions are below 1,100 MT CO_2e in each construction year. Therefore, construction-related GHG emissions would be less than significant on a project basis.

[30] California Air Pollution Control Officers Association. 2008. CEQA & Climate Change, Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act. Available: <http://www.capcoa.org/wp-content/uploads/2012/03/CAPCOA-White- Paper.pdf>. Accessed: December 18, 2011.

Table 12: Construction Greenhouse Gas Emissions

Construction Phases	Total Emissions (MT CO_2e/year)
2018	
Demolition	237
Site Preparation	18
Site Grading	88
Paving (2018)	7
2018 Construction Subtotal	*350*
2019	
Paving (2019)	15
Building Construction (2019)	746
2019 Construction Subtotal	*761*
2020	
Building Construction (2020)	157
Architectural Coating	17
2020 Construction Subtotal	*175*
Maximum Annual Construction Emissions	**761**
Threshold of Significance	**1,100**
Does project exceed threshold?	**No**
Note: Calculations use unrounded numbers. Source: CalEEMod Output (see Appendix A)	

Long-term Operational Impacts

A preliminary screening method is provided in BAAQMD's 2017 Guidelines for operational greenhouse gases. The preliminary screening is used to indicate whether a project's operational greenhouse gases could potentially exceed BAAQMD's thresholds of significance. Based on BAAQMD screening criteria, the operation of a condo/townhouse general land use (the land use type with a density similar to the maximum future residential development) would result in a less than significant impact if the project size is less than 78 dwelling units. As shown in Table 13, the Project is greater than the threshold and therefore requires a detailed analysis.

Table 13: Operational Greenhouse Gas Screening Level Sizes

Land Use Type	Operational Greenhouse Gas Screening Size	Project Size	Project Percent of Screening Size
Condo/townhouse, General[1]	78 du	237 du	304%

Notes:
[1] Land use type with a density similar to the maximum future residential development.
du = dwelling units
Source: BAAQMD 2017 Guidelines.

Operational or long-term emissions occur over the life of the Project. The 2017 BAAQMD Thresholds contain the following for GHGs:

> For land use development projects (including residential, commercial, industrial, and public land uses and facilities), the threshold is compliance with a qualified GHG Reduction Strategy; or annual emissions less than 1,100 metric tons per year of carbon dioxide equivalent (CO_2e); or 4.6 metric tons CO_2e/service population/year (residents + employees).

Operational greenhouse gas emissions by source are shown in Table 14. Total operational emissions were estimated at 1,824.6 MT CO_2e. The future residential development is estimated to accommodate 628 residents. The future residential development would generate approximately 2.9 MT CO_2e per service person at year 2020. Therefore, the Project would not exceed the BAAQMD's 2017 threshold of 4.6 MT CO_2e/service population/year for greenhouse gases, and would not have a significant generation of greenhouse gases. The CalEEMod output is included in Appendix A.

Table 14: Operational Greenhouse Gas Emissions (2020)

Emission Source	Project Total MT CO_2e per year
Area	2.9
Energy	321.9
Mobile (Vehicles)	1,411.1
Waste	16.4
Water	29.3
Construction (amortized over 30 years)	42.9
Total Project Emissions	1,824.6
Service Population (Residents)	628
Project Emission Generation (MT CO_2e/service population/year)	**2.9**
BAAQMD 2017 Threshold (MT CO_2e/service population/year)	**4.6**

Table 14 (cont.): Operational Greenhouse Gas Emissions (2020)

Emission Source	Project Total MT CO_2e per year
Does project exceed threshold?	**No**
Notes: MT CO_2e = metric tons of carbon dioxide equivalent. Unrounded results used to calculate totals. Source of Emissions: CalEEMod Output (Appendix A)	

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

Less than significant impact. Significance for this impact is determined by project compliance with the City of Santa Rosa Climate Action Plan (CAP).[31] The CAP contains a compliance checklist for new development, which is used to determine compliance with the CAP, which is a qualified Greenhouse Gas Reduction Plan according to the BAAQMD's 2011 guidelines. Project compliance with those policies and requirements are shown in Table 15. As shown in the table, the Project complies with applicable requirements.

The City of Santa Rosa adopted its CAP in June 2012. The CAP identifies policies that will achieve the State-recommended greenhouse gas reduction target of 15 percent below 2008 levels by the year 2020 and the locally adopted reduction goal of 25 percent below 1990 levels. The CAP provides goals, measures, and associated actions, in the topical areas of energy efficiency and conservation, renewable energy, parking and land use management, improved transport options, optimized vehicular travel, waste reduction, recycling and composting, water and wastewater, agriculture and local food, and off-road vehicles and equipment.

The Project is consistent with the applicable local plans, policies, and regulations and would not conflict with the provisions of AB 32, the applicable air quality plan, or any other state or regional plan, policy or regulation of an agency adopted for the purpose of reducing greenhouse gas emissions. As discussed in impact 7a), the Project would have a less than significant generation of greenhouse gases. In addition, the following applicable measures identified in Table 15 are already included as part of the project design or could be included, and would lessen the GHG emissions.

[31] City of Santa Rosa. 2012. City of Santa Rosa Climate Action Plan. Website: http://ci.santa-rosa.ca.us/doclib/Documents/CDP_SR_FINAL_CAP_20120711.pdf. Accessed: February 2, 2015 and May 25, 2017.

Table 15: Project Compliance with Santa Rosa Climate Action Plan

Measure	Action Item	Project Compliance
Energy Efficiency in Existing Buildings: Facilitate energy efficiency upgrades and retrofits in existing commercial, residential, and industrial buildings by connecting residents and businesses with technical and financial assistance.	Connect businesses and residents with voluntary programs that provide free or low-cost energy efficiency audits and financing assistance for energy efficient appliances.	**Complies.** Future residents could participate in voluntary programs that provide free or low-cost energy efficiency audits and financing assistance for energy efficient appliances. In addition, the Project would comply with the latest energy efficiency standards and incorporate applicable energy efficiency features designed to reduce project energy consumption.
	Work with the Sonoma County Energy Independence Program (SCEIP) to offer low-interest financing and technical assistance to property owners for energy efficiency retrofits.	**Not directly applicable.** The Project would result in a new residential development project.
Smart Meter Utilization: Encourage existing development and require new development to utilize PG&E's Smart Meter system to facilitate energy and cost savings.	Require new construction and major remodels to install real-time energy monitors that allow building users to track their current energy use.	**Complies.** The Project would include real-time energy monitors that would allow residents to track their energy use.
Cool Roofs and Pavements: Require new sidewalks, crosswalks, and parking lots to be made of cool paving materials with a high solar reflectivity.	Adopt an ordinance that requires and specifies cool paving materials for new parking lots, sidewalks, roofs, and crosswalks and integrates Low Impact Development guidelines for new construction and Capital Improvement Projects.	**Complies.** Future residential development would be required to construct paved areas in accordance with City standards.
	Ensure the cool roof and paving ordinance includes cool roof specifications which allow for green or living roofs and address energy installations on historic structures consistent with the Secretary of Interior's Rehabilitation Standards. Allow darker-color roofs when they meet cool roof standards.	**Complies.** Future residential development would be required to comply with the Green Building Code requirements for solar ready roofs.

Table 15 (cont.): Project Compliance with Santa Rosa Climate Action Plan

Measure	Action Item	Project Compliance
Tree Planting and Urban Forestry: Plant and maintain trees on private property, streets, and open space areas.	Require new development to supply an adequate number of street trees and private trees.	**Complies.** Future residential development would incorporate landscaping, including shade trees, throughout the developed portion of the Project site. In addition, strict architectural and landscape treatment controls would be exercised to preserve the hillsides in their natural state.
Energy-Efficient Appliances: Facilitate the efficient use of energy for appliances in residential, commercial, and industrial buildings.	Seek funding sources to develop a rebate program for residents and businesses to exchange inefficient appliances with Energy Star certified models.	Not directly applicable. The Project would allow for the future development of up to 237 new residential units. However, implementation of the Project would not preclude future residents from exchanging any inefficient appliances with Energy Star verified models.
Appliance Electrification: encourage residents and businesses to switch natural-gas-powered appliances to electric power, where appropriate.	Utilize the energy-efficient appliance rebate program to facilitate the replacement of natural gas equipment with electric-powered equipment.	**Not directly applicable.** The Project would allow for the future development of up to 237 new residential units.
	Identify opportunities to implement additional programs that will switch appliances from natural gas to electricity.	**Not directly applicable.** The Project would allow for the future development of up to 237 new residential units.
Water Conservation: Continue to require and incentive water conservation.	Require new development to reduce potable water use in accordance with the Tier 1 standards of CALGreen.	**Complies.** The future residential development would implement required green building strategies to comply with Tier 1 CALGreen standards.
	Continue and expand water conservation efforts including water-efficient landscaping, rainwater harvesting, and high-efficiency appliance and fixture installations.	**Complies.** Future residential development would be required to conform to the City's WELO and the California Green Building Standards Code.

Table 15 (cont.): Project Compliance with Santa Rosa Climate Action Plan

Measure	Action Item	Project Compliance
	Replace water meters in Santa Rosa with meters that allow residents and businesses to track real-time water use through the City's online web application.	**Complies.** Future residential development would include water meters that would allow residents to track real-time water usage through the City's online web application.
	Encourage existing development and require new development to utilize smart water meters to facilitate water and cost savings.	**Complies.** Future residential development would include smart water meters.
Lawn and Garden Activity: Encourage the use of electrified and higher-efficiency lawn and garden equipment.	Support the BAAQMD's efforts to re-establish a voluntary exchange program for residential lawn mowers and backpack-style leaf blowers.	**Not applicable.**
	Encourage new buildings to provide electrical outlets on the exterior in an accessible location to charge electric-powered lawn and garden equipment.	**Complies.** Future residential development would provide electrical outlets in areas accessible to be used for landscaping equipment.
	Encourage the replacement of existing high-maintenance and high-water use landscapes (such as removing turf through the Green Exchange rebate program) with low water use vegetation to reduce the need for gas-powered lawn and garden equipment.	**Complies.** Future residential development would conform to the City's WELO and other outdoor water efficiency requirements.
Construction Emissions: Reduce emissions from heavy-duty construction equipment by limiting idling and utilizing cleaner fuels, equipment, and vehicles.	Minimize idling times either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes or less (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Provide clear signage at all access points to remind employees of idling restrictions.	**Complies.** As required by MM AIR-1, signage would be posted at the Project site throughout the duration of the construction period to remind employees of idling restrictions.
	Construction equipment shall be maintained in accordance with manufacturer's specifications.	**Complies.** As required by MM AIR-1, all construction equipment shall be maintained in accordance with manufacture's specifications.
	Work with project applicants to limit GHG emissions from construction equipment by	**Complies.** As required by MM AIR-2, all off-road

Table 15 (cont.): Project Compliance with Santa Rosa Climate Action Plan

Measure	Action Item	Project Compliance
	selecting one of the following measures, at a minimum, as appropriate to the construction project: a. Substitute electrified equipment for diesel- and gasoline-powered equipment where practical. b. Use alternative fuels for construction equipment on-site, where feasible, such as compressed natural gas (CNG), liquefied natural gas (LNG), propane, or biodiesel. c. Avoid the use of on-site generators by connecting to grid electricity or utilizing solar-powered equipment.	construction equipment in excess of 50 horsepower used on-site by the developer or contractors shall be equipped with engines meeting the USEPA Tier IV off-road engine emission standards.
Source of policy and project requirements: City of Santa Rosa. 2012. City of Santa Rosa Climate Action Plan. Website: http://ci.santa-rosa.ca.us/doclib/Documents/CDP_SR_FINAL_CAP_20120711.pdf. Accessed February 2, 2015 and May 25, 2017.		

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
8. Hazards and Hazardous Materials *Would the Project:*				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☒	☐	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☒	☐	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☒	☐

Environmental Evaluation

Hazardous materials are substances that, because of their chemical or physical properties, quantity, concentration, or other characteristics, may present a potential hazard to human health or

environment if improperly handled or disposed of.[32] Similarly, hazardous waste refers to hazardous materials that are no longer in use and awaiting disposal. The City of Santa Rosa considers materials hazardous if they appear on lists of hazardous materials prepared by a federal, state, or local agency.[33] Hazardous materials and waste are classified by the United States Environmental Protection Agency and California Department of Toxic Substances Control according to four properties: toxicity, ignitability, corrosivity, and reactivity.

The Resource Conservation and Recovery Act of 1976 (RCRA) regulates the transportation and handling of hazardous waste. Multiple agencies at local, state, and federal levels administer regulations regarding the transport, permitting, storage, handling, and disposal of hazardous waste. These agencies include the U.S. Environmental Protection Agency (EPA), U.S. Department of Transportation (DOT), California Division of Occupational Safety and Health (OSHA), California Department of Toxic Substances Control (DTSC), State Water Resource Control Board (SWRCB), and Sonoma County Hazardous Materials Division.

The Department of Transportation also regulates the transportation of hazardous materials through the National Hazardous Materials Route Registry (NHMRR). The listing reports all designated and restricted road and highway routes for transportation of highway route controlled quantities (HRCQ) of Class 7 (radioactive) materials (RAM) (HRCQ/RAM) and nonradioactive hazardous materials (NRHMs).[34] U.S. 101, just west of the Project site, is designated A10P-2.0.[37]

The State of California uses databases such as EnviroStor and GeoTracker to map the location of hazardous waste sites including sites that have been remediated, sites currently undergoing remediation, and sites that require cleanup.[35] GeoTracker did not identify any cleanup sites within the boundaries of the Project site. The nearest clean-up sites identified by GeoTracker were located east of U.S. 101, approximately 0.25 mile west of the Project site, along Cleveland Avenue. Both of these sites have been cleaned up.[36] The EnviroStor Database identified one non-operating permitted hazardous waste site (Hewlett-Packard Co/Santa Rosa DIV (CAD058412842) immediately south of the Project site, opposite Fountaingrove Parkway.[37] The site has been closed since 1995.[38]

To address airport safety hazards, Sonoma County has prepared a Comprehensive Airport Land Use Plan that identifies the location of airports in the county, and established spheres of influence, where more stringent planning regulations and restrictions apply. The nearest airport to the Project

[32] California Code of Regulations, Title 22, Division 4.5, Chapter 10, Article 2, Section 66260.10
[33] Santa Rosa General Plan 2030 Draft Environmental Impact Report, page 4.N-1.
[34] Department of Transportation National Hazardous Materials Route Registry. Website: https://www.fmcsa.dot.gov/sites /fmcsa.dot.gov/files/docs/042915%20National%20Hazardous%20Material%20Route%20Registry%20Notice_1.pdf. Accessed October 11, 2016.
[35] FMCSA. 2017. National Hazardous Materials Route Registry—California. Website: https://www.fmcsa.dot.gov/regulations/ hazardous-materials/national-hazardous-materials-route-registry-%E2%80%93-california-0. Viewed April 20, 2017.
[36] SWRCB. 2017. GeoTracker. Website: https://geotracker.waterboards.ca.gov/map/?CMD=runreport&myaddress=santa+rosa. Viewed April 20, 2017.
[37] DTSC. 2017. EnviroStor. Website: https://www.envirostor.dtsc.ca.gov/public/mapfull.asp?global_id=&x=-119&y=37&zl=18&ms=640,480&mt=m&findaddress=True&city=santa%20rosa&zip=&county=&federal_superfund=true&state_response=true&voluntary_cleanup=true&school_cleanup=true&ca_site=true&tiered_permit=true&evaluation=true&military_evaluation=true&school_investigation=true&operating=true&post_closure=true&non_operating=true. Viewed: April 20, 2017.
[38] DTSC. 2017. EnviroStor, Hewlett-Packard Co/Santa Rosa DIV (CAD058412842). Website: http://www.envirostor.dtsc.ca.gov/public/hwmp_profile_report.asp?global_id=CAD058412842. Viewed April 20, 2017.

site is Sonoma County Airport, approximately 4.7 miles to the northwest. The Project site does not fall within the Sphere of Influence of the Sonoma County Airport or any other airport.[39]

The City of Santa Rosa has prepared an Emergency Operations Plan that identifies the City's emergency planning, organization, and response policies and procedures.[40] The City has also prepared a Local Hazard Mitigation Plan (LHMP) to address various types of hazards. The LHMP identifies the capabilities, resources, information, strategies for risk reduction, and critical facilities, and provides a set of strategies to reduce vulnerability to disaster through education and outreach programs, the development of partnerships, and implementation of actions to reduce the severity of impacts from a disaster. The draft LHMP is currently undergoing FEMA certification.[41]

The California Department of Forestry and Fire Protection (CalFire) prepares maps of Very High Fire Hazard Severity Zones (VHFHS), which are used to develop recommendations for cities and planning. CalFire categorizes parcels into VHFHS and Non-VHFHS zones. CalFire designates the Project site a Local Responsibility Area Non-VHFHS Zone, which means the likelihood of wildland fires is low.[42]

The United States Forest Service also lists the Project site as a low wildfire hazard potential according to its Wildfire Hazard Potential Map.[43]

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. Construction of the future residential development would involve the transport and handling of hazardous substances such as diesel fuels, lubricants, solvents, asphalt, and waste. Handling and transport of these materials could result in the exposure of workers to hazardous materials. However, the future residential development would not create a significant hazard to the public or the environment, because construction would comply with applicable federal, state, and local laws pertaining to the safe handling and transport of hazardous materials.

Future residential development would not involve the regular use, storage, transport, or disposal of significant amounts of hazardous materials. Future residents would be expected use to small quantities of common household cleaners, lubricants, and similar products. Such usage would not have the potential to create significant public safety hazards because of the limited material quantities and localized nature of such activities, and the low toxicity of these common household substances. As such, impacts would be less than significant.

[39] Sonoma County Comprehensive Airport Land Use Plan. Website: http://www.sonoma-county.org/prmd/docs/calup/. Viewed April 20, 2017.
[40] City of Santa Rosa Emergency Operations Plan Draft 2011.
[41] City of Santa Rosa. "Local Hazard Mitigation Plan: Hazard Mitigation Actions Table," Chapter 4, page 80.
[42] CalFire. 2008. Sonoma County: Very High Fire Hazard Severity Zones in LRA. Website: http://frap.fire.ca.gov/webdata/maps/sonoma/fhszl_map.49.pdf. Accessed May 1, 2017.
[43] U.S. Forest Service (USFS) Wildfire Hazard Potential (WHP). Website: http://www.arcgis.com/home/item.html?id=fc0ccb504be142b59eb16a7ef44669a3. Accessed April 18, 2017.

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

Less than significant impact with mitigation incorporated. Based on the nature of the hazardous materials that would be used and stored during construction (e.g., diesel-fueled equipment, asphalt), and operation (e.g., household cleaners) of the future residential development, it is unlikely that upset and accident conditions involving the release of hazardous materials into the environment would occur. There are no structures on-site. As indicated in Impact 8a above, all hazardous materials would be handled in accordance with applicable laws. Compliance with applicable rules and regulations and implementation of Mitigation Measures HAZ-1 and HAZ-2 would ensure impacts related to accidental release of hazardous materials into the environment associated with future development would be less than significant.

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

No impact. The Project site is located 1.05 miles west of Hidden Valley Satellite Elementary School and 0.95 mile east of Cardinal Newman High School. The Project site is not located within 0.25 mile of an existing or proposed school and therefore would not have the potential to expose nearby schools to hazardous materials, substances, or wastes. No impacts would occur.

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

Less than significant impact with mitigation incorporated. A Phase I Environmental Site Assessment was conducted for the Project site by Stantec in February 2015 (Appendix D). This analysis is based on that report. Review of a regulatory agency database search for the site performed by Environmental Data Resources (EDR) indicates no current underground storage tanks (USTs) or aboveground storage tanks (ASTs) were reported on the site. No USTs or ASTs were observed at the site during the site inspection. However, a listing in the EDR databases for an adjacent property, the Fountaingrove Winery, appears to be for the site, which is shown as a winery on archived topographic maps. The Fountaingrove Winery is listed for a release of gasoline from a UST to groundwater beginning in 1989, followed by site assessment, remediation, and groundwater monitoring. The case was closed April 1, 1993. No files were available in the GeoTracker database or with the City of Santa Rosa Fire Department, so the location of the UST is unclear. However, since it was associated with the winery, it was likely to have been located in the vicinity of the main buildings formerly located in the center of the site. As such, additional testing is recommended as stated in Mitigation Measure HAZ-1 to confirm that contaminated soils are not present.

In addition, based on a review of archived topographic maps dating back to 1914, the site has been used as a winery and structures have previously been located in the same location as the existing foundations, along with a few other smaller structures near the existing foundations and a small structure on the northwestern portion of the property. A long structure located to the east of the main structures was built between 1965 and 1968 and was demolished by 1993. The past presence

of a winery indicates that pesticides or herbicides may have been used on the site. As such, an on-site soil assessment is required as stated in Mitigation Measure HAZ-2. With the implementation of mitigation, potential exposure to on-site hazardous substances would be minimized and impacts would be less than significant.

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

No impact. The nearest public airport to the site is the Sonoma County Airport, located over 4.7 miles northwest of the Project site. This distance precludes the possibility of the Project creating safety hazards for persons residing or working in the project area. No impacts would occur.

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

No impact. The closest private airstrip is the Graywood Ranch Airport, located approximately 9.28 miles southeast of the Project site. This distance precludes the possibility of the Project creating safety hazards for persons residing or working in the project area. No impacts would occur.

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less than significant impact. The future residential development would not modify any existing roadways in such a way that they would impede emergency access or evacuation. Emergency vehicular access would be provided from the west and east via Round Barn Boulevard. The LHMP designates emergency evacuation routes, including US 101, SR-12, and Fountaingrove Parkway/Mission Boulevard.[44] Located to the north of Fountaingrove Parkway, the future residential development would not interfere with evacuation along these routes or otherwise conflict with an adopted emergency response plan or emergency evacuation plan. As such, a less than significant impact would occur.

h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

Less than significant impact. The Project site is surrounded by commercial and residential development to the north, west, east, and south. The Project site is designated a Local Responsibility Area Non-VHFHS Zone by CalFire's fire hazard severity mapping, which means the likelihood of wildland fires is low. The United States Forest Service also lists the Project site as having low wildfire hazard potential, according to its Wildfire Hazard Potential Map. As the Project site and the adjacent areas are not designated as having a high potential for a fire hazard, the Project site would not be susceptible to a significant risk of wildland fires, and associated impacts would be less than significant.

[44] City of Santa Rosa, Local Hazard Mitigation Plan, February 2016, page 15.

Mitigation Measures

MM HAZ-1 Any development permit or land use entitlement involving ground disturbance or vegetation removal on the Project site shall stipulate the following Hazardous Material protection measure.

Prior to on-site development, a soil vapor survey shall be conducted in the vicinity of the former main building locations near the project's center, north of the existing parking lot (as shown on past aerial photographs) to determine whether any residual impact is present from a prior gasoline spill. Should petroleum hydrocarbon-impacted or otherwise contaminated soils be identified, they shall be properly removed and disposed of in accordance with applicable regulations, prior to the implementation of construction activities to ensure that the site meets residential screening levels as established by the California Office of Environmental Health Hazard Assessment (OEHHA).

MM HAZ-2 Any development permit or land use entitlement involving ground disturbance or vegetation removal on the Project site shall stipulate the following Hazardous Material protection measure.

The presence of a winery indicates that pesticides or herbicides may have potentially been used on the site in the past. Prior to on-site development, an assessment of on-site soils for residual pesticides/herbicides shall be conducted in areas to be developed for residential uses. Should soil be identified that contains pesticides/herbicides at levels exceeding residential screening levels as established by OEHHA, it shall be properly removed and disposed of in accordance with applicable regulations prior to the implementation of construction activities.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
9. Hydrology and Water Quality *Would the Project:*				
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☒	☐
e) 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?	☐	☐	☒	☐
f) Otherwise substantially degrade water quality?	☐	☐	☒	☐
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☒
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☒	☐
j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☒	☐

Environmental Evaluation

The nearest water body to the Project site is Fountaingrove Lake, a man-made dammed lake fed by Piner Creek. Several regulations at various jurisdictional levels protect water resources and quality.

At the federal Level, the Clean Water Act (CWA) is the primary federal law that governs and authorizes water quality control. Section 303 of CWA requires states to adopt water quality standards for all surface waters of the United States. The CWA establishes the National Pollutant Discharge Elimination System (NPDES) permit program to regulate municipal and industrial discharge, including those from municipal storm sewer systems, which require Municipal Separate Storm Sewer System (MS4) permits.

At the state level, the Porter-Cologne Water Quality Control Act oversees California's water quality control. The act establishes the SWRCB and the nine regional offices, each having jurisdiction to regulate and protect waters in each region. More importantly, the SWRCB and RWQCB issue and enforce waste discharge permits, NPDES permits, and CWA section 401 quality permits. Other state agencies with jurisdiction over water quality regulation in California include the California Department of Health Services (DHS), California Department of Pesticide Regulation, California Department of Fish and Game (now California Department of Fish and Wildlife [CDFW]) and OEHHA.[45]

At the regional level, the North Coast Regional Water Quality Control Board (NCRWQCB) serves Del Norte, Glenn, Humboldt, Lake, Marin, Mendocino, Modoc, Siskiyou, Sonoma, and Trinity Counties. The City of Santa Rosa's current NPDES stormwater permit (Order No. R1-2009-0050) regulates both stormwater and non-stormwater discharges from public and private projects into the Santa Rosa municipal storm drain system. The permit requires a minimum set of best management practices (BMPs) to be implemented at all construction sites, as well as permanent stormwater low impact development BMPs.[46]

At the local level, the General Plan outlines strategies to reduce and manage stormwater runoff. The Storm Water Pollution Prevention Plan (SWPPP) includes a description of BMPs to prevent the discharge of silt and sediment from point and non-point sources into receiving waters. The SWPPP aims to minimize the discharge of pollutants during construction, which includes activities are not limited to: clearing, grading, demolition, excavation, construction of new structures, and reconstruction of existing facilities involving removal and replacement that results in soil disturbance. The Standard Urban Stormwater Mitigation Plan (SUSMP) requires projects to design and implement post-development measures to reduce the potential stormwater impacts to local drainages.[47]

The City of Santa Rosa is located within the Laguna de Santa Rosa Watershed, in the confluence of the Santa Rosa, Bennett, and Rincon Valleys. The City of Santa Rosa has three sources of water supply: entitlements from the Sonoma County Water Agency (SCWA), six groundwater wells, and recycled water. The SCWA receives its water supply from the Russian River, while groundwater wells extract from the Santa Rosa Plain Sub-basin. The Santa Rosa Subregional Water Reuse System produces recycled water for the City's residents and business.[48]

[45] North Santa Rosa Station Area Specific Plan City of Santa Rosa Draft Environmental Impact Report, page 3.8-6.
[46] NCRWQCB. Order No. R1-2009-0050, Waste Discharge Requirements for the City of Santa Rosa.
[47] City of Santa Rosa General Plan Draft EIR, NPDES Program, page 4.H-6.
[48] City of Santa Rosa UWMP 2015, page 3.

The SCWA entitlement provides up to 29,100 acre-feet per year (afy) of water while the groundwater wells provide up to 2,300 afy. An additional 140 afy of recycled water is available for landscaping. The City's gross total water usage for 2015 was 16,538 acre-feet. Ninety percent of the City's water supply is from the SCWA, while the remainder comes from groundwater and recycled water.[49] The per-capita-per-day water use by residents in the City in February 2015 was 52 gallons or 0.000159 acre-feet of water per day.[50]

The Federal Emergency Management Agency (FEMA) issues Flood Insurance Rate Maps (FIRMs) that identifies land areas that are subject to flooding. FEMA's minimum level of flood protection for new development is the 100-year flood event, a flood that statistically has a 1-percent probability of occurring in any given year.[51] The City of Santa Rosa is located in Flood Zone 1A—Laguna de Santa Rosa-Mark West Creek Watershed.[52] Approximately 167.71-acres in Santa Rosa's Urban Growth Boundary are in the FEMA 100-year flood zone and 283.99-acres are in the 500-year flood zone. However, the Project site is not located in either a 100- or 500-year flood zone designated by FEMA.[53]

Dam inundation occurs when a flood control dam/water reservoir is damaged severely enough to compromise its ability to hold back water. These events pose a high risk the community but have low occurrence. This damage can occur as a result of earthquakes or other seismic activity, erosion of the dam face or foundation, or rapidly rising floodwaters that weaken the dam or overwhelm its capacity to drain excess water. When a dam fails, sudden fast-moving floods migrate throughout the inundation zone. The speed and volume of these floodwaters can damage or destroy property, cause injury or loss of life, and displace large numbers of residents in the flood's path.[54] Other hazards include seiches, oscillations of water in an enclosed body of water caused by strong winds and rapid changes in atmospheric pressure.[55] The General Plan also identifies that landslide hazards, including mudflows, increase with steep slopes located close to the Rodgers Creek Fault Zone.[56] As such, certain building codes and regulations must be met for developments within downtown or along the Rodgers Creek Fault Zone.

Would the Project:

a) Violate any water quality standards or waste discharge requirements?

Less than significant impact. The future residential development shall require grading and construction of new structures. Extensive soil movement during the construction period has the potential for erosion and temporary impacts to water quality. As the future residential development would disturb more than 1 acre of soil, compliance with the Construction and Development Effluent Guidelines within the NPDES permit would be compulsory. The LID Technical Design Manual encourages the use of LID techniques to both retain and treat runoff water from impervious

[49] City of Santa Rosa UWMP 2015, page ES-1.
[50] State Water Resources Control Board, Per Capita Daily Water Use Report, accessed April 27, 2017 http://www.swrcb.ca.gov/press_room/press_releases/2015/pr040715_rgcpd_febconservation.pdf
[51] FEMA Flood Zones, accessed August 23, 2016.
[52] City of Santa Rosa General Plan Draft EIR, Sonoma County Water Agency Flood Control Design Criteria, page 4.H-6.
[53] City of Santa Rosa Local Hazards Mitigation Plan, page 34.
[54] City of Santa Rosa Local Hazards Mitigation Plan, page 38.
[55] City of Santa Rosa General Plan Draft EIR, page 5-10.
[56] City of Santa Rosa General Plan 2035, page 12-3.

surfaces. Compliance with these guidelines would prevent the discharge of pollutants to stormwater during construction.

During residential operation, changes to the amount of stormwater infiltration that occurs on the site would have the potential to affect long-term water quality by increasing the amount of pollutants that are discharged from the site. However, implementation of permanent stormwater quality features as required under the SUSMP, and implementation of post-construction BMPs as required under the NPDES permit would ensure that no stormwater discharge requirements are violated. Furthermore, future residential development would be required to prepare and comply with a SWPPP, as outlined within City Municipal Code Section 17-12.170. As such, the Project would not violate any water quality standards or waste discharge requirements and associated impacts would be less than significant.

b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted?

Less than significant impact. As noted above, the City has three sources of water supply: entitlements from the Sonoma County Water Agency (SCWA), six groundwater wells, and recycled water. The SCWA receives its water supply from the Russian River while groundwater wells extract from the Santa Rosa Plain Sub-basin. The SCWA entitlement provides up to 29,041 afy of water while the groundwater wells provide up to 2,300 afy. The City's gross total water usage for 2015 was 16,538 afy. The per-capita daily water use by residents in the City of Santa Rosa in February 2015 was 52 gallons or 0.000159 acre-feet of water.[57] Based on this use rate, the additional 628 residents as a result of the future residential development would use 32,656 gallons per day, 11,919,440 gallons per year, or 36.6 afy. Consequently, the SCWA has sufficient supply to serve the future residential development. Additionally, the City's Water Department expressed its ability to serve the Project site in its May 5, 2016 letter (Appendix G). Therefore, the proposed Project would have a less than significant impact on depletion of groundwater supplies and would not substantially interfere with groundwater recharge.

c) Substantially alter the existing drainage pattern of area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?

Less than significant impact. A small segment of the Nagasawa Creek is located near the northwest perimeter of the site. Piner Creek, a stream which feeds Fountaingrove Lake from the east and provides the lake's only outlet, is located approximately 600 feet north of the Project site. Future residential development on the Project site would not disturb Nagasawa Creek because of its location with an Open Space area. However, on-site construction activity has the potential to substantially alter the landscape, and may affect the existing natural drainage pattern on the Project site. Grading and construction may temporarily alter stormwater flow patterns; however,

[57] State Water Resources Control Board, Per Capita Daily Water Use Report. Website: http//:www.swrcb.ca.gov/press_room /press_releases/2015/pr040715_rgcpd_febconservation.pdf. Accessed April 27, 2017.

compliance with NPDES permit conditions and the applicable provisions of the Municipal Code, as well as the current Municipal Separate Storm Sewer System (MS4) and City standard Urban Storm Water Mitigation Plan Low Impact Development Guidelines would lessen impacts. Furthermore, compulsory compliance with Municipal Code Title 18 and 19, which address general building construction and grading and soil requirements, including grading plan review, would be required. Therefore, impacts would be less than significant.

d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or 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. A small segment of the Nagasawa Creek is located near the northwest perimeter of the site but it would not be disturbed by the future residential development because of its location within an Open Space area. Given the extent of grading and excavation that could occur on-site for residential development, the existing natural drainage pattern on the Project site could be significantly affected. However, as described above, future development would be required to implement stormwater BMPs that limit the volume and flow rate of stormwater on-site to no more than existing conditions. Further, compliance with Municipal Code Title 18 and 19, which address general building construction and grading and soil requirements, respectively, would ensure that impacts related to surface runoff are reduced to the maximum practicable extent. As such, impacts would be less than significant.

e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Less than significant impact. Future on-site residential development would include the construction of a stormwater runoff collection system. Stormwater generated in Santa Rosa drains through six drainage basins to the Laguna de Santa Rosa. The largest drainage basin includes Santa Rosa Creek, which drains the northern Santa Rosa area by six major creeks and various tributaries. Brush, Austin, Spring, and Matanzas Creeks primarily drain the easterly portion, while Paulin and Piner Creeks drain the westerly portion of the City. Santa Rosa Creek also drains stormwater runoff generated downtown and in surrounding neighborhoods. The number and location of creeks in northern Santa Rosa result in adequate stormwater drainage capacity in the northern area of the City.

Implementation of permanent on-site stormwater quality features as required under the SUSMP, and implementation of post-construction BMPs as required under the NPDES permit would ensure that no stormwater discharge requirements are violated. Furthermore, the residential development would be required to prepare and comply with a SWPPP, as outlined within City Municipal Code Section 17-12.170. As such, the Project would not contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems and related impacts would be less than significant.

f) Otherwise substantially degrade water quality?

Less than significant impact. As noted above, on-site residential development would include the development of up to 237 residential units on an 18.26-acre portion of the 40.18-acre site for up to

628 residents. Construction of the residences would include excavation of soils and development of new structures and pervious surfaces. The residences would require routine maintenance which would involve small quantities of hazardous household materials such as cleaning solvents, but not in quantities sufficient to exceed treatment requirements. Furthermore, the residential development would adhere to the SUSMP and SWPPP described above. Adhering to these guidelines and regulations, impacts associated with water quality would be less than significant.

g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

No impact. The Project site is not located within a 100-year flood hazard zone as shown in the FEMA FIRM. Furthermore, the City does not identify the site as a flood zone danger, as outlined in the Local Hazard Mitigation Plan. As such, no impacts would occur.

h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?

No impact. The Project site is not located within a 100-year flood hazard zone as shown in the FEMA FIRM. Furthermore, the site is not located within the flood zones outlined in the Local Hazard Mitigation Plan. As such, no impacts would occur.

i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

Less than significant impact. The Project site is not located within a dam inundation zone according to the City of Santa Rosa's General Plan Safety Element. However, the site is located approximately 0.60 mile east of a dam inundation zone. The hilly topography of the site would reduce impacts associated with flooding as a result of a levee or dam failure to a less than significant level.

j) Inundation by seiche, tsunami, or mudflow?

Less than significant impact. The Project site is located near Fountaingrove Lake, an inland body of water capable of producing seiches. However, the site is located in an area with hillside terrain that would reduce the risk of flooding from a seiche. The Project site is approximately 20 miles from the coastline and therefore is not susceptible to tsunamis. The Project site is located approximately 1,000 feet east of the Rodgers Creek Fault Zone. Consistent with applicable guidelines set forth in the General Plan Policies NS-C-1-8 for new structures built along the Rodgers Creek Fault Zone, on-site development would be required to be designed to withstand possible mudflows as applicable. As such, impacts related to inundation by seiche, tsunami, or mudflow would be less than significant.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
10. Land Use and Planning *Would the Project:*				
a) Physically divide an established community?	☐	☐	☐	☒
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐
c) Conflict with any applicable habitat conservation plan or natural communities conservation plan?	☐	☐	☐	☒

Environmental Evaluation

The Santa Rosa General Plan envisions a community featuring a diverse range of housing and employment opportunities. The General Plan includes policies to focus development within the Urban Growth Boundary in a way that maintains the local quality of life through compatibility with adjacent land uses, provision of parks and open spaces, and connection between neighborhoods and activity centers. The General Plan Land Use Map designates areas of the City for different uses. The Zoning Code establishes development standards for each land use, including regulations regarding building heights, lot coverage and front, side and rear setbacks. The City's Municipal Code also includes provisions for the removal of trees, and the protection of trees during construction activities.

The Project site is composed of seven parcels (APNs 173-020-034; 173-020-033; 173-020-032; 173-020-035; 173-020-036; 173-020-031; and 173-020-030), totaling 40.18 acres. The General Plan land use designation applicable to the site is Business Park, which accommodates campus-like environments for corporate headquarters; research and development facilities; offices; light manufacturing and assembly; industrial processing, general service; incubator-research facilities; testing, repairing, packaging, publishing, and printing; and research and development facilities. The Project is currently zoned for Planned Development (PD) 72-001 Fountaingrove Ranch Designation HC (Highway/Tourist/Office Commercial).[58] The Fountain Grove Ranch Planned Community District Policy Statement was adopted in accordance with Ordinance 2196 in September 1981, and amended again in 1992. The Policy Statement identifies basic development objectives, establishes a basic land use, circulation and development framework, an underlying development concept, and a procedural mechanism for the future provision of more specific development standards at subsequent appropriate development stages.

[58] City of Santa Rosa Zoning Code.

The CDFW identifies habitat conservation areas throughout the State, each administered by an HCP. The west portion of the City of Santa Rosa in located within the Santa Rosa Plain Conservation Strategy area, a framework that identifies short- and long-term actions to protect listed plant and animal species.[59] The Project site is located on the eastern portion of the City, and outside the boundaries of this plan.

Would the Project:

a) Physically divide an established community?

No impact. The physical division of an established community typically refers to the construction of a linear feature, such as an interstate highway or railroad tracks, or removal of a means of access, such as a local bridge that would impact mobility within an existing community or between a community and an outlying area. The future residential development would not involve any such features and would not remove any means of access in the surrounding area. The Project site is surrounded by existing open space, residential, and commercial land uses (e.g., hospital, residences, and office/commercial) and would be compatible with the adjacent built environment. The existing pedestrian path that encircles the Project site would be located within the open space designated area and therefore would be maintained. As such, the Project would not physically divide an established community and there would be no associated impact.

b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

Less than significant impact. A significant impact would occur if the Project were to conflict with the City's General Plan or Municipal Code, including the Zoning Ordinance, or tree removal controls.

General Plan Land Use Consistency

As stated above, the General Plan Land Use Designation applicable to the Project site is Business Park. The Project consists of an amendment to the City's General Plan Land Use Designation Map from Business Park to a mixture of Open Space (21.92 acres) and Medium Low Density Residential (18.26 acres) to allow the future development of up to 237 residential units on-site. No development would occur, or could occur in the future, on the 21.92 acres designated as Open Space. The Open Space designated area would be preserved as is with any ongoing maintenance needs provided by the property owners, current and future, in perpetuity.

The General Plan indicates that the Medium Low Density Residential classification is intended for attached single family residential development, but single family detached housing and multi-family development may be permitted. Development at the mid-point of the density range is desirable, but not required. The General Plan indicates that development density should be from 8.0 to 13.0 units per gross acre. As such, the maximum allowable number of residential units within the 18.26 acres of developable area would be 237, as analyzed herein. Residential development on-site would be required to abide by applicable General Plan policies regarding site design and environmental protection.

[59] Department of Fish & Wildlife, "California Regional Conservation Plans Map" August 2015

Considering the housing needs of the City, this land use amendment would be consistent with the direction of the General Plan, as identified in the October 2016 City of Santa Rosa Housing Action Plan. The City of Santa Rosa Housing Action Plan released in October of 2016 identifies five programs to help address the historic housing shortage:

- Increase inclusionary affordable housing
- Achieve "affordability-by-design" in market rate projects
- Assemble and offer public land for housing development
- Improve development readiness
- Increase affordable housing investment and partnerships

The Project would facilitate these goals by improving development readiness by redesignating an underutilized office parcel to allow for housing. Furthermore, the Project would be consistent with policy objectives of the General Plan, such as Policy LUL-F (Maintain a diversity of neighborhoods and varied housing stock to satisfy a wide range of needs).

Zoning Consistency

The Project site is currently zoned Planned Development (PD 72-001—Highway/Tourist/Office Commercial). The Project would include a rezone of the site from the existing PD zoning to 21.92 acres of Open Space Conservation (OSC) and 18.26 acres of Single-Family Residential (R-1), which would allow the construction of up to 237 residential units on the Project site.

As indicated by the Zoning Code, the OSC zoning district may be applied to an area designated as Open Space in the General Plan; a site with special open space areas such as creeks, hillsides, ridges, wetlands, or other such areas; a site that contains or is thought to contain natural resources or natural hazards; or a site for which development potential no longer is attached to the land. As a part of this project, a 21.92-acre portion of the site would be redesignated as Open Space in the General Plan. As illustrated on General Plan Figure 7-3, the site contains an identified ridgeline, which would be within the proposed OSC designation. Furthermore, the site contains significant vegetation and a small segment of Nagasawa Creek. Nagasawa Creek would be located entirely within the OSC designation, and a significant portion of on-site trees and vegetation would be retained within the OSC designation. Therefore, the project would be consistent with the OSC zoning requirements.

As indicated by the Zoning Code, the R-1 Zoning District is applied to areas of the City intended to be maintained as residential neighborhoods composed of detached and attached single-family houses, clustered residential hillside projects, and small multi-family projects, together with compatible accessory uses. The allowable density ranges from two to 13 dwellings per acre. As such, the maximum allowable number of residential units within the 18.26 acres of developable area would be 237, as analyzed herein. Residential development on-site would be required to abide by applicable zoning code requirements regarding site design and all municipal code requirements regarding environmental protection.

Fountaingrove Ranch Policy Statement Consistency

Because the project would be rezoned from PD to R-1, the Fountaingrove Ranch Policy Statement would no longer apply to the Project site.

Heritage Tree Ordinance Consistency

As described in Section 1.4.2, construction of the future residential development is envisioned to avoid the Heritage trees on-site, and tree removal would be limited to the extent feasible. This is supported by limiting development to within the 18.26 acres zoned as R-1 and maintaining existing conditions within the 21.92 acres zoned as OSC. A permit would be required to remove or alter heritage trees or to relocate trees that are greater than 4 inches. Future residential development would be required to include replacement trees for those removed by the Project, consistent with permit stipulations and the City Code.

Therefore, overall, the Project would not conflict with applicable land use plans, policies or regulations and impacts would be less than significant.

c) Conflict with any applicable habitat conservation plan or natural communities conservation plan?

No impact. The Project site is not located within any identified Habitat Conservation Areas, nor is it within the study area for the Santa Rosa Plain Conservation Strategy plan. Therefore, the Project would have no associated impacts.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
11. Mineral Resources *Would the Project:*				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☒	☐
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

Environmental Evaluation

Environmental Setting

The Surface Mining and Reclamation Act of 1975 (SMARA) is the primary state law concerning mineral resources, including sand, gravel, and building stone, which are important for commercial purposes. Because of the economic importance of mineral resources, SMARA limits new development in areas with significant mineral deposits. SMARA also requires State Geologists to classify specified areas into Mineral Resource Zones (MRZs). An updated report on Mineral Land Classification by The California Geological Survey indicates that the Project site is located in an MRZ-3A area, containing known mineral occurrences of undetermined mineral resource significance.[60]

There are no mineral resource recovery sites on or in the vicinity of the Project site,[61] which is located in hilly terrain in the northern part of Santa Rosa, surrounded by residential and recreational development. The nearest mine is the Mark West Quarry, located approximately 6.8 miles to the northeast of the Project site.

Would the Project:

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

Less than significant impact. As described above, the Project site is located in a MRZ-3a zone. However, the Project site is surrounded by the built environment including a hospital, residences, and commercial/office uses and no known mineral resources are known to exist on-site. Furthermore, the Project site does not support mineral extraction operations and is not zoned for such use. Therefore, rezoning of the site and future development of residences on-site would not result in the loss of availability of known mineral resources and associated impacts would be less than significant.

[60] Mineral Land Classification of Sonoma County Map, March 2005.
[61] City of Santa Rosa General Plan 2035 Land Use Diagram

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

No impact. There are no mineral resource recovery sites on the site or in the vicinity and the site is not zoned for such use. Thus, the Project would have no impact with respect to loss of availability of mineral resource recovery sites.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
12. Noise *Would the Project result in:*				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☒	☐	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☒	☐	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☒	☐
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Environmental Evaluation

The noise modeling data associated with the analysis provided in this section is included in Appendix F.

Characteristics of Noise

Noise is defined as unwanted sound. Sound levels are usually measured and expressed in decibels (dB) with 0 dB corresponding roughly to the threshold of hearing. Most of the sounds that we hear in the environment do not consist of a single frequency, but rather a broad band of frequencies, with each frequency differing in sound level. The intensities of each frequency add together to generate a sound. Noise is typically generated by transportation, specific land uses, and ongoing human activity.

The standard unit of measurement of the loudness of sound is the decibel. The 0 point on the dB scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Changes of 3 dB or less are only perceptible in laboratory environments. A change of 3 dB is the lowest change that is considered barely perceptible to the human ear in outdoor environments; while a change of 5 dBA is considered to be the lowest readily perceptible change.

Since the human ear is not equally sensitive to sound at all frequencies, the A-weighted decibel scale (dBA) was derived to relate noise to the sensitivity of humans, it gives greater weight to the frequencies of sound to which the human ear is most sensitive. The A-weighted sound level is the basis for a number of various sound level metrics, including the day/night sound level (L_{dn}) and the Community Noise Equivalent Level (CNEL), both of which represent how humans are more sensitive to sound at night.[62] In addition, the equivalent continuous sound level (L_{eq}) is the average sound energy of time-varying noise over a sample period and the L_{max} is the maximum instantaneous noise level occurring over a sample period.

Noise monitoring locations and measurements are described in detail in Appendix F. Exhibit 8 shows the noise monitoring locations. Three short-term noise measurements were documented for 15-minute durations, between 12:05 p.m. and 1:10 p.m., on Tuesday, May 23, 2017. The measurements were conducted at locations representing the nearest disturbance boundary line to Round Barn Boulevard on the Project site. The noise monitoring locations were selected in order to document existing short-term ambient noise levels on the Project site at representative proposed future residential property lines and to determine compatibility of the proposed future residential land use development with the City's land use compatibility standards. The average ambient noise levels were measured to range from 50.3 dBA L_{eq} to 57.5 dBA L_{eq}, at the loudest point on the Project site.

At the start of the noise monitoring, average wind speeds ranged from 1 to 3 miles per hour. The temperature during the noise measurements ranged from 74 to 77 degrees Fahrenheit. The primary noise sources in the Project vicinity included traffic on Round Barn Boulevard and parking lot noise from adjacent uses. The results of the noise level measurements are provided in Table 16.

Table 16: Short-Term Noise Monitoring Summary

Site Location	Description	Noise Sources	L_{eq}	L_{max}	L_{min}
ST-1	Northern portion of the site adjacent to Round Barn Blvd. and across from the existing solar panel array.	Cars, foot traffic, sirens, birds	57.5	83.5	39.6
ST-2	Northern portion of the site adjacent to Round Barn Blvd and across from the vineyards in front of the Vineyard Commons apartment complex.	Cars, foot traffic, aircraft over-flight, birds	50.3	59.1	44.5
ST-3	Overlooking Round Barn Blvd, across from Fountain Inn parking lot	Parking lot noise, birds	51.6	57.5	49.7
Source: FirstCarbon Solutions, 2017.					

[62] L_{dn} is the 24-hour A-weighted average sound level from midnight to midnight, obtained after the addition of 10 decibels to sound levels occurring in the night between 10:00 p.m. and 7:00 a.m. CNEL is the 24-hour A-weighted average sound level from midnight to midnight, obtained after the addition of 5 decibels to sound levels occurring in the evening from 7:00 p.m. to 10:00 p.m. and after the addition of 10 decibels to sound levels occurring in the night between 10:00 p.m. and 7:00 a.m. Source: Harris, Cyril M. 1998. *Handbook of Acoustical Measurement and Noise Control.*

One long-term noise measurement was conducted staring on Tuesday, May 23, 2017 beginning at 1:00 p.m. and ending on Wednesday, May 24, 2017 at 1:00 p.m. Wind speeds averaged under 3 to 5 miles per hour and temperatures were moderate during the long-term noise measurement with a midday temperature of 77 degrees Fahrenheit. The long-term noise measurement data sheet is provided in Appendix F of this document. The long-term noise measurement was conducted near the southeastern portion of the Project site west of the existing paved area on the Project site. Based on field observations, the existing hill between the proposed disturbance area and Fountaingrove Parkway provides adequate shielding to the Project site, and Round Barn Boulevard is the primary noise source affecting the Project site. It was also noted that the existing topography, which shall remain significantly intact as a result of the open space land use designation, partially shields the Project site from the uses to the south, including Fountaingrove Parkway.

The long-term noise monitoring location was selected in order to document existing long-term ambient noise levels on the Project site attributable to Fountaingrove Parkway traffic noise and to determine compatibility of the proposed future residential land use development with the City's land use compatibility standards, as Fountaingrove Parkway traffic is the primary noise source in the southeastern portion of the Project site.

The average daytime hourly ambient noise levels were measured to be 57 dBA L_{eq} and average nighttime hourly ambient noise levels were 51 dBA L_{eq}. The 24-hour weighted day-night average noise level for the Project site is 52 dBA L_{dn}. The long-term noise measurement captured noise from all noise sources in the project vicinity, including parking lot, siren, aircraft over-flight, foot traffic noise at adjacent uses, and traffic on local roadways.

Regulatory Framework

The City of Santa Rosa has established noise compatibility standards for residential and non-residential land uses in the Noise and Safety Element of the Santa Rosa General Plan 2035[63] which are shown in Exhibit 9. The Santa Rosa Municipal Code Section 17-16.030 establishes acceptable exterior noise levels and acceptable daytime, evening, and nighttime noise levels for residential, commercial, and industrial land uses (Table 17).

Applicable Goals and Policies of the General Plan are as follows:

NS-B-2 Encourage residential developers to provide buffers other than sound walls, where practical. Allow sound walls only when projected noise levels at a site exceed land use compatibility standards in Figure 12-1 [Exhibit 9].

NS-B-3 Prevent new stationary and transportation noise sources from creating a nuisance in existing developed areas. Use a comprehensive program of noise prevention through planning and mitigation, and consider noise impacts as a crucial factor in project approval. The Land Use Compatibility Standards specify normally acceptable levels for community noise in various land use areas.

[63] City of Santa Rosa. 2009 (November 3). Santa Rosa General Plan 2035 Noise and Safety Element. Santa Rosa, CA.

NS-B-4 Require new projects in the following categories to submit an acoustical study, prepared by a qualified acoustical consultant:

- All new projects proposed for areas with existing noise above 60 dBA L_{dn}. Mitigation shall be sufficient to reduce noise levels below 45 dBA L_{dn} in habitable rooms and 60 dBA L_{dn} in private and shared recreational facilities. Additions to existing housing units are exempt.
- All new projects that could generate noise whose impacts on other existing uses would be greater than those normally acceptable (as specified in the Land Use Compatibility Standards).

NS-B-5 Pursue measures to reduce noise impacts primarily through site planning. Engineering solutions for noise mitigation, such as sound walls, are the least desirable alternative.

NS-B-6 Do not permit existing uses to generate new noises exceeding normally acceptable levels unless:

- Those noises are mitigated to acceptable levels; or
- The activities are specifically exempted by the City Council on the basis of community health, safety, and welfare.

NS-B-8 Adopt mitigations, including reduced speed limits, improved paving texture, and traffic controls, to reduce noise to normally acceptable levels in areas where noise standards may be exceeded (e.g., where homes front regional/Arterial streets and in areas of mixed use development.)

NS-B-9 Encourage developers to incorporate acoustical site planning into their projects.

Recommended measures include:

- Incorporating buffers and/or landscaped earth berms;
- Orienting windows and outdoor living areas away from unacceptable noise exposure;
- Using reduced-noise pavement (rubberized-asphalt);
- Incorporating traffic calming measures, alternative intersection designs, and lower speed limits; and
- Incorporating state-of-the-art structural sound attenuation and setbacks.

NS-B-14 Discourage new projects that have potential to create ambient noise levels more than 5 dBA L_{dn} above existing background, within 250 feet of sensitive receptors.

Source: Bing Imagery

FIRSTCARBON SOLUTIONS™

350 175 0 350
Feet

Exhibit 8
Noise Monitoring Locations

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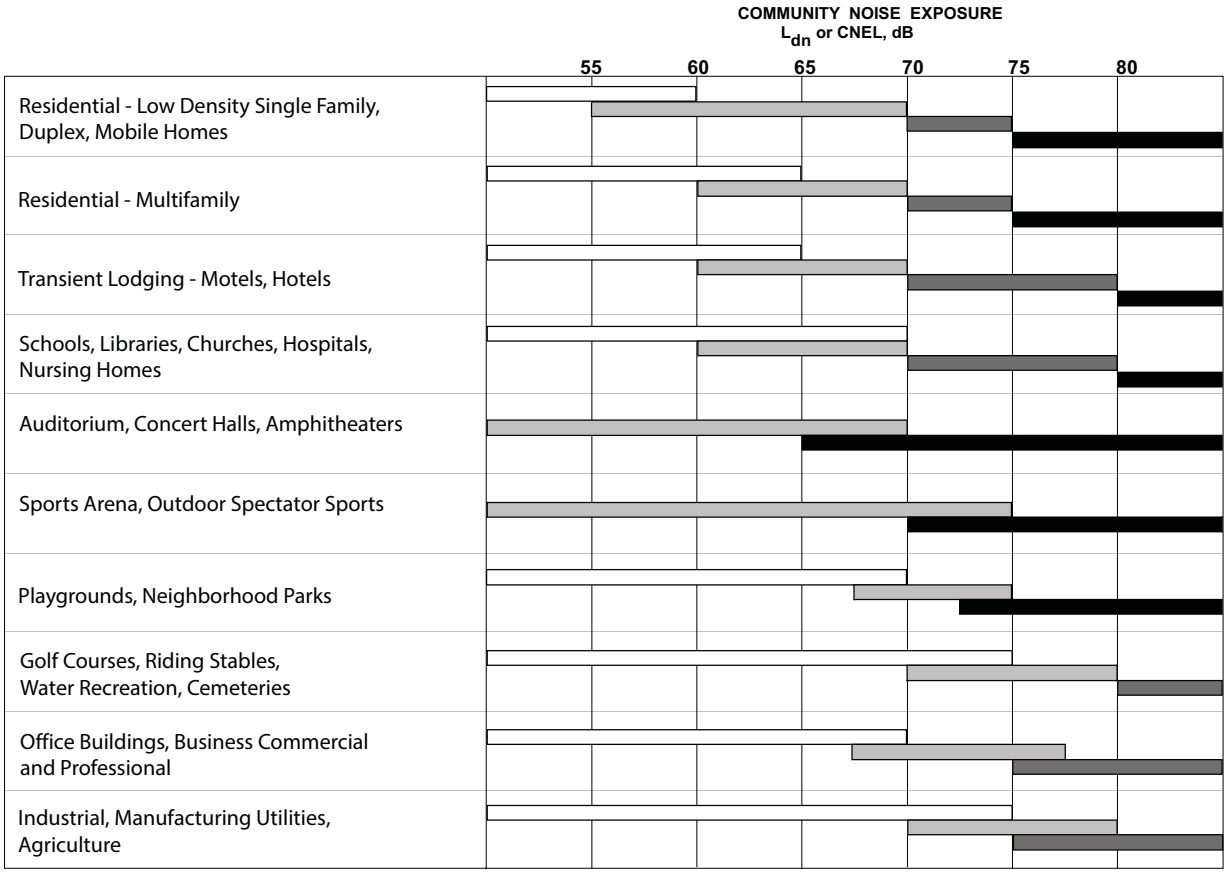

LEGEND:

NORMALLY ACCEPTABLE
Specified land use is satisfactory, based upon the assumption that any building involved is of normal conventional construction, without any special noise insulation requirements.

CONDITIONALLY ACCEPTABLE
New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

NORMALLY UNACCEPTABLE
New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

CLEARLY UNACCEPTABLE
New construction or development should generally not be undertaken.

Source: City of Santa Rosa General Plan

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Exhibit 9
Land Use Noise Compatibility Standards

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Santa Rosa City Code 17-16.120 states that "it is unlawful for any person to operate any machinery, equipment, pump, fan, air-conditioning apparatus or similar mechanical device in any manner so as to create any noise, which would cause the noise level at the property line of any property to exceed the ambient base noise level by more than five decibels (+5 dBA) (Prior code § 27.20)." Applicable ambient base noise level criteria are shown in Table 17.

Table 17: City of Santa Rosa Municipal Code Ambient Base Noise Levels

Land Use Zone	Daytime (7 a.m. to 7 p.m.) Level (dBA)	Evening (7 p.m. to 10 p.m.) Level (dBA)	Nighttime (10 p.m. to 7 a.m.) Level (dBA)
Residential	55	50	45
Residential (Multi-family)	55	55	50
Office and Commercial	60	60	55
Intensive Commercial	65	65	55
Industrial	70	70	70
Source: City of Santa Rosa Municipal Code 17-16.030[64]			

Consistent with Section 17-16.040, and, as applicable, the City of Santa Rosa limits the hours of construction to 7:00 a.m. to 7:00 p.m. Monday through Friday, and 8:00 a.m. to 6:00 p.m. on Saturdays with no construction permitted on Sundays and observed federal holidays.

Would the project result in:

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Less than significant impact with mitigation incorporated. The General Plan amendment and rezone would not result in increased noise levels. However, noise levels in the project area would be influenced by construction activities and from the ongoing operation of any future development.

Short-term Construction Impacts

Two types of short-term noise impacts could occur during the construction of future residential development. First, construction crew commutes and the transport of construction equipment and materials to the Project site would incrementally increase noise levels on roads leading to the Project site. 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

[64] City of Santa Rosa. Title 17 Environmental Protection Chapter 17-16 Noise, Santa Rosa City Code. Accessed: 5/19/2017 Chapter 1716 NOISE http://qcode.us/codes/santarosa/?view=desktop 4/6.

equipment and, consequently, its own noise characteristics. These various sequential phases would change the character of the noise generated on the site and, therefore, the noise levels surrounding the site as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase. Table 18 lists typical construction equipment noise levels, based on a distance of 50 feet between the equipment and a noise receptor. Because the noisiest construction equipment is earthmoving equipment, the site preparation phase is expected to be the loudest phase of future construction. The site preparation construction phase is expected to require the use of front-end loaders, compactors, hydraulic backhoes, and haul trucks. Typical operating cycles for these types of construction equipment may involve 1 or 2 minutes of full-power operation followed by 3 or 4 minutes at lower power settings. Impact equipment such as pile drivers is not expected to be used during construction of future residential development.

Table 18: Typical Construction Equipment Maximum Noise Levels, L_{max}

Type of Equipment	Impact Device? (Yes/No)	Specification Maximum Sound Levels for Analysis (dBA at 50 feet)
Pickup Truck	No	55
Pumps	No	77
Air Compressors	No	80
Backhoe	No	80
Front-End Loaders	No	80
Portable Generators	No	82
Dump Truck	No	84
Tractors	No	84
Auger Drill Rig	No	85
Concrete Mixer Truck	No	85
Cranes	No	85
Dozers	No	85
Excavators	No	85
Graders	No	85
Jackhammers	Yes	85
Man Lift	No	85
Paver	No	85
Pneumatic Tools	No	85
Rollers	No	85
Scrapers	No	85
Concrete/Industrial Saws	No	90
Impact Pile Driver	Yes	95

Table 18 (cont.): Typical Construction Equipment Maximum Noise Levels, L_{max}

Type of Equipment	Impact Device? (Yes/No)	Specification Maximum Sound Levels for Analysis (dBA at 50 feet)
Vibratory Pile Driver	No	95
Source: Federal Transit Administration (FTA). 2006. Transit Noise and Vibration Impact Assessment. May. Washington, DC. Prepared by: Harris Miller, Miller & Hanson Inc., Burlington, MA.		

The highest noise levels would be generated during demolition, ground clearing, excavation, and foundation construction, as these phases require the use of the heaviest, and loudest, pieces of construction equipment. Large pieces of earthmoving equipment, such as graders, excavators, and bulldozers, generate maximum noise levels of 80 dBA to 85 dBA L_{max} at a distance of 50 feet. These noise levels drop off, or attenuate, at a rate of about 6 dBA per doubling of distance between the noise source and receptor. As construction moves away from noise-sensitive receptors, noise levels generated by heavy construction will be lower. 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, combined noise levels during this phase of construction would range up to 91 dBA L_{max} and hourly noise levels of 87 dBA L_{eq} at a distance of 50 feet from the acoustical center of an active construction area.

The closest noise-sensitive receptors to the project site are the medical uses to the west of the Project site. The medical uses are the Kaiser Permanente building located at 3554 Round Barn Boulevard and the St. Joseph Health Cancer Center and Redwood Oncology Center, both located at 3555 Round Barn Circle. Another noise sensitive receptor in the project area is the Church of Jesus Christ Latter-day Saints located at 3510 Unocal Place to the east of the Project site. The Meadows, a multi-family residential use, is located to the north located at 3589 Round Barn Boulevard. Table 19 shows the results of construction noise analysis in hourly (L_{eq}) and maximum (L_{max}) noise levels. The construction noise modeling input and output files are included in Appendix F of this document.

Table 19: Modeled Construction Noise Levels at Adjacent Noise Sensitive Receptors

Receptor	Distance to Acoustical Center of Construction Activity (feet)	Exterior Hourly Noise Level (L_{eq} dBA)	Exterior Maximum Noise Level (L_{max} dBA)
Kaiser Permanente	165	75	81
St Joseph Health Cancer Center and Redwood Oncology	275	69	76
Church of Jesus Christ Latter-day Saints	380	65	73
The Meadows	405	65	73
Sources: FHWA Construction Roadway Construction Model, 2006. Federal Transit Noise and Vibration Impact Assessment, 2006. Roadway Construction Noise Model Version 1.0 (FHWA RCNM V. 1.0). Washington DC. Modeling by FirstCarbon Solutions. 2017. Ambient Noise Measurement Surveys.			

Although there would be single-event noise exposure potential to cause intermittent noise nuisances at the Kaiser Permanente offices and the St. Joseph Health Cancer Center and Redwood Oncology offices from future residential development construction activity, the effect on longer-term (hourly or daily) interior noise levels would be small. These offices are only servicing outpatients during the daytime hours. Although exterior noise levels are expected to increase ambient noise levels by more than 5 dBA, interior noise levels due to project construction activity are not expected to exceed 50 dBA L_{eq} at any adjacent noise sensitive use. At these noise levels, office uses are not expected to have their daily activities impacted or hinder the operation of these facilities.

The modeled noise levels at The Meadows multi-family use and the Church of Jesus Christ Latter-day Saints use are not expected to exceed 65 dBA L_{eq} at exterior areas. Therefore, implementing the best management noise reduction practices and techniques outlined in MM NOI-1, would ensure that potential short-term construction noise impacts on sensitive receptors in the project vicinity would be reduced to less than significant.

Long-term Operational Impacts

Mobile-Source Noise Impacts

A significant impact would occur if the future on-site residences would be exposed to noise levels in excess of the City's land use compatibility standards for the proposed type of land use development.

The existing noise environment was documented through a noise-monitoring effort. Short-term noise measurements showed that the average ambient noise levels were measured to range from 50.3 dBA L_{eq} to 57.5 dBA L_{eq}, at the loudest point on the Project site. The long-term noise measurement results showed that average daytime hourly ambient noise levels measured 57 dBA L_{eq} and average nighttime hourly ambient noise levels measured 51 dBA L_{eq}. The 24-hour weighted day-night average noise level for the Project site is 52 dBA L_{dn}. It should be noted that these noise measurements captured all noise sources in the vicinity of these noise measurement locations, including traffic on all local roadways. These noise levels are within the City's "normally acceptable" range for new residential land use development shown in Exhibit 9.

Therefore, traffic noise levels on the Project site are considered acceptable for the proposed land use development, and existing traffic noise impacts at the proposed project residential outdoor activity areas would be less than significant.

Stationary-Source Noise

The future residential development would include new mechanical system noise sources. Noise levels from typical mechanical ventilation equipment range up to approximately 60 dBA L_{eq} at a distance of 25 feet. The nearest off-site existing sensitive receptor to the future mechanical ventilation systems is located approximately 160 feet west of the Project site. At this distance, noise generated by exterior ground mechanical ventilation equipment would attenuate to less than 44 dBA L_{eq}. Existing background noise levels along Round Barn Boulevard adjacent to the Project site ranged between 50 dBA L_{eq} and 57 dBA L_{eq} as measured on the Project site. Therefore, noise generated by future mechanical ventilation equipment would not exceed existing ambient noise levels at nearby noise sensitive receptors. Therefore, operation of the future residential development's mechanical ventilation systems would not expose persons to noise levels above established standards.

b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Less than significant impact. Groundborne vibrations consist of rapidly fluctuating motions within the ground that have an average motion of zero. Vibrating objects in contact with the ground radiate vibration waves through various soil and rock strata to the foundations of nearby buildings.

Although groundborne vibration can be felt outdoors, it is typically only an annoyance to people indoors where the associated effects of the shaking of a building can be notable. When assessing annoyance from groundborne vibration, vibration is typically expressed as root mean square (rms) velocity in units of decibels of 1 micro-inch per second. To distinguish vibration levels from noise levels, the unit is written as "VdB."

In extreme cases, excessive groundborne vibration has the potential to cause structural damage to buildings. Common sources of groundborne vibration include construction activities such as blasting, pile driving and operating heavy earthmoving equipment. However, construction vibration impacts on building structures are generally assessed in terms of peak particle velocity (PPV). For purposes of this analysis, project related impacts are expressed in terms of PPV. Typical vibration source levels from construction equipment are shown in Table 20.

Table 20: Vibration Levels of Construction Equipment

Construction Equipment	PPV at 25 Feet (inches/second)	RMS Velocity in Decibels (VdB) at 25 Feet
Water Trucks	0.001	57
Scraper	0.002	58
Bulldozer—small	0.003	58
Jackhammer	0.035	79
Concrete Mixer	0.046	81
Concrete Pump	0.046	81
Paver	0.046	81
Pickup Truck	0.046	81
Auger Drill Rig	0.051	82
Backhoe	0.051	82
Crane (Mobile)	0.051	82
Excavator	0.051	82
Grader	0.051	82
Loader	0.051	82
Loaded Trucks	0.076	86
Bulldozer—Large	0.089	87

Table 20 (cont.): Vibration Levels of Construction Equipment

Construction Equipment	PPV at 25 Feet (inches/second)	RMS Velocity in Decibels (VdB) at 25 Feet
Caisson drilling	0.089	87
Vibratory Roller (small)	0.101	88
Compactor	0.138	90
Clam shovel drop	0.202	94
Vibratory Roller (large)	0.210	94
Pile Driver (impact-typical)	0.644	104
Pile Driver (impact-upper range)	1.518	112
Source: Compilation of scientific and academic literature, generated by FTA and FHWA. [65]		

Propagation of vibration through soil can be calculated using the following vibration reference equation:

PPV= PPV ref * (25/D)^n (in/sec)

Where:

PPV = reference measurement at 25 feet from vibration source
D = distance from equipment to property line
N = vibration attenuation rate through ground

According to Chapter 12 of the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment manual (2006), an "n" value of 1.5 is recommended to calculate vibration propagation through typical soil conditions.[66]

The FTA has established industry accepted standards for vibration impact criteria and impact assessment. These guidelines are published in its Transit Noise and Vibration Impact Assessment document (FTA 2006). The FTA guidelines include thresholds for construction vibration impacts for various structural categories as shown in Table 21.

Table 21: Federal Transit Administration Construction Vibration Impact Criteria

Building Category	PPV (in/sec)	Approximate VdB
I. Reinforced—Concrete, Steel or Timber (no plaster)	0.5	102
II. Engineered Concrete and Masonry (no plaster)	0.3	98

[65] California Department of Transportation (Caltrans). 2004 (June). Transportation and Construction Induced Vibration Guidance Manual. Sacramento, CA.

[66] Federal Transit Administration (FTA). 2006 (May). Transit Noise and Vibration Impact Assessment. Washington, DC. Prepared by: Harris Miller, Miller & Hanson Inc., Burlington, MA.

Table 21 (cont.): Federal Transit Administration Construction Vibration Impact Criteria

Building Category	PPV (in/sec)	Approximate VdB
III. Non Engineer Timber and Masonry Buildings	0.2	94
IV. Buildings Extremely Susceptible to Vibration Damage	0.12	90
Source: FTA, 2006.		

Construction of on-site future residential development could include activities that result in vibration. Of the variety of equipment used during construction, the large vibratory rollers that could be used during the paving phase of construction would produce the greatest groundborne vibration levels. Impact equipment such as pile drivers would not be expected to be used during construction of the future residential development. Large vibratory rollers produce groundborne vibration levels ranging up to 0.21 inch per second (in/sec) PPV at 25 feet from the operating equipment. The nearest off-site structure is the medical use receptor located approximately 120 feet from the nearest construction area where this equipment would operate. At these distances groundborne vibration levels would attenuate to below 0.047 PPV and 0.020 PPV, respectively, from operation of a large vibratory roller. These vibration levels are well below the industry standard vibration damage criteria of 0.2 PPV for this type of structure (see Table 21). Therefore, construction-related groundborne vibration impacts would be considered less than significant.

Upon completion of construction, the future residential development would not include any permanent sources of groundborne vibrations. As such, implementation of the proposed project would not expose persons within the project vicinity to excessive groundborne vibration levels. Therefore, project-related groundborne vibration impacts would be considered less than significant.

c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

Less than significant impact. Significant noise impacts to off-site receptors would occur if the project would result in a substantial increase of in ambient noise levels compared to noise levels existing without the project. According to section 17-16.120 of the City's Code, it is unlawful for any person to operate any machinery, equipment, pump, fan, air-conditioning apparatus or similar mechanical device in any manner so as to create any noise, which would cause the noise level at the property line of any property to exceed the ambient base noise level by more than five decibels (+5 dBA). Therefore, for purposes of this analysis, a substantial increase is considered 5 dBA or greater in ambient noise levels above levels existing without the project as measured at off-site sensitive receptors in the project vicinity. While the proposed General Plan Amendment and Rezone would not result in increased ambient noise levels, the future residential development could.

The trip generation analysis conducted for this project by Stantec (2017) indicates that the maximum permissible buildout of 237 residential units would result in 1,560 daily trips, including 120 trips (24 inbound trips and 96 outbound trips) during the AM peak hour and 148 trips (96 inbound and 52 outbound) during the PM peak hour. Compared with the permitted baseline (hotel and office), the

proposed project would generate approximately 2,308 fewer daily trips, 344 fewer net new trips during the AM peak hour, and 294 fewer net new trips during the PM peak hour than could occur under existing land use designations.

Future residential development-generated traffic would be distributed throughout the various roadways in the transportation network where the Project is located. Studied roadway intersections showed minimal overall increases to existing traffic volumes for the roadway network in the Project vicinity. Typically, a doubling of vehicle traffic volume is required for a noticeable increase, 3 dBA or greater, in roadway traffic noise levels. The future maximum 237 residential units would not result in a doubling of traffic volumes over existing traffic volumes on any of the access roadways in the Project vicinity. Therefore, implementation of the Project would not increase existing traffic noise levels by more than 3 dBA. This is well below the City's threshold of a 5-dBA or greater increase that would be considered substantial. Therefore, project-related traffic would not result in a substantial increase in existing ambient noise levels, and project-related traffic noise impacts on off-site sensitive land uses would be less than significant.

In addition, it should be noted that implementation of the project and future residential development would result in significantly fewer trips that what is currently permitted under the existing zoning and land use designation. Therefore, the effect of traffic noise impacts with implementation of the project would be less than what could potentially result from buildout that would be permitted under the existing conditions.

As shown in the discussion under question 12a), noise levels from exterior ground level mechanical ventilation equipment would attenuate to less than 44 dBA L_{eq}, as modeled at the nearest off-site medical use receptor. Existing background ambient noise levels along Round Barn Boulevard adjacent to the Project site average between 50 dBA L_{eq} and 57 dBA L_{eq} as measured on the Project site, and noise generated by future mechanical ventilation equipment would not exceed existing ambient noise levels at nearby noise sensitive receptors by 5 dBA or greater. Therefore, operation of the future mechanical ventilation systems would not result in a substantial permanent increase in ambient noise levels as compared to conditions existing without the project, and project-related stationary source noise impacts on off-site sensitive land uses would be less than significant.

d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Less than significant with mitigation incorporated. As addressed in Impact 12a, residential development-related construction activities could result in high intermittent noise levels of up to 81 dBA L_{max} at the closest noise-sensitive medical use. Although there could be single-event noise exposure potential to cause intermittent noise nuisances at the Kaiser Permanente offices and the St. Joseph Health Cancer Center and Redwood Oncology offices from future residential construction activity, the effect on longer-term (hourly or daily) interior noise levels would be small. These offices are only servicing outpatients during the daytime hours. Exterior noise levels are not expected to increase interior ambient noise levels by more than 5 dBA. In addition, interior noise levels due to future residential construction activity are not expected to exceed 50 dBA L_{eq} at any adjacent noise sensitive use. At these levels, office uses are not expected to have their daily activities impacted or

hinder the operation of these facilities. Future residential development would be required to comply with the City's standard conditions of approval establishing permissible hours of construction, as applicable. Furthermore, implementation of Mitigation Measure NOI-1 would further reduce potential short-term construction noise levels to result in a less than significant impact on sensitive receptors in the project vicinity.

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

Less than significant impact. The nearest airport to the Project site is Sonoma County Airport, located approximately 4.4 miles northwest of the Project site. Because of the distance from and orientation of the airport runways, the Project site is located well outside of the 55 dBA CNEL airport noise contours. While aircraft noise may be occasionally audible on the Project site from aircraft flyovers, aircraft noise associated with nearby airport activity would not expose people residing or working in the project area to excessive noise levels. Therefore, impacts associated with public airport noise would be less than significant.

f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

No impact. The Project site is not located within the vicinity of a private airstrip. Therefore, no impacts associated with private airstrip noise would occur.

Mitigation Measures

MM NOI-1 Prior to the issuance of a grading permit or building permit for future on-site development, the project sponsor shall demonstrate that development plans contain the following requirements:

- The construction contractor shall ensure that all construction equipment have appropriate sound muffling devices, which are properly maintained and used at all times such equipment is in operation.
- The construction contractor shall ensure that "quiet" models of air compressors and other stationary construction equipment are utilized where such technology exists.
- The construction contractor shall, to the maximum extent practical, locate on-site equipment staging areas so as to maximize the distance between construction-related noise sources and noise-sensitive receptors nearest the Project site during all project construction.
- The construction contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the Project site.
- The construction contractor shall prohibit unnecessary idling of internal combustion engines (i.e., in excess of 5 minutes).
- To avoid noise-sensitive hours of the day, construction activities shall be limited to between 7:00 a.m. and 7:00 p.m., Monday through Friday, and between 8:00 a.m.

and 6:00 p.m. on Saturdays. Construction activities shall be prohibited on Sundays and observed federal holidays.

- The construction contractor shall designate a noise disturbance coordinator who would be responsible for responding to any local complaints about construction noise. The disturbance coordinator would determine the cause of the noise complaints (starting too early, bad muffler, etc.) and institute reasonable measures warranted to correct the problem. The construction contractor shall conspicuously post a telephone number for the disturbance coordinator at the construction site.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
13. Population and Housing *Would the Project:*				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Environmental Evaluation

Environmental Setting

The City of Santa Rosa experienced significant growth from 2000 to 2010, adding 2,022 residents per year, a 14-percent increase. By comparison, the City of Petaluma, the Town of Windsor, and Sonoma County grew 6, 18, and 6 percent, respectively, between 2000 and 2010.[67] Over the next two decades, Santa Rosa envisions adding 25,225 new housing units to the existing 71,070 units, 30,400 new jobs to the existing 97,980 jobs, and 69,815 new residents to the existing 167,815 residents.[68]

The General Plan includes a range of policies designed to accommodate this future growth including policies to promote compact growth, foster the development of urban villages, and ensure the provision of housing options that respond to the needs of all economic and demographic segments of the community. The General Plan seeks to add additional housing pursuant to the needs addressed in the Santa Rosa Housing Action Plan released in October of 2016.[69]

Would the Project:

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

Less than significant impact. The General Plan amendment and rezone would allow for on-site residential development. As considered herein, up to 237 residential units and approximately 628

[67] City of Santa Rosa General Plan 2035, Population and Housing Element, page 4-2–4-6.
[68] City of Santa Rosa General Plan 2035, Population and Housing Element table 2-3, Table 2-3.
[69] City of Santa Rosa Housing Action Plan. 2016. Website: http://srcity.org/535/Housing-Action-Plan. Viewed April 27, 2017.

residents would be added to the City of Santa Rosa. As discussed in the City's October 2016 Housing Action Plan, the City is facing a housing shortage. Therefore, the Project would most likely draw residents from within the City and adjacent area. The construction phase of the residential development would draw construction workers to the site; however, the construction phase is temporary and would not induce long-term population growth nor influence the relocation of construction workers. The future development of the on-site residences would not result in substantial population growth because, at maximum, it would represent approximately 0.2 percent of the City's current population and would account for approximately 0.2 percent of the existing housing supply. The Project would further support the City's desire to add 25,225 housing units in the next two decades in accordance with the City's 2016 Housing Action Plan. Therefore, impacts would be less than significant.

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

No impact. There are no existing residences on the Project site. Therefore, the proposed Project would not displace any existing housing and there would be no associated impact.

c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

No impact. As described above, the Project site does not contain any existing housing. There would be no need to construct replacement housing for displaced residents.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
14. Public Services *Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:*				
a) Fire protection?	☐	☐	☒	☐
b) Police protection?	☐	☐	☒	☐
c) Schools?	☐	☐	☒	☐
d) Parks?	☐	☐	☒	☐
e) Other public facilities?	☐	☐	☒	☐

Environmental Evaluation

Public services provided by the City include fire protection, police protection, education, recreation and parks, and libraries.

Santa Rosa Fire Department (SRFD) provides fire protection services in the City of Santa Rosa. The SRFD responds to all fires, hazardous materials incidents, and medical emergencies (including injury accidents) in the City. The senior command structure consists of a Fire Chief, an Emergency Preparedness Coordinator, a Deputy Fire Chief, an Administrative Services Officer, and a Division Chief Fire Marshal. The SRFD consists of three Bureaus—Operations, Administration, and Prevention—and two divisions—Training and Safety Division and Support Services Division. Ten fire engines and two truck companies respond to emergencies.[70] The SRFD employs 138 sworn employees and 10 civilians. The Santa Rosa General Plan 2035 establishes a response time goal for first resource arrival within 5 minutes of dispatch 90 percent of the time. A secondary goal, pertaining to larger incidents, is to provide a full assignment within 8 minutes 90 percent of the time. The Santa Rosa General Plan 2035 EIR projected buildout over 25 years and determined the need to move the fire station on Parker Hill road to a new location near Fountaingrove Parkway to serve the future residents of the area. Fire Station 5, constructed in 2015, is located at 2201 Newgate Court, approximately 3.09 miles east of the Project site and is now the closest fire station to the site.

Santa Rosa Police Department (SRPD) provides police protection services throughout the City.[71] The SRPD consists of three divisions (Field Services, Special Services, and Technical Services), consisting of seven Bureaus: Patrol, Investigations, Communications, Records, Technology, Traffic, and Support; and Administrative Services. The SRPD employed approximately 256 people in 2016.[72]

[70] "Fire Department," City of Santa Rosa, accessed April 22, 2017, http://srcity.org/departments/fire/Pages/default.aspx.
[71] "Police Department," City of Santa Rosa, accessed April 22, 2017, http://www.srcity.org/departments/police/Pages/default.aspx.
[72] Police Department," City of Santa Rosa, accessed April 22, 2017, http://www.srcity.org/departments/police/Pages/default.aspx.

The Project site is located in Santa Rosa City School District (SRCSD). Within the SRCSD district, there are ten elementary schools, five middle schools, five high schools, and four charter and alternative schools.[73] The nearest elementary school is Hidden Valley Satellite located at 3555 Parker Hill Road, approximately 0.95 mile east of the Project site. However, enrollment priority at this school is given to Keystone families. The nearest public elementary school open to residents of the Project site would be Hidden Valley at 3435 Bonita Vista Lane. The nearest middle school is the Santa Rosa Middle School located at 500 East Street, approximately 2 miles south of the Project site. The nearest high school is Santa Rosa High School located at 1235 Mendocino Avenue, approximately 1.73 miles southeast of the Project site.

The City of Santa Rosa Recreation and Parks Department manages and maintains a total of 950 acres of parks, trails, and open space, including 12 community parks, 53 neighborhood parks and facilities, and five special recreation parks. Parks vary in size and amenities.[74] The closest neighborhood park is the Frances Nielson Rach Park, located approximately 0.34 mile southeast of the Project site. This park includes a basketball court, picnic areas, a playground, and trails.[75] Another nearby park is the Nagasawa Community Park, approximately 0.40 mile northeast. This park covers 33.7 acres, with amenities that include picnic tables, trails, fishing, boating (for non-motorized boats), and restrooms.[76]

The Quimby Act, codified in 1975 under California Government Code Section 66477, authorizes California cities and counties to pass ordinances requiring developers set aside land, donate conservation easements, or pay fees for park acquisition to help ensure the adequate provision of parkland and preserve open space through a series of policy provisions. For planning purposes, the City sets a minimum overall citywide ratio of 3.5 acres of city parks per 1,000 residents, plus 1.4 acres of publicly accessible school recreational land and 1.1 acres of public serving open space.[77] With 950 acres of parkland, the City currently exceeds its established ratio and is projected to continue to exceed it with buildout of the Santa Rosa General Plan 2035.

The Sonoma County Library System operates five libraries in Santa Rosa, including the Central Library and four branch libraries. The Northwest Santa Rosa Library is the closest library to the Project site, and is located at 150 Coddingtown Center, approximately 1.75 miles south of the Project site. Its amenities include computer loan (with internet), wireless internet, a research station with access to the library database, a copy machine, and a public printer.[78]

a) Fire protection?

Less than significant impact. Fire protection services are provided to the site by the City of Santa Rosa. Fire Station 5, constructed in 2015, is located at 2201 Newgate Court, approximately 3.09

[73] "Schools." Santa Rosa City Schools. Accessed April 22, 2017. Website: http://www.srcs.k12.ca.us/Schools/Pages/default.aspx.
[74] "Recreation & Parks." City of Santa Rosa. Accessed April 20, 2017. Website: http://www.srcity.org/departments /recreationandparks/Pages/default.aspx.
[75] City of Santa Rosa. 2017. Frances Nielsen Park. Website: http://srcity.org/Facilities/Facility/Details/Frances-Nielsen-Ranch-Park-69. Accessed April 18, 2017.
[76] City of Santa Rosa. 2017. Nagasawa Community Park. Website: http://srcity.org/Facilities/Facility/Details/Nagasawa-Community-Park-76. Accessed April 19, 2017.
[77] City of Santa Rosa General Plan Draft EIR, "City Parks and Recreation," Chapter P Parks and Recreation, Page 4.P-1.
[78] Sonoma County Library. 2017. Northwest Santa Rosa Library. Website: https://sonomalibrary.org/locations/northwest-santa-rosa-library. Accessed April 18, 2017.

miles east of the Project site and is the closest fire station to the site. The Santa Rosa 2035 General Plan EIR did not find a significant impact due to anticipated developments in relation to fire protection. As considered herein, future on-site development would create up to 237 new residences, which would result in a potential population increase of approximately 628 people. In accordance with California Government Code Section 53090, the residential development would be required to pay a fee to offset the increased demand and pay for the additional services. Furthermore, on-site buildings would be constructed in compliance with local and state fire codes, which would ensure that the buildings would not result in a new fire hazard at the site. Standard conditions of approval would require the provision of a fire flow analysis to ensure that adequate water pressure and flow rates are available on-site for firefighting purposes. In addition, as indicated by the SRFD in a memorandum to City Planner Andy Gustavson, dated February 24, 2017, the SRFD did not indicate any special conditions on the proposed General Plan Amendment and Rezone. The SRFD stated that it would provide standard comments and conditions on any future proposed residential development and that no new fire protection facilities would be required. Therefore, with the payment of applicable fees, and compulsory compliance with SRFD development conditions, impacts would be less than significant.

b) Police protection?

Less than significant impact. The Project would result in a significant environmental impact if new or physically altered police protection facilities would need to be built to maintain acceptable service ratios, response times, or other performance objectives for police protection. There would be an incremental increase in calls for service that are due to the future residential development. However, the Project site is in a developed area that is already being served by police. The Santa Rosa 2035 General Plan EIR did not find a significant impact due to anticipated buildout in relation to police protection. This Project does not propose or allow the type of uses that typically involve significant increases in calls for service (e.g., commercial retail). No additional police personnel or equipment would be necessary to serve the proposed Project. Therefore, impacts would be less than significant.

c) Schools?

Less than significant impact. Future residential development on-site would result in a significant environmental impact if new or physical altered public education facilities would need to be built to maintain acceptable performance objects for public education. The Project site would be served by the SRCSD. The District consists of ten elementary schools, five middle schools, five high schools, and four charter and alternative schools. During the 2015–2016 school year, the District served an estimated 16,717 students from kindergarten through twelfth grade.[79]

The 237 residential units that could be constructed on-site could result in an increased demand for school services within the District's service area. The California State Department of Education estimates that one dwelling unit generates an average of 0.7 student, consisting of 0.5 elementary or

[79] Education Data Partnership. EdData. Websites: http://www.ed-data.org/district/Sonoma/Santa-Rosa-Elementary; http://www.ed-data.org/district/Sonoma/Santa-Rosa-High. Accessed July 19, 2017.

middle school student and 0.2 high school student.[80,81] Based on these rates, the future residential development could result in approximately 119 elementary or middle school students, and 47 high school students.

Based on the existing housing shortage within the City, these students would be expected to come from the existing community and therefore would not be expected to significantly affect the nearby schools' populations. However, pursuant to California Government Section 65996, new development is to pay applicable impact fees to ensure that adequate school and related facilities will be available. Because future on-site residential development would be required to pay school impact fees in accordance with state law, the proposed Project would not result in adverse physical impacts to schools. Therefore, impacts would be less than significant.

d) Parks?

Less than significant impact. The future residential development would result in a significant environmental impact if new or physically altered parks would need to be built to maintain acceptable service ratios. The City currently exceeds its goal of 3.5 acres of parkland (defined by the City as neighborhood and community parks) per 1,000 residents, as the current parkland ratio is 5.4 acres per 1,000 residents.[82] With a projected population of 220,110 in 2035, the City would still exceed its goal with a parkland ratio of 4.3 acres per 1,000 residents.[83] The 237 residential units would have approximately 628 residents at full occupancy, many of whom would be drawn from the Santa Rosa area. As such, the Project would not result in a substantial population increase in the City and would not significantly affect the ratio of parkland to residents. Therefore, impacts would be less than significant.

e) Other public facilities?

Less than significant impact. The future residential development would result in a significant environmental impact if new or physically altered library or community facilities would need to be built to maintain acceptable service ratios. The 237 residential units would create an incremental increase in the demand for library facilities and community centers. In accordance with California Development Code Section 53090, development impact fees would be required to offset any additional service needs. With payment of legislated development fees, impacts would be less than significant.

[80] City of Santa Rosa. 2007. Toscana Subdivision EIR. Website: https://ca-santarosa.civicplus.com/471/Archive-Documents

[81] The State's student generation rates are a result of statewide sampling that incorporates widely varying dwelling unit types, households, and other demographic characteristics across the state and, therefore, may not reflect the actual characteristics of the local area.

[82] City of Santa Rosa. "City Parks." Website: http://www.ci.santa-rosa.ca.us/departments/recreationandparks/parks/cityparks/Pages/default.aspx. Accessed April 27, 2017.

[83] Santa Rosa General Plan 2035 Draft Environmental Impact Report, 4.B-2.

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

Environmental Evaluation

The City of Santa Rosa provides and manages developed parkland, open space, and recreational facilities for the use of its residents. The City's Recreation and Parks Department is responsible for the development, operation, and maintenance of all City recreational facilities. The City-run parks and park amenities are described in the previous section.

Other public services the City provides for residents include two year-round swim facilities, tennis courts, softball, and trails.[84] The nearest senior center is located at 2060 West College Avenue, approximately 2.75 miles southwest of the Project site. The nearest community center is located at 415 Steele Lane, approximately 1.07 miles south of the Project site.

Sonoma County Regional Parks Department provides and manages regional parks to serve its residence. There are roughly 4,206 acres of County-maintained regional parkland in Sonoma County.[85] There are 11 regional parks within the City of Santa Rosa. The Nagasawa Community Park is approximately 0.40 mile northeast of the Project site. This park covers 33.7 acres, with amenities that include picnic tables, trails, fishing, boating (for non-motorized boats), and restrooms.[86] The closest neighborhood park is the Frances Nielson Ranch Park, located approximately 0.34 mile southeast of the Project site. The nearest regional park to the Project site is Tom Schopflin Fields located at 4351 Old Redwood Highway, approximately 4.8 miles east of the Project site.[87] With the exception of Schopflin Fields, Shiloh Ranch Regional, and Annadel State Park, these parks and facilities are within the UGB.

[84] Santa Rosa Parks and Recreation Department. Website: http://srcity.org/1300/Sports-Recreation. Accessed April 20, 2017.
[85] Sonoma County General Plan 2020 Draft Environmental Impact Report, 4.9-53.
[86] City of Santa Rosa. 2017. Nagasawa Community Park. Website: http://srcity.org/Facilities/Facility/Details/Nagasawa-Community-Park-76. Accessed April 19, 2017.
[87] Sonoma County Regional Parks. "Parks A-Z." Website: http://parks.sonomacounty.ca.gov/Get_Outdoors/Parks_A-Z.aspx. Accessed October 10, 2016.

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

Less than significant impact. The Nagasawa Community Park is a 33.7-acre park approximately 0.4 mile northeast of the Project site, which includes picnic tables, trails, fishing, and a boat ramp (non-motorized boats only). Additionally, the Frances Nielson Ranch Park, located approximately 0.34 mile southeast of the Project site, includes a basketball court, picnic areas, a playground, and trails. The 237 residential units could add as many as 628 persons to the City of Santa Rosa, which may increase demand for parks or other recreational facilities. However, as previously noted, due to existing housing shortage, many of these residents would be drawn from the Santa Rosa area. In accordance with City of Santa Rosa City Code Section 19-70.060, the project applicant would be required to dedicate land or pay a fee in-lieu thereof, or both, for park or recreational purposes. With the mandatory compliance with the City's in-lieu fee requirements, the Project's impacts to recreational facilities would be less than significant.

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

No impact. The Project does not include any new or expanded off-site recreational facilities and would not require the construction or expansion of existing recreational facilities. No impact would occur.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
16. Transportation/Traffic *Would the Project:*				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☒	☐	☐
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☒	☐
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
e) Result in inadequate emergency access?	☐	☐	☒	☐
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☒

Environmental Evaluation

The following programmatic analysis is based on trip generation calculations prepared by Stantec and included in Appendix H. The purpose of the programmatic analysis is to compare existing potential trip generation with future potential trip generation that could occur under the General Plan Amendment and Rezone.

Surrounding Roadway Network

Round Barn Boulevard is a four-lane local roadway (25 mph posted speed limit) that runs in a loop (East/West), connecting to Fountaingrove Parkway, between US 101 and Bicentennial Way.

Transit Service

The proposed Project site is served by Santa Rosa's CityBus. CityBus provides fixed route service to and from residential neighborhoods and downtown transit hubs. Route 10 of CityBus serves multiple locations on Round Barn Boulevard, and operates Monday through Friday from 6:15 a.m. to 8:15 p.m. with approximately one-half-hour headways.

Bicycle Facilities

Bicycle facilities are comprised of Class I pathways, Class II bicycle lanes, and Class III bicycle routes. Along Round Barn Boulevard, there is an existing Class I path that runs along the inside of the loop made by the roadway. There are existing Class I and Class II bicycle routes that parallel Fountaingrove Parkway and Class II bicycle lanes on Mendocino Avenue.

Pedestrian Facilities

Generally, the Project site is well served by pedestrian facilities. There are continuous pedestrian facilities along Round Barn Boulevard and Fountaingrove Parkway.

Would the Project:

a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

Less than significant impact with mitigation incorporated.

The General Plan Amendment and Rezone alone would not result in trip generation and therefore would not result in changes to existing traffic conditions. However, the amendment and rezone would allow for the development of future residential land uses and related trip generation. As such, a significant impact may occur if trip generation of the proposed residential land use designation would exceed that of currently allowable (baseline) development of hotel and office uses, as accounted for in the General Plan.

To compare the trip generation, the City developed a buildout scenario based on the existing Business Park land use and Planned Development (PD 72-001—Highway/Tourist/Office Commercial) zoning designations. The Permitted baseline land use scenario consists of a mixture of hotel and office land uses as indicated in Table 22.

Table 22: Permitted Baseline Land Use Scenario

Land Use[2]	Gross Floor Area	Rooms
Hotel	143,400	254[1]
Office	286,800	N/A

Table 22 (cont.): Permitted Baseline Land Use Scenario

Land Use	Gross Floor Area	Rooms

Note:
[1] Gross Floor Area conversion factored of 1 room per 565 GSF was determined by City Ventures using information on local hotels located in close proximity to the Project site.
[2] The baseline land use scenario was developed by the City of Santa Rosa from existing permitted development types and zoning requirements. An on-site development area of 18.26 acres was assumed, consistent with the developable area identified herein. Of the developable area, 40 percent was dedicated to roads, slope, and site improvements. Of the remaining 10.96 acres, the 50 percent maximum allowed lot coverage was applied, leaving 5.48 acres or 239,000 square feet. The 239,000 square feet were then allocated to hotel (20 percent) and office (80 percent) uses, assuming a three-story hotel and 1.5-story office use.
Source: City of Santa Rosa, City Ventures, 2017

Trip Generation

Table 23 shows both the permitted (hotel and office) baseline and future residential development trip generation during the weekday daily, AM and PM peak hours. The permitted baseline land uses are anticipated to generate 3,868 daily trips, including 464 trips (337 inbound trips and 86 outbound trips) during the AM peak hour and 442 trips (117 inbound trips and 325 outbound trips) during the PM peak hour. This trip estimate includes an internal trip capture rate for internal trips made between the land uses that do not use external roadway networks. Because the baseline land use scenario consists of permitted uses, the potential effects of which have already been considered in the General Plan EIR, the related trip generation is considered to be consistent with the General Plan and applicable ordinances and policies therein related to effectiveness of the circulation system.

Future residential development would result in fewer trips than those of permitted hotel and office uses that are already accounted for in the General Plan. The future residential development as considered herein is expected to generate approximately 1,560 daily trips, including 120 trips (24 inbound trips and 96 outbound trips) during the AM peak hour and 148 trips (96 inbound and 52 outbound) during the PM peak hour.

Compared with the permitted baseline (hotel and office), the future residential development would generate approximately 2,308 fewer daily trips, 344 fewer net new trips during the AM peak hour, and 294 fewer net new trips during the PM peak hour.

Table 23: Trip Generation for the Proposed Project

Land Use (ITE Code)	Size		Daily		A.M. Peak Hour				P.M. Peak Hour			
			Rate	Total	Rate	In	Out	Total	Rate	In	Out	Total
Permitted Baseline Land Use												
Hotel (310)	254	Rooms	7.5	1,900	0.53	80	55	135	.60	78	75	153
Office Building (710)	286,800	GSF	10.19	2,924	1.55	392	53	445	1.39	68	332	400
Internal Trip Reduction (20%)[1]				(956)	—	(95)	(22)	(116)	—	(29)	(82)	(111)
Total Baseline Trips				**3,868**	**—**	**337**	**86**	**464**	**—**	**117**	**325**	**442**
Proposed Project Land Use												
Apartment (220)	237	Units	6.58	1,560	0.50	24	96	120	.62	96	52	148
Net New Trips				**-2,308**	**—**	**-353**	**10**	**-344**	**—**	**-21**	**-273**	**-294**

Note:
[1] Internal trips estimated at 20%
Source: Stantec, September 2017; ITE Trip Generation, 9th Edition, 2012.

Based on the trip generation evaluation, as shown in Table 23, the future development of 237 residential units would be expected to result in a reduced number of vehicle trips during the AM and PM peak hours as well as on a daily basis. Therefore, future residential development as a result of the General Plan Amendment and Rezone would be expected to result in a significant decrease in potential vehicle trips. Furthermore, the reduced trip generation of the future residential development would be below what was considered and planned for in the General Plan. Any future development proposed on the Project site under the new land use and zoning designations would be required to submit a project-specific traffic impact study as part of project entitlements and approval (refer to General Plan Policy T-D-3), as applicable. The project specific traffic impact study would evaluate consistency of the future development with existing and future traffic conditions in relation to level of service impacts and goals. This analysis would ensure that future development would not conflict with applicable plans, ordinances, or policies establishing measures of effectiveness for circulation system performance.

In summary, the General Plan Amendment and Rezone alone would not result in trip generation and therefore would not result in changes to existing traffic conditions or conflicts with applicable regulations. Furthermore, maximum future allowable on-site residential development would result in 2,308 fewer daily trips than those of the permitted baseline land use scenario, representing a significant reduction in potential trip generation. Finally, as indicated in Impact 16b below, the future residential development would not conflict with applicable plans or policies regarding pedestrian, bicycle, or mass transit operation. As such, impacts would be less than significant.

b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

Less than significant impact. The Sonoma County Transportation Authority (SCTA) is the countywide transportation planning and programming agency and is responsible for maintaining the County's Comprehensive Transportation Plan (CTP). The CTP prioritizes transportation needs in Sonoma County over the next 25 years in coordination with the Association of Bay Area Government's Regional Transportation Plan (RTP). The CTP's goals include improvements to bicycle pedestrian facilities and safety, transit service and facilities, land uses, and traffic flow. In addition, the City of Santa Rosa's General Plan provides goals and implementation programs to ensure an efficient circulation system to accommodate the movement of people and goods via rail, vehicular, pedestrian and cyclist movement. As indicated in Impact 16a above, future residential development trip generation would be significantly below what could occur under the existing land use designations as considered in the CTP and General Plan. As such, the project would be consistent with the CTP and General Plan. Future on-site residential development would be required to provide a site plan-specific traffic impact study that would ensure acceptable LOS at study intersections.

The Project site is well served by Santa Rosa's CityBus. CityBus provides fixed route service to and from residential neighborhoods and downtown transit hubs.

Route 10 of the bus service services multiple locations on Round Barn Blvd, and operates Monday through Friday from 6:15 a.m. to 8:15 p.m. with approximately one-half-hour headways.

Bicycle facilities are comprised of Class I pathways, Class II bicycle lanes, and Class III bicycle routes. Along Round Barn Blvd, there is an existing Class 1 path that runs along the inside of the loop made by the roadway. There are existing Class I and Class II bicycle routes that parallel Fountaingrove Parkway and Class II bicycle lanes on Mendocino Avenue.

Generally, the Project site is well served by pedestrian facilities. There are continuous pedestrian facilities along Round Barn Boulevard and Fountaingrove Parkway.

Based on the above, the proposed Project would not conflict with applicable policies or programs of the CTP, RTP, or General Plan. Compulsory adherence to existing regulations would ensure that future residential development on-site would also be required to demonstrate consistency. Impacts would be less than significant.

c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

No impact. The closest airport to the Project site is Sonoma County Airport, which is located approximately 5 miles northwest of the Project site. The Project site is not within the vicinity of a designated Airport Land Use Plan. Future residential development would not include elements that could alter existing air traffic patterns such as significantly tall buildings, smoke emissions, or the attraction of wildlife. No impact would occur.

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

Less than significant impact. The Project does not alter or modify existing roadways and roadway frontages within the Project's vicinity. The future residential development would utilize existing driveway locations along Round Barn Boulevard with existing left turn lanes and adequate sight distance for the passing travel speed. Impacts would be less than significant.

As shown in Table 24, there have been a total of 23 incidents at the study locations during the past 3 years.

Table 24: Intersection Incident Summary

Intersection	Number of Collisions (Within 300 feet of Intersection) 2014	Number of Collisions (Within 300 feet of Intersection) 2015	Number of Collisions (Within 300 feet of Intersection) 2016	Total Number of Collisions (Within 300 feet of Intersection)
Fountaingrove Pkwy & Mendocino Ave	1	4	9	**14**
Fountaingrove Pkwy & Round Barn Blvd West	1	1	0	**2**
Fountaingrove Pkwy & Round Barn Blvd East	1	0	1	**2**

Table 24 (cont.): Intersection Incident Summary

Intersection	Number of Collisions (Within 300 feet of Intersection) 2014	Number of Collisions (Within 300 feet of Intersection) 2015	Number of Collisions (Within 300 feet of Intersection) 2016	Total Number of Collisions (Within 300 feet of Intersection)
Cleveland Ave & Industrial Dr	1	2	2	**5**
US 101 NB Ramp & Mendocino Ave	0*	0*	0*	**0***

Note:
* No accidents reported directly within the intersection

However, these incidents have been attributed to non-design features and future residential development is not expected to increase the frequency of these impacts in a significant manner. As such, impacts related to transportation hazards would be less than significant.

e) Result in inadequate emergency access?

Less than significant impact. Emergency access would be provided to the future residential development by the primary entrances along Round Barn Boulevard. Driveways and internal drive aisles would utilize standard configurations for residential developments and would provide adequate emergency access. Furthermore, the future residential development would be subject to review by the Fire Department to ensure adequate access. Impacts would be less than significant.

f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

No impact. The network of sidewalks and bicycle paths surrounding the Project site would not be altered as part of the Project. Future residential development would be required to connect to the surrounding infrastructure, providing complete pedestrian access. In addition, the Project site is along an established CityBus transit route. Based on the above, the Project would be consistent with General Plan policies regarding transit, bicycle, and pedestrian facilities. No impacts would occur.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
17. 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) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☐	☒	☐
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in 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.	☐	☐	☒	☐

Human history in California can be divided into three broad periods: the Early period, the Middle period, and the Late period. Economic patterns, stylistic aspects, and regional phases further subdivide cultural patterns into shorter phases. This scheme uses economic and technological types, socio-politics, trade networks, population density, and variation of artifact types to differentiate between cultural periods.[88]

The Paleoindian period (11,500 to 8,000 B.C.) was characterized by big-game hunters occupying broad geographic areas—evidence for this period has not yet been discovered in the San Francisco Bay or Sonoma County vicinity. During the Early period, consisting of the *Early Holocene* (8,000 to 3,500 B.C.) and *Early Period* (3,500 B.C. to 500 B.C.), geographic mobility continued and is characterized by the millingslab and handstone as well as large wide-stemmed and leaf-shaped projectile points. The first cut shell beads and the mortar and pestle are first documented in burials during this period, indicating the beginning of a shift to sedentism. During the Middle period, which includes the *Lower Middle Period* (500 B.C. to A.D. 430), and *Upper Middle Period* (A.D. 430 to 1050), geographic mobility may have continued, although groups began to establish longer-term base camps in localities from which a more diverse range of resources could be exploited. The first rich black middens are recorded from this period. The addition of milling tools, obsidian and chert concave-base points, and the occurrence of sites in a wider range of environments suggest that the economic base was more diverse. By the Upper Middle Period, mobility was being replaced by the development of numerous small villages. Around A.D. 430, a "dramatic cultural disruption" occurred evidenced by the sudden collapse of the *Olivella* saucer bead trade network. During the Initial Late

[88] City of Santa Rosa General Plan Draft EIR, page 4.J-2.

period (A.D. 1050 to 1550), social complexity developed toward lifeways of large, central villages with resident political leaders and specialized activity sites. Artifacts associated with this period include the bow and arrow, small cornernotched points, and a diversity of beads and ornaments.

By the mid-1880s, Spanish missionization, disease, raids by Mexican slave traders, and dense immigrant settlement had disrupted Southern Pomo culture, dramatically reducing the population, and displacing the native people from their villages and land-based resources. In 1920, the Bureau of Indian Affairs purchased a 15.45-acre tract of land in Graton for the Marshall, Bodega, Tomales, and Sebastopol Indians. This land was put into a federal trust and these neighboring peoples, including both Coast Miwok and Southern Pomo, were consolidated into one recognized group called the Graton Rancheria. The Lytton Band of Pomo Indians was first established in 1937 when Bert Steele, who was part Achomawi and park Nomlaki, and his Bodega Pomo wife, petitioned the U.S. government for a 50-acre parcel north of Healdsburg. In 1958, the U.S. government enacted the Rancheria Act of 1958, transferring tribal property into private ownership. Forty-four Rancherias in California were affected, including the Graton and Lytton Rancherias.[89]

Would the Project:

a) Cause a substantial adverse change in the significance of a tribal cultural resource 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)?

Less than significant impact. Tribal Cultural Resources (TCRs) can include wood, stone, foundations, and other structural remains; debris-filled wells or privies; and deposits of wood, glass, ceramics, and other refuse. As described previously in Section 2.5, Cultural Resources, a records search conducted at the NWIC found one historic resource on-site. In addition, in order to assess the potential for TCRs, on April 21, 2017, FCS sent a request to the NAHC to review its sacred lands file and to provide a list of Native American Representatives who may be interested in providing additional information on potential TCRs within the project area.

On April 27, 2017, a response was received from the NAHC indicating that no sacred sites were listed as present in the project area. The letter included a list of five Native American representatives. Letters including a map and project details were sent to all representatives for informational purposes on May 1, 2017. The City received a response from the Lytton Rancheria indicating that further tribal consultation has not been requested (Appendix C). Therefore, impacts would be less than significant.

b) Cause a substantial adverse change in the significance of a tribal cultural resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1?

Less than significant impact. On April 21, 2017, FCS sent a request to the NAHC to review its sacred lands file search and to provide a list of Native American Representatives who may be interested in providing additional information on potential TCRs within the project area. FCS received a response

[89] City of Santa Rosa General Plan Draft EIR, page 4.J-2.

from the NAHC indicating that no sacred sites were listed as present in the project area. The letter also included a list of five Native American representatives. Letters including a map and project details were sent to all representatives for information purposes on May 1, 2017. The City received a response from the Lytton Rancheria indicating that further tribal consultation has not been requested (Appendix C). Correspondence with the NAHC and the Native American representatives may be found in Appendix C. No archaeological resources were identified during the archaeological or pedestrian surveys, and the occurrence of artifacts is unlikely. Thus, impacts would be less than significant.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
18. Utilities and Service Systems *Would the Project:*				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☒	☐
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☒	☐
e) 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?	☐	☐	☒	☐
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☒	☐

Environmental Evaluation

A majority of the City's water supply is derived from the Russian River watershed and is delivered under contractual agreement by the Sonoma County Water Agency (SCWA). The SCWA holds water rights to divert 92 million gallons of water per day (mgd) with an annual maximum of 75,000 acre-feet per year from the Russian River. Ninety percent of the City's water supply is from the SCWA, while the remainder comes from groundwater and recycled water.[90] The City of Santa Rosa demanded 16,538 acre-feet in 2015 and expected the demand to rise to 28,840 acre-feet by 2040.[91]

Stormwater generated in Santa Rosa drains through six drainage basins to the Laguna de Santa Rosa. The largest drainage basin includes Santa Rosa Creek, which drains the northern Santa Rosa area by six

[90] City of Santa Rosa UWMP 2015, page ES-1.
[91] City of Santa Rosa 2015 UWMP. "Table ES-1: Total Water Demands," page ES-2.

major creeks and various tributaries. Four creeks (Brush, Austin, Spring, and Matanzas) primarily drain the easterly portion, while Paulin and Piner Creeks drain the westerly portion. Santa Rosa Creek also drains stormwater runoff generated downtown and in surrounding neighborhoods. The number and location of creeks in northern Santa Rosa result in adequate stormwater drainage capacity in the northern area.

For solid waste, North Bay Corporation, operating as Santa Rosa Recycling & Collection, Inc. has provided solid waste and recycling services in the City of Santa Rosa since February 1, 2003. The North Bay Corporation collects and transports commercial and residential solid waste to the Central Disposal Site Transfer Station at 500 Meacham Road in the City of Petaluma. The Central Disposal Site has a daily permitted disposal of about 1,050 tons per day and a remaining capacity of about 9 million cubic yards.[92] The 1999 Waste Characterization Study reported that residential waste disposal rates for Sonoma County were reported at 0.44 ton per resident per year.[93]

The State of California has mandated a 50 percent waste diversion rate that must be met by all counties. In 2006, Sonoma County had a waste diversion rate of 67 percent. This rate is expected to rise, due to continued waste reduction programs such as composting, special waste, and household toxics. The County has also adopted several waste reduction initiatives, including the Carryout Bags Ordinance and Sonoma Green Business Program, to promote and divert the amount of waste away from landfills.[94]

The City's existing water distribution system is divided into 18 major pressure zones, and several smaller sub-zones, that are served by pipelines ranging in diameter from 4 to 24 inches. The majority of services are provided via 6-inch to 12-inch-diameter mains.[95]

The City's Utilities Department is responsible for the operation and management of the Santa Rosa Subregional Water Reclamation System, which operates the Laguna Wastewater Treatment Plant (WWTP). The Laguna WWTP is a tertiary level treatment facility that has an average daily dry weather flow of 16.5 mgd and is permitted for 21.34 mgd average daily dry weather flow. Laguna WWTP serves the cities of Santa Rosa, Rohnert Park, Sebastopol, and Cotati. In 2015, Laguna WWTP treated an estimated 13,119 acre-feet.[96] The primary point of discharge is via Delta Pond at the confluence of Santa Rosa Creek and Laguna de Santa Rosa. The NCRWQCB regulates wastewater discharges, which cannot exceed 5 percent of the Russian River flow.[97]

The North Trunk Sewer replacement project is slated to begin March 2018 and be completed by June 2019. The main objective of this Capital Improvement Project is to address the existing lack of accessibility the North Trunk Sewer main for routine maintenance.[98] The upgrades would not increase the capacity of the WWTP.

[92] City of Santa Rosa Draft General Plan EIR 2035. "Solid Waste," Utilities and Service Systems, page 4 G-7.
[93] CalRecycle Solid Waste Characterization Database. "Residential Waste Disposal Rates"
[94] Sonoma County Waste Management Agency. 2016. "Recycling Guide."
[95] City of Santa Rosa 2015 UWMP. "Distribution Pipelines," Chapter 3, page 3-4.
[96] City of Santa Rosa 2015 UWMP. "Table 6-6: Wastewater Collected Within Service Area in 2015, Chapter 6, page 6-14.
[97] City of Santa Rosa 2015 UWMP. "Wastewater Disposal and Recycled Water Uses," Chapter 6, page 6-14.
[98] City of Santa Rosa. "North Trunk Sewer Replacement—Mendocino Ave to Terra Linda Dr." Accessed April 17, 2017. Website: http://cippublic.srcity.org/ProjPages/158.html.

Would the Project:

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

Less than significant impact. Wastewater from the future residential development would mainly consist of effluent typical of residential units. Small quantities of hazardous household materials such as cleaning solvents may be present, but not in quantities sufficient to exceed treatment requirements. Future residential development would also be required to meet all applicable regulations, including NPDES permit requirements and those of the RWQCB. Therefore, impacts would be less than significant.

b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Less than significant impact. The City of Santa Rosa has sufficient water supply to meet projected demand during normal years through 2040 and therefore would not require the construction of new water treatment facilities (Appendix G).

According to the City's Sanitary Sewer System Master Plan Update, wastewater would be generated at an approximate rate of 50 gallons per capita per day for residential uses. The maximum future residential development would build up to 237 units with approximately 628 residents.[99] Using these figures, future on-site residential development would be expected to generate 31,400 gallons of wastewater per day. However, according to the City of Santa Rosa, based on a total population of 628 residents and estimated daily flow of 125 gallons per day (the flow estimate listed in the current Sewer Design Standards), the future residential development would be expected to generate an average daily flow of 78,500 gallons (Appendix G).[100] As indicated by the City of Santa Rosa, allowable wastewater flow from the site is 87,340 gallons per day. Therefore, there is sufficient capacity to serve the future residential development's wastewater flows even when considering the more conservative estimate of 78,500 gallons per day average flow. As previously indicated, there is available capacity at the Laguna WWTP to serve future on-site residential development and implementation of the proposed Project would not exceed wastewater treatment requirements. Impacts would be less than significant.

c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Less than significant impact. Future on-site residential development would increase the amount of impervious surface cover and increase stormwater runoff. However, to address the increase in stormwater flow, future development would include the standard construction of new on-site stormwater drainage facilities. Such components would be designed to accommodate the expected stormwater flows, ensuring no net increase in off-site flows of stormwater and avoiding flooding downstream. Furthermore, future development would be required to comply with City Code

[99] Assuming an average household size of 2.65. Source: United States Census Bureau. 2014. American Factfinder. Website: https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_14_5YR_B25010&prodType=table. Accessed April 20, 2017.

[100] Osborn, Gabe. Email Correspondence. April 4, 2017

Chapter 17-12, which includes drainage and stormwater requirements. The Project site is located within the urban service area of the City of Santa Rosa where stormwater drainage facilities exist and have the capacity to serve future on-site development. Therefore, future residential development would not require off-site construction or expansion of existing stormwater drains or facilities.

d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

Less than significant impact. Future residential development would connect to the City's water facilities, similar to the existing residential uses nearby. The City of Santa Rosa has sufficient water supply to meet projected demand during normal years through 2040. The per-capita daily water use by residents in the City of Santa Rosa in February 2015 was 52 gallons or 0.000159 acre-feet of water.[101] Maximum future residential buildout would consist of up to 237 units with approximately 628 residents. The projected water demand would be 0.099 acre-foot per day or 36.1 acre-feet per year. Based on current water demand projections, the City would have sufficient water supply to serve the future residential development (Appendix G). Water usage is not expected to exceed current water supplies. No new or expanded water supply entitlements would be needed. Therefore, impacts would be less than significant.

e) 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. As discussed above, the Laguna WWTP has an average daily dry weather flow of 16.5 mgd and a capacity to treat 21.34 mgd. The potential maximum of 237 on-site residential units would be expected to produce approximately 78,500 gallons per day of wastewater based on a conservative daily flow of 125 gallons per day (the flow estimate listed in the current Sewer Design Standards). As such, there is sufficient capacity at the treatment plant to serve the future residential development in addition to existing commitments. Impacts would be less than significant.

f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

Less than significant impact. As discussed above, there is sufficient landfill capacity available to accommodate the construction and operational phase of a future residential development on-site. Using the residential disposal rate for Sonoma County of 0.44 ton per resident per year, a future residential development would be expected to produce an estimated 276.32 tons of solid waste per year. This amount of solid waste represents a nominal percentage of the landfill facility's yearly permitted capacity, and the facility would have adequate capacity. Therefore, impacts would be less than significant.

[101] State Water Resources Control Board, Per Capita Daily Water Use Report. Accessed April 27, 2017. Website: http//:www.swrcb.ca.gov/press_room/press_releases/2015/pr040715_rgcpd_febconservation.pdf.

g) Comply with federal, state, and local statutes and regulations related to solid waste?

Less than significant impact. Solid waste disposal services must follow federal, state, and local statutes and regulations related to the collection of solid waste. Future on-site residential development would not involve the production and/or disposal of any acutely toxic or otherwise hazardous materials. Future residential development would be required to comply with all state and local waste diversion requirements, including the City of Santa Rosa Ordinance 3586, which requires projects to meet at least a 50 percent diversion rate, and Municipal Code Chapter 9-12, regarding waste collection. As such, impacts would be less than significant.

Environmental Issues	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
19. Mandatory Findings of Significance				
a) Does the project have the potential to 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, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☒	☐	☐
c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

Environmental Evaluation

a) Does the project have the potential to 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, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?

Less than significant impact with mitigation incorporated. The Project would involve a General Plan amendment and rezone to allow for the future construction of up to 237 residential units on approximately 18.26 acres of the 40.18-acre site. While the General Plan amendment and rezone would have no direct environmental impacts, indirect or secondary effects would result from future development on the project site. The potential impacts related to future residential development have been programmatically addressed herein and a range of mitigation and actions designed to reduce impacts have been identified. With implementation of MMs BIO-1, BIO-2, AIR-1, AIR-2, CUL-1, CUL-2, and CUL-3, impacts to biological resources, air quality, and cultural resources would be reduced to a less than significant level. While unlikely, there is the potential to uncover undiscovered archaeological, paleontological or human remains in the course of construction activities on-site, and accordingly mitigation would be required avoid the accidental destruction or disturbance of previously undiscovered cultural resources. Overall, with implementation of these

mitigation measures, the Project, as programmatically addressed herein, would not substantially degrade the quality of the environment and associated indirect, secondary impacts would be less than significant. Furthermore, future permitted on-site development would be subject to further review, including zoning clearance and hillside development review, as applicable. Any future on-site use requiring a use permit, such as multi-family or small lot residential, would require additional project-level CEQA analysis that would further identify any potential impacts and appropriate mitigation.

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

Less than significant impact with mitigation incorporated. Potentially significant site-specific impacts to migratory birds and bats and previously undiscovered historical or cultural resources potentially resulting from future residential development would be mitigated to less than significant levels with the implementation of MMs BIO-1, BIO-2, CUL-1, CUL-2, and CUL-3 and potential air quality to sensitive receptors would be reduced to a less than significant level with implementation of MMs AIR-1 and AIR-2. Other potentially significant impacts from future residential development, as concluded in this document, would also be reduced to a less than significant level with the implementation of mitigation as provided, including MMs HAZ-1, and HAZ-2. Overall, with implementation of these mitigation measures, the Project, as programmatically addressed herein, would not substantially degrade the quality of the environment and associated impacts would be less than significant. Furthermore, the mitigatable impacts are primarily related to the future residential development's construction period and therefore, would not be likely to combine with the effect of other projects to become cumulatively considerable. Finally, as indicated in the July 11, 2017 Memorandum prepared by EPS (Appendix E), the project's General Plan amendment and rezone would not represent a material diminution of available commercial and industrial lands in such a way that future land conversion and related environmental impacts would occur. Therefore, the project's incremental reduction of available commercially developable land would not be considered a cumulatively considerable impact.

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

Less than significant impact. Compliance with existing regulations and implementation of City of Santa Rosa standard permit conditions would ensure that future on-site development would not result in substantial adverse effects on human beings, including effects related to air pollution, seismic and geologic hazards, hazardous materials, flooding and natural disasters, or noise and vibration. Therefore, impacts would be less than significant.

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FIRSTCARBONSOLUTIONS™

Mitigation Monitoring and Reporting Program for the Round Barn Village Project Initial Study/Mitigated Negative Declaration City of Santa Rosa, Sonoma County, California

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Report Date: September 25, 2017

Table 1: Round Barn Village Project Mitigation Monitoring and Reporting Program

Mitigation Measures	Method of Verification	Timing of Verification	Responsible for Verification	Verification of Completion	
				Date	Initial
3. Air Quality					
MM AIR-1: The following Best Management Practices (BMPs), as recommended by the BAAQMD, shall be stipulated by any development permit or land use entitlement related to on-site future residential development design and implemented during construction: a. All active construction areas shall be watered at least two times per day. b. All exposed non-paved surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and access roads) shall be watered at least three times per day and/or non-toxic soil stabilizers shall be applied to exposed non-paved surfaces. c. All haul trucks transporting soil, sand, or other loose material off-site shall be covered and/or shall maintain at least 2 feet of freeboard. d. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited. e. All vehicle speeds on unpaved roads shall be limited to 15 miles per hour. f. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used. g. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of CCR). Clear signage regarding idling restrictions shall be provided for construction workers at all access points.	Site inspection; notes on construction plans	During construction	City of Santa Rosa		

Table 1 (cont.): Round Barn Village Project Mitigation Monitoring and Reporting Program

Mitigation Measures	Method of Verification	Timing of Verification	Responsible for Verification	Verification of Completion	
				Date	Initial
h. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation. i. The prime construction contractor shall post a publicly visible sign with the telephone number and person to contact at the BAAQMD regarding dust complaints. BAAQMD and the construction contractor shall take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.					
MM AIR-2: The developer or Project Applicant shall ensure all off-road construction equipment in excess of 50 horsepower used on-site by the developer or contractors is equipped with engines meeting the EPA Tier IV off-road engine emission standards. The construction contractor shall maintain a log of equipment use at the construction site with make, model, serial number, and certification level of each piece of construction equipment that will be available for review by City building inspection staff. These requirements shall be stipulated by any development permit or land use entitlement related to on-site future residential development.	Submittal of documentation; site inspection; notes on construction plans	Prior to issuance of grading permits; during construction	City of Santa Rosa		

Table 1 (cont.): Round Barn Village Project Mitigation Monitoring and Reporting Program

Mitigation Measures	Method of Verification	Timing of Verification	Responsible for Verification	Verification of Completion	
				Date	Initial
4. Biological Resources					

MM BIO-1: Migratory Birds and Nesting Raptors Any development permit or land use entitlement involving ground disturbance or vegetation removal on the Project site shall stipulate the following migratory bird and nesting raptor protections. In the event that tree removal activities occur during the nesting bird season from March 1 through August 31, the following shall be implemented: 1. To prevent impacts to Migratory Bird Treaty Act-protected birds and their nests, removal of trees shall be limited to only those necessary to construct the project. 2. For trees that must be removed to construct the project, the applicant shall target the removal of trees to occur outside the nesting season between September 1 and February 28. 3. If construction or tree removal is proposed during the breeding/nesting season for local avian species (typically March 1 through August 31), a focused survey for active nests of raptors and migratory birds within the vicinity of the Project site (no less than 250 feet outside the project boundaries, where possible) shall be conducted by a qualified biologist. Two surveys shall be conducted, at least one week apart, with the second survey occurring no more than two days prior to tree removal. If no active nests are found, tree removal or construction activities may proceed. 4. If an active nest is located during pre-construction surveys, construction activities shall be restricted as necessary to avoid disturbance of the nest until it is abandoned or the biologist deems disturbance potential to be minimal. Restrictions may include establishment of exclusion zones (no ingress of personnel or equipment at a minimum radius of 100 feet around an active raptor nest and a 50-foot radius around an active migratory bird nest) or alteration of the construction schedule. Regulatory agencies including the USFWS and/or CDFW (as appropriate) may be notified regarding the status of the nest and/or to recommend measures to avoid or minimize adverse effects to the nest.	Submittal of documentation; site inspection; notes on construction plans	Prior to initial ground disturbance and vegetation removal during the nesting season (March 1 to August 31); during construction	City of Santa Rosa		

Table 1 (cont.): Round Barn Village Project Mitigation Monitoring and Reporting Program

Mitigation Measures	Method of Verification	Timing of Verification	Responsible for Verification	Verification of Completion	
				Date	Initial
No action is necessary if no active nests are found or if construction shall occur during the non-breeding season (generally September 1 through February 28).					
MM BIO-2: Bat Mitigation Any development permit or land use entitlement involving ground disturbance or vegetation removal on the Project site shall stipulate the following bat protection. A bat survey shall be conducted between March 1 and July 31 by a qualified wildlife biologist in the year prior to the removal of any trees or buildings. If no bat roosts are detected, then no further action is required if the trees and buildings are removed prior to the next breeding season (typically March 1 to July 31). If removal is delayed, but is still within the breeding season, then an additional pre-demolition survey shall be conducted 30 days prior to removal to ensure that a new colony has not established itself. If a colony of bats is found roosting on-site, then the following mitigation shall be implemented to reduce the potential disturbance: 1. If maternity roosts are identified during the maternity roosting season (typically March 1 to July 31), a qualified biologist shall determine appropriate buffer zones and roosts must remain undisturbed until the qualified biologist has determined the young bats are no longer roosting.	Submittal of documentation; site inspection; notes on construction plans	Between March 1 and July 31 by a qualified wildlife biologist in the year prior to the removal of any trees or buildings	City of Santa Rosa		
5. Cultural Resources					
MM CUL-1: Any development permit or land use entitlement involving ground disturbance or vegetation removal on the Project site shall stipulate the following cultural resource protection measures. Because of the high potential for undiscovered cultural resources within the project area, all construction activity	Submittal of documentation; site inspection; notes on construction plans	During subsurface earthwork activities	City of Santa Rosa		

Table 1 (cont.): Round Barn Village Project Mitigation Monitoring and Reporting Program

Mitigation Measures	Method of Verification	Timing of Verification	Responsible for Verification	Verification of Completion	
				Date	Initial
resulting in sub-surface disturbance during initial ground clearing and grading shall be monitored by an archaeologist who meets the Secretary of Interior's Professional Qualification Standards for archaeology. Based on initial monitoring, the archaeologist shall determine if continued monitoring is required throughout future construction activities involving ground disturbance. The archaeologist shall prepare an archaeological monitoring plan (AMP) in conjunction with the project applicant and City of Santa Rosa prior to project construction that will be adhered to over the course of the project. The Applicant shall include a standard inadvertent discovery clause in every construction contract to inform contractors of compliance with the AMP. The AMP shall indicate the following: 1. In the event a potentially significant cultural resource is encountered during subsurface earthwork activities, all construction activities within a 100-foot radius of the find (or a radius as recommended by the consulting archaeologist) shall cease and workers should avoid altering the materials until the archaeologist has evaluated the situation. 2. Any previously undiscovered resources found during construction activities shall be recorded on appropriate Department of Parks and Recreation (DPR) forms and evaluated for significance in terms of CEQA criteria by a qualified archaeologist. Potentially significant cultural resources consist of but are not limited to stone, bone, glass, ceramics, fossils, wood, or shell artifacts, or features including hearths, structural remains, or historic dumpsites. 3. If the resource is determined significant under CEQA, the qualified archaeologist shall prepare and implement a research design and archaeological data recovery plan that					

Table 1 (cont.): Round Barn Village Project Mitigation Monitoring and Reporting Program

Mitigation Measures	Method of Verification	Timing of Verification	Responsible for Verification	Verification of Completion	
				Date	Initial
will capture those categories of data for which the site is significant in accordance with Section 15064.5 of the CEQA Guidelines. 4. The archaeologist shall also perform appropriate technical analyses, prepare a comprehensive report complete with methods, results, and recommendations, and provide for the permanent curation of the recovered resources. The report shall be submitted to the City of Santa Rosa, the Northwest Information Center, and the State Historic Preservation Office (SHPO), if required.					
MM CUL-2: Any development permit or land use entitlement involving ground disturbance or vegetation removal on the Project site shall stipulate the following cultural resource protection measure. A professional paleontologist should be present during the initial phase of ground disturbance in order to check for the inadvertent exposure of fossils or other resources of paleontological value. This may be followed by regular periodic or "spot-check" paleontological monitoring during ground disturbance as needed, but full-time monitoring is not required at this time. In the event that fossils or fossil-bearing deposits are discovered during construction activities, excavations within a 100-foot radius of the find shall be temporarily halted or diverted. The Project contractor shall notify a qualified paleontologist to examine the discovery. The applicant shall include a standard inadvertent discovery clause in every construction contract to inform contractors of this requirement. The paleontologist shall document the discovery as needed in accordance with Society of Vertebrate Paleontology standards and assess the significance of the find under the criteria set forth in CEQA Guidelines Section	Submittal of documentation; site inspection; notes on construction plans	During subsurface earthwork activities	City of Santa Rosa		

Table 1 (cont.): Round Barn Village Project Mitigation Monitoring and Reporting Program

Mitigation Measures	Method of Verification	Timing of Verification	Responsible for Verification	Verification of Completion	
				Date	Initial
15064.5. The paleontologist shall notify the appropriate agencies to determine procedures that would be followed before construction activities are allowed to resume at the location of the find. If the Applicant determines that avoidance is not feasible, the paleontologist shall prepare an excavation plan for mitigating the effect of construction activities on the discovery. The plan shall be submitted to the City of Santa Rosa for review and approval prior to implementation, and the Applicant shall adhere to the recommendations in the plan.					
MM CUL-3: Any development permit or land use entitlement involving ground disturbance or vegetation removal on the Project site shall stipulate the following cultural resource protection measure: In the event of the accidental discovery or recognition of any human remains during construction activities, CEQA Guidelines Section 15064.5; Health and Safety Code Section 7050.5; Public Resources Code Section 5097.94 and Section 5097.98 must be followed. If during the course of project development there is accidental discovery or recognition of any human remains, the following steps shall be taken: 1. There shall be no further excavation or disturbance within 100 feet of the remains until the County Coroner is contacted to determine if the remains are Native American and if an investigation of the cause of death is required. If the coroner determines the remains to be Native American, the coroner shall contact the Native American Heritage Commission (NAHC) within 24 hours, and the NAHC shall identify the person or persons it believes to be the most likely descendant (MLD) of the deceased Native American. The MLD may make recommendations to the landowner or	Submittal of documentation; site inspection; notes on construction plans	During subsurface earthwork activities	City of Santa Rosa		

Table 1 (cont.): Round Barn Village Project Mitigation Monitoring and Reporting Program

Mitigation Measures	Method of Verification	Timing of Verification	Responsible for Verification	Verification of Completion	
				Date	Initial
the person responsible for the excavation work within 48 hours, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in PRC Section 5097.98. 2. Where the following conditions occur, the landowner or his or her authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity either in accordance with the recommendations of the most likely descendant or on the Project site in a location not subject to further subsurface disturbance: • The NAHC is unable to identify a most likely descendent or the most likely descendent failed to make a recommendation within 48 hours after being notified by the commission. • The descendant identified fails to make a recommendation. • The landowner or his authorized representative rejects the recommendation of the descendant, and mediation by the NAHC fails to provide measures acceptable to the landowner. Additionally, California Public Resources Code Section 15064.5 requires the following relative to Native American Remains: • When an initial study identifies the existence of, or the probable likelihood of, Native American Remains within a project, a lead agency shall work with the appropriate Native Americans as identified by the Native American Heritage Commission 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					

Table 1 (cont.): Round Barn Village Project Mitigation Monitoring and Reporting Program

Mitigation Measures	Method of Verification	Timing of Verification	Responsible for Verification	Verification of Completion	
				Date	Initial
the appropriate Native Americans as identified by the Native American Heritage Commission.					
6. Geology and Soils					
MM GEO-1: Prior to issuance of building permits for habitable structures, the project applicant shall submit plans to the City of Santa Rosa for review and approval demonstrating project compliance with the 2013 CBC seismic requirements and the recommendations of a design-level geotechnical investigation. All soil engineering recommendations and structural foundations shall be designed by a licensed professional engineer. The approved plans shall be incorporated into the proposed Project. A qualified geotechnical engineer shall review the final foundation and building plans to ensure conformance with the recommendations.	Submittal of documentation; Approval building plans	Prior to the issuance of building permits	City of Santa Rosa		
8. Hazards and Hazardous Materials					
MM HAZ-1: Any development permit or land use entitlement involving ground disturbance or vegetation removal on the Project site shall stipulate the following Hazardous Material protection measure. Prior to on-site development, a soil vapor survey shall be conducted in the vicinity of the former main building locations near the project's center, north of the existing parking lot (as shown on past aerial photographs) to determine whether any residual impact is present from a prior gasoline spill. Should petroleum hydrocarbon-impacted or otherwise contaminated soils be identified, they shall be properly removed and disposed of in accordance with applicable regulations, prior to the implementation of construction activities to ensure that the site meets residential screening levels as established by the	Submittal of documentation; Site inspection	Prior to ground disturbance or vegetation removal	City of Santa Rosa		

Table 1 (cont.): Round Barn Village Project Mitigation Monitoring and Reporting Program

Mitigation Measures	Method of Verification	Timing of Verification	Responsible for Verification	Verification of Completion	
				Date	Initial
California Office of Environmental Health Hazard Assessment (OEHHA).					
MM HAZ-2: Any development permit or land use entitlement involving ground disturbance or vegetation removal on the Project site shall stipulate the following Hazardous Material protection measure. The presence of a winery indicates that pesticides or herbicides may have potentially been used on the site in the past. Prior to on-site development, an assessment of on-site soils for residual pesticides/herbicides shall be conducted in areas to be developed for residential uses. Should soil be identified that contains pesticides/herbicides at levels exceeding residential screening levels as established by OEHHA, it shall be properly removed and disposed of in accordance with applicable regulations prior to the implementation of construction activities.	Submittal of documentation; Site inspection	Prior to ground disturbance or vegetation removal	City of Santa Rosa		

Table 1 (cont.): Round Barn Village Project Mitigation Monitoring and Reporting Program

Mitigation Measures	Method of Verification	Timing of Verification	Responsible for Verification	Verification of Completion	
				Date	Initial
12. Noise					

MM NOI-1: Prior to the issuance of a grading permit or building permit for future on-site development, the project sponsor shall demonstrate that development plans contain the following requirements: • The construction contractor shall ensure that all construction equipment have appropriate sound muffling devices, which are properly maintained and used at all times such equipment is in operation. • The construction contractor shall ensure that "quiet" models of air compressors and other stationary construction equipment are utilized where such technology exists. • The construction contractor shall, to the maximum extent practical, locate on-site equipment staging areas so as to maximize the distance between construction-related noise sources and noise-sensitive receptors nearest the Project site during all project construction. • The construction contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the Project site. • The construction contractor shall prohibit unnecessary idling of internal combustion engines (i.e., in excess of 5 minutes). • To avoid noise-sensitive hours of the day, construction activities shall be limited to between 7:00 a.m. and 7:00 p.m., Monday through Friday, and between 8:00 a.m. and 6:00 p.m. on Saturdays. Construction activities shall be prohibited on Sundays and observed federal holidays. • The construction contractor shall designate a noise disturbance coordinator who would be responsible for responding to any local complaints about construction noise. The disturbance coordinator would determine the cause of the noise complaints (starting too early, bad muffler, etc.) and institute reasonable measures warranted to correct the problem. The construction contractor shall conspicuously post a telephone number for the disturbance coordinator at the construction site.	Submittal of documentation; site inspection; notes on construction plans	Prior to grading or building permit issuance	City of Santa Rosa		

Appendix A:
Air Quality and Greenhouse Gas Supporting Information

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CalEEMod Output, Construction Health Risk Assessment Calculations, and AERMOD Modeling Output

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Round Barn Village Project - Operations

Sonoma-San Francisco County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	237.15	1000sqft	5.44	237,150.00	0
Condo/Townhouse	237.00	Dwelling Unit	12.82	237,000.00	678

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	75
Climate Zone	4			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.022	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Construction anticipated to start in Summer 2018 and be completed in Summer 2020
PG&E Rate for 2020
CH4 and N2O Intensity Factors based on Renewable Portfolio Standard
Land Use - Based on project description and site envelope

Vehicle Trips - Source: Trip Generation Manual, 9th Edition, Institute of Transportation Engineers (ITE), 2012; Stantec Round Barn Traffic Memo 8-31-17
ITE Land Use Code 220

Energy Use - PG&E 2020 Rate

Energy Mitigation - Compliance with 2016 Title 24
On-site Renewable Energy

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstructionPhase	NumDays	20.00	54.00
tblConstructionPhase	NumDays	20.00	110.00
tblGrading	AcresOfGrading	75.00	18.26
tblLandUse	LotAcreage	14.81	12.82
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.022
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblProjectCharacteristics	OperationalYear	2018	2020
tblVehicleTrips	ST_TR	5.67	6.39
tblVehicleTrips	SU_TR	4.84	5.86
tblVehicleTrips	WD_TR	5.81	6.65

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.7135	0.0330	2.5208	1.5900e-003		0.1174	0.1174		0.1174	0.1174	10.8048	7.3168	18.1216	0.0202	7.1000e-004	18.8372
Energy	0.0292	0.2497	0.1062	1.5900e-003		0.0202	0.0202		0.0202	0.0202	0.0000	457.2627	457.2627	0.0183	8.2000e-003	460.1635
Mobile	0.5706	2.8042	6.3450	0.0173	1.3205	0.0233	1.3438	0.3555	0.0220	0.3774	0.0000	1,584.8151	1,584.8151	0.0744	0.0000	1,586.6755
Waste						0.0000	0.0000		0.0000	0.0000	22.1301	0.0000	22.1301	1.3079	0.0000	54.8263
Water						0.0000	0.0000		0.0000	0.0000	4.8989	15.4727	20.3716	0.5043	0.0122	36.6000
Total	**2.3134**	**3.0869**	**8.9720**	**0.0205**	**1.3205**	**0.1609**	**1.4814**	**0.3555**	**0.1595**	**0.5150**	**37.8337**	**2,064.8673**	**2,102.7010**	**1.9251**	**0.0211**	**2,157.1025**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.1659	0.0203	1.7550	9.0000e-005		9.6400e-003	9.6400e-003		9.6400e-003	9.6400e-003	0.0000	2.8528	2.8528	2.7700e-003	0.0000	2.9222
Energy	0.0239	0.2045	0.0870	1.3100e-003		0.0165	0.0165		0.0165	0.0165	0.0000	319.9349	319.9349	0.0109	5.7700e-003	321.9269
Mobile	0.5465	2.6046	5.8164	0.0154	1.1647	0.0208	1.1855	0.3135	0.0196	0.3331	0.0000	1,409.3846	1,409.3846	0.0683	0.0000	1,411.0915
Waste						0.0000	0.0000		0.0000	0.0000	6.6390	0.0000	6.6390	0.3924	0.0000	16.4479
Water						0.0000	0.0000		0.0000	0.0000	3.9191	12.3782	16.2973	0.4035	9.7200e-003	29.2800
Total	**1.7364**	**2.8294**	**7.6585**	**0.0168**	**1.1647**	**0.0470**	**1.2117**	**0.3135**	**0.0458**	**0.3593**	**10.5581**	**1,744.5505**	**1,755.1086**	**0.8777**	**0.0155**	**1,781.6684**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**24.94**	**8.34**	**14.64**	**18.04**	**11.80**	**70.79**	**18.21**	**11.80**	**71.29**	**30.23**	**72.09**	**15.51**	**16.53**	**54.41**	**26.45**	**17.40**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Increase Transit Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.5465	2.6046	5.8164	0.0154	1.1647	0.0208	1.1855	0.3135	0.0196	0.3331	0.0000	1,409.3846	1,409.3846	0.0683	0.0000	1,411.0915
Unmitigated	0.5706	2.8042	6.3450	0.0173	1.3205	0.0233	1.3438	0.3555	0.0220	0.3774	0.0000	1,584.8151	1,584.8151	0.0744	0.0000	1,586.6755

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse	1,576.05	1,514.43	1388.82	3,557,950	3,138,112
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	1,576.05	1,514.43	1,388.82	3,557,950	3,138,112

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Condo/Townhouse	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.568926	0.041373	0.172015	0.112977	0.030659	0.007080	0.028564	0.025868	0.003029	0.001930	0.005517	0.000872	0.001190
Condo/Townhouse	0.568926	0.041373	0.172015	0.112977	0.030659	0.007080	0.028564	0.025868	0.003029	0.001930	0.005517	0.000872	0.001190

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Percent of Electricity Use Generated with Renewable Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	83.1409	83.1409	6.3100e-003	1.4300e-003	83.7257
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	168.1302	168.1302	0.0128	2.9000e-003	169.3129
NaturalGas Mitigated	0.0239	0.2045	0.0870	1.3100e-003		0.0165	0.0165		0.0165	0.0165	0.0000	236.7941	236.7941	4.5400e-003	4.3400e-003	238.2012
NaturalGas Unmitigated	0.0292	0.2497	0.1062	1.5900e-003		0.0202	0.0202		0.0202	0.0202	0.0000	289.1325	289.1325	5.5400e-003	5.3000e-003	290.8506

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Condo/Townhouse	5.41814e+006	0.0292	0.2497	0.1062	1.5900e-003		0.0202	0.0202		0.0202	0.0202	0.0000	289.1325	289.1325	5.5400e-003	5.3000e-003	290.8506
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0292**	**0.2497**	**0.1062**	**1.5900e-003**		**0.0202**	**0.0202**		**0.0202**	**0.0202**	**0.0000**	**289.1325**	**289.1325**	**5.5400e-003**	**5.3000e-003**	**290.8506**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Condo/Townhouse	4.43735e+006	0.0239	0.2045	0.0870	1.3100e-003		0.0165	0.0165		0.0165	0.0165	0.0000	236.7941	236.7941	4.5400e-003	4.3400e-003	238.2012
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0239**	**0.2045**	**0.0870**	**1.3100e-003**		**0.0165**	**0.0165**		**0.0165**	**0.0165**	**0.0000**	**236.7941**	**236.7941**	**4.5400e-003**	**4.3400e-003**	**238.2012**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	1.27815e+006	168.1302	0.0128	2.9000e-003	169.3129
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**168.1302**	**0.0128**	**2.9000e-003**	**169.3129**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	632049	83.1409	6.3100e-003	1.4300e-003	83.7257
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**83.1409**	**6.3100e-003**	**1.4300e-003**	**83.7257**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Electric Lawnmower

Use Electric Leafblower

Use Electric Chainsaw

No Hearths Installed

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.1659	0.0203	1.7550	9.0000e-005		9.6400e-003	9.6400e-003		9.6400e-003	9.6400e-003	0.0000	2.8528	2.8528	2.7700e-003	0.0000	2.9222
Unmitigated	1.7135	0.0330	2.5208	1.5900e-003		0.1174	0.1174		0.1174	0.1174	10.8048	7.3168	18.1216	0.0202	7.1000e-004	18.8372

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1718					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.9409					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.5468	0.0126	0.7530	1.5000e-003		0.1077	0.1077		0.1077	0.1077	10.8048	4.4380	15.2428	0.0174	7.1000e-004	15.8881
Landscaping	0.0540	0.0204	1.7678	9.0000e-005		9.7200e-003	9.7200e-003		9.7200e-003	9.7200e-003	0.0000	2.8788	2.8788	2.8100e-003	0.0000	2.9491
Total	**1.7135**	**0.0330**	**2.5208**	**1.5900e-003**		**0.1174**	**0.1174**		**0.1174**	**0.1174**	**10.8048**	**7.3168**	**18.1216**	**0.0202**	**7.1000e-004**	**18.8372**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1718					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.9409					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0532	0.0203	1.7550	9.0000e-005		9.6400e-003	9.6400e-003		9.6400e-003	9.6400e-003	0.0000	2.8528	2.8528	2.7700e-003	0.0000	2.9222
Total	**1.1659**	**0.0203**	**1.7550**	**9.0000e-005**		**9.6400e-003**	**9.6400e-003**		**9.6400e-003**	**9.6400e-003**	**0.0000**	**2.8528**	**2.8528**	**2.7700e-003**	**0.0000**	**2.9222**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	16.2973	0.4035	9.7200e-003	29.2800
Unmitigated	20.3716	0.5043	0.0122	36.6000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse	15.4415 / 9.73486	20.3716	0.5043	0.0122	36.6000
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**20.3716**	**0.5043**	**0.0122**	**36.6000**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse	12.3532 / 7.78789	16.2973	0.4035	9.7200e-003	29.2800
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**16.2973**	**0.4035**	**9.7200e-003**	**29.2800**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	6.6390	0.3924	0.0000	16.4479
Unmitigated	22.1301	1.3079	0.0000	54.8263

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse	109.02	22.1301	1.3079	0.0000	54.8263
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**22.1301**	**1.3079**	**0.0000**	**54.8263**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse	32.706	6.6390	0.3924	0.0000	16.4479
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**6.6390**	**0.3924**	**0.0000**	**16.4479**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Round Barn Village Project - Operations

Sonoma-San Francisco County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	237.15	1000sqft	5.44	237,150.00	0
Condo/Townhouse	237.00	Dwelling Unit	12.82	237,000.00	678

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	75
Climate Zone	4			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.022	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Construction anticipated to start in Summer 2018 and be completed in Summer 2020
PG&E Rate for 2020
CH4 and N2O Intensity Factors based on Renewable Portfolio Standard

Land Use - Based on project description and site envelope

Vehicle Trips - Source: Trip Generation Manual, 9th Edition, Institute of Transportation Engineers (ITE), 2012; Stantec Round Barn Traffic Memo 8-31-17
ITE Land Use Code 220

Energy Use - PG&E 2020 Rate

Energy Mitigation - Compliance with 2016 Title 24
On-site Renewable Energy

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstructionPhase	NumDays	20.00	54.00
tblConstructionPhase	NumDays	20.00	110.00
tblGrading	AcresOfGrading	75.00	18.26
tblLandUse	LotAcreage	14.81	12.82
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.022
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblProjectCharacteristics	OperationalYear	2018	2020
tblVehicleTrips	ST_TR	5.67	6.39
tblVehicleTrips	SU_TR	4.84	5.86
tblVehicleTrips	WD_TR	5.81	6.65

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	104.1654	2.3819	148.4175	0.2491		18.3895	18.3895		18.3895	18.3895	1,983.8906	913.5529	2,897.4435	2.7493	0.1402	3,007.9641
Energy	0.1601	1.3680	0.5821	8.7300e-003		0.1106	0.1106		0.1106	0.1106		1,746.3780	1,746.3780	0.0335	0.0320	1,756.7558
Mobile	3.5780	15.2474	36.1374	0.1018	7.7627	0.1306	7.8933	2.0814	0.1232	2.2046		10,289.1571	10,289.1571	0.4617		10,300.6996
Total	**107.9035**	**18.9973**	**185.1371**	**0.3596**	**7.7627**	**18.6307**	**26.3934**	**2.0814**	**18.6233**	**20.7047**	**1,983.8906**	**12,949.0879**	**14,932.9785**	**3.2445**	**0.1723**	**15,065.4195**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	6.6882	0.2257	19.5003	1.0200e-003		0.1071	0.1071		0.1071	0.1071	0.0000	34.9410	34.9410	0.0340	0.0000	35.7903
Energy	0.1311	1.1204	0.4768	7.1500e-003		0.0906	0.0906		0.0906	0.0906		1,430.2508	1,430.2508	0.0274	0.0262	1,438.7500
Mobile	3.4402	14.1844	32.8768	0.0905	6.8467	0.1166	6.9633	1.8358	0.1100	1.9458		9,149.3939	9,149.3939	0.4220		9,159.9439
Total	**10.2595**	**15.5304**	**52.8538**	**0.0987**	**6.8467**	**0.3143**	**7.1610**	**1.8358**	**0.3077**	**2.1435**	**0.0000**	**10,614.5856**	**10,614.5856**	**0.4834**	**0.0262**	**10,634.4842**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**90.49**	**18.25**	**71.45**	**72.57**	**11.80**	**98.31**	**72.87**	**11.80**	**98.35**	**89.65**	**100.00**	**18.03**	**28.92**	**85.10**	**84.78**	**29.41**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Increase Transit Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.4402	14.1844	32.8768	0.0905	6.8467	0.1166	6.9633	1.8358	0.1100	1.9458		9,149.3939	9,149.3939	0.4220		9,159.9439
Unmitigated	3.5780	15.2474	36.1374	0.1018	7.7627	0.1306	7.8933	2.0814	0.1232	2.2046		10,289.1571	10,289.1571	0.4617		10,300.6996

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse	1,576.05	1,514.43	1388.82	3,557,950	3,138,112
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	1,576.05	1,514.43	1,388.82	3,557,950	3,138,112

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Condo/Townhouse	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.568926	0.041373	0.172015	0.112977	0.030659	0.007080	0.028564	0.025868	0.003029	0.001930	0.005517	0.000872	0.001190
Condo/Townhouse	0.568926	0.041373	0.172015	0.112977	0.030659	0.007080	0.028564	0.025868	0.003029	0.001930	0.005517	0.000872	0.001190

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Percent of Electricity Use Generated with Renewable Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1311	1.1204	0.4768	7.1500e-003		0.0906	0.0906		0.0906	0.0906		1,430.2508	1,430.2508	0.0274	0.0262	1,438.7500
NaturalGas Unmitigated	0.1601	1.3680	0.5821	8.7300e-003		0.1106	0.1106		0.1106	0.1106		1,746.3780	1,746.3780	0.0335	0.0320	1,756.7558

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Condo/Townhouse	14844.2	0.1601	1.3680	0.5821	8.7300e-003		0.1106	0.1106		0.1106	0.1106		1,746.3780	1,746.3780	0.0335	0.0320	1,756.7558
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.1601**	**1.3680**	**0.5821**	**8.7300e-003**		**0.1106**	**0.1106**		**0.1106**	**0.1106**		**1,746.3780**	**1,746.3780**	**0.0335**	**0.0320**	**1,756.7558**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Condo/Townhouse	12.1571	0.1311	1.1204	0.4768	7.1500e-003		0.0906	0.0906		0.0906	0.0906		1,430.2508	1,430.2508	0.0274	0.0262	1,438.7500
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.1311**	**1.1204**	**0.4768**	**7.1500e-003**		**0.0906**	**0.0906**		**0.0906**	**0.0906**		**1,430.2508**	**1,430.2508**	**0.0274**	**0.0262**	**1,438.7500**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Electric Lawnmower

Use Electric Leafblower

Use Electric Chainsaw

No Hearths Installed

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	6.6882	0.2257	19.5003	1.0200e-003		0.1071	0.1071		0.1071	0.1071	0.0000	34.9410	34.9410	0.0340	0.0000	35.7903
Unmitigated	104.1654	2.3819	148.4175	0.2491		18.3895	18.3895		18.3895	18.3895	1,983.8906	913.5529	2,897.4435	2.7493	0.1402	3,007.9641

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.9413					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.1558					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	97.4686	2.1548	128.7753	0.2481		18.2815	18.2815		18.2815	18.2815	1,983.8906	878.2941	2,862.1847	2.7149	0.1402	2,971.8435
Landscaping	0.5997	0.2271	19.6422	1.0300e-003		0.1080	0.1080		0.1080	0.1080		35.2588	35.2588	0.0345		36.1205
Total	**104.1654**	**2.3819**	**148.4175**	**0.2491**		**18.3895**	**18.3895**		**18.3895**	**18.3895**	**1,983.8906**	**913.5529**	**2,897.4435**	**2.7493**	**0.1402**	**3,007.9641**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.9413					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.1558					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.5912	0.2257	19.5003	1.0200e-003		0.1071	0.1071		0.1071	0.1071		34.9410	34.9410	0.0340		35.7903
Total	**6.6882**	**0.2257**	**19.5003**	**1.0200e-003**		**0.1071**	**0.1071**		**0.1071**	**0.1071**	**0.0000**	**34.9410**	**34.9410**	**0.0340**	**0.0000**	**35.7903**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Round Barn Village Project - Operations

Sonoma-San Francisco County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	237.15	1000sqft	5.44	237,150.00	0
Condo/Townhouse	237.00	Dwelling Unit	12.82	237,000.00	678

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	75
Climate Zone	4			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.022	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Construction anticipated to start in Summer 2018 and be completed in Summer 2020
PG&E Rate for 2020
CH4 and N2O Intensity Factors based on Renewable Portfolio Standard

Land Use - Based on project description and site envelope

Architectural Coating -

Vehicle Trips - Source: Trip Generation Manual, 9th Edition, Institute of Transportation Engineers (ITE), 2012; Stantec Round Barn Traffic Memo 8-31-17
ITE Land Use Code 220

Energy Use - PG&E 2020 Rate

Energy Mitigation - Compliance with 2016 Title 24
On-site Renewable Energy

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstructionPhase	NumDays	20.00	54.00
tblConstructionPhase	NumDays	20.00	110.00
tblGrading	AcresOfGrading	75.00	18.26
tblLandUse	LotAcreage	14.81	12.82
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.022
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblProjectCharacteristics	OperationalYear	2018	2020
tblVehicleTrips	ST_TR	5.67	6.39
tblVehicleTrips	SU_TR	4.84	5.86
tblVehicleTrips	WD_TR	5.81	6.65

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	104.1654	2.3819	148.4175	0.2491		18.3895	18.3895		18.3895	18.3895	1,983.8906	913.5529	2,897.4435	2.7493	0.1402	3,007.9641
Energy	0.1601	1.3680	0.5821	8.7300e-003		0.1106	0.1106		0.1106	0.1106		1,746.3780	1,746.3780	0.0335	0.0320	1,756.7558
Mobile	3.2041	16.1577	37.5477	0.0962	7.7627	0.1319	7.8946	2.0814	0.1244	2.2058		9,726.9740	9,726.9740	0.4734		9,738.8082
Total	**107.5296**	**19.9076**	**186.5473**	**0.3541**	**7.7627**	**18.6320**	**26.3947**	**2.0814**	**18.6245**	**20.7059**	**1,983.8906**	**12,386.9049**	**14,370.7954**	**3.2562**	**0.1723**	**14,503.5281**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	6.6882	0.2257	19.5003	1.0200e-003		0.1071	0.1071		0.1071	0.1071	0.0000	34.9410	34.9410	0.0340	0.0000	35.7903
Energy	0.1311	1.1204	0.4768	7.1500e-003		0.0906	0.0906		0.0906	0.0906		1,430.2508	1,430.2508	0.0274	0.0262	1,438.7500
Mobile	3.0675	14.9883	34.5626	0.0856	6.8467	0.1178	6.9645	1.8358	0.1112	1.9470		8,647.5250	8,647.5250	0.4355		8,658.4123
Total	**9.8869**	**16.3343**	**54.5397**	**0.0937**	**6.8467**	**0.3156**	**7.1622**	**1.8358**	**0.3089**	**2.1447**	**0.0000**	**10,112.7167**	**10,112.7167**	**0.4969**	**0.0262**	**10,132.9526**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**90.81**	**17.95**	**70.76**	**73.53**	**11.80**	**98.31**	**72.86**	**11.80**	**98.34**	**89.64**	**100.00**	**18.36**	**29.63**	**84.74**	**84.78**	**30.13**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Increase Transit Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.0675	14.9883	34.5626	0.0856	6.8467	0.1178	6.9645	1.8358	0.1112	1.9470		8,647.5250	8,647.5250	0.4355		8,658.4123
Unmitigated	3.2041	16.1577	37.5477	0.0962	7.7627	0.1319	7.8946	2.0814	0.1244	2.2058		9,726.9740	9,726.9740	0.4734		9,738.8082

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse	1,576.05	1,514.43	1388.82	3,557,950	3,138,112
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	1,576.05	1,514.43	1,388.82	3,557,950	3,138,112

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-...	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Condo/Townhouse	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.568926	0.041373	0.172015	0.112977	0.030659	0.007080	0.028564	0.025868	0.003029	0.001930	0.005517	0.000872	0.001190
Condo/Townhouse	0.568926	0.041373	0.172015	0.112977	0.030659	0.007080	0.028564	0.025868	0.003029	0.001930	0.005517	0.000872	0.001190

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Percent of Electricity Use Generated with Renewable Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1311	1.1204	0.4768	7.1500e-003		0.0906	0.0906		0.0906	0.0906		1,430.2508	1,430.2508	0.0274	0.0262	1,438.7500
NaturalGas Unmitigated	0.1601	1.3680	0.5821	8.7300e-003		0.1106	0.1106		0.1106	0.1106		1,746.3780	1,746.3780	0.0335	0.0320	1,756.7558

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Condo/Townhouse	14844.2	0.1601	1.3680	0.5821	8.7300e-003		0.1106	0.1106		0.1106	0.1106		1,746.3780	1,746.3780	0.0335	0.0320	1,756.7558
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.1601**	**1.3680**	**0.5821**	**8.7300e-003**		**0.1106**	**0.1106**		**0.1106**	**0.1106**		**1,746.3780**	**1,746.3780**	**0.0335**	**0.0320**	**1,756.7558**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Condo/Townhouse	12.1571	0.1311	1.1204	0.4768	7.1500e-003		0.0906	0.0906		0.0906	0.0906		1,430.2508	1,430.2508	0.0274	0.0262	1,438.7500
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.1311**	**1.1204**	**0.4768**	**7.1500e-003**		**0.0906**	**0.0906**		**0.0906**	**0.0906**		**1,430.2508**	**1,430.2508**	**0.0274**	**0.0262**	**1,438.7500**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Electric Lawnmower

Use Electric Leafblower

Use Electric Chainsaw

No Hearths Installed

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	6.6882	0.2257	19.5003	1.0200e-003		0.1071	0.1071		0.1071	0.1071	0.0000	34.9410	34.9410	0.0340	0.0000	35.7903
Unmitigated	104.1654	2.3819	148.4175	0.2491		18.3895	18.3895		18.3895	18.3895	1,983.8906	913.5529	2,897.4435	2.7493	0.1402	3,007.9641

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.9413					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.1558					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	97.4686	2.1548	128.7753	0.2481		18.2815	18.2815		18.2815	18.2815	1,983.8906	878.2941	2,862.1847	2.7149	0.1402	2,971.8435
Landscaping	0.5997	0.2271	19.6422	1.0300e-003		0.1080	0.1080		0.1080	0.1080		35.2588	35.2588	0.0345		36.1205
Total	**104.1654**	**2.3819**	**148.4175**	**0.2491**		**18.3895**	**18.3895**		**18.3895**	**18.3895**	**1,983.8906**	**913.5529**	**2,897.4435**	**2.7493**	**0.1402**	**3,007.9641**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.9413					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.1558					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.5912	0.2257	19.5003	1.0200e-003		0.1071	0.1071		0.1071	0.1071		34.9410	34.9410	0.0340		35.7903
Total	**6.6882**	**0.2257**	**19.5003**	**1.0200e-003**		**0.1071**	**0.1071**		**0.1071**	**0.1071**	**0.0000**	**34.9410**	**34.9410**	**0.0340**	**0.0000**	**35.7903**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Round Barn Village Project - Unmitigated Construction

Sonoma-San Francisco County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	237.15	1000sqft	5.44	237,150.00	0
Condo/Townhouse	237.00	Dwelling Unit	12.82	237,000.00	678

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	75
Climate Zone	4			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.022	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Construction anticipated to start in Summer 2018 and be completed in Summer 2020
PG&E Rate for 2020
CH4 and N2O Intensity Factors based on Renewable Portfolio Standard

Land Use - Based on project description and site envelope

Construction Phase - Anticipated Construction Schedule: Summer 2018 - Summer 2020
Demolition of existing foundations and parking lot is estimated to take approximately 5 months

Demolition - Existing foundations and parking lot to be removed

Grading - Total Disturbance Area: approximately 18.26 acres
Estimate provided by the Project's civil engineer

Construction Off-road Equipment Mitigation - Compliance with BAAQMD best management practices threshold for fugitive dust; recommended measures from BAAQMD's Basic Construction Mitigation Measures Recommended for All Proposed Projects.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstructionPhase	NumDays	20.00	54.00
tblConstructionPhase	NumDays	20.00	110.00
tblConstructionPhase	PhaseEndDate	2/14/2020	3/13/2020
tblConstructionPhase	PhaseEndDate	3/13/2020	1/18/2019
tblConstructionPhase	PhaseStartDate	12/22/2018	1/19/2019
tblConstructionPhase	PhaseStartDate	2/15/2020	12/22/2018
tblGrading	AcresOfGrading	75.00	18.26
tblLandUse	LotAcreage	14.81	12.82
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.022
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblProjectCharacteristics	OperationalYear	2018	2020

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.3227	3.4589	1.9972	3.8100e-003	0.3082	0.1628	0.4711	0.1203	0.1510	0.2713	0.0000	347.9565	347.9565	0.0898	0.0000	350.2010
2019	0.5202	3.8881	3.8012	8.3700e-003	0.3138	0.1754	0.4892	0.0847	0.1649	0.2496	0.0000	758.6612	758.6612	0.0990	0.0000	761.1355
2020	1.8283	0.7873	0.8473	1.9400e-003	0.0786	0.0342	0.1128	0.0212	0.0324	0.0535	0.0000	174.2043	174.2043	0.0205	0.0000	174.7160
Maximum	**1.8283**	**3.8881**	**3.8012**	**8.3700e-003**	**0.3138**	**0.1754**	**0.4892**	**0.1203**	**0.1649**	**0.2713**	**0.0000**	**758.6612**	**758.6612**	**0.0990**	**0.0000**	**761.1355**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.3227	3.4589	1.9972	3.8100e-003	0.1484	0.1628	0.3112	0.0567	0.1510	0.2078	0.0000	347.9561	347.9561	0.0898	0.0000	350.2007
2019	0.5202	3.8881	3.8012	8.3700e-003	0.3138	0.1754	0.4892	0.0847	0.1649	0.2496	0.0000	758.6609	758.6609	0.0990	0.0000	761.1351
2020	1.8283	0.7873	0.8473	1.9400e-003	0.0786	0.0342	0.1128	0.0212	0.0324	0.0535	0.0000	174.2043	174.2043	0.0205	0.0000	174.7159
Maximum	**1.8283**	**3.8881**	**3.8012**	**8.3700e-003**	**0.3138**	**0.1754**	**0.4892**	**0.0847**	**0.1649**	**0.2496**	**0.0000**	**758.6609**	**758.6609**	**0.0990**	**0.0000**	**761.1351**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**22.82**	**0.00**	**14.90**	**28.10**	**0.00**	**11.06**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	5-28-2018	8-27-2018	1.4823	1.4823
2	8-28-2018	11-27-2018	1.6493	1.6493
3	11-28-2018	2-27-2019	1.2400	1.2400
4	2-28-2019	5-27-2019	1.1024	1.1024
5	5-28-2019	8-27-2019	1.1339	1.1339
6	8-28-2019	11-27-2019	1.1438	1.1438
7	11-28-2019	2-27-2020	1.0817	1.0817
8	2-28-2020	5-27-2020	1.9376	1.9376
9	5-28-2020	8-27-2020	0.0236	0.0236
		Highest	1.9376	1.9376

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/28/2018	10/26/2018	5	110	
2	Site Preparation	Site Preparation	10/27/2018	11/9/2018	5	10	
3	Grading	Grading	11/10/2018	12/21/2018	5	30	
4	Paving	Paving	12/22/2018	1/18/2019	5	20	
5	Building Construction	Building Construction	1/19/2019	3/13/2020	5	300	
6	Architectural Coating	Architectural Coating	3/14/2020	5/28/2020	5	54	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 18.26

Acres of Paving: 5.44

Residential Indoor: 479,925; Residential Outdoor: 159,975; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	927.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	270.00	64.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	54.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Demolition - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1003	0.0000	0.1003	0.0152	0.0000	0.0152	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2045	2.1077	1.2267	2.1400e-003		0.1066	0.1066		0.0993	0.0993	0.0000	193.1824	193.1824	0.0532	0.0000	194.5130
Total	**0.2045**	**2.1077**	**1.2267**	**2.1400e-003**	**0.1003**	**0.1066**	**0.2069**	**0.0152**	**0.0993**	**0.1145**	**0.0000**	**193.1824**	**193.1824**	**0.0532**	**0.0000**	**194.5130**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.6700e-003	0.1592	0.0322	3.7000e-004	7.6900e-003	8.7000e-004	8.5700e-003	2.1100e-003	8.4000e-004	2.9500e-003	0.0000	36.4976	36.4976	2.3200e-003	0.0000	36.5556
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.7200e-003	3.6700e-003	0.0362	7.0000e-005	6.4700e-003	6.0000e-005	6.5300e-003	1.7200e-003	5.0000e-005	1.7800e-003	0.0000	6.3383	6.3383	2.8000e-004	0.0000	6.3453
Total	**9.3900e-003**	**0.1628**	**0.0683**	**4.4000e-004**	**0.0142**	**9.3000e-004**	**0.0151**	**3.8300e-003**	**8.9000e-004**	**4.7300e-003**	**0.0000**	**42.8359**	**42.8359**	**2.6000e-003**	**0.0000**	**42.9009**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0451	0.0000	0.0451	6.8300e-003	0.0000	6.8300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2045	2.1077	1.2267	2.1400e-003		0.1066	0.1066		0.0993	0.0993	0.0000	193.1822	193.1822	0.0532	0.0000	194.5128
Total	**0.2045**	**2.1077**	**1.2267**	**2.1400e-003**	**0.0451**	**0.1066**	**0.1518**	**6.8300e-003**	**0.0993**	**0.1061**	**0.0000**	**193.1822**	**193.1822**	**0.0532**	**0.0000**	**194.5128**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.6700e-003	0.1592	0.0322	3.7000e-004	7.6900e-003	8.7000e-004	8.5700e-003	2.1100e-003	8.4000e-004	2.9500e-003	0.0000	36.4976	36.4976	2.3200e-003	0.0000	36.5556
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.7200e-003	3.6700e-003	0.0362	7.0000e-005	6.4700e-003	6.0000e-005	6.5300e-003	1.7200e-003	5.0000e-005	1.7800e-003	0.0000	6.3383	6.3383	2.8000e-004	0.0000	6.3453
Total	**9.3900e-003**	**0.1628**	**0.0683**	**4.4000e-004**	**0.0142**	**9.3000e-004**	**0.0151**	**3.8300e-003**	**8.9000e-004**	**4.7300e-003**	**0.0000**	**42.8359**	**42.8359**	**2.6000e-003**	**0.0000**	**42.9009**

3.3 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0228	0.2410	0.1124	1.9000e-004		0.0129	0.0129		0.0119	0.0119	0.0000	17.3800	17.3800	5.4100e-003	0.0000	17.5152
Total	**0.0228**	**0.2410**	**0.1124**	**1.9000e-004**	**0.0903**	**0.0129**	**0.1032**	**0.0497**	**0.0119**	**0.0615**	**0.0000**	**17.3800**	**17.3800**	**5.4100e-003**	**0.0000**	**17.5152**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.2000e-004	4.0000e-004	3.9400e-003	1.0000e-005	7.1000e-004	1.0000e-005	7.1000e-004	1.9000e-004	1.0000e-005	1.9000e-004	0.0000	0.6915	0.6915	3.0000e-005	0.0000	0.6922
Total	**5.2000e-004**	**4.0000e-004**	**3.9400e-003**	**1.0000e-005**	**7.1000e-004**	**1.0000e-005**	**7.1000e-004**	**1.9000e-004**	**1.0000e-005**	**1.9000e-004**	**0.0000**	**0.6915**	**0.6915**	**3.0000e-005**	**0.0000**	**0.6922**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0407	0.0000	0.0407	0.0223	0.0000	0.0223	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0228	0.2410	0.1124	1.9000e-004		0.0129	0.0129		0.0119	0.0119	0.0000	17.3799	17.3799	5.4100e-003	0.0000	17.5152
Total	**0.0228**	**0.2410**	**0.1124**	**1.9000e-004**	**0.0407**	**0.0129**	**0.0535**	**0.0223**	**0.0119**	**0.0342**	**0.0000**	**17.3799**	**17.3799**	**5.4100e-003**	**0.0000**	**17.5152**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.2000e-004	4.0000e-004	3.9400e-003	1.0000e-005	7.1000e-004	1.0000e-005	7.1000e-004	1.9000e-004	1.0000e-005	1.9000e-004	0.0000	0.6915	0.6915	3.0000e-005	0.0000	0.6922
Total	**5.2000e-004**	**4.0000e-004**	**3.9400e-003**	**1.0000e-005**	**7.1000e-004**	**1.0000e-005**	**7.1000e-004**	**1.9000e-004**	**1.0000e-005**	**1.9000e-004**	**0.0000**	**0.6915**	**0.6915**	**3.0000e-005**	**0.0000**	**0.6922**

3.4 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1000	0.0000	0.1000	0.0507	0.0000	0.0507	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0764	0.8928	0.5263	9.3000e-004		0.0395	0.0395		0.0364	0.0364	0.0000	84.9728	84.9728	0.0265	0.0000	85.6341
Total	**0.0764**	**0.8928**	**0.5263**	**9.3000e-004**	**0.1000**	**0.0395**	**0.1395**	**0.0507**	**0.0364**	**0.0871**	**0.0000**	**84.9728**	**84.9728**	**0.0265**	**0.0000**	**85.6341**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7200e-003	1.3300e-003	0.0132	3.0000e-005	2.3500e-003	2.0000e-005	2.3800e-003	6.3000e-004	2.0000e-005	6.5000e-004	0.0000	2.3048	2.3048	1.0000e-004	0.0000	2.3074
Total	**1.7200e-003**	**1.3300e-003**	**0.0132**	**3.0000e-005**	**2.3500e-003**	**2.0000e-005**	**2.3800e-003**	**6.3000e-004**	**2.0000e-005**	**6.5000e-004**	**0.0000**	**2.3048**	**2.3048**	**1.0000e-004**	**0.0000**	**2.3074**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0450	0.0000	0.0450	0.0228	0.0000	0.0228	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0764	0.8928	0.5263	9.3000e-004		0.0395	0.0395		0.0364	0.0364	0.0000	84.9727	84.9727	0.0265	0.0000	85.6340
Total	**0.0764**	**0.8928**	**0.5263**	**9.3000e-004**	**0.0450**	**0.0395**	**0.0845**	**0.0228**	**0.0364**	**0.0592**	**0.0000**	**84.9727**	**84.9727**	**0.0265**	**0.0000**	**85.6340**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7200e-003	1.3300e-003	0.0132	3.0000e-005	2.3500e-003	2.0000e-005	2.3800e-003	6.3000e-004	2.0000e-005	6.5000e-004	0.0000	2.3048	2.3048	1.0000e-004	0.0000	2.3074
Total	**1.7200e-003**	**1.3300e-003**	**0.0132**	**3.0000e-005**	**2.3500e-003**	**2.0000e-005**	**2.3800e-003**	**6.3000e-004**	**2.0000e-005**	**6.5000e-004**	**0.0000**	**2.3048**	**2.3048**	**1.0000e-004**	**0.0000**	**2.3074**

3.5 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.9300e-003	0.0526	0.0444	7.0000e-005		2.8700e-003	2.8700e-003		2.6400e-003	2.6400e-003	0.0000	6.2435	6.2435	1.9400e-003	0.0000	6.2921
Paving	2.1400e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**7.0700e-003**	**0.0526**	**0.0444**	**7.0000e-005**		**2.8700e-003**	**2.8700e-003**		**2.6400e-003**	**2.6400e-003**	**0.0000**	**6.2435**	**6.2435**	**1.9400e-003**	**0.0000**	**6.2921**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6000e-004	2.0000e-004	1.9700e-003	0.0000	3.5000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.3457	0.3457	2.0000e-005	0.0000	0.3461
Total	**2.6000e-004**	**2.0000e-004**	**1.9700e-003**	**0.0000**	**3.5000e-004**	**0.0000**	**3.6000e-004**	**9.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3457**	**0.3457**	**2.0000e-005**	**0.0000**	**0.3461**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.9300e-003	0.0526	0.0444	7.0000e-005		2.8700e-003	2.8700e-003		2.6400e-003	2.6400e-003	0.0000	6.2435	6.2435	1.9400e-003	0.0000	6.2921
Paving	2.1400e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**7.0700e-003**	**0.0526**	**0.0444**	**7.0000e-005**		**2.8700e-003**	**2.8700e-003**		**2.6400e-003**	**2.6400e-003**	**0.0000**	**6.2435**	**6.2435**	**1.9400e-003**	**0.0000**	**6.2921**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6000e-004	2.0000e-004	1.9700e-003	0.0000	3.5000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.3457	0.3457	2.0000e-005	0.0000	0.3461
Total	**2.6000e-004**	**2.0000e-004**	**1.9700e-003**	**0.0000**	**3.5000e-004**	**0.0000**	**3.6000e-004**	**9.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3457**	**0.3457**	**2.0000e-005**	**0.0000**	**0.3461**

3.5 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0102	0.1067	0.1027	1.6000e-004		5.7700e-003	5.7700e-003		5.3100e-003	5.3100e-003	0.0000	14.3326	14.3326	4.5300e-003	0.0000	14.4460
Paving	4.9900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0152**	**0.1067**	**0.1027**	**1.6000e-004**		**5.7700e-003**	**5.7700e-003**		**5.3100e-003**	**5.3100e-003**	**0.0000**	**14.3326**	**14.3326**	**4.5300e-003**	**0.0000**	**14.4460**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.5000e-004	4.1000e-004	4.0900e-003	1.0000e-005	8.2000e-004	1.0000e-005	8.3000e-004	2.2000e-004	1.0000e-005	2.3000e-004	0.0000	0.7833	0.7833	3.0000e-005	0.0000	0.7841
Total	**5.5000e-004**	**4.1000e-004**	**4.0900e-003**	**1.0000e-005**	**8.2000e-004**	**1.0000e-005**	**8.3000e-004**	**2.2000e-004**	**1.0000e-005**	**2.3000e-004**	**0.0000**	**0.7833**	**0.7833**	**3.0000e-005**	**0.0000**	**0.7841**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0102	0.1067	0.1027	1.6000e-004		5.7700e-003	5.7700e-003		5.3100e-003	5.3100e-003	0.0000	14.3326	14.3326	4.5300e-003	0.0000	14.4460
Paving	4.9900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0152**	**0.1067**	**0.1027**	**1.6000e-004**		**5.7700e-003**	**5.7700e-003**		**5.3100e-003**	**5.3100e-003**	**0.0000**	**14.3326**	**14.3326**	**4.5300e-003**	**0.0000**	**14.4460**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.5000e-004	4.1000e-004	4.0900e-003	1.0000e-005	8.2000e-004	1.0000e-005	8.3000e-004	2.2000e-004	1.0000e-005	2.3000e-004	0.0000	0.7833	0.7833	3.0000e-005	0.0000	0.7841
Total	**5.5000e-004**	**4.1000e-004**	**4.0900e-003**	**1.0000e-005**	**8.2000e-004**	**1.0000e-005**	**8.3000e-004**	**2.2000e-004**	**1.0000e-005**	**2.3000e-004**	**0.0000**	**0.7833**	**0.7833**	**3.0000e-005**	**0.0000**	**0.7841**

3.6 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2916	2.6032	2.1197	3.3200e-003		0.1593	0.1593		0.1498	0.1498	0.0000	290.3537	290.3537	0.0707	0.0000	292.1220
Total	**0.2916**	**2.6032**	**2.1197**	**3.3200e-003**		**0.1593**	**0.1593**		**0.1498**	**0.1498**	**0.0000**	**290.3537**	**290.3537**	**0.0707**	**0.0000**	**292.1220**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0397	1.0472	0.2774	2.1200e-003	0.0513	8.1500e-003	0.0594	0.0148	7.8000e-003	0.0226	0.0000	204.4444	204.4444	0.0136	0.0000	204.7838
Worker	0.1732	0.1305	1.2973	2.7600e-003	0.2617	2.2100e-003	0.2639	0.0697	2.0400e-003	0.0717	0.0000	248.7472	248.7472	0.0101	0.0000	248.9995
Total	**0.2129**	**1.1778**	**1.5748**	**4.8800e-003**	**0.3129**	**0.0104**	**0.3233**	**0.0845**	**9.8400e-003**	**0.0943**	**0.0000**	**453.1916**	**453.1916**	**0.0237**	**0.0000**	**453.7834**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2916	2.6032	2.1197	3.3200e-003		0.1593	0.1593		0.1498	0.1498	0.0000	290.3533	290.3533	0.0707	0.0000	292.1217
Total	**0.2916**	**2.6032**	**2.1197**	**3.3200e-003**		**0.1593**	**0.1593**		**0.1498**	**0.1498**	**0.0000**	**290.3533**	**290.3533**	**0.0707**	**0.0000**	**292.1217**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0397	1.0472	0.2774	2.1200e-003	0.0513	8.1500e-003	0.0594	0.0148	7.8000e-003	0.0226	0.0000	204.4444	204.4444	0.0136	0.0000	204.7838
Worker	0.1732	0.1305	1.2973	2.7600e-003	0.2617	2.2100e-003	0.2639	0.0697	2.0400e-003	0.0717	0.0000	248.7472	248.7472	0.0101	0.0000	248.9995
Total	**0.2129**	**1.1778**	**1.5748**	**4.8800e-003**	**0.3129**	**0.0104**	**0.3233**	**0.0845**	**9.8400e-003**	**0.0943**	**0.0000**	**453.1916**	**453.1916**	**0.0237**	**0.0000**	**453.7834**

3.6 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0562	0.5084	0.4465	7.1000e-004		0.0296	0.0296		0.0278	0.0278	0.0000	61.3767	61.3767	0.0150	0.0000	61.7510
Total	**0.0562**	**0.5084**	**0.4465**	**7.1000e-004**		**0.0296**	**0.0296**		**0.0278**	**0.0278**	**0.0000**	**61.3767**	**61.3767**	**0.0150**	**0.0000**	**61.7510**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.6800e-003	0.2035	0.0514	4.5000e-004	0.0110	1.0800e-003	0.0121	3.1800e-003	1.0400e-003	4.2100e-003	0.0000	43.6651	43.6651	2.6700e-003	0.0000	43.7320
Worker	0.0341	0.0248	0.2492	5.7000e-004	0.0562	4.6000e-004	0.0566	0.0150	4.2000e-004	0.0154	0.0000	51.7280	51.7280	1.9000e-003	0.0000	51.7754
Total	**0.0408**	**0.2283**	**0.3006**	**1.0200e-003**	**0.0672**	**1.5400e-003**	**0.0687**	**0.0181**	**1.4600e-003**	**0.0196**	**0.0000**	**95.3931**	**95.3931**	**4.5700e-003**	**0.0000**	**95.5074**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0562	0.5084	0.4465	7.1000e-004		0.0296	0.0296		0.0278	0.0278	0.0000	61.3766	61.3766	0.0150	0.0000	61.7509
Total	**0.0562**	**0.5084**	**0.4465**	**7.1000e-004**		**0.0296**	**0.0296**		**0.0278**	**0.0278**	**0.0000**	**61.3766**	**61.3766**	**0.0150**	**0.0000**	**61.7509**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.6800e-003	0.2035	0.0514	4.5000e-004	0.0110	1.0800e-003	0.0121	3.1800e-003	1.0400e-003	4.2100e-003	0.0000	43.6651	43.6651	2.6700e-003	0.0000	43.7320
Worker	0.0341	0.0248	0.2492	5.7000e-004	0.0562	4.6000e-004	0.0566	0.0150	4.2000e-004	0.0154	0.0000	51.7280	51.7280	1.9000e-003	0.0000	51.7754
Total	**0.0408**	**0.2283**	**0.3006**	**1.0200e-003**	**0.0672**	**1.5400e-003**	**0.0687**	**0.0181**	**1.4600e-003**	**0.0196**	**0.0000**	**95.3931**	**95.3931**	**4.5700e-003**	**0.0000**	**95.5074**

3.7 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.7178					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.5400e-003	0.0455	0.0495	8.0000e-005		3.0000e-003	3.0000e-003		3.0000e-003	3.0000e-003	0.0000	6.8938	6.8938	5.3000e-004	0.0000	6.9071
Total	**1.7243**	**0.0455**	**0.0495**	**8.0000e-005**		**3.0000e-003**	**3.0000e-003**		**3.0000e-003**	**3.0000e-003**	**0.0000**	**6.8938**	**6.8938**	**5.3000e-004**	**0.0000**	**6.9071**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.9500e-003	5.0500e-003	0.0508	1.2000e-004	0.0114	9.0000e-005	0.0115	3.0500e-003	9.0000e-005	3.1300e-003	0.0000	10.5408	10.5408	3.9000e-004	0.0000	10.5505
Total	**6.9500e-003**	**5.0500e-003**	**0.0508**	**1.2000e-004**	**0.0114**	**9.0000e-005**	**0.0115**	**3.0500e-003**	**9.0000e-005**	**3.1300e-003**	**0.0000**	**10.5408**	**10.5408**	**3.9000e-004**	**0.0000**	**10.5505**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.7178					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.5400e-003	0.0455	0.0495	8.0000e-005		3.0000e-003	3.0000e-003		3.0000e-003	3.0000e-003	0.0000	6.8938	6.8938	5.3000e-004	0.0000	6.9071
Total	**1.7243**	**0.0455**	**0.0495**	**8.0000e-005**		**3.0000e-003**	**3.0000e-003**		**3.0000e-003**	**3.0000e-003**	**0.0000**	**6.8938**	**6.8938**	**5.3000e-004**	**0.0000**	**6.9071**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.9500e-003	5.0500e-003	0.0508	1.2000e-004	0.0114	9.0000e-005	0.0115	3.0500e-003	9.0000e-005	3.1300e-003	0.0000	10.5408	10.5408	3.9000e-004	0.0000	10.5505
Total	**6.9500e-003**	**5.0500e-003**	**0.0508**	**1.2000e-004**	**0.0114**	**9.0000e-005**	**0.0115**	**3.0500e-003**	**9.0000e-005**	**3.1300e-003**	**0.0000**	**10.5408**	**10.5408**	**3.9000e-004**	**0.0000**	**10.5505**

Round Barn Village Project - Unmitigated Construction

Sonoma-San Francisco County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	237.15	1000sqft	5.44	237,150.00	0
Condo/Townhouse	237.00	Dwelling Unit	12.82	237,000.00	678

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	75
Climate Zone	4			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.022	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Construction anticipated to start in Summer 2018 and be completed in Summer 2020
PG&E Rate for 2020
CH4 and N2O Intensity Factors based on Renewable Portfolio Standard

Land Use - Based on project description and site envelope

Construction Phase - Anticipated Construction Schedule: Summer 2018 - Summer 2020
Demolition of existing foundations and parking lot is estimated to take approximately 5 months
Demolition - Existing foundations and parking lot to be removed

Grading - Total Disturbance Area: approximately 18.26 acres
Estimate provided by the Project's civil engineer

Vehicle Trips - Source: Trip Generation Manual, 9th Edition, Institute of Transportation Engineers (ITE), 2012; Stantec, March 2016
ITE Land Use Code 230
Energy Use - PG&E 2020 Rate

Construction Off-road Equipment Mitigation - Compliance with BAAQMD best management practices threshold for fugitive dust; recommended measures from BAAQMD's Basic Construction Mitigation Measures Recommended for All Proposed Projects.

Energy Mitigation - Compliance with 2016 Title 24
On-site Renewable Energy

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstructionPhase	NumDays	20.00	54.00
tblConstructionPhase	NumDays	20.00	110.00
tblConstructionPhase	PhaseEndDate	2/14/2020	3/13/2020
tblConstructionPhase	PhaseEndDate	3/13/2020	1/18/2019
tblConstructionPhase	PhaseStartDate	12/22/2018	1/19/2019
tblConstructionPhase	PhaseStartDate	2/15/2020	12/22/2018
tblGrading	AcresOfGrading	75.00	18.26
tblLandUse	LotAcreage	14.81	12.82
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.022
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblProjectCharacteristics	OperationalYear	2018	2020

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	5.2073	59.6012	36.0090	0.0638	18.2141	2.6351	20.7923	9.9699	2.4243	12.3418	0.0000	6,424.6327	6,424.6327	1.9518	0.0000	6,473.4281
2019	4.1135	30.3976	30.3299	0.0680	2.6488	1.3732	4.0220	0.7122	1.2918	2.0040	0.0000	6,794.8394	6,794.8394	0.8422	0.0000	6,815.8945
2020	64.1285	27.6193	28.5886	0.0672	2.6488	1.1748	3.8236	0.7121	1.1050	1.8171	0.0000	6,675.6682	6,675.6682	0.8128	0.0000	6,695.9890
Maximum	**64.1285**	**59.6012**	**36.0090**	**0.0680**	**18.2141**	**2.6351**	**20.7923**	**9.9699**	**2.4243**	**12.3418**	**0.0000**	**6,794.8394**	**6,794.8394**	**1.9518**	**0.0000**	**6,815.8945**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	5.2073	59.6012	36.0090	0.0638	8.2777	2.6351	10.8558	4.5080	2.4243	6.8799	0.0000	6,424.6327	6,424.6327	1.9518	0.0000	6,473.4281
2019	4.1135	30.3976	30.3299	0.0680	2.6488	1.3732	4.0220	0.7122	1.2918	2.0040	0.0000	6,794.8394	6,794.8394	0.8422	0.0000	6,815.8945
2020	64.1285	27.6193	28.5886	0.0672	2.6488	1.1748	3.8236	0.7121	1.1050	1.8171	0.0000	6,675.6682	6,675.6682	0.8128	0.0000	6,695.9890
Maximum	**64.1285**	**59.6012**	**36.0090**	**0.0680**	**8.2777**	**2.6351**	**10.8558**	**4.5080**	**2.4243**	**6.8799**	**0.0000**	**6,794.8394**	**6,794.8394**	**1.9518**	**0.0000**	**6,815.8945**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**42.26**	**0.00**	**34.70**	**47.94**	**0.00**	**33.79**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/28/2018	10/26/2018	5	110	
2	Site Preparation	Site Preparation	10/27/2018	11/9/2018	5	10	
3	Grading	Grading	11/10/2018	12/21/2018	5	30	
4	Paving	Paving	12/22/2018	1/18/2019	5	20	
5	Building Construction	Building Construction	1/19/2019	3/13/2020	5	300	
6	Architectural Coating	Architectural Coating	3/14/2020	5/28/2020	5	54	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 18.26

Acres of Paving: 5.44

Residential Indoor: 479,925; Residential Outdoor: 159,975; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	927.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	270.00	64.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	54.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Demolition - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.8238	0.0000	1.8238	0.2761	0.0000	0.2761			0.0000			0.0000
Off-Road	3.7190	38.3225	22.3040	0.0388		1.9386	1.9386		1.8048	1.8048		3,871.7665	3,871.7665	1.0667		3,898.4344
Total	**3.7190**	**38.3225**	**22.3040**	**0.0388**	**1.8238**	**1.9386**	**3.7623**	**0.2761**	**1.8048**	**2.0810**		**3,871.7665**	**3,871.7665**	**1.0667**		**3,898.4344**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0840	2.8398	0.5666	6.8500e-003	0.1456	0.0157	0.1613	0.0397	0.0151	0.0548		735.4447	735.4447	0.0455		736.5825
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0879	0.0596	0.6897	1.3600e-003	0.1232	1.0300e-003	0.1243	0.0327	9.6000e-004	0.0336		135.1532	135.1532	5.8800e-003		135.3003
Total	**0.1718**	**2.8994**	**1.2563**	**8.2100e-003**	**0.2688**	**0.0168**	**0.2856**	**0.0724**	**0.0160**	**0.0884**		**870.5979**	**870.5979**	**0.0514**		**871.8827**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.8207	0.0000	0.8207	0.1243	0.0000	0.1243			0.0000			0.0000
Off-Road	3.7190	38.3225	22.3040	0.0388		1.9386	1.9386		1.8048	1.8048	0.0000	3,871.7665	3,871.7665	1.0667		3,898.4344
Total	**3.7190**	**38.3225**	**22.3040**	**0.0388**	**0.8207**	**1.9386**	**2.7593**	**0.1243**	**1.8048**	**1.9291**	**0.0000**	**3,871.7665**	**3,871.7665**	**1.0667**		**3,898.4344**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0840	2.8398	0.5666	6.8500e-003	0.1456	0.0157	0.1613	0.0397	0.0151	0.0548		735.4447	735.4447	0.0455		736.5825
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0879	0.0596	0.6897	1.3600e-003	0.1232	1.0300e-003	0.1243	0.0327	9.6000e-004	0.0336		135.1532	135.1532	5.8800e-003		135.3003
Total	**0.1718**	**2.8994**	**1.2563**	**8.2100e-003**	**0.2688**	**0.0168**	**0.2856**	**0.0724**	**0.0160**	**0.0884**		**870.5979**	**870.5979**	**0.0514**		**871.8827**

3.3 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.5627	48.1988	22.4763	0.0380		2.5769	2.5769		2.3708	2.3708		3,831.6239	3,831.6239	1.1928		3,861.4448
Total	**4.5627**	**48.1988**	**22.4763**	**0.0380**	**18.0663**	**2.5769**	**20.6432**	**9.9307**	**2.3708**	**12.3014**		**3,831.6239**	**3,831.6239**	**1.1928**		**3,861.4448**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1054	0.0715	0.8277	1.6300e-003	0.1479	1.2400e-003	0.1491	0.0392	1.1500e-003	0.0404		162.1839	162.1839	7.0600e-003		162.3603
Total	**0.1054**	**0.0715**	**0.8277**	**1.6300e-003**	**0.1479**	**1.2400e-003**	**0.1491**	**0.0392**	**1.1500e-003**	**0.0404**		**162.1839**	**162.1839**	**7.0600e-003**		**162.3603**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	4.5627	48.1988	22.4763	0.0380		2.5769	2.5769		2.3708	2.3708	0.0000	3,831.6239	3,831.6239	1.1928		3,861.4448
Total	**4.5627**	**48.1988**	**22.4763**	**0.0380**	**8.1298**	**2.5769**	**10.7067**	**4.4688**	**2.3708**	**6.8396**	**0.0000**	**3,831.6239**	**3,831.6239**	**1.1928**		**3,861.4448**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1054	0.0715	0.8277	1.6300e-003	0.1479	1.2400e-003	0.1491	0.0392	1.1500e-003	0.0404		162.1839	162.1839	7.0600e-003		162.3603
Total	**0.1054**	**0.0715**	**0.8277**	**1.6300e-003**	**0.1479**	**1.2400e-003**	**0.1491**	**0.0392**	**1.1500e-003**	**0.0404**		**162.1839**	**162.1839**	**7.0600e-003**		**162.3603**

3.4 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.6676	0.0000	6.6676	3.3799	0.0000	3.3799			0.0000			0.0000
Off-Road	5.0901	59.5218	35.0894	0.0620		2.6337	2.6337		2.4230	2.4230		6,244.4284	6,244.4284	1.9440		6,293.0278
Total	**5.0901**	**59.5218**	**35.0894**	**0.0620**	**6.6676**	**2.6337**	**9.3013**	**3.3799**	**2.4230**	**5.8030**		**6,244.4284**	**6,244.4284**	**1.9440**		**6,293.0278**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1172	0.0794	0.9196	1.8100e-003	0.1643	1.3800e-003	0.1657	0.0436	1.2700e-003	0.0449		180.2043	180.2043	7.8400e-003		180.4003
Total	**0.1172**	**0.0794**	**0.9196**	**1.8100e-003**	**0.1643**	**1.3800e-003**	**0.1657**	**0.0436**	**1.2700e-003**	**0.0449**		**180.2043**	**180.2043**	**7.8400e-003**		**180.4003**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.0004	0.0000	3.0004	1.5210	0.0000	1.5210			0.0000			0.0000
Off-Road	5.0901	59.5218	35.0894	0.0620		2.6337	2.6337		2.4230	2.4230	0.0000	6,244.4284	6,244.4284	1.9440		6,293.0278
Total	**5.0901**	**59.5218**	**35.0894**	**0.0620**	**3.0004**	**2.6337**	**5.6342**	**1.5210**	**2.4230**	**3.9440**	**0.0000**	**6,244.4284**	**6,244.4284**	**1.9440**		**6,293.0278**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1172	0.0794	0.9196	1.8100e-003	0.1643	1.3800e-003	0.1657	0.0436	1.2700e-003	0.0449		180.2043	180.2043	7.8400e-003		180.4003
Total	**0.1172**	**0.0794**	**0.9196**	**1.8100e-003**	**0.1643**	**1.3800e-003**	**0.1657**	**0.0436**	**1.2700e-003**	**0.0449**		**180.2043**	**180.2043**	**7.8400e-003**		**180.4003**

3.5 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6437	17.5209	14.7964	0.0228		0.9561	0.9561		0.8797	0.8797		2,294.0887	2,294.0887	0.7142		2,311.9432
Paving	0.7126					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.3563**	**17.5209**	**14.7964**	**0.0228**		**0.9561**	**0.9561**		**0.8797**	**0.8797**		**2,294.0887**	**2,294.0887**	**0.7142**		**2,311.9432**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0879	0.0596	0.6897	1.3600e-003	0.1232	1.0300e-003	0.1243	0.0327	9.6000e-004	0.0336		135.1532	135.1532	5.8800e-003		135.3003
Total	**0.0879**	**0.0596**	**0.6897**	**1.3600e-003**	**0.1232**	**1.0300e-003**	**0.1243**	**0.0327**	**9.6000e-004**	**0.0336**		**135.1532**	**135.1532**	**5.8800e-003**		**135.3003**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6437	17.5209	14.7964	0.0228		0.9561	0.9561		0.8797	0.8797	0.0000	2,294.0887	2,294.0887	0.7142		2,311.9432
Paving	0.7126					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.3563**	**17.5209**	**14.7964**	**0.0228**		**0.9561**	**0.9561**		**0.8797**	**0.8797**	**0.0000**	**2,294.0887**	**2,294.0887**	**0.7142**		**2,311.9432**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0879	0.0596	0.6897	1.3600e-003	0.1232	1.0300e-003	0.1243	0.0327	9.6000e-004	0.0336		135.1532	135.1532	5.8800e-003		135.3003
Total	**0.0879**	**0.0596**	**0.6897**	**1.3600e-003**	**0.1232**	**1.0300e-003**	**0.1243**	**0.0327**	**9.6000e-004**	**0.0336**		**135.1532**	**135.1532**	**5.8800e-003**		**135.3003**

3.5 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4544	15.2441	14.6648	0.0228		0.8246	0.8246		0.7586	0.7586		2,257.0025	2,257.0025	0.7141		2,274.8548
Paving	0.7126					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.1671**	**15.2441**	**14.6648**	**0.0228**		**0.8246**	**0.8246**		**0.7586**	**0.7586**		**2,257.0025**	**2,257.0025**	**0.7141**		**2,274.8548**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0798	0.0524	0.6140	1.3200e-003	0.1232	1.0000e-003	0.1242	0.0327	9.2000e-004	0.0336		131.2490	131.2490	5.2200e-003		131.3794
Total	**0.0798**	**0.0524**	**0.6140**	**1.3200e-003**	**0.1232**	**1.0000e-003**	**0.1242**	**0.0327**	**9.2000e-004**	**0.0336**		**131.2490**	**131.2490**	**5.2200e-003**		**131.3794**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4544	15.2441	14.6648	0.0228		0.8246	0.8246		0.7586	0.7586	0.0000	2,257.0025	2,257.0025	0.7141		2,274.8548
Paving	0.7126					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.1671**	**15.2441**	**14.6648**	**0.0228**		**0.8246**	**0.8246**		**0.7586**	**0.7586**	**0.0000**	**2,257.0025**	**2,257.0025**	**0.7141**		**2,274.8548**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0798	0.0524	0.6140	1.3200e-003	0.1232	1.0000e-003	0.1242	0.0327	9.2000e-004	0.0336		131.2490	131.2490	5.2200e-003		131.3794
Total	**0.0798**	**0.0524**	**0.6140**	**1.3200e-003**	**0.1232**	**1.0000e-003**	**0.1242**	**0.0327**	**9.2000e-004**	**0.0336**		**131.2490**	**131.2490**	**5.2200e-003**		**131.3794**

3.6 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.5802	2,591.5802	0.6313		2,607.3635
Total	**2.3612**	**21.0788**	**17.1638**	**0.0269**		**1.2899**	**1.2899**		**1.2127**	**1.2127**		**2,591.5802**	**2,591.5802**	**0.6313**		**2,607.3635**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3154	8.3754	2.1136	0.0173	0.4308	0.0654	0.4962	0.1238	0.0626	0.1864		1,840.7771	1,840.7771	0.1170		1,843.7021
Worker	1.4369	0.9434	11.0526	0.0238	2.2180	0.0179	2.2359	0.5883	0.0165	0.6049		2,362.4821	2,362.4821	0.0939		2,364.8289
Total	**1.7523**	**9.3188**	**13.1662**	**0.0411**	**2.6488**	**0.0833**	**2.7321**	**0.7122**	**0.0791**	**0.7912**		**4,203.2592**	**4,203.2592**	**0.2109**		**4,208.5310**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127	0.0000	2,591.5802	2,591.5802	0.6313		2,607.3635
Total	**2.3612**	**21.0788**	**17.1638**	**0.0269**		**1.2899**	**1.2899**		**1.2127**	**1.2127**	**0.0000**	**2,591.5802**	**2,591.5802**	**0.6313**		**2,607.3635**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3154	8.3754	2.1136	0.0173	0.4308	0.0654	0.4962	0.1238	0.0626	0.1864		1,840.7771	1,840.7771	0.1170		1,843.7021
Worker	1.4369	0.9434	11.0526	0.0238	2.2180	0.0179	2.2359	0.5883	0.0165	0.6049		2,362.4821	2,362.4821	0.0939		2,364.8289
Total	**1.7523**	**9.3188**	**13.1662**	**0.0411**	**2.6488**	**0.0833**	**2.7321**	**0.7122**	**0.0791**	**0.7912**		**4,203.2592**	**4,203.2592**	**0.2109**		**4,208.5310**

3.6 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**		**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2467	7.5976	1.8231	0.0172	0.4308	0.0405	0.4713	0.1238	0.0387	0.1626		1,832.8142	1,832.8142	0.1075		1,835.5017
Worker	1.3201	0.8356	9.9171	0.0230	2.2180	0.0173	2.2353	0.5883	0.0159	0.6042		2,289.7910	2,289.7910	0.0825		2,291.8529
Total	**1.5668**	**8.4332**	**11.7401**	**0.0402**	**2.6488**	**0.0578**	**2.7065**	**0.7121**	**0.0547**	**0.7668**		**4,122.6052**	**4,122.6052**	**0.1900**		**4,127.3545**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503	0.0000	2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**	**0.0000**	**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2467	7.5976	1.8231	0.0172	0.4308	0.0405	0.4713	0.1238	0.0387	0.1626		1,832.8142	1,832.8142	0.1075		1,835.5017
Worker	1.3201	0.8356	9.9171	0.0230	2.2180	0.0173	2.2353	0.5883	0.0159	0.6042		2,289.7910	2,289.7910	0.0825		2,291.8529
Total	**1.5668**	**8.4332**	**11.7401**	**0.0402**	**2.6488**	**0.0578**	**2.7065**	**0.7121**	**0.0547**	**0.7668**		**4,122.6052**	**4,122.6052**	**0.1900**		**4,127.3545**

3.7 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	63.6223					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928
Total	**63.8645**	**1.6838**	**1.8314**	**2.9700e-003**		**0.1109**	**0.1109**		**0.1109**	**0.1109**		**281.4481**	**281.4481**	**0.0218**		**281.9928**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2640	0.1671	1.9834	4.6000e-003	0.4436	3.4500e-003	0.4471	0.1177	3.1800e-003	0.1209		457.9582	457.9582	0.0165		458.3706
Total	**0.2640**	**0.1671**	**1.9834**	**4.6000e-003**	**0.4436**	**3.4500e-003**	**0.4471**	**0.1177**	**3.1800e-003**	**0.1209**		**457.9582**	**457.9582**	**0.0165**		**458.3706**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	63.6223					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109	0.0000	281.4481	281.4481	0.0218		281.9928
Total	**63.8645**	**1.6838**	**1.8314**	**2.9700e-003**		**0.1109**	**0.1109**		**0.1109**	**0.1109**	**0.0000**	**281.4481**	**281.4481**	**0.0218**		**281.9928**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2640	0.1671	1.9834	4.6000e-003	0.4436	3.4500e-003	0.4471	0.1177	3.1800e-003	0.1209		457.9582	457.9582	0.0165		458.3706
Total	**0.2640**	**0.1671**	**1.9834**	**4.6000e-003**	**0.4436**	**3.4500e-003**	**0.4471**	**0.1177**	**3.1800e-003**	**0.1209**		**457.9582**	**457.9582**	**0.0165**		**458.3706**

Round Barn Village Project - Unmitigated Construction

Sonoma-San Francisco County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	237.15	1000sqft	5.44	237,150.00	0
Condo/Townhouse	237.00	Dwelling Unit	12.82	237,000.00	678

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	75
Climate Zone	4			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.022	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Construction anticipated to start in Summer 2018 and be completed in Summer 2020
PG&E Rate for 2020
CH4 and N2O Intensity Factors based on Renewable Portfolio Standard

Land Use - Based on project description and site envelope

Construction Phase - Anticipated Construction Schedule: Summer 2018 - Summer 2020
Demolition of existing foundations and parking lot is estimated to take approximately 5 months

Demolition - Existing foundations and parking lot to be removed

Grading - Total Disturbance Area: approximately 18.26 acres
Estimate provided by the Project's civil engineer

Construction Off-road Equipment Mitigation - Compliance with BAAQMD best management practices threshold for fugitive dust; recommended measures from BAAQMD's Basic Construction Mitigation Measures Recommended for All Proposed Projects.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstructionPhase	NumDays	20.00	54.00
tblConstructionPhase	NumDays	20.00	110.00
tblConstructionPhase	PhaseEndDate	2/14/2020	3/13/2020
tblConstructionPhase	PhaseEndDate	3/13/2020	1/18/2019
tblConstructionPhase	PhaseStartDate	12/22/2018	1/19/2019
tblConstructionPhase	PhaseStartDate	2/15/2020	12/22/2018
tblGrading	AcresOfGrading	75.00	18.26
tblLandUse	LotAcreage	14.81	12.82
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.022
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblProjectCharacteristics	OperationalYear	2018	2020

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	5.2168	59.6202	35.9957	0.0637	18.2141	2.6351	20.7923	9.9699	2.4243	12.3418	0.0000	6,411.9357	6,411.9357	1.9516	0.0000	6,460.7254
2019	4.2431	30.7433	30.4128	0.0660	2.6488	1.3747	4.0235	0.7122	1.2933	2.0054	0.0000	6,590.0203	6,590.0203	0.8487	0.0000	6,611.2371
2020	64.1492	27.9089	28.6158	0.0652	2.6488	1.1757	3.8245	0.7121	1.1059	1.8180	0.0000	6,474.5810	6,474.5810	0.8183	0.0000	6,495.0382
Maximum	**64.1492**	**59.6202**	**35.9957**	**0.0660**	**18.2141**	**2.6351**	**20.7923**	**9.9699**	**2.4243**	**12.3418**	**0.0000**	**6,590.0203**	**6,590.0203**	**1.9516**	**0.0000**	**6,611.2371**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	5.2168	59.6202	35.9957	0.0637	8.2777	2.6351	10.8558	4.5080	2.4243	6.8799	0.0000	6,411.9357	6,411.9357	1.9516	0.0000	6,460.7254
2019	4.2431	30.7433	30.4128	0.0660	2.6488	1.3747	4.0235	0.7122	1.2933	2.0054	0.0000	6,590.0203	6,590.0203	0.8487	0.0000	6,611.2371
2020	64.1492	27.9089	28.6158	0.0652	2.6488	1.1757	3.8245	0.7121	1.1059	1.8180	0.0000	6,474.5810	6,474.5810	0.8183	0.0000	6,495.0381
Maximum	**64.1492**	**59.6202**	**35.9957**	**0.0660**	**8.2777**	**2.6351**	**10.8558**	**4.5080**	**2.4243**	**6.8799**	**0.0000**	**6,590.0203**	**6,590.0203**	**1.9516**	**0.0000**	**6,611.2371**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**42.26**	**0.00**	**34.69**	**47.94**	**0.00**	**33.79**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/28/2018	10/26/2018	5	110	
2	Site Preparation	Site Preparation	10/27/2018	11/9/2018	5	10	
3	Grading	Grading	11/10/2018	12/21/2018	5	30	
4	Paving	Paving	12/22/2018	1/18/2019	5	20	
5	Building Construction	Building Construction	1/19/2019	3/13/2020	5	300	
6	Architectural Coating	Architectural Coating	3/14/2020	5/28/2020	5	54	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 18.26

Acres of Paving: 5.44

Residential Indoor: 479,925; Residential Outdoor: 159,975; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	927.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	270.00	64.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	54.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Demolition - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.8238	0.0000	1.8238	0.2761	0.0000	0.2761			0.0000			0.0000
Off-Road	3.7190	38.3225	22.3040	0.0388		1.9386	1.9386		1.8048	1.8048		3,871.7665	3,871.7665	1.0667		3,898.4344
Total	**3.7190**	**38.3225**	**22.3040**	**0.0388**	**1.8238**	**1.9386**	**3.7623**	**0.2761**	**1.8048**	**2.0810**		**3,871.7665**	**3,871.7665**	**1.0667**		**3,898.4344**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0864	2.9157	0.6124	6.7700e-003	0.1456	0.0161	0.1617	0.0397	0.0154	0.0552		726.0192	726.0192	0.0478		727.2146
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0950	0.0738	0.6797	1.2700e-003	0.1232	1.0300e-003	0.1243	0.0327	9.6000e-004	0.0336		125.6305	125.6305	5.7100e-003		125.7732
Total	**0.1814**	**2.9895**	**1.2922**	**8.0400e-003**	**0.2688**	**0.0172**	**0.2860**	**0.0724**	**0.0164**	**0.0888**		**851.6497**	**851.6497**	**0.0535**		**852.9877**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.8207	0.0000	0.8207	0.1243	0.0000	0.1243			0.0000			0.0000
Off-Road	3.7190	38.3225	22.3040	0.0388		1.9386	1.9386		1.8048	1.8048	0.0000	3,871.7665	3,871.7665	1.0667		3,898.4344
Total	**3.7190**	**38.3225**	**22.3040**	**0.0388**	**0.8207**	**1.9386**	**2.7593**	**0.1243**	**1.8048**	**1.9291**	**0.0000**	**3,871.7665**	**3,871.7665**	**1.0667**		**3,898.4344**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0864	2.9157	0.6124	6.7700e-003	0.1456	0.0161	0.1617	0.0397	0.0154	0.0552		726.0192	726.0192	0.0478		727.2146
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0950	0.0738	0.6797	1.2700e-003	0.1232	1.0300e-003	0.1243	0.0327	9.6000e-004	0.0336		125.6305	125.6305	5.7100e-003		125.7732
Total	**0.1814**	**2.9895**	**1.2922**	**8.0400e-003**	**0.2688**	**0.0172**	**0.2860**	**0.0724**	**0.0164**	**0.0888**		**851.6497**	**851.6497**	**0.0535**		**852.9877**

3.3 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.5627	48.1988	22.4763	0.0380		2.5769	2.5769		2.3708	2.3708		3,831.6239	3,831.6239	1.1928		3,861.4448
Total	**4.5627**	**48.1988**	**22.4763**	**0.0380**	**18.0663**	**2.5769**	**20.6432**	**9.9307**	**2.3708**	**12.3014**		**3,831.6239**	**3,831.6239**	**1.1928**		**3,861.4448**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1140	0.0885	0.8157	1.5200e-003	0.1479	1.2400e-003	0.1491	0.0392	1.1500e-003	0.0404		150.7566	150.7566	6.8500e-003		150.9278
Total	**0.1140**	**0.0885**	**0.8157**	**1.5200e-003**	**0.1479**	**1.2400e-003**	**0.1491**	**0.0392**	**1.1500e-003**	**0.0404**		**150.7566**	**150.7566**	**6.8500e-003**		**150.9278**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	4.5627	48.1988	22.4763	0.0380		2.5769	2.5769		2.3708	2.3708	0.0000	3,831.6239	3,831.6239	1.1928		3,861.4448
Total	**4.5627**	**48.1988**	**22.4763**	**0.0380**	**8.1298**	**2.5769**	**10.7067**	**4.4688**	**2.3708**	**6.8396**	**0.0000**	**3,831.6239**	**3,831.6239**	**1.1928**		**3,861.4448**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1140	0.0885	0.8157	1.5200e-003	0.1479	1.2400e-003	0.1491	0.0392	1.1500e-003	0.0404		150.7566	150.7566	6.8500e-003		150.9278
Total	**0.1140**	**0.0885**	**0.8157**	**1.5200e-003**	**0.1479**	**1.2400e-003**	**0.1491**	**0.0392**	**1.1500e-003**	**0.0404**		**150.7566**	**150.7566**	**6.8500e-003**		**150.9278**

3.4 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.6676	0.0000	6.6676	3.3799	0.0000	3.3799			0.0000			0.0000
Off-Road	5.0901	59.5218	35.0894	0.0620		2.6337	2.6337		2.4230	2.4230		6,244.4284	6,244.4284	1.9440		6,293.0278
Total	**5.0901**	**59.5218**	**35.0894**	**0.0620**	**6.6676**	**2.6337**	**9.3013**	**3.3799**	**2.4230**	**5.8030**		**6,244.4284**	**6,244.4284**	**1.9440**		**6,293.0278**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1267	0.0984	0.9063	1.6900e-003	0.1643	1.3800e-003	0.1657	0.0436	1.2700e-003	0.0449		167.5073	167.5073	7.6100e-003		167.6976
Total	**0.1267**	**0.0984**	**0.9063**	**1.6900e-003**	**0.1643**	**1.3800e-003**	**0.1657**	**0.0436**	**1.2700e-003**	**0.0449**		**167.5073**	**167.5073**	**7.6100e-003**		**167.6976**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.0004	0.0000	3.0004	1.5210	0.0000	1.5210			0.0000			0.0000
Off-Road	5.0901	59.5218	35.0894	0.0620		2.6337	2.6337		2.4230	2.4230	0.0000	6,244.4284	6,244.4284	1.9440		6,293.0278
Total	**5.0901**	**59.5218**	**35.0894**	**0.0620**	**3.0004**	**2.6337**	**5.6342**	**1.5210**	**2.4230**	**3.9440**	**0.0000**	**6,244.4284**	**6,244.4284**	**1.9440**		**6,293.0278**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1267	0.0984	0.9063	1.6900e-003	0.1643	1.3800e-003	0.1657	0.0436	1.2700e-003	0.0449		167.5073	167.5073	7.6100e-003		167.6976
Total	**0.1267**	**0.0984**	**0.9063**	**1.6900e-003**	**0.1643**	**1.3800e-003**	**0.1657**	**0.0436**	**1.2700e-003**	**0.0449**		**167.5073**	**167.5073**	**7.6100e-003**		**167.6976**

3.5 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6437	17.5209	14.7964	0.0228		0.9561	0.9561		0.8797	0.8797		2,294.0887	2,294.0887	0.7142		2,311.9432
Paving	0.7126					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.3563**	**17.5209**	**14.7964**	**0.0228**		**0.9561**	**0.9561**		**0.8797**	**0.8797**		**2,294.0887**	**2,294.0887**	**0.7142**		**2,311.9432**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0950	0.0738	0.6797	1.2700e-003	0.1232	1.0300e-003	0.1243	0.0327	9.6000e-004	0.0336		125.6305	125.6305	5.7100e-003		125.7732
Total	**0.0950**	**0.0738**	**0.6797**	**1.2700e-003**	**0.1232**	**1.0300e-003**	**0.1243**	**0.0327**	**9.6000e-004**	**0.0336**		**125.6305**	**125.6305**	**5.7100e-003**		**125.7732**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6437	17.5209	14.7964	0.0228		0.9561	0.9561		0.8797	0.8797	0.0000	2,294.0887	2,294.0887	0.7142		2,311.9432
Paving	0.7126					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.3563**	**17.5209**	**14.7964**	**0.0228**		**0.9561**	**0.9561**		**0.8797**	**0.8797**	**0.0000**	**2,294.0887**	**2,294.0887**	**0.7142**		**2,311.9432**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0950	0.0738	0.6797	1.2700e-003	0.1232	1.0300e-003	0.1243	0.0327	9.6000e-004	0.0336		125.6305	125.6305	5.7100e-003		125.7732
Total	**0.0950**	**0.0738**	**0.6797**	**1.2700e-003**	**0.1232**	**1.0300e-003**	**0.1243**	**0.0327**	**9.6000e-004**	**0.0336**		**125.6305**	**125.6305**	**5.7100e-003**		**125.7732**

3.5 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4544	15.2441	14.6648	0.0228		0.8246	0.8246		0.7586	0.7586		2,257.0025	2,257.0025	0.7141		2,274.8548
Paving	0.7126					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.1671**	**15.2441**	**14.6648**	**0.0228**		**0.8246**	**0.8246**		**0.7586**	**0.7586**		**2,257.0025**	**2,257.0025**	**0.7141**		**2,274.8548**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0862	0.0650	0.6023	1.2300e-003	0.1232	1.0000e-003	0.1242	0.0327	9.2000e-004	0.0336		121.9835	121.9835	5.0500e-003		122.1096
Total	**0.0862**	**0.0650**	**0.6023**	**1.2300e-003**	**0.1232**	**1.0000e-003**	**0.1242**	**0.0327**	**9.2000e-004**	**0.0336**		**121.9835**	**121.9835**	**5.0500e-003**		**122.1096**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4544	15.2441	14.6648	0.0228		0.8246	0.8246		0.7586	0.7586	0.0000	2,257.0025	2,257.0025	0.7141		2,274.8548
Paving	0.7126					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.1671**	**15.2441**	**14.6648**	**0.0228**		**0.8246**	**0.8246**		**0.7586**	**0.7586**	**0.0000**	**2,257.0025**	**2,257.0025**	**0.7141**		**2,274.8548**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0862	0.0650	0.6023	1.2300e-003	0.1232	1.0000e-003	0.1242	0.0327	9.2000e-004	0.0336		121.9835	121.9835	5.0500e-003		122.1096
Total	**0.0862**	**0.0650**	**0.6023**	**1.2300e-003**	**0.1232**	**1.0000e-003**	**0.1242**	**0.0327**	**9.2000e-004**	**0.0336**		**121.9835**	**121.9835**	**5.0500e-003**		**122.1096**

3.6 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.5802	2,591.5802	0.6313		2,607.3635
Total	**2.3612**	**21.0788**	**17.1638**	**0.0269**		**1.2899**	**1.2899**		**1.2127**	**1.2127**		**2,591.5802**	**2,591.5802**	**0.6313**		**2,607.3635**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3311	8.4954	2.4078	0.0170	0.4308	0.0669	0.4977	0.1238	0.0640	0.1879		1,802.7379	1,802.7379	0.1265		1,805.9004
Worker	1.5508	1.1690	10.8412	0.0221	2.2180	0.0179	2.2359	0.5883	0.0165	0.6049		2,195.7023	2,195.7023	0.0908		2,197.9732
Total	**1.8820**	**9.6645**	**13.2490**	**0.0391**	**2.6488**	**0.0848**	**2.7336**	**0.7122**	**0.0805**	**0.7927**		**3,998.4402**	**3,998.4402**	**0.2173**		**4,003.8736**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127	0.0000	2,591.5802	2,591.5802	0.6313		2,607.3635
Total	**2.3612**	**21.0788**	**17.1638**	**0.0269**		**1.2899**	**1.2899**		**1.2127**	**1.2127**	**0.0000**	**2,591.5802**	**2,591.5802**	**0.6313**		**2,607.3635**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3311	8.4954	2.4078	0.0170	0.4308	0.0669	0.4977	0.1238	0.0640	0.1879		1,802.7379	1,802.7379	0.1265		1,805.9004
Worker	1.5508	1.1690	10.8412	0.0221	2.2180	0.0179	2.2359	0.5883	0.0165	0.6049		2,195.7023	2,195.7023	0.0908		2,197.9732
Total	**1.8820**	**9.6645**	**13.2490**	**0.0391**	**2.6488**	**0.0848**	**2.7336**	**0.7122**	**0.0805**	**0.7927**		**3,998.4402**	**3,998.4402**	**0.2173**		**4,003.8736**

3.6 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**		**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2597	7.6875	2.0765	0.0169	0.4308	0.0414	0.4722	0.1238	0.0396	0.1635		1,793.5783	1,793.5783	0.1160		1,796.4790
Worker	1.4233	1.0353	9.6907	0.0214	2.2180	0.0173	2.2353	0.5883	0.0159	0.6042		2,127.9396	2,127.9396	0.0794		2,129.9247
Total	**1.6830**	**8.7229**	**11.7673**	**0.0383**	**2.6488**	**0.0587**	**2.7075**	**0.7121**	**0.0556**	**0.7677**		**3,921.5179**	**3,921.5179**	**0.1954**		**3,926.4037**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503	0.0000	2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**	**0.0000**	**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2597	7.6875	2.0765	0.0169	0.4308	0.0414	0.4722	0.1238	0.0396	0.1635		1,793.5783	1,793.5783	0.1160		1,796.4790
Worker	1.4233	1.0353	9.6907	0.0214	2.2180	0.0173	2.2353	0.5883	0.0159	0.6042		2,127.9396	2,127.9396	0.0794		2,129.9247
Total	**1.6830**	**8.7229**	**11.7673**	**0.0383**	**2.6488**	**0.0587**	**2.7075**	**0.7121**	**0.0556**	**0.7677**		**3,921.5179**	**3,921.5179**	**0.1954**		**3,926.4037**

3.7 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	63.6223					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928
Total	**63.8645**	**1.6838**	**1.8314**	**2.9700e-003**		**0.1109**	**0.1109**		**0.1109**	**0.1109**		**281.4481**	**281.4481**	**0.0218**		**281.9928**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2847	0.2071	1.9382	4.2800e-003	0.4436	3.4500e-003	0.4471	0.1177	3.1800e-003	0.1209		425.5879	425.5879	0.0159		425.9849
Total	**0.2847**	**0.2071**	**1.9382**	**4.2800e-003**	**0.4436**	**3.4500e-003**	**0.4471**	**0.1177**	**3.1800e-003**	**0.1209**		**425.5879**	**425.5879**	**0.0159**		**425.9849**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	63.6223					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109	0.0000	281.4481	281.4481	0.0218		281.9928
Total	**63.8645**	**1.6838**	**1.8314**	**2.9700e-003**		**0.1109**	**0.1109**		**0.1109**	**0.1109**	**0.0000**	**281.4481**	**281.4481**	**0.0218**		**281.9928**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2847	0.2071	1.9382	4.2800e-003	0.4436	3.4500e-003	0.4471	0.1177	3.1800e-003	0.1209		425.5879	425.5879	0.0159		425.9849
Total	**0.2847**	**0.2071**	**1.9382**	**4.2800e-003**	**0.4436**	**3.4500e-003**	**0.4471**	**0.1177**	**3.1800e-003**	**0.1209**		**425.5879**	**425.5879**	**0.0159**		**425.9849**

Round Barn Village Project - Tier IV Mitigated Construction

Sonoma-San Francisco County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	237.15	1000sqft	5.44	237,150.00	0
Condo/Townhouse	237.00	Dwelling Unit	12.82	237,000.00	678

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	75
Climate Zone	4			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Mitigated construction (Tier 4)
Construction anticipated to start in Summer 2018 and be completed in Summer 2020
Land Use - Based on project description and site envelope
Demolition - Existing foundations and parking lot to be removed
Grading - Total Disturbance Area: approximately 18.26 acres
Estimate provided by the Project's civil engineer
Construction Off-road Equipment Mitigation - Tier IV mitigation for construction equipment >50 HP
Compliance with BAAQMD best management practices threshold for fugitive dust; recommended measures from BAAQMD's Basic Construction Mitigation Measures Recommended for All Proposed Projects.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	20.00	54.00
tblConstructionPhase	NumDays	20.00	110.00

tblConstructionPhase	PhaseEndDate	2/14/2020	3/13/2020
tblConstructionPhase	PhaseEndDate	3/13/2020	1/18/2019
tblConstructionPhase	PhaseStartDate	12/22/2018	1/19/2019
tblConstructionPhase	PhaseStartDate	2/15/2020	12/22/2018
tblGrading	AcresOfGrading	75.00	18.26
tblLandUse	LotAcreage	14.81	12.82
tblProjectCharacteristics	OperationalYear	2018	2020

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.3227	3.4589	1.9972	3.8100e-003	0.3082	0.1628	0.4711	0.1203	0.1510	0.2713	0.0000	347.9565	347.9565	0.0898	0.0000	350.2010
2019	0.5202	3.8881	3.8012	8.3700e-003	0.3138	0.1754	0.4892	0.0847	0.1649	0.2496	0.0000	758.6612	758.6612	0.0990	0.0000	761.1355
2020	1.8283	0.7873	0.8473	1.9400e-003	0.0786	0.0342	0.1128	0.0212	0.0324	0.0535	0.0000	174.2043	174.2043	0.0205	0.0000	174.7160
Maximum	**1.8283**	**3.8881**	**3.8012**	**8.3700e-003**	**0.3138**	**0.1754**	**0.4892**	**0.1203**	**0.1649**	**0.2713**	**0.0000**	**758.6612**	**758.6612**	**0.0990**	**0.0000**	**761.1355**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.0540	0.3382	2.0190	3.8100e-003	0.1484	6.3000e-003	0.1547	0.0567	6.2500e-003	0.0630	0.0000	347.9561	347.9561	0.0898	0.0000	350.2007
2019	0.3030	1.5393	3.8946	8.3700e-003	0.3138	0.0276	0.3414	0.0847	0.0271	0.1118	0.0000	758.6609	758.6609	0.0990	0.0000	761.1351
2020	1.7829	0.3111	0.8707	1.9400e-003	0.0786	5.0500e-003	0.0836	0.0212	4.9600e-003	0.0261	0.0000	174.2043	174.2043	0.0205	0.0000	174.7159
Maximum	**1.7829**	**1.5393**	**3.8946**	**8.3700e-003**	**0.3138**	**0.0276**	**0.3414**	**0.0847**	**0.0271**	**0.1118**	**0.0000**	**758.6609**	**758.6609**	**0.0990**	**0.0000**	**761.1351**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**19.88**	**73.09**	**-2.08**	**0.00**	**22.82**	**89.54**	**45.98**	**28.10**	**89.00**	**65.03**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	5-28-2018	8-27-2018	1.4823	0.1819
2	8-28-2018	11-27-2018	1.6493	0.1606
3	11-28-2018	2-27-2019	1.2400	0.2757
4	2-28-2019	5-27-2019	1.1024	0.4694
5	5-28-2019	8-27-2019	1.1339	0.4796
6	8-28-2019	11-27-2019	1.1438	0.4894
7	11-28-2019	2-27-2020	1.0817	0.4696
8	2-28-2020	5-27-2020	1.9376	1.7945
9	5-28-2020	8-27-2020	0.0236	0.0229
		Highest	1.9376	1.7945

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.1667	0.0204	1.7678	9.0000e-005		9.7200e-003	9.7200e-003		9.7200e-003	9.7200e-003	0.0000	2.8788	2.8788	2.8100e-003	0.0000	2.9491
Energy	0.0292	0.2497	0.1062	1.5900e-003		0.0202	0.0202		0.0202	0.0202	0.0000	660.9611	660.9611	0.0224	8.7800e-003	664.1362
Mobile	0.4961	2.4381	5.5167	0.0150	1.1481	0.0203	1.1684	0.3090	0.0191	0.3282	0.0000	1,377.9183	1,377.9183	0.0647	0.0000	1,379.5359
Waste						0.0000	0.0000		0.0000	0.0000	22.1301	0.0000	22.1301	1.3079	0.0000	54.8263
Water						0.0000	0.0000		0.0000	0.0000	4.8989	34.2188	39.1176	0.5047	0.0122	55.3712
Total	**1.6920**	**2.7082**	**7.3907**	**0.0167**	**1.1481**	**0.0502**	**1.1983**	**0.3090**	**0.0490**	**0.3581**	**27.0290**	**2,075.9769**	**2,103.0059**	**1.9024**	**0.0210**	**2,156.8187**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.1659	0.0203	1.7550	9.0000e-005		9.6400e-003	9.6400e-003		9.6400e-003	9.6400e-003	0.0000	2.8528	2.8528	2.7700e-003	0.0000	2.9222
Energy	0.0239	0.2045	0.0870	1.3100e-003		0.0165	0.0165		0.0165	0.0165	0.0000	604.5346	604.5346	0.0212	7.7800e-003	607.3827
Mobile	0.4926	2.4087	5.4388	0.0147	1.1252	0.0199	1.1451	0.3029	0.0188	0.3216	0.0000	1,352.0661	1,352.0661	0.0638	0.0000	1,353.6610
Waste						0.0000	0.0000		0.0000	0.0000	22.1301	0.0000	22.1301	1.3079	0.0000	54.8263
Water						0.0000	0.0000		0.0000	0.0000	4.8989	34.2188	39.1176	0.5047	0.0122	55.3712
Total	**1.6824**	**2.6335**	**7.2808**	**0.0161**	**1.1252**	**0.0461**	**1.1712**	**0.3029**	**0.0449**	**0.3478**	**27.0290**	**1,993.6723**	**2,020.7013**	**1.9003**	**0.0200**	**2,074.1634**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.57**	**2.76**	**1.49**	**3.35**	**2.00**	**8.19**	**2.26**	**2.00**	**8.34**	**2.87**	**0.00**	**3.96**	**3.91**	**0.11**	**4.77**	**3.83**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/28/2018	10/26/2018	5	110	
2	Site Preparation	Site Preparation	10/27/2018	11/9/2018	5	10	
3	Grading	Grading	11/10/2018	12/21/2018	5	30	
4	Paving	Paving	12/22/2018	1/18/2019	5	20	
5	Building Construction	Building Construction	1/19/2019	3/13/2020	5	300	
6	Architectural Coating	Architectural Coating	3/14/2020	5/28/2020	5	54	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 18.26

Acres of Paving: 5.44

Residential Indoor: 479,925; Residential Outdoor: 159,975; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	927.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	270.00	64.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	54.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Demolition - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1003	0.0000	0.1003	0.0152	0.0000	0.0152	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2045	2.1077	1.2267	2.1400e-003		0.1066	0.1066		0.0993	0.0993	0.0000	193.1824	193.1824	0.0532	0.0000	194.5130
Total	**0.2045**	**2.1077**	**1.2267**	**2.1400e-003**	**0.1003**	**0.1066**	**0.2069**	**0.0152**	**0.0993**	**0.1145**	**0.0000**	**193.1824**	**193.1824**	**0.0532**	**0.0000**	**194.5130**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.6700e-003	0.1592	0.0322	3.7000e-004	7.6900e-003	8.7000e-004	8.5700e-003	2.1100e-003	8.4000e-004	2.9500e-003	0.0000	36.4976	36.4976	2.3200e-003	0.0000	36.5556
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.7200e-003	3.6700e-003	0.0362	7.0000e-005	6.4700e-003	6.0000e-005	6.5300e-003	1.7200e-003	5.0000e-005	1.7800e-003	0.0000	6.3383	6.3383	2.8000e-004	0.0000	6.3453
Total	**9.3900e-003**	**0.1628**	**0.0683**	**4.4000e-004**	**0.0142**	**9.3000e-004**	**0.0151**	**3.8300e-003**	**8.9000e-004**	**4.7300e-003**	**0.0000**	**42.8359**	**42.8359**	**2.6000e-003**	**0.0000**	**42.9009**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0451	0.0000	0.0451	6.8300e-003	0.0000	6.8300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0254	0.1102	1.2804	2.1400e-003		3.3900e-003	3.3900e-003		3.3900e-003	3.3900e-003	0.0000	193.1822	193.1822	0.0532	0.0000	194.5128
Total	**0.0254**	**0.1102**	**1.2804**	**2.1400e-003**	**0.0451**	**3.3900e-003**	**0.0485**	**6.8300e-003**	**3.3900e-003**	**0.0102**	**0.0000**	**193.1822**	**193.1822**	**0.0532**	**0.0000**	**194.5128**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.6700e-003	0.1592	0.0322	3.7000e-004	7.6900e-003	8.7000e-004	8.5700e-003	2.1100e-003	8.4000e-004	2.9500e-003	0.0000	36.4976	36.4976	2.3200e-003	0.0000	36.5556
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.7200e-003	3.6700e-003	0.0362	7.0000e-005	6.4700e-003	6.0000e-005	6.5300e-003	1.7200e-003	5.0000e-005	1.7800e-003	0.0000	6.3383	6.3383	2.8000e-004	0.0000	6.3453
Total	**9.3900e-003**	**0.1628**	**0.0683**	**4.4000e-004**	**0.0142**	**9.3000e-004**	**0.0151**	**3.8300e-003**	**8.9000e-004**	**4.7300e-003**	**0.0000**	**42.8359**	**42.8359**	**2.6000e-003**	**0.0000**	**42.9009**

3.3 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0228	0.2410	0.1124	1.9000e-004		0.0129	0.0129		0.0119	0.0119	0.0000	17.3800	17.3800	5.4100e-003	0.0000	17.5152
Total	**0.0228**	**0.2410**	**0.1124**	**1.9000e-004**	**0.0903**	**0.0129**	**0.1032**	**0.0497**	**0.0119**	**0.0615**	**0.0000**	**17.3800**	**17.3800**	**5.4100e-003**	**0.0000**	**17.5152**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.2000e-004	4.0000e-004	3.9400e-003	1.0000e-005	7.1000e-004	1.0000e-005	7.1000e-004	1.9000e-004	1.0000e-005	1.9000e-004	0.0000	0.6915	0.6915	3.0000e-005	0.0000	0.6922
Total	**5.2000e-004**	**4.0000e-004**	**3.9400e-003**	**1.0000e-005**	**7.1000e-004**	**1.0000e-005**	**7.1000e-004**	**1.9000e-004**	**1.0000e-005**	**1.9000e-004**	**0.0000**	**0.6915**	**0.6915**	**3.0000e-005**	**0.0000**	**0.6922**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0407	0.0000	0.0407	0.0223	0.0000	0.0223	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.3300e-003	0.0101	0.1043	1.9000e-004		3.1000e-004	3.1000e-004		3.1000e-004	3.1000e-004	0.0000	17.3799	17.3799	5.4100e-003	0.0000	17.5152
Total	**2.3300e-003**	**0.0101**	**0.1043**	**1.9000e-004**	**0.0407**	**3.1000e-004**	**0.0410**	**0.0223**	**3.1000e-004**	**0.0227**	**0.0000**	**17.3799**	**17.3799**	**5.4100e-003**	**0.0000**	**17.5152**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.2000e-004	4.0000e-004	3.9400e-003	1.0000e-005	7.1000e-004	1.0000e-005	7.1000e-004	1.9000e-004	1.0000e-005	1.9000e-004	0.0000	0.6915	0.6915	3.0000e-005	0.0000	0.6922
Total	**5.2000e-004**	**4.0000e-004**	**3.9400e-003**	**1.0000e-005**	**7.1000e-004**	**1.0000e-005**	**7.1000e-004**	**1.9000e-004**	**1.0000e-005**	**1.9000e-004**	**0.0000**	**0.6915**	**0.6915**	**3.0000e-005**	**0.0000**	**0.6922**

3.4 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1000	0.0000	0.1000	0.0507	0.0000	0.0507	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0764	0.8928	0.5263	9.3000e-004		0.0395	0.0395		0.0364	0.0364	0.0000	84.9728	84.9728	0.0265	0.0000	85.6341
Total	**0.0764**	**0.8928**	**0.5263**	**9.3000e-004**	**0.1000**	**0.0395**	**0.1395**	**0.0507**	**0.0364**	**0.0871**	**0.0000**	**84.9728**	**84.9728**	**0.0265**	**0.0000**	**85.6341**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7200e-003	1.3300e-003	0.0132	3.0000e-005	2.3500e-003	2.0000e-005	2.3800e-003	6.3000e-004	2.0000e-005	6.5000e-004	0.0000	2.3048	2.3048	1.0000e-004	0.0000	2.3074
Total	**1.7200e-003**	**1.3300e-003**	**0.0132**	**3.0000e-005**	**2.3500e-003**	**2.0000e-005**	**2.3800e-003**	**6.3000e-004**	**2.0000e-005**	**6.5000e-004**	**0.0000**	**2.3048**	**2.3048**	**1.0000e-004**	**0.0000**	**2.3074**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0450	0.0000	0.0450	0.0228	0.0000	0.0228	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0114	0.0495	0.4950	9.3000e-004		1.5200e-003	1.5200e-003		1.5200e-003	1.5200e-003	0.0000	84.9727	84.9727	0.0265	0.0000	85.6340
Total	**0.0114**	**0.0495**	**0.4950**	**9.3000e-004**	**0.0450**	**1.5200e-003**	**0.0465**	**0.0228**	**1.5200e-003**	**0.0243**	**0.0000**	**84.9727**	**84.9727**	**0.0265**	**0.0000**	**85.6340**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7200e-003	1.3300e-003	0.0132	3.0000e-005	2.3500e-003	2.0000e-005	2.3800e-003	6.3000e-004	2.0000e-005	6.5000e-004	0.0000	2.3048	2.3048	1.0000e-004	0.0000	2.3074
Total	**1.7200e-003**	**1.3300e-003**	**0.0132**	**3.0000e-005**	**2.3500e-003**	**2.0000e-005**	**2.3800e-003**	**6.3000e-004**	**2.0000e-005**	**6.5000e-004**	**0.0000**	**2.3048**	**2.3048**	**1.0000e-004**	**0.0000**	**2.3074**

3.5 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.9300e-003	0.0526	0.0444	7.0000e-005		2.8700e-003	2.8700e-003		2.6400e-003	2.6400e-003	0.0000	6.2435	6.2435	1.9400e-003	0.0000	6.2921
Paving	2.1400e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**7.0700e-003**	**0.0526**	**0.0444**	**7.0000e-005**		**2.8700e-003**	**2.8700e-003**		**2.6400e-003**	**2.6400e-003**	**0.0000**	**6.2435**	**6.2435**	**1.9400e-003**	**0.0000**	**6.2921**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6000e-004	2.0000e-004	1.9700e-003	0.0000	3.5000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.3457	0.3457	2.0000e-005	0.0000	0.3461
Total	**2.6000e-004**	**2.0000e-004**	**1.9700e-003**	**0.0000**	**3.5000e-004**	**0.0000**	**3.6000e-004**	**9.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3457**	**0.3457**	**2.0000e-005**	**0.0000**	**0.3461**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.4000e-004	3.6500e-003	0.0519	7.0000e-005		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	6.2435	6.2435	1.9400e-003	0.0000	6.2921
Paving	2.1400e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.9800e-003**	**3.6500e-003**	**0.0519**	**7.0000e-005**		**1.1000e-004**	**1.1000e-004**		**1.1000e-004**	**1.1000e-004**	**0.0000**	**6.2435**	**6.2435**	**1.9400e-003**	**0.0000**	**6.2921**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6000e-004	2.0000e-004	1.9700e-003	0.0000	3.5000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.3457	0.3457	2.0000e-005	0.0000	0.3461
Total	**2.6000e-004**	**2.0000e-004**	**1.9700e-003**	**0.0000**	**3.5000e-004**	**0.0000**	**3.6000e-004**	**9.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3457**	**0.3457**	**2.0000e-005**	**0.0000**	**0.3461**

3.5 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0102	0.1067	0.1027	1.6000e-004		5.7700e-003	5.7700e-003		5.3100e-003	5.3100e-003	0.0000	14.3326	14.3326	4.5300e-003	0.0000	14.4460
Paving	4.9900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0152**	**0.1067**	**0.1027**	**1.6000e-004**		**5.7700e-003**	**5.7700e-003**		**5.3100e-003**	**5.3100e-003**	**0.0000**	**14.3326**	**14.3326**	**4.5300e-003**	**0.0000**	**14.4460**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.5000e-004	4.1000e-004	4.0900e-003	1.0000e-005	8.2000e-004	1.0000e-005	8.3000e-004	2.2000e-004	1.0000e-005	2.3000e-004	0.0000	0.7833	0.7833	3.0000e-005	0.0000	0.7841
Total	**5.5000e-004**	**4.1000e-004**	**4.0900e-003**	**1.0000e-005**	**8.2000e-004**	**1.0000e-005**	**8.3000e-004**	**2.2000e-004**	**1.0000e-005**	**2.3000e-004**	**0.0000**	**0.7833**	**0.7833**	**3.0000e-005**	**0.0000**	**0.7841**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.9600e-003	8.5100e-003	0.1211	1.6000e-004		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004	0.0000	14.3326	14.3326	4.5300e-003	0.0000	14.4460
Paving	4.9900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.9500e-003**	**8.5100e-003**	**0.1211**	**1.6000e-004**		**2.6000e-004**	**2.6000e-004**		**2.6000e-004**	**2.6000e-004**	**0.0000**	**14.3326**	**14.3326**	**4.5300e-003**	**0.0000**	**14.4460**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.5000e-004	4.1000e-004	4.0900e-003	1.0000e-005	8.2000e-004	1.0000e-005	8.3000e-004	2.2000e-004	1.0000e-005	2.3000e-004	0.0000	0.7833	0.7833	3.0000e-005	0.0000	0.7841
Total	**5.5000e-004**	**4.1000e-004**	**4.0900e-003**	**1.0000e-005**	**8.2000e-004**	**1.0000e-005**	**8.3000e-004**	**2.2000e-004**	**1.0000e-005**	**2.3000e-004**	**0.0000**	**0.7833**	**0.7833**	**3.0000e-005**	**0.0000**	**0.7841**

3.6 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2916	2.6032	2.1197	3.3200e-003		0.1593	0.1593		0.1498	0.1498	0.0000	290.3537	290.3537	0.0707	0.0000	292.1220
Total	**0.2916**	**2.6032**	**2.1197**	**3.3200e-003**		**0.1593**	**0.1593**		**0.1498**	**0.1498**	**0.0000**	**290.3537**	**290.3537**	**0.0707**	**0.0000**	**292.1220**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0397	1.0472	0.2774	2.1200e-003	0.0513	8.1500e-003	0.0594	0.0148	7.8000e-003	0.0226	0.0000	204.4444	204.4444	0.0136	0.0000	204.7838
Worker	0.1732	0.1305	1.2973	2.7600e-003	0.2617	2.2100e-003	0.2639	0.0697	2.0400e-003	0.0717	0.0000	248.7472	248.7472	0.0101	0.0000	248.9995
Total	**0.2129**	**1.1778**	**1.5748**	**4.8800e-003**	**0.3129**	**0.0104**	**0.3233**	**0.0845**	**9.8400e-003**	**0.0943**	**0.0000**	**453.1916**	**453.1916**	**0.0237**	**0.0000**	**453.7834**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0826	0.3526	2.1947	3.3200e-003		0.0170	0.0170		0.0170	0.0170	0.0000	290.3533	290.3533	0.0707	0.0000	292.1217
Total	**0.0826**	**0.3526**	**2.1947**	**3.3200e-003**		**0.0170**	**0.0170**		**0.0170**	**0.0170**	**0.0000**	**290.3533**	**290.3533**	**0.0707**	**0.0000**	**292.1217**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0397	1.0472	0.2774	2.1200e-003	0.0513	8.1500e-003	0.0594	0.0148	7.8000e-003	0.0226	0.0000	204.4444	204.4444	0.0136	0.0000	204.7838
Worker	0.1732	0.1305	1.2973	2.7600e-003	0.2617	2.2100e-003	0.2639	0.0697	2.0400e-003	0.0717	0.0000	248.7472	248.7472	0.0101	0.0000	248.9995
Total	**0.2129**	**1.1778**	**1.5748**	**4.8800e-003**	**0.3129**	**0.0104**	**0.3233**	**0.0845**	**9.8400e-003**	**0.0943**	**0.0000**	**453.1916**	**453.1916**	**0.0237**	**0.0000**	**453.7834**

3.6 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0562	0.5084	0.4465	7.1000e-004		0.0296	0.0296		0.0278	0.0278	0.0000	61.3767	61.3767	0.0150	0.0000	61.7510
Total	**0.0562**	**0.5084**	**0.4465**	**7.1000e-004**		**0.0296**	**0.0296**		**0.0278**	**0.0278**	**0.0000**	**61.3767**	**61.3767**	**0.0150**	**0.0000**	**61.7510**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.6800e-003	0.2035	0.0514	4.5000e-004	0.0110	1.0800e-003	0.0121	3.1800e-003	1.0400e-003	4.2100e-003	0.0000	43.6651	43.6651	2.6700e-003	0.0000	43.7320
Worker	0.0341	0.0248	0.2492	5.7000e-004	0.0562	4.6000e-004	0.0566	0.0150	4.2000e-004	0.0154	0.0000	51.7280	51.7280	1.9000e-003	0.0000	51.7754
Total	**0.0408**	**0.2283**	**0.3006**	**1.0200e-003**	**0.0672**	**1.5400e-003**	**0.0687**	**0.0181**	**1.4600e-003**	**0.0196**	**0.0000**	**95.3931**	**95.3931**	**4.5700e-003**	**0.0000**	**95.5074**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0166	0.0743	0.4699	7.1000e-004		3.3100e-003	3.3100e-003		3.3100e-003	3.3100e-003	0.0000	61.3766	61.3766	0.0150	0.0000	61.7509
Total	**0.0166**	**0.0743**	**0.4699**	**7.1000e-004**		**3.3100e-003**	**3.3100e-003**		**3.3100e-003**	**3.3100e-003**	**0.0000**	**61.3766**	**61.3766**	**0.0150**	**0.0000**	**61.7509**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.6800e-003	0.2035	0.0514	4.5000e-004	0.0110	1.0800e-003	0.0121	3.1800e-003	1.0400e-003	4.2100e-003	0.0000	43.6651	43.6651	2.6700e-003	0.0000	43.7320
Worker	0.0341	0.0248	0.2492	5.7000e-004	0.0562	4.6000e-004	0.0566	0.0150	4.2000e-004	0.0154	0.0000	51.7280	51.7280	1.9000e-003	0.0000	51.7754
Total	**0.0408**	**0.2283**	**0.3006**	**1.0200e-003**	**0.0672**	**1.5400e-003**	**0.0687**	**0.0181**	**1.4600e-003**	**0.0196**	**0.0000**	**95.3931**	**95.3931**	**4.5700e-003**	**0.0000**	**95.5074**

3.7 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.7178					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.5400e-003	0.0455	0.0495	8.0000e-005		3.0000e-003	3.0000e-003		3.0000e-003	3.0000e-003	0.0000	6.8938	6.8938	5.3000e-004	0.0000	6.9071
Total	**1.7243**	**0.0455**	**0.0495**	**8.0000e-005**		**3.0000e-003**	**3.0000e-003**		**3.0000e-003**	**3.0000e-003**	**0.0000**	**6.8938**	**6.8938**	**5.3000e-004**	**0.0000**	**6.9071**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.9500e-003	5.0500e-003	0.0508	1.2000e-004	0.0114	9.0000e-005	0.0115	3.0500e-003	9.0000e-005	3.1300e-003	0.0000	10.5408	10.5408	3.9000e-004	0.0000	10.5505
Total	**6.9500e-003**	**5.0500e-003**	**0.0508**	**1.2000e-004**	**0.0114**	**9.0000e-005**	**0.0115**	**3.0500e-003**	**9.0000e-005**	**3.1300e-003**	**0.0000**	**10.5408**	**10.5408**	**3.9000e-004**	**0.0000**	**10.5505**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.7178					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.0000e-004	3.4800e-003	0.0495	8.0000e-005		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	6.8938	6.8938	5.3000e-004	0.0000	6.9071
Total	**1.7186**	**3.4800e-003**	**0.0495**	**8.0000e-005**		**1.1000e-004**	**1.1000e-004**		**1.1000e-004**	**1.1000e-004**	**0.0000**	**6.8938**	**6.8938**	**5.3000e-004**	**0.0000**	**6.9071**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.9500e-003	5.0500e-003	0.0508	1.2000e-004	0.0114	9.0000e-005	0.0115	3.0500e-003	9.0000e-005	3.1300e-003	0.0000	10.5408	10.5408	3.9000e-004	0.0000	10.5505
Total	**6.9500e-003**	**5.0500e-003**	**0.0508**	**1.2000e-004**	**0.0114**	**9.0000e-005**	**0.0115**	**3.0500e-003**	**9.0000e-005**	**3.1300e-003**	**0.0000**	**10.5408**	**10.5408**	**3.9000e-004**	**0.0000**	**10.5505**

Round Barn Village Project - Tier IV Mitigated Construction

Sonoma-San Francisco County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	237.15	1000sqft	5.44	237,150.00	0
Condo/Townhouse	237.00	Dwelling Unit	12.82	237,000.00	678

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	75
Climate Zone	4			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Mitigated construction (Tier 4)
Construction anticipated to start in Summer 2018 and be completed in Summer 2020

Land Use - Based on project description and site envelope

Construction Phase - Anticipated Construction Schedule: Summer 2018 - Summer 2020
Demolition of existing foundations and parking lot is estimated to take approximately 5 months

Demolition - Existing foundations and parking lot to be removed

Grading - Total Disturbance Area: approximately 18.26 acres
Estimate provided by the Project's civil engineer

Construction Off-road Equipment Mitigation - Tier IV mitigation for construction equipment >50 HP
Compliance with BAAQMD best management practices threshold for fugitive dust; recommended measures from BAAQMD's Basic Construction Mitigation Measures Recommended for All Proposed Projects.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	20.00	54.00
tblConstructionPhase	NumDays	20.00	110.00

tblConstructionPhase	PhaseEndDate	2/14/2020	3/13/2020
tblConstructionPhase	PhaseEndDate	3/13/2020	1/18/2019
tblConstructionPhase	PhaseStartDate	12/22/2018	1/19/2019
tblConstructionPhase	PhaseStartDate	2/15/2020	12/22/2018
tblGrading	AcresOfGrading	75.00	18.26
tblLandUse	LotAcreage	14.81	12.82
tblProjectCharacteristics	OperationalYear	2018	2020

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	5.2073	59.6012	36.0090	0.0638	18.2141	2.6351	20.7923	9.9699	2.4243	12.3418	0.0000	6,424.6327	6,424.6327	1.9518	0.0000	6,473.4281
2019	4.1135	30.3976	30.3299	0.0680	2.6488	1.3732	4.0220	0.7122	1.2918	2.0040	0.0000	6,794.8394	6,794.8394	0.8422	0.0000	6,815.8945
2020	64.1285	27.6193	28.5886	0.0672	2.6488	1.1748	3.8236	0.7121	1.1050	1.8171	0.0000	6,675.6682	6,675.6682	0.8128	0.0000	6,695.9890
Maximum	**64.1285**	**59.6012**	**36.0090**	**0.0680**	**18.2141**	**2.6351**	**20.7923**	**9.9699**	**2.4243**	**12.3418**	**0.0000**	**6,794.8394**	**6,794.8394**	**1.9518**	**0.0000**	**6,815.8945**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	1.0810	4.9026	33.9188	0.0638	8.2777	0.1029	8.3410	4.5080	0.1028	4.5713	0.0000	6,424.6327	6,424.6327	1.9518	0.0000	6,473.4281
2019	2.4215	12.1738	30.9367	0.0680	2.6488	0.2208	2.8697	0.7122	0.2166	0.9288	0.0000	6,794.8394	6,794.8394	0.8422	0.0000	6,815.8945
2020	63.9161	11.2353	29.4706	0.0672	2.6488	0.1825	2.8313	0.7121	0.1794	0.8916	0.0000	6,675.6682	6,675.6682	0.8128	0.0000	6,695.9890
Maximum	**63.9161**	**12.1738**	**33.9188**	**0.0680**	**8.2777**	**0.2208**	**8.3410**	**4.5080**	**0.2166**	**4.5713**	**0.0000**	**6,794.8394**	**6,794.8394**	**1.9518**	**0.0000**	**6,815.8945**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**8.21**	**75.93**	**0.63**	**0.00**	**42.26**	**90.23**	**50.97**	**47.94**	**89.65**	**60.46**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	6.6967	0.2271	19.6422	1.0300e-003		0.1080	0.1080		0.1080	0.1080		35.2588	35.2588	0.0345		36.1205
Energy	0.1601	1.3680	0.5821	8.7300e-003		0.1106	0.1106		0.1106	0.1106		1,746.3780	1,746.3780	0.0335	0.0320	1,756.7558
Mobile	3.1261	13.3214	31.5727	0.0889	6.7821	0.1141	6.8963	1.8185	0.1077	1.9262		8,989.4741	8,989.4741	0.4034		8,999.5586
Total	**9.9829**	**14.9165**	**51.7970**	**0.0987**	**6.7821**	**0.3327**	**7.1148**	**1.8185**	**0.3262**	**2.1447**		**10,771.1108**	**10,771.1108**	**0.4713**	**0.0320**	**10,792.4349**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	6.6882	0.2257	19.5003	1.0200e-003		0.1071	0.1071		0.1071	0.1071		34.9410	34.9410	0.0340		35.7903
Energy	0.1311	1.1204	0.4768	7.1500e-003		0.0906	0.0906		0.0906	0.0906		1,430.2508	1,430.2508	0.0274	0.0262	1,438.7500
Mobile	3.1057	13.1640	31.0899	0.0873	6.6465	0.1121	6.7586	1.7821	0.1057	1.8878		8,820.6956	8,820.6956	0.3975		8,830.6331
Total	**9.9250**	**14.5100**	**51.0669**	**0.0954**	**6.6465**	**0.3098**	**6.9563**	**1.7821**	**0.3034**	**2.0855**		**10,285.8873**	**10,285.8873**	**0.4589**	**0.0262**	**10,305.1735**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.58**	**2.73**	**1.41**	**3.30**	**2.00**	**6.89**	**2.23**	**2.00**	**6.99**	**2.76**	**0.00**	**4.50**	**4.50**	**2.64**	**18.11**	**4.51**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/28/2018	10/26/2018	5	110	
2	Site Preparation	Site Preparation	10/27/2018	11/9/2018	5	10	
3	Grading	Grading	11/10/2018	12/21/2018	5	30	
4	Paving	Paving	12/22/2018	1/18/2019	5	20	
5	Building Construction	Building Construction	1/19/2019	3/13/2020	5	300	
6	Architectural Coating	Architectural Coating	3/14/2020	5/28/2020	5	54	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 18.26

Acres of Paving: 5.44

Residential Indoor: 479,925; Residential Outdoor: 159,975; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	927.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	270.00	64.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	54.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Demolition - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.8238	0.0000	1.8238	0.2761	0.0000	0.2761			0.0000			0.0000
Off-Road	3.7190	38.3225	22.3040	0.0388		1.9386	1.9386		1.8048	1.8048		3,871.7665	3,871.7665	1.0667		3,898.4344
Total	**3.7190**	**38.3225**	**22.3040**	**0.0388**	**1.8238**	**1.9386**	**3.7623**	**0.2761**	**1.8048**	**2.0810**		**3,871.7665**	**3,871.7665**	**1.0667**		**3,898.4344**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0840	2.8398	0.5666	6.8500e-003	0.1456	0.0157	0.1613	0.0397	0.0151	0.0548		735.4447	735.4447	0.0455		736.5825
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0879	0.0596	0.6897	1.3600e-003	0.1232	1.0300e-003	0.1243	0.0327	9.6000e-004	0.0336		135.1532	135.1532	5.8800e-003		135.3003
Total	**0.1718**	**2.8994**	**1.2563**	**8.2100e-003**	**0.2688**	**0.0168**	**0.2856**	**0.0724**	**0.0160**	**0.0884**		**870.5979**	**870.5979**	**0.0514**		**871.8827**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.8207	0.0000	0.8207	0.1243	0.0000	0.1243			0.0000			0.0000
Off-Road	0.4623	2.0032	23.2798	0.0388		0.0616	0.0616		0.0616	0.0616	0.0000	3,871.7665	3,871.7665	1.0667		3,898.4344
Total	**0.4623**	**2.0032**	**23.2798**	**0.0388**	**0.8207**	**0.0616**	**0.8823**	**0.1243**	**0.0616**	**0.1859**	**0.0000**	**3,871.7665**	**3,871.7665**	**1.0667**		**3,898.4344**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0840	2.8398	0.5666	6.8500e-003	0.1456	0.0157	0.1613	0.0397	0.0151	0.0548		735.4447	735.4447	0.0455		736.5825
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0879	0.0596	0.6897	1.3600e-003	0.1232	1.0300e-003	0.1243	0.0327	9.6000e-004	0.0336		135.1532	135.1532	5.8800e-003		135.3003
Total	**0.1718**	**2.8994**	**1.2563**	**8.2100e-003**	**0.2688**	**0.0168**	**0.2856**	**0.0724**	**0.0160**	**0.0884**		**870.5979**	**870.5979**	**0.0514**		**871.8827**

3.3 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.5627	48.1988	22.4763	0.0380		2.5769	2.5769		2.3708	2.3708		3,831.6239	3,831.6239	1.1928		3,861.4448
Total	**4.5627**	**48.1988**	**22.4763**	**0.0380**	**18.0663**	**2.5769**	**20.6432**	**9.9307**	**2.3708**	**12.3014**		**3,831.6239**	**3,831.6239**	**1.1928**		**3,861.4448**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1054	0.0715	0.8277	1.6300e-003	0.1479	1.2400e-003	0.1491	0.0392	1.1500e-003	0.0404		162.1839	162.1839	7.0600e-003		162.3603
Total	**0.1054**	**0.0715**	**0.8277**	**1.6300e-003**	**0.1479**	**1.2400e-003**	**0.1491**	**0.0392**	**1.1500e-003**	**0.0404**		**162.1839**	**162.1839**	**7.0600e-003**		**162.3603**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	0.4656	2.0175	20.8690	0.0380		0.0621	0.0621		0.0621	0.0621	0.0000	3,831.6239	3,831.6239	1.1928		3,861.4448
Total	**0.4656**	**2.0175**	**20.8690**	**0.0380**	**8.1298**	**0.0621**	**8.1919**	**4.4688**	**0.0621**	**4.5309**	**0.0000**	**3,831.6239**	**3,831.6239**	**1.1928**		**3,861.4448**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1054	0.0715	0.8277	1.6300e-003	0.1479	1.2400e-003	0.1491	0.0392	1.1500e-003	0.0404		162.1839	162.1839	7.0600e-003		162.3603
Total	**0.1054**	**0.0715**	**0.8277**	**1.6300e-003**	**0.1479**	**1.2400e-003**	**0.1491**	**0.0392**	**1.1500e-003**	**0.0404**		**162.1839**	**162.1839**	**7.0600e-003**		**162.3603**

3.4 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.6676	0.0000	6.6676	3.3799	0.0000	3.3799			0.0000			0.0000
Off-Road	5.0901	59.5218	35.0894	0.0620		2.6337	2.6337		2.4230	2.4230		6,244.4284	6,244.4284	1.9440		6,293.0278
Total	**5.0901**	**59.5218**	**35.0894**	**0.0620**	**6.6676**	**2.6337**	**9.3013**	**3.3799**	**2.4230**	**5.8030**		**6,244.4284**	**6,244.4284**	**1.9440**		**6,293.0278**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1172	0.0794	0.9196	1.8100e-003	0.1643	1.3800e-003	0.1657	0.0436	1.2700e-003	0.0449		180.2043	180.2043	7.8400e-003		180.4003
Total	**0.1172**	**0.0794**	**0.9196**	**1.8100e-003**	**0.1643**	**1.3800e-003**	**0.1657**	**0.0436**	**1.2700e-003**	**0.0449**		**180.2043**	**180.2043**	**7.8400e-003**		**180.4003**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.0004	0.0000	3.0004	1.5210	0.0000	1.5210			0.0000			0.0000
Off-Road	0.7616	3.3000	32.9991	0.0620		0.1015	0.1015		0.1015	0.1015	0.0000	6,244.4284	6,244.4284	1.9440		6,293.0278
Total	**0.7616**	**3.3000**	**32.9991**	**0.0620**	**3.0004**	**0.1015**	**3.1020**	**1.5210**	**0.1015**	**1.6225**	**0.0000**	**6,244.4284**	**6,244.4284**	**1.9440**		**6,293.0278**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1172	0.0794	0.9196	1.8100e-003	0.1643	1.3800e-003	0.1657	0.0436	1.2700e-003	0.0449		180.2043	180.2043	7.8400e-003		180.4003
Total	**0.1172**	**0.0794**	**0.9196**	**1.8100e-003**	**0.1643**	**1.3800e-003**	**0.1657**	**0.0436**	**1.2700e-003**	**0.0449**		**180.2043**	**180.2043**	**7.8400e-003**		**180.4003**

3.5 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6437	17.5209	14.7964	0.0228		0.9561	0.9561		0.8797	0.8797		2,294.0887	2,294.0887	0.7142		2,311.9432
Paving	0.7126					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.3563**	**17.5209**	**14.7964**	**0.0228**		**0.9561**	**0.9561**		**0.8797**	**0.8797**		**2,294.0887**	**2,294.0887**	**0.7142**		**2,311.9432**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0879	0.0596	0.6897	1.3600e-003	0.1232	1.0300e-003	0.1243	0.0327	9.6000e-004	0.0336		135.1532	135.1532	5.8800e-003		135.3003
Total	**0.0879**	**0.0596**	**0.6897**	**1.3600e-003**	**0.1232**	**1.0300e-003**	**0.1243**	**0.0327**	**9.6000e-004**	**0.0336**		**135.1532**	**135.1532**	**5.8800e-003**		**135.3003**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2805	1.2154	17.2957	0.0228		0.0374	0.0374		0.0374	0.0374	0.0000	2,294.0887	2,294.0887	0.7142		2,311.9432
Paving	0.7126					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9931**	**1.2154**	**17.2957**	**0.0228**		**0.0374**	**0.0374**		**0.0374**	**0.0374**	**0.0000**	**2,294.0887**	**2,294.0887**	**0.7142**		**2,311.9432**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0879	0.0596	0.6897	1.3600e-003	0.1232	1.0300e-003	0.1243	0.0327	9.6000e-004	0.0336		135.1532	135.1532	5.8800e-003		135.3003
Total	**0.0879**	**0.0596**	**0.6897**	**1.3600e-003**	**0.1232**	**1.0300e-003**	**0.1243**	**0.0327**	**9.6000e-004**	**0.0336**		**135.1532**	**135.1532**	**5.8800e-003**		**135.3003**

3.5 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4544	15.2441	14.6648	0.0228		0.8246	0.8246		0.7586	0.7586		2,257.0025	2,257.0025	0.7141		2,274.8548
Paving	0.7126					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.1671**	**15.2441**	**14.6648**	**0.0228**		**0.8246**	**0.8246**		**0.7586**	**0.7586**		**2,257.0025**	**2,257.0025**	**0.7141**		**2,274.8548**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0798	0.0524	0.6140	1.3200e-003	0.1232	1.0000e-003	0.1242	0.0327	9.2000e-004	0.0336		131.2490	131.2490	5.2200e-003		131.3794
Total	**0.0798**	**0.0524**	**0.6140**	**1.3200e-003**	**0.1232**	**1.0000e-003**	**0.1242**	**0.0327**	**9.2000e-004**	**0.0336**		**131.2490**	**131.2490**	**5.2200e-003**		**131.3794**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2805	1.2154	17.2957	0.0228		0.0374	0.0374		0.0374	0.0374	0.0000	2,257.0025	2,257.0025	0.7141		2,274.8548
Paving	0.7126					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9931**	**1.2154**	**17.2957**	**0.0228**		**0.0374**	**0.0374**		**0.0374**	**0.0374**	**0.0000**	**2,257.0025**	**2,257.0025**	**0.7141**		**2,274.8548**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0798	0.0524	0.6140	1.3200e-003	0.1232	1.0000e-003	0.1242	0.0327	9.2000e-004	0.0336		131.2490	131.2490	5.2200e-003		131.3794
Total	**0.0798**	**0.0524**	**0.6140**	**1.3200e-003**	**0.1232**	**1.0000e-003**	**0.1242**	**0.0327**	**9.2000e-004**	**0.0336**		**131.2490**	**131.2490**	**5.2200e-003**		**131.3794**

3.6 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.5802	2,591.5802	0.6313		2,607.3635
Total	**2.3612**	**21.0788**	**17.1638**	**0.0269**		**1.2899**	**1.2899**		**1.2127**	**1.2127**		**2,591.5802**	**2,591.5802**	**0.6313**		**2,607.3635**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3154	8.3754	2.1136	0.0173	0.4308	0.0654	0.4962	0.1238	0.0626	0.1864		1,840.7771	1,840.7771	0.1170		1,843.7021
Worker	1.4369	0.9434	11.0526	0.0238	2.2180	0.0179	2.2359	0.5883	0.0165	0.6049		2,362.4821	2,362.4821	0.0939		2,364.8289
Total	**1.7523**	**9.3188**	**13.1662**	**0.0411**	**2.6488**	**0.0833**	**2.7321**	**0.7122**	**0.0791**	**0.7912**		**4,203.2592**	**4,203.2592**	**0.2109**		**4,208.5310**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6692	2.8550	17.7706	0.0269		0.1375	0.1375		0.1375	0.1375	0.0000	2,591.5802	2,591.5802	0.6313		2,607.3635
Total	**0.6692**	**2.8550**	**17.7706**	**0.0269**		**0.1375**	**0.1375**		**0.1375**	**0.1375**	**0.0000**	**2,591.5802**	**2,591.5802**	**0.6313**		**2,607.3635**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3154	8.3754	2.1136	0.0173	0.4308	0.0654	0.4962	0.1238	0.0626	0.1864		1,840.7771	1,840.7771	0.1170		1,843.7021
Worker	1.4369	0.9434	11.0526	0.0238	2.2180	0.0179	2.2359	0.5883	0.0165	0.6049		2,362.4821	2,362.4821	0.0939		2,364.8289
Total	**1.7523**	**9.3188**	**13.1662**	**0.0411**	**2.6488**	**0.0833**	**2.7321**	**0.7122**	**0.0791**	**0.7912**		**4,203.2592**	**4,203.2592**	**0.2109**		**4,208.5310**

3.6 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**		**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2467	7.5976	1.8231	0.0172	0.4308	0.0405	0.4713	0.1238	0.0387	0.1626		1,832.8142	1,832.8142	0.1075		1,835.5017
Worker	1.3201	0.8356	9.9171	0.0230	2.2180	0.0173	2.2353	0.5883	0.0159	0.6042		2,289.7910	2,289.7910	0.0825		2,291.8529
Total	**1.5668**	**8.4332**	**11.7401**	**0.0402**	**2.6488**	**0.0578**	**2.7065**	**0.7121**	**0.0547**	**0.7668**		**4,122.6052**	**4,122.6052**	**0.1900**		**4,127.3545**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6261	2.8021	17.7304	0.0269		0.1248	0.1248		0.1248	0.1248	0.0000	2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**0.6261**	**2.8021**	**17.7304**	**0.0269**		**0.1248**	**0.1248**		**0.1248**	**0.1248**	**0.0000**	**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2467	7.5976	1.8231	0.0172	0.4308	0.0405	0.4713	0.1238	0.0387	0.1626		1,832.8142	1,832.8142	0.1075		1,835.5017
Worker	1.3201	0.8356	9.9171	0.0230	2.2180	0.0173	2.2353	0.5883	0.0159	0.6042		2,289.7910	2,289.7910	0.0825		2,291.8529
Total	**1.5668**	**8.4332**	**11.7401**	**0.0402**	**2.6488**	**0.0578**	**2.7065**	**0.7121**	**0.0547**	**0.7668**		**4,122.6052**	**4,122.6052**	**0.1900**		**4,127.3545**

3.7 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	63.6223					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928
Total	**63.8645**	**1.6838**	**1.8314**	**2.9700e-003**		**0.1109**	**0.1109**		**0.1109**	**0.1109**		**281.4481**	**281.4481**	**0.0218**		**281.9928**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2640	0.1671	1.9834	4.6000e-003	0.4436	3.4500e-003	0.4471	0.1177	3.1800e-003	0.1209		457.9582	457.9582	0.0165		458.3706
Total	**0.2640**	**0.1671**	**1.9834**	**4.6000e-003**	**0.4436**	**3.4500e-003**	**0.4471**	**0.1177**	**3.1800e-003**	**0.1209**		**457.9582**	**457.9582**	**0.0165**		**458.3706**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	63.6223					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0297	0.1288	1.8324	2.9700e-003		3.9600e-003	3.9600e-003		3.9600e-003	3.9600e-003	0.0000	281.4481	281.4481	0.0218		281.9928
Total	**63.6520**	**0.1288**	**1.8324**	**2.9700e-003**		**3.9600e-003**	**3.9600e-003**		**3.9600e-003**	**3.9600e-003**	**0.0000**	**281.4481**	**281.4481**	**0.0218**		**281.9928**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2640	0.1671	1.9834	4.6000e-003	0.4436	3.4500e-003	0.4471	0.1177	3.1800e-003	0.1209		457.9582	457.9582	0.0165		458.3706
Total	**0.2640**	**0.1671**	**1.9834**	**4.6000e-003**	**0.4436**	**3.4500e-003**	**0.4471**	**0.1177**	**3.1800e-003**	**0.1209**		**457.9582**	**457.9582**	**0.0165**		**458.3706**

Round Barn Village Project - Tier IV Mitigated Construction

Sonoma-San Francisco County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	237.15	1000sqft	5.44	237,150.00	0
Condo/Townhouse	237.00	Dwelling Unit	12.82	237,000.00	678

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	75
Climate Zone	4			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Mitigated construction (Tier 4)
Construction anticipated to start in Summer 2018 and be completed in Summer 2020

Land Use - Based on project description and site envelope

Construction Phase - Anticipated Construction Schedule: Summer 2018 - Summer 2020
Demolition of existing foundations and parking lot is estimated to take approximately 5 months

Demolition - Existing foundations and parking lot to be removed

Grading - Total Disturbance Area: approximately 18.26 acres
Estimate provided by the Project's civil engineer

Construction Off-road Equipment Mitigation - Tier IV mitigation for construction equipment >50 HP
Compliance with BAAQMD best management practices threshold for fugitive dust; recommended measures from BAAQMD's Basic Construction Mitigation Measures Recommended for All Proposed Projects.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	20.00	54.00
tblConstructionPhase	NumDays	20.00	110.00

tblConstructionPhase	PhaseEndDate	2/14/2020	3/13/2020
tblConstructionPhase	PhaseEndDate	3/13/2020	1/18/2019
tblConstructionPhase	PhaseStartDate	12/22/2018	1/19/2019
tblConstructionPhase	PhaseStartDate	2/15/2020	12/22/2018
tblGrading	AcresOfGrading	75.00	18.26
tblLandUse	LotAcreage	14.81	12.82
tblProjectCharacteristics	OperationalYear	2018	2020

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	5.2168	59.6202	35.9957	0.0637	18.2141	2.6351	20.7923	9.9699	2.4243	12.3418	0.0000	6,411.9357	6,411.9357	1.9516	0.0000	6,460.7254
2019	4.2431	30.7433	30.4128	0.0660	2.6488	1.3747	4.0235	0.7122	1.2933	2.0054	0.0000	6,590.0203	6,590.0203	0.8487	0.0000	6,611.2371
2020	64.1492	27.9089	28.6158	0.0652	2.6488	1.1757	3.8245	0.7121	1.1059	1.8180	0.0000	6,474.5810	6,474.5810	0.8183	0.0000	6,495.0382
Maximum	**64.1492**	**59.6202**	**35.9957**	**0.0660**	**18.2141**	**2.6351**	**20.7923**	**9.9699**	**2.4243**	**12.3418**	**0.0000**	**6,590.0203**	**6,590.0203**	**1.9516**	**0.0000**	**6,611.2371**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	1.0881	4.9927	33.9055	0.0637	8.2777	0.1029	8.3410	4.5080	0.1028	4.5713	0.0000	6,411.9357	6,411.9357	1.9516	0.0000	6,460.7254
2019	2.5511	12.5194	31.0196	0.0660	2.6488	0.2224	2.8712	0.7122	0.2181	0.9302	0.0000	6,590.0203	6,590.0203	0.8487	0.0000	6,611.2371
2020	63.9367	11.5249	29.4977	0.0652	2.6488	0.1835	2.8322	0.7121	0.1803	0.8924	0.0000	6,474.5810	6,474.5810	0.8183	0.0000	6,495.0381
Maximum	**63.9367**	**12.5194**	**33.9055**	**0.0660**	**8.2777**	**0.2224**	**8.3410**	**4.5080**	**0.2181**	**4.5713**	**0.0000**	**6,590.0203**	**6,590.0203**	**1.9516**	**0.0000**	**6,611.2371**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**8.20**	**75.45**	**0.63**	**0.00**	**42.26**	**90.19**	**50.96**	**47.94**	**89.61**	**60.45**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	6.6967	0.2271	19.6422	1.0300e-003		0.1080	0.1080		0.1080	0.1080		35.2588	35.2588	0.0345		36.1205
Energy	0.1601	1.3680	0.5821	8.7300e-003		0.1106	0.1106		0.1106	0.1106		1,746.3780	1,746.3780	0.0335	0.0320	1,756.7558
Mobile	2.7994	14.1168	32.8048	0.0841	6.7821	0.1152	6.8974	1.8185	0.1087	1.9272		8,498.3036	8,498.3036	0.4136		8,508.6430
Total	**9.6562**	**15.7119**	**53.0291**	**0.0938**	**6.7821**	**0.3338**	**7.1159**	**1.8185**	**0.3272**	**2.1458**		**10,279.9404**	**10,279.9404**	**0.4815**	**0.0320**	**10,301.5193**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	6.6882	0.2257	19.5003	1.0200e-003		0.1071	0.1071		0.1071	0.1071		34.9410	34.9410	0.0340		35.7903
Energy	0.1311	1.1204	0.4768	7.1500e-003		0.0906	0.0906		0.0906	0.0906		1,430.2508	1,430.2508	0.0274	0.0262	1,438.7500
Mobile	2.7792	13.9436	32.3628	0.0825	6.6465	0.1131	6.7596	1.7821	0.1067	1.8889		8,338.4566	8,338.4566	0.4080		8,348.6557
Total	**9.5985**	**15.2896**	**52.3398**	**0.0907**	**6.6465**	**0.3108**	**6.9573**	**1.7821**	**0.3044**	**2.0866**		**9,803.6483**	**9,803.6483**	**0.4694**	**0.0262**	**9,823.1961**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.60**	**2.69**	**1.30**	**3.38**	**2.00**	**6.87**	**2.23**	**2.00**	**6.97**	**2.76**	**0.00**	**4.63**	**4.63**	**2.53**	**18.11**	**4.64**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/28/2018	10/26/2018	5	110	
2	Site Preparation	Site Preparation	10/27/2018	11/9/2018	5	10	
3	Grading	Grading	11/10/2018	12/21/2018	5	30	
4	Paving	Paving	12/22/2018	1/18/2019	5	20	
5	Building Construction	Building Construction	1/19/2019	3/13/2020	5	300	
6	Architectural Coating	Architectural Coating	3/14/2020	5/28/2020	5	54	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 18.26

Acres of Paving: 5.44

Residential Indoor: 479,925; Residential Outdoor: 159,975; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	927.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	270.00	64.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	54.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Demolition - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.8238	0.0000	1.8238	0.2761	0.0000	0.2761			0.0000			0.0000
Off-Road	3.7190	38.3225	22.3040	0.0388		1.9386	1.9386		1.8048	1.8048		3,871.7665	3,871.7665	1.0667		3,898.4344
Total	**3.7190**	**38.3225**	**22.3040**	**0.0388**	**1.8238**	**1.9386**	**3.7623**	**0.2761**	**1.8048**	**2.0810**		**3,871.7665**	**3,871.7665**	**1.0667**		**3,898.4344**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0864	2.9157	0.6124	6.7700e-003	0.1456	0.0161	0.1617	0.0397	0.0154	0.0552		726.0192	726.0192	0.0478		727.2146
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0950	0.0738	0.6797	1.2700e-003	0.1232	1.0300e-003	0.1243	0.0327	9.6000e-004	0.0336		125.6305	125.6305	5.7100e-003		125.7732
Total	**0.1814**	**2.9895**	**1.2922**	**8.0400e-003**	**0.2688**	**0.0172**	**0.2860**	**0.0724**	**0.0164**	**0.0888**		**851.6497**	**851.6497**	**0.0535**		**852.9877**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.8207	0.0000	0.8207	0.1243	0.0000	0.1243			0.0000			0.0000
Off-Road	0.4623	2.0032	23.2798	0.0388		0.0616	0.0616		0.0616	0.0616	0.0000	3,871.7665	3,871.7665	1.0667		3,898.4344
Total	**0.4623**	**2.0032**	**23.2798**	**0.0388**	**0.8207**	**0.0616**	**0.8823**	**0.1243**	**0.0616**	**0.1859**	**0.0000**	**3,871.7665**	**3,871.7665**	**1.0667**		**3,898.4344**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0864	2.9157	0.6124	6.7700e-003	0.1456	0.0161	0.1617	0.0397	0.0154	0.0552		726.0192	726.0192	0.0478		727.2146
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0950	0.0738	0.6797	1.2700e-003	0.1232	1.0300e-003	0.1243	0.0327	9.6000e-004	0.0336		125.6305	125.6305	5.7100e-003		125.7732
Total	**0.1814**	**2.9895**	**1.2922**	**8.0400e-003**	**0.2688**	**0.0172**	**0.2860**	**0.0724**	**0.0164**	**0.0888**		**851.6497**	**851.6497**	**0.0535**		**852.9877**

3.3 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.5627	48.1988	22.4763	0.0380		2.5769	2.5769		2.3708	2.3708		3,831.6239	3,831.6239	1.1928		3,861.4448
Total	**4.5627**	**48.1988**	**22.4763**	**0.0380**	**18.0663**	**2.5769**	**20.6432**	**9.9307**	**2.3708**	**12.3014**		**3,831.6239**	**3,831.6239**	**1.1928**		**3,861.4448**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1140	0.0885	0.8157	1.5200e-003	0.1479	1.2400e-003	0.1491	0.0392	1.1500e-003	0.0404		150.7566	150.7566	6.8500e-003		150.9278
Total	**0.1140**	**0.0885**	**0.8157**	**1.5200e-003**	**0.1479**	**1.2400e-003**	**0.1491**	**0.0392**	**1.1500e-003**	**0.0404**		**150.7566**	**150.7566**	**6.8500e-003**		**150.9278**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	0.4656	2.0175	20.8690	0.0380		0.0621	0.0621		0.0621	0.0621	0.0000	3,831.6239	3,831.6239	1.1928		3,861.4448
Total	**0.4656**	**2.0175**	**20.8690**	**0.0380**	**8.1298**	**0.0621**	**8.1919**	**4.4688**	**0.0621**	**4.5309**	**0.0000**	**3,831.6239**	**3,831.6239**	**1.1928**		**3,861.4448**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1140	0.0885	0.8157	1.5200e-003	0.1479	1.2400e-003	0.1491	0.0392	1.1500e-003	0.0404		150.7566	150.7566	6.8500e-003		150.9278
Total	**0.1140**	**0.0885**	**0.8157**	**1.5200e-003**	**0.1479**	**1.2400e-003**	**0.1491**	**0.0392**	**1.1500e-003**	**0.0404**		**150.7566**	**150.7566**	**6.8500e-003**		**150.9278**

3.4 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.6676	0.0000	6.6676	3.3799	0.0000	3.3799			0.0000			0.0000
Off-Road	5.0901	59.5218	35.0894	0.0620		2.6337	2.6337		2.4230	2.4230		6,244.4284	6,244.4284	1.9440		6,293.0278
Total	**5.0901**	**59.5218**	**35.0894**	**0.0620**	**6.6676**	**2.6337**	**9.3013**	**3.3799**	**2.4230**	**5.8030**		**6,244.4284**	**6,244.4284**	**1.9440**		**6,293.0278**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1267	0.0984	0.9063	1.6900e-003	0.1643	1.3800e-003	0.1657	0.0436	1.2700e-003	0.0449		167.5073	167.5073	7.6100e-003		167.6976
Total	**0.1267**	**0.0984**	**0.9063**	**1.6900e-003**	**0.1643**	**1.3800e-003**	**0.1657**	**0.0436**	**1.2700e-003**	**0.0449**		**167.5073**	**167.5073**	**7.6100e-003**		**167.6976**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.0004	0.0000	3.0004	1.5210	0.0000	1.5210			0.0000			0.0000
Off-Road	0.7616	3.3000	32.9991	0.0620		0.1015	0.1015		0.1015	0.1015	0.0000	6,244.4284	6,244.4284	1.9440		6,293.0278
Total	**0.7616**	**3.3000**	**32.9991**	**0.0620**	**3.0004**	**0.1015**	**3.1020**	**1.5210**	**0.1015**	**1.6225**	**0.0000**	**6,244.4284**	**6,244.4284**	**1.9440**		**6,293.0278**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1267	0.0984	0.9063	1.6900e-003	0.1643	1.3800e-003	0.1657	0.0436	1.2700e-003	0.0449		167.5073	167.5073	7.6100e-003		167.6976
Total	**0.1267**	**0.0984**	**0.9063**	**1.6900e-003**	**0.1643**	**1.3800e-003**	**0.1657**	**0.0436**	**1.2700e-003**	**0.0449**		**167.5073**	**167.5073**	**7.6100e-003**		**167.6976**

3.5 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6437	17.5209	14.7964	0.0228		0.9561	0.9561		0.8797	0.8797		2,294.0887	2,294.0887	0.7142		2,311.9432
Paving	0.7126					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.3563**	**17.5209**	**14.7964**	**0.0228**		**0.9561**	**0.9561**		**0.8797**	**0.8797**		**2,294.0887**	**2,294.0887**	**0.7142**		**2,311.9432**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0950	0.0738	0.6797	1.2700e-003	0.1232	1.0300e-003	0.1243	0.0327	9.6000e-004	0.0336		125.6305	125.6305	5.7100e-003		125.7732
Total	**0.0950**	**0.0738**	**0.6797**	**1.2700e-003**	**0.1232**	**1.0300e-003**	**0.1243**	**0.0327**	**9.6000e-004**	**0.0336**		**125.6305**	**125.6305**	**5.7100e-003**		**125.7732**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2805	1.2154	17.2957	0.0228		0.0374	0.0374		0.0374	0.0374	0.0000	2,294.0887	2,294.0887	0.7142		2,311.9432
Paving	0.7126					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9931**	**1.2154**	**17.2957**	**0.0228**		**0.0374**	**0.0374**		**0.0374**	**0.0374**	**0.0000**	**2,294.0887**	**2,294.0887**	**0.7142**		**2,311.9432**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0950	0.0738	0.6797	1.2700e-003	0.1232	1.0300e-003	0.1243	0.0327	9.6000e-004	0.0336		125.6305	125.6305	5.7100e-003		125.7732
Total	**0.0950**	**0.0738**	**0.6797**	**1.2700e-003**	**0.1232**	**1.0300e-003**	**0.1243**	**0.0327**	**9.6000e-004**	**0.0336**		**125.6305**	**125.6305**	**5.7100e-003**		**125.7732**

3.5 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4544	15.2441	14.6648	0.0228		0.8246	0.8246		0.7586	0.7586		2,257.0025	2,257.0025	0.7141		2,274.8548
Paving	0.7126					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.1671**	**15.2441**	**14.6648**	**0.0228**		**0.8246**	**0.8246**		**0.7586**	**0.7586**		**2,257.0025**	**2,257.0025**	**0.7141**		**2,274.8548**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0862	0.0650	0.6023	1.2300e-003	0.1232	1.0000e-003	0.1242	0.0327	9.2000e-004	0.0336		121.9835	121.9835	5.0500e-003		122.1096
Total	**0.0862**	**0.0650**	**0.6023**	**1.2300e-003**	**0.1232**	**1.0000e-003**	**0.1242**	**0.0327**	**9.2000e-004**	**0.0336**		**121.9835**	**121.9835**	**5.0500e-003**		**122.1096**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2805	1.2154	17.2957	0.0228		0.0374	0.0374		0.0374	0.0374	0.0000	2,257.0025	2,257.0025	0.7141		2,274.8548
Paving	0.7126					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9931**	**1.2154**	**17.2957**	**0.0228**		**0.0374**	**0.0374**		**0.0374**	**0.0374**	**0.0000**	**2,257.0025**	**2,257.0025**	**0.7141**		**2,274.8548**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0862	0.0650	0.6023	1.2300e-003	0.1232	1.0000e-003	0.1242	0.0327	9.2000e-004	0.0336		121.9835	121.9835	5.0500e-003		122.1096
Total	**0.0862**	**0.0650**	**0.6023**	**1.2300e-003**	**0.1232**	**1.0000e-003**	**0.1242**	**0.0327**	**9.2000e-004**	**0.0336**		**121.9835**	**121.9835**	**5.0500e-003**		**122.1096**

3.6 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.5802	2,591.5802	0.6313		2,607.3635
Total	**2.3612**	**21.0788**	**17.1638**	**0.0269**		**1.2899**	**1.2899**		**1.2127**	**1.2127**		**2,591.5802**	**2,591.5802**	**0.6313**		**2,607.3635**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3311	8.4954	2.4078	0.0170	0.4308	0.0669	0.4977	0.1238	0.0640	0.1879		1,802.7379	1,802.7379	0.1265		1,805.9004
Worker	1.5508	1.1690	10.8412	0.0221	2.2180	0.0179	2.2359	0.5883	0.0165	0.6049		2,195.7023	2,195.7023	0.0908		2,197.9732
Total	**1.8820**	**9.6645**	**13.2490**	**0.0391**	**2.6488**	**0.0848**	**2.7336**	**0.7122**	**0.0805**	**0.7927**		**3,998.4402**	**3,998.4402**	**0.2173**		**4,003.8736**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6692	2.8550	17.7706	0.0269		0.1375	0.1375		0.1375	0.1375	0.0000	2,591.5802	2,591.5802	0.6313		2,607.3635
Total	**0.6692**	**2.8550**	**17.7706**	**0.0269**		**0.1375**	**0.1375**		**0.1375**	**0.1375**	**0.0000**	**2,591.5802**	**2,591.5802**	**0.6313**		**2,607.3635**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3311	8.4954	2.4078	0.0170	0.4308	0.0669	0.4977	0.1238	0.0640	0.1879		1,802.7379	1,802.7379	0.1265		1,805.9004
Worker	1.5508	1.1690	10.8412	0.0221	2.2180	0.0179	2.2359	0.5883	0.0165	0.6049		2,195.7023	2,195.7023	0.0908		2,197.9732
Total	**1.8820**	**9.6645**	**13.2490**	**0.0391**	**2.6488**	**0.0848**	**2.7336**	**0.7122**	**0.0805**	**0.7927**		**3,998.4402**	**3,998.4402**	**0.2173**		**4,003.8736**

3.6 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**		**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2597	7.6875	2.0765	0.0169	0.4308	0.0414	0.4722	0.1238	0.0396	0.1635		1,793.5783	1,793.5783	0.1160		1,796.4790
Worker	1.4233	1.0353	9.6907	0.0214	2.2180	0.0173	2.2353	0.5883	0.0159	0.6042		2,127.9396	2,127.9396	0.0794		2,129.9247
Total	**1.6830**	**8.7229**	**11.7673**	**0.0383**	**2.6488**	**0.0587**	**2.7075**	**0.7121**	**0.0556**	**0.7677**		**3,921.5179**	**3,921.5179**	**0.1954**		**3,926.4037**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6261	2.8021	17.7304	0.0269		0.1248	0.1248		0.1248	0.1248	0.0000	2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**0.6261**	**2.8021**	**17.7304**	**0.0269**		**0.1248**	**0.1248**		**0.1248**	**0.1248**	**0.0000**	**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2597	7.6875	2.0765	0.0169	0.4308	0.0414	0.4722	0.1238	0.0396	0.1635		1,793.5783	1,793.5783	0.1160		1,796.4790
Worker	1.4233	1.0353	9.6907	0.0214	2.2180	0.0173	2.2353	0.5883	0.0159	0.6042		2,127.9396	2,127.9396	0.0794		2,129.9247
Total	**1.6830**	**8.7229**	**11.7673**	**0.0383**	**2.6488**	**0.0587**	**2.7075**	**0.7121**	**0.0556**	**0.7677**		**3,921.5179**	**3,921.5179**	**0.1954**		**3,926.4037**

3.7 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	63.6223					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928
Total	**63.8645**	**1.6838**	**1.8314**	**2.9700e-003**		**0.1109**	**0.1109**		**0.1109**	**0.1109**		**281.4481**	**281.4481**	**0.0218**		**281.9928**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2847	0.2071	1.9382	4.2800e-003	0.4436	3.4500e-003	0.4471	0.1177	3.1800e-003	0.1209		425.5879	425.5879	0.0159		425.9849
Total	**0.2847**	**0.2071**	**1.9382**	**4.2800e-003**	**0.4436**	**3.4500e-003**	**0.4471**	**0.1177**	**3.1800e-003**	**0.1209**		**425.5879**	**425.5879**	**0.0159**		**425.9849**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	63.6223					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0297	0.1288	1.8324	2.9700e-003		3.9600e-003	3.9600e-003		3.9600e-003	3.9600e-003	0.0000	281.4481	281.4481	0.0218		281.9928
Total	**63.6520**	**0.1288**	**1.8324**	**2.9700e-003**		**3.9600e-003**	**3.9600e-003**		**3.9600e-003**	**3.9600e-003**	**0.0000**	**281.4481**	**281.4481**	**0.0218**		**281.9928**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2847	0.2071	1.9382	4.2800e-003	0.4436	3.4500e-003	0.4471	0.1177	3.1800e-003	0.1209		425.5879	425.5879	0.0159		425.9849
Total	**0.2847**	**0.2071**	**1.9382**	**4.2800e-003**	**0.4436**	**3.4500e-003**	**0.4471**	**0.1177**	**3.1800e-003**	**0.1209**		**425.5879**	**425.5879**	**0.0159**		**425.9849**

Round Barn Village Project

No Mitigation

Construction Annual DPM Emissions (as PM2.5 Exhaust)

Construction Scheduling **2018**

8	hours/day	
5	days/week	
31	weeks/year	*start from 5/28/2018
1240	hours/year	

Onsite Construction Area Source Size (m2): 64423.3 from AERMOD

Onsite Construction PM2.5 Emissions

2018 Construction Activity	Onsite Annual DPM Exhaust Emissions (tons/year)	Onsite Annual DPM Exhaust Emissions (g/sec)	Onsite DPM Source Exhaust Emissions (g/m2-sec)
Demolition	9.930E-02	2.020E-02	3.135E-07
Site Preparation	1.190E-02	2.421E-03	3.757E-08
Grading	3.640E-02	7.404E-03	1.149E-07
Paving	2.640E-03	5.370E-04	8.335E-09
Total	**1.502E-01**	**3.056E-02**	**4.744E-07**

	Onsite Annual PM2.5 Fugitive Emissions (tons/year)	Onsite Annual PM2.5 Fugitive Emissions (g/sec)	Onsite Source PM2.5 Fugitive Emissions (g/m2-sec)
	1.52E-02	3.09E-03	4.80E-08
	4.97E-02	1.01E-02	1.57E-07
	5.07E-02	1.03E-02	1.60E-07
	0.00E+00	0.00E+00	0.00E+00
Total	**1.156E-01**	**2.351E-02**	**3.650E-07**

Offsite Construction Vehicle PM2.5 Emissions

2018 Construction Activity	Offsite Hauling Annual DPM Exhaust Emissions (tons/year)	Offsite Vendor Annual DPM Exhaust Emissions (tons/year)	Offsite Workers Annual DPM Exhaust Emissions (tons/year)	
Demolition	8.400E-04	0.000E+00	5.000E-05	
Site Preparation	0.000E+00	0.000E+00	1.000E-05	
Grading	0.000E+00	0.000E+00	2.000E-05	
Paving	0.000E+00	2.100E-04	0.000E+00	
Total (tons/year)	**8.400E-04**	**2.100E-04**	**8.000E-05**	**1.130E-03**
Trip Distance assumed in CalEEMod (mi)	20.0	7.3	10.8	
Offsite Project Trip Distance Along Roadway Segment Project> Round Barn Blvd> Fountain Grove Parkway> US 101(mi)	0.54	0.54	0.54	
Offsite Project Emissions Along Roadway Segment Project> (tons/year)	**2.266E-05**	**1.552E-05**	**3.996E-06**	

	Offsite Hauling Annual PM2.5 Fugitive Emissions (tons/year)	Offsite Vendor Annual PM2.5 Fugitive Emissions (tons/year)	Offsite Workers Annual PM2.5 Fugitive Emissions (tons/year)
	2.11E-03	0.00E+00	1.72E-03
	0.00E+00	0.00E+00	1.90E-04
	0.000000	0.00E+00	6.30E-04
	0.00E+00	0.00E+00	9.00E-05
Total (tons/year)	**2.110E-03**	**0.000E+00**	**2.630E-03**
	20	7.3	10.8
	0.54	0.54	0.54
	5.692E-05	**0.000E+00**	**1.314E-04**

Offsite Emissions Along Roadway Segment Analyzed	
Total Offsite Project Exhaust Emissions (tons/year)	**4.218E-05**
Total Offsite Project Exhaust Emissions (grams/sec)	**8.579E-06**

Onsite Exhaust Emissions (tons/year)	**1.502E-01**
Total Onsite Emissions (tons/year)	**1.502E-01**
Onsite Exhaust Emissions (g/m2-sec)	**4.744E-07**

Total PM@2.5 Exhaust (tons/year)	1.503E-01

Offsite Emissions Along Roadway Segment Analyzed	
Total Offsite Project Fugitive Emissions (tons/year)	**1.883E-04**
Total Offsite Project Fugitive Emissions (grams/sec)	**3.830E-05**

Onsite Fugitive Emissions (tons/year)	**1.156E-01**
Onsite Fugitive Emissions (g/m2-sec)	**3.650E-07**

Total PM@2.5 Fugitive (tons/year)	1.158E-01

2.661E-01

Round Barn Village Project

No Mitigation

Construction Annual DPM Emissions (as PM2.5 Exhaust)

Construction Scheduling **2019**

8 hours/day
5 days/week
52 weeks/year
2080 hours/year

Onsite Construction Area Source Size (m2): 64423.30

Onsite Construction PM2.5 Emissions

2019 Construction Activity	Onsite Annual DPM Exhaust Emissions (tons/year)	Onsite Annual DPM Exhaust Emissions (g/sec)	Onsite DPM Source Exhaust Emissions (g/m2-sec)
Paving	5.310E-03	6.439E-04	9.995E-09
Building Construction	1.498E-01	1.816E-02	2.820E-07
Total	**1.498E-01**	**1.816E-02**	**2.820E-07**

Construction Activity	Onsite Annual PM2.5 Fugitive Emissions (tons/year)	Onsite Annual PM2.5 Fugitive Emissions (g/sec)	Onsite Source PM2.5 Fugitive Emissions (g/m2-sec)
	0.00E+00	0.00E+00	0.00E+00
	0.00E+00	0.00E+00	0.00E+00
Total	**0.000E+00**	**0.000E+00**	**0.000E+00**

Offsite Construction Vehicle PM2.5 Emissions

2019

Construction Activity	Offsite Hauling Annual DPM Exhaust Emissions (tons/year)	Offsite Vendor Annual DPM Exhaust Emissions (tons/year)	Offsite Workers Annual DPM Exhaust Emissions (tons/year)
Paving	0.000E+00	0.000E+00	1.000E-05
Building Construction	0.000E+00	7.800E-03	2.040E-03
Total (tons/year)	**0.000E+00**	**7.800E-03**	**2.040E-03**
Trip Distance assumed in CalEEMod (mi)	20.0	7.3	10.8
Offsite Project Trip Distance	0.54	0.54	0.54
Project> Round Barn Blvd> Fountain Grove Parkway> US 101(mi)			
Offsite Project Emissions Project> (tons/year)	**0.000E+00**	**5.765E-04**	**1.019E-04**

9.840E-03

Offsite Hauling Annual PM2.5 Fugitive Emissions (tons/year)	Offsite Vendor Annual PM2.5 Fugitive Emissions (tons/year)	Offsite Workers Annual PM2.5 Fugitive Emissions (tons/year)
0.00E+00	0.00E+00	2.20E-04
0.00E+00	1.48E-02	6.97E-02
Total (tons/year) 0.000E+00	**1.480E-02**	**6.992E-02**
20	7.3	10.8
0.54	0.54	0.54
0.000E+00	**1.094E-03**	**3.493E-03**

Emissions Along Roadway Segment	
Offsite Project Exhaust Emissions (tons/year)	**6.784E-04**
Offsite Project Exhaust Emissions (grams/sec)	**8.226E-05**

Offsite Emissions Along Roadway Segment Analyzed	
Total Offsite Project Fug	**4.587E-03**
Total Offsite Project Fug	**5.562E-04**

Onsite Exhaust Emissions (tons/year)	**1.498E-01**
Total Onsite Emissions (tons/year)	**1.498E-01**
Onsite Exhaust Emissions (g/m2-sec)	**2.820E-07**

Onsite Fugitive Emission	**0.000E+00**
Onsite Fugitive Emission	**0.000E+00**

Total PM@2.5 Exhaust (tons/year)	1.505E-01
Total PM2.5 (tons/year)	**1.551E-01**

Total PM@2.5 Fugitive (	4.587E-03

Round Barn Village Project

No Mitigation

Construction Annual DPM Emissions (as PM2.5 Exhaust)

Construction Scheduling **2020**

8	hours/day	
5	days/week	
22	weeks/year	
880	hours/year	ends at 5/28/2020

Onsite Construction Area Source Size (m2): 64423.30

Onsite Construction PM2.5 Emissions

2020 Construction Activity	Onsite Annual DPM Exhaust Emissions (tons/year)	Onsite Annual DPM Exhaust Emissions (g/sec)	Onsite DPM Source Exhaust Emissions (g/m2-sec)
Building Construction	2.780E-02	7.968E-03	1.237E-07
Architectural Coating	3.000E-03	8.598E-04	1.335E-08
Total	**3.080E-02**	**8.828E-03**	**1.370E-07**

Construction Activity	Onsite Annual PM2.5 Fugitive Emissions (tons/year)	Onsite Annual PM2.5 Fugitive Emissions (g/sec)	Onsite Source PM2.5 Fugitive Emissions (g/m2-sec)
	0.00E+00	0.00E+00	0.00E+00
	0.00E+00	0.00E+00	0.00E+00
Total	**0.000E+00**	**0.000E+00**	**0.000E+00**

Offsite Construction Vehicle PM2.5 Emissions

2020 Construction Activity	Offsite Hauling Annual DPM Exhaust Emissions (tons/year)	Offsite Vendor Annual DPM Exhaust Emissions (tons/year)	Offsite Workers Annual DPM Exhaust Emissions (tons/year)
Building Construction	0.000E+00	1.040E-03	4.200E-04
Architectural Coating	0.000E+00	0.000E+00	9.000E-05
Total (tons/year)	**0.000E+00**	**1.040E-03**	**5.100E-04**
Trip Distance assumed in CalEEMod (mi)	20.0	7.3	10.8
Offsite Project Trip Distance	0.54	0.54	0.54
Project> Round Barn Blvd> Fountain Grove Parkway> US 101(mi)			
Offsite Project Emissions	**0.000E+00**	**7.686E-05**	**2.548E-05**
Project> (tons/year)			

1.550E-03

Construction Activity	Offsite Hauling Annual PM2.5 Fugitive Emissions (tons/year)	Offsite Vendor Annual PM2.5 Fugitive Emissions (tons/year)	Offsite Workers Annual PM2.5 Fugitive Emissions (tons/year)
	0.00E+00	3.18E-03	1.50E-02
	0.00E+00	0.00E+00	3.05E-03
Total (tons/year)	**0.000E+00**	**3.180E-03**	**1.805E-02**
	20	7.3	10.8
	0.54	0.54	0.54
	0.000E+00	**2.350E-04**	**9.017E-04**

Emissions Along Roadway Segment	
Offsite Project Exhaust Emissions (tons/year)	**1.023E-04**
Offsite Project Exhaust Emissions (grams/sec)	**2.933E-05**

Onsite Exhaust Emissions (tons/year)	**3.080E-02**
Total Onsite Emissions (tons/year)	**3.080E-02**
Onsite Exhaust Emissions (g/m2-sec)	**1.370E-07**

Total PM@2.5 Exhaust (tons/year)	3.090E-02
Total PM2.5 (tons/year)	**3.204E-02**

Offsite Emissions Along Roadway Segment Analyzed	
Total Offsite Project Fug	**1.137E-03**
Total Offsite Project Fug	**3.258E-04**

Onsite Fugitive Emission	**0.000E+00**
Onsite Fugitive Emission	**0.000E+00**

Total PM@2.5 Fugitive (	1.137E-03

Round Barn Village Project

2018 **No Mitigation** **At Sensitive Receptors**

Construction Annual DPM Emissions (as PM2.5 Exhaust)

Annual Average Onsite DPM Exhaust Emission Rate (2018): 4.74356E-07
Annual Average Offsite DPM Exhaust Emission Rate (2018): 8.57900E-06

Annual Average Onsite DPM Fugitive Emission Rate (2018): 3.64986E-07
Annual Average Offsite DPM Fugitive Emission Rate (2018): 3.83019E-05

X (m)	Y (m)	Onsite Annual DPM Exhaust w/Unit Emissions (ug/m3)	Onsite Annual DPM Exhaust w/Actual Emissions (ug/m3)	Offsite Annual DPM Exhaust w/Unit Emissions (ug/m3)	Offsite Annual DPM Exhaust w/Actual Emissions (ug/m3)	Onsite Annual DPM Fugitive w/Unit Emissions (ug/m3)	Onsite Annual DPM Fugitive w/Actual Emissions (ug/m3)	Offsite Annual DPM Fugitive w/Unit Emissions (ug/m3)	Offsite Annual DPM Fugitive w/Actual Emissions (ug/m3)	Total DMP Exhaust (ug/m3)	Total PM2.5 (ug/m3)
523481.7	4258499.71	0.31936	0.00151	0.00007	6.00530E-06	0.31936	0.00117	0.00007	2.68113E-05	0.00152	2.71E-03
523525.89	4258499.71	0.40238	0.00191	0.00015	1.28685E-05	0.40238	0.00147	0.00015	5.74528E-05	0.00192	3.45E-03
523570.08	4258499.71	0.49882	0.00237	0.00031	2.65949E-05	0.49882	0.00182	0.00031	1.18736E-04	0.00239	4.33E-03
523614.27	4258499.71	0.59895	0.00284	0.00054	4.63266E-05	0.59895	0.00219	0.00054	2.06830E-04	0.00289	5.28E-03
523658.46	4258499.71	0.70947	0.00337	0.00092	7.89268E-05	0.70947	0.00259	0.00092	3.52377E-04	0.00344	6.39E-03
523702.65	4258499.71	0.85151	0.00404	0.00079	6.77741E-05	0.85151	0.00311	0.00079	3.02585E-04	0.00411	7.52E-03
523746.84	4258499.71	1.0326	0.00490	0.00058	4.97582E-05	1.0326	0.00377	0.00058	2.22151E-04	0.00495	8.94E-03
523791.03	4258499.71	1.25476	0.00595	0.00044	3.77476E-05	1.25476	0.00458	0.00044	1.68528E-04	0.00599	1.07E-02
523835.22	4258499.71	1.53204	0.00727	0.00036	3.08844E-05	1.53204	0.00559	0.00036	1.37887E-04	0.00730	1.30E-02
523879.41	4258499.71	1.87051	0.00887	0.00030	2.57370E-05	1.87051	0.00683	0.00030	1.14906E-04	0.00890	1.58E-02
523923.6	4258499.71	2.23062	0.01058	0.00027	2.31633E-05	2.23062	0.00814	0.00027	1.03415E-04	0.01060	1.88E-02
523967.79	4258499.71	2.63167	0.01248	0.00015	1.28685E-05	2.63167	0.00961	0.00015	5.74528E-05	0.01250	2.22E-02
524011.98	4258499.71	3.09199	0.01467	0.00010	8.57900E-06	3.09199	0.01129	0.00010	3.83019E-05	0.01468	2.60E-02
524056.17	4258499.71	3.55567	0.01687	0.00007	6.00530E-06	3.55567	0.01298	0.00007	2.68113E-05	0.01687	2.99E-02
524100.36	4258499.71	3.99326	0.01894	0.00005	4.28950E-06	3.99326	0.01457	0.00005	1.91509E-05	0.01895	3.35E-02
524144.55	4258499.71	4.43525	0.02104	0.00003	2.57370E-06	4.43525	0.01619	0.00003	1.14906E-05	0.02104	3.72E-02
524188.74	4258499.71	4.64905	0.02205	0.00002	1.71580E-06	4.64905	0.01697	0.00002	7.66037E-06	0.02205	3.90E-02
524232.93	4258499.71	4.56394	0.02165	0.00002	1.71580E-06	4.56394	0.01666	0.00002	7.66037E-06	0.02165	3.83E-02
523481.7	4258544.18	0.31138	0.00148	0.00010	8.57900E-06	0.31138	0.00114	0.00010	3.83019E-05	0.00149	2.66E-03
523525.89	4258544.18	0.40069	0.00190	0.00033	2.83107E-05	0.40069	0.00146	0.00033	1.26396E-04	0.00193	3.52E-03
523570.08	4258544.18	0.50845	0.00241	0.00090	7.72110E-05	0.50845	0.00186	0.00090	3.44717E-04	0.00249	4.69E-03
523614.27	4258544.18	0.62648	0.00297	0.00071	6.09109E-05	0.62648	0.00229	0.00071	2.71943E-04	0.00303	5.59E-03
523658.46	4258544.18	0.75436	0.00358	0.00183	1.56996E-04	0.75436	0.00275	0.00183	7.00924E-04	0.00374	7.19E-03
523702.65	4258544.18	0.91727	0.00435	0.00065	5.57635E-05	0.91727	0.00335	0.00065	2.48962E-04	0.00441	8.00E-03
523746.84	4258544.18	1.127	0.00535	0.00061	5.23319E-05	1.127	0.00411	0.00061	2.33641E-04	0.00540	9.75E-03
523791.03	4258544.18	1.37854	0.00654	0.00097	8.32163E-05	1.37854	0.00503	0.00097	3.71528E-04	0.00662	1.20E-02
523835.22	4258544.18	1.70215	0.00807	0.00062	5.31898E-05	1.70215	0.00621	0.00062	2.37472E-04	0.00813	1.46E-02
523879.41	4258544.18	2.09515	0.00994	0.00051	4.37529E-05	2.09515	0.00765	0.00051	1.95339E-04	0.00998	1.78E-02
523923.6	4258544.18	2.52187	0.01196	0.00035	3.00265E-05	2.52187	0.00920	0.00035	1.34057E-04	0.01199	2.13E-02
523967.79	4258544.18	2.9964	0.01421	0.00017	1.45843E-05	2.9964	0.01094	0.00017	6.51132E-05	0.01423	2.52E-02
524011.98	4258544.18	3.53801	0.01678	0.00010	8.57900E-06	3.53801	0.01291	0.00010	3.83019E-05	0.01679	2.97E-02
524056.17	4258544.18	4.10825	0.01949	0.00006	5.14740E-06	4.10825	0.01499	0.00006	2.29811E-05	0.01949	3.45E-02
524100.36	4258544.18	4.77426	0.02265	0.00004	3.43160E-06	4.77426	0.01743	0.00004	1.53207E-05	0.02265	4.01E-02
524144.55	4258544.18	5.39352	0.02558	0.00003	2.57370E-06	5.39352	0.01969	0.00003	1.14906E-05	0.02559	4.53E-02
524188.74	4258544.18	5.85066	0.02775	0.00002	1.71580E-06	5.85066	0.02135	0.00002	7.66037E-06	0.02775	4.91E-02
524232.93	4258544.18	5.42228	0.02572	0.00002	1.71580E-06	5.42228	0.01979	0.00002	7.66037E-06	0.02572	4.55E-02
523481.7	4258588.65	0.30273	0.00144	0.00015	1.28685E-05	0.30273	0.00110	0.00015	5.74528E-05	0.00145	2.61E-03
523525.89	4258588.65	0.3961	0.00188	0.00038	3.26002E-05	0.3961	0.00145	0.00038	1.45547E-04	0.00191	3.50E-03
523570.08	4258588.65	0.51594	0.00245	0.00109	9.35111E-05	0.51594	0.00188	0.00109	4.17490E-04	0.00254	4.84E-03
523614.27	4258588.65	0.65266	0.00310	0.00099	8.49321E-05	0.65266	0.00238	0.00099	3.79188E-04	0.00318	5.94E-03
523658.46	4258588.65	0.80298	0.00381	0.00070	6.00530E-05	0.80298	0.00293	0.00070	2.68113E-04	0.00387	7.07E-03
523702.65	4258588.65	0.99451	0.00472	0.00074	6.34846E-05	0.99451	0.00363	0.00074	2.83434E-04	0.00478	8.69E-03
523746.84	4258588.65	1.23722	0.00587	0.00106	9.09374E-05	1.23722	0.00452	0.00106	4.06000E-04	0.00596	1.09E-02
523791.03	4258588.65	1.53399	0.00728	0.00147	1.26111E-04	1.53399	0.00560	0.00147	5.63037E-04	0.00740	1.36E-02
523835.22	4258588.65	1.8981	0.00900	0.00068	5.83372E-05	1.8981	0.00693	0.00068	2.60453E-04	0.00906	1.63E-02
523879.41	4258588.65	2.34565	0.01113	0.00118	1.01232E-04	2.34565	0.00856	0.00118	4.51962E-04	0.01123	2.02E-02
523923.6	4258588.65	2.84915	0.01352	0.00049	4.20371E-05	2.84915	0.01040	0.00049	1.87679E-04	0.01356	2.41E-02
523967.79	4258588.65	3.36493	0.01596	0.00020	1.71580E-05	3.36493	0.01228	0.00020	7.66037E-05	0.01598	2.83E-02
524011.98	4258588.65	4.00087	0.01898	0.00011	9.43690E-06	4.00087	0.01460	0.00011	4.21320E-05	0.01899	3.36E-02
524056.17	4258588.65	4.79642	0.02275	0.00007	6.00530E-06	4.79642	0.01751	0.00007	2.68113E-05	0.02276	4.03E-02
524100.36	4258588.65	5.70791	0.02708	0.00004	3.43160E-06	5.70791	0.02083	0.00004	1.53207E-05	0.02708	4.79E-02
524144.55	4258588.65	6.46743	0.03068	0.00003	2.57370E-06	6.46743	0.02361	0.00003	1.14906E-05	0.03068	5.43E-02
524188.74	4258588.65	6.73179	0.03193	0.00002	1.71580E-06	6.73179	0.02457	0.00002	7.66037E-06	0.03193	5.65E-02
524232.93	4258588.65	6.32139	0.02999	0.00002	1.71580E-06	6.32139	0.02307	0.00002	7.66037E-06	0.02999	5.31E-02
523481.7	4258633.12	0.29526	0.00140	0.00022	1.88738E-05	0.29526	0.00108	0.00022	8.42641E-05	0.00142	2.58E-03
523525.89	4258633.12	0.39229	0.00186	0.00059	5.06161E-05	0.39229	0.00143	0.00059	2.25981E-04	0.00191	3.57E-03
523570.08	4258633.12	0.52667	0.00250	0.00044	3.77476E-05	0.52667	0.00192	0.00044	1.68528E-04	0.00254	4.63E-03
523614.27	4258633.12	0.68604	0.00325	0.00038	3.26002E-05	0.68604	0.00250	0.00038	1.45547E-04	0.00329	5.94E-03
523658.46	4258633.12	0.86102	0.00408	0.00037	3.17423E-05	0.86102	0.00314	0.00037	1.41717E-04	0.00412	7.40E-03
523702.65	4258633.12	1.0874	0.00516	0.00040	3.43160E-05	1.0874	0.00397	0.00040	1.53207E-04	0.00519	9.31E-03
523746.84	4258633.12	1.38583	0.00657	0.00047	4.03213E-05	1.38583	0.00506	0.00047	1.80019E-04	0.00661	1.19E-02
523791.03	4258633.12	1.74281	0.00827	0.00061	5.23319E-05	1.74281	0.00636	0.00061	2.33641E-04	0.00832	1.49E-02
523835.22	4258633.12	2.17542	0.01032	0.00098	8.40742E-05	2.17542	0.00794	0.00098	3.75358E-04	0.01040	1.87E-02
523879.41	4258633.12	2.68508	0.01274	0.00155	1.32975E-04	2.68508	0.00980	0.00155	5.93679E-04	0.01287	2.33E-02
523923.6	4258633.12	3.23859	0.01536	0.00057	4.89003E-05	3.23859	0.01182	0.00057	2.18321E-04	0.01541	2.75E-02
523967.79	4258633.12	3.8572	0.01830	0.00023	1.97317E-05	3.8572	0.01408	0.00023	8.80943E-05	0.01832	3.25E-02
524011.98	4258633.12	4.68702	0.02223	0.00012	1.02948E-05	4.68702	0.01711	0.00012	4.59622E-05	0.02224	3.94E-02
524056.17	4258633.12	5.73551	0.02721	0.00007	6.00530E-06	5.73551	0.02093	0.00007	2.68113E-05	0.02721	4.82E-02
524100.36	4258633.12	6.84881	0.03249	0.00005	4.28950E-06	6.84881	0.02500	0.00005	1.91509E-05	0.03249	5.75E-02
524144.55	4258633.12	7.68848	0.03647	0.00004	3.43160E-06	7.68848	0.02806	0.00004	1.53207E-05	0.03647	6.46E-02
524188.74	4258633.12	7.97573	0.03783	0.00003	2.57370E-06	7.97573	0.02911	0.00003	1.14906E-05	0.03784	6.70E-02
524232.93	4258633.12	7.37004	0.03496	0.00002	1.71580E-06	7.37004	0.02690	0.00002	7.66037E-06	0.03496	6.19E-02
523481.7	4258677.59	0.29831	0.00142	0.00015	1.28685E-05	0.29831	0.00109	0.00015	5.74528E-05	0.00143	2.57E-03
523525.89	4258677.59	0.39417	0.00187	0.00021	1.80159E-05	0.39417	0.00144	0.00021	8.04339E-05	0.00189	3.41E-03
523570.08	4258677.59	0.53876	0.00256	0.00021	1.80159E-05	0.53876	0.00197	0.00021	8.04339E-05	0.00257	4.62E-03
523614.27	4258677.59	0.714	0.00339	0.00024	2.05896E-05	0.714	0.00261	0.00024	9.19245E-05	0.00341	6.11E-03
523658.46	4258677.59	0.93446	0.00443	0.00023	1.97317E-05	0.93446	0.00341	0.00023	8.80943E-05	0.00445	7.95E-03
523702.65	4258677.59	1.21383	0.00576	0.00026	2.23054E-05	1.21383	0.00443	0.00026	9.95848E-05	0.00578	1.03E-02
523746.84	4258677.59	1.58352	0.00751	0.00032	2.74528E-05	1.58352	0.00578	0.00032	1.22566E-04	0.00754	1.34E-02
523791.03	4258677.59	2.0286	0.00962	0.00049	4.20371E-05	2.0286	0.00740	0.00049	1.87679E-04	0.00966	1.73E-02
523835.22	4258677.59	2.54004	0.01205	0.00129	1.10669E-04	2.54004	0.00927	0.00129	4.94094E-04	0.01216	2.19E-02
523879.41	4258677.59	3.12075	0.01480	0.00137	1.17532E-04	3.12075	0.01139	0.00137	5.24735E-04	0.01492	2.68E-02
523923.6	4258677.59	3.76709	0.01787	0.00043	3.68897E-05	3.76709	0.01375	0.00043	1.64698E-04	0.01791	3.18E-02
523967.79	4258677.59	4.60453	0.02184	0.00019	1.63001E-05	4.60453	0.01681	0.00019	7.27735E-05	0.02186	3.87E-02
524011.98	4258677.59	5.80779	0.02755	0.00011	9.43690E-06	5.80779	0.02120	0.00011	4.21320E-05	0.02756	4.88E-02
524056.17	4258677.59	7.42159	0.03520	0.00007	6.00530E-06	7.42159	0.02709	0.00007	2.68113E-05	0.03521	6.23E-02
524100.36	4258677.59	9.12031	0.04326	0.00005	4.28950E-06	9.12031	0.03329	0.00005	1.91509E-05	0.04327	7.66E-02
524144.55	4258677.59	10.19371	0.04835	0.00004	3.43160E-06	10.19371	0.03721	0.00004	1.53207E-05	0.04836	8.56E-02
523481.7	4258722.06	0.31278	0.00148	0.00009	7.72110E-06	0.31278	0.00114	0.00009	3.44717E-05	0.00149	2.67E-03
523525.89	4258722.06	0.40308	0.00191	0.00013	1.11527E-05	0.40308	0.00147	0.00013	4.97924E-05	0.00192	3.44E-03
523570.08	4258722.06	0.54333	0.00258	0.00016	1.37264E-05	0.54333	0.00198	0.00016	6.12830E-05	0.00259	4.64E-03
523614.27	4258722.06	0.75373	0.00358	0.00017	1.45843E-05	0.75373	0.00275	0.00017	6.51132E-05	0.00359	6.41E-03
523658.46	4258722.06	1.03552	0.00491	0.00017	1.45843E-05	1.03552	0.00378	0.00017	6.51132E-05	0.00493	8.77E-03
523702.65	4258722.06	1.4041	0.00666	0.00020	1.71580E-05	1.4041	0.00512	0.00020	7.66037E-05	0.00668	1.19E-02
523746.84	4258722.06	1.87987	0.00892	0.00030	2.57370E-05	1.87987	0.00686	0.00030	1.14906E-04	0.00894	1.59E-02
523791.03	4258722.06	2.45262	0.01163	0.00067	5.74793E-05	2.45262	0.00895	0.00067	2.56622E-04	0.01169	2.09E-02
523481.7	4258766.53	0.33086	0.00157	0.00007	6.00530E-06	0.33086	0.00121	0.00007	2.68113E-05	0.00158	2.81E-03
523525.89	4258766.53	0.42202	0.00200	0.00010	8.57900E-06	0.42202	0.00154	0.00010	3.83019E-05	0.00201	3.59E-03
523570.08	4258766.53	0.56192	0.00267	0.00012	1.02948E-05	0.56192	0.00205	0.00012	4.59622E-05	0.00268	4.77E-03
523614.27	4258766.53	0.80018	0.00380	0.00013	1.11527E-05	0.80018	0.00292	0.00013	4.97924E-05	0.00381	6.78E-03
523658.46	4258766.53	1.14591	0.00544	0.00016	1.37264E-05	1.14591	0.00418	0.00016	6.12830E-05	0.00545	9.69E-03
523702.65	4258766.53	1.61529	0.00766	0.00021	1.80159E-05	1.61529	0.00590	0.00021	8.04339E-05	0.00768	1.37E-02
523746.84	4258766.53	2.25975	0.01072	0.00036	3.08844E-05	2.25975	0.00825	0.00036	1.37887E-04	0.01075	1.91E-02
523791.03	4258766.53	3.03113	0.01438	0.00124	1.06380E-04	3.03113	0.01106	0.00124	4.74943E-04	0.01448	2.60E-02
523481.7	4258811	0.35153	0.00167	0.00006	5.14740E-06	0.35153	0.00128	0.00006	2.29811E-05	0.00167	2.98E-03
523525.89	4258811	0.45261	0.00215	0.00008	6.86320E-06	0.45261	0.00165	0.00008	3.06415E-05	0.00215	3.84E-03
523570.08	4258811	0.59948	0.00284	0.00010	8.57900E-06	0.59948	0.00219	0.00010	3.83019E-05	0.00285	5.08E-03
523614.27	4258811	0.8532	0.00405	0.00012	1.02948E-05	0.8532	0.00311	0.00012	4.59622E-05	0.00406	7.22E-03
523658.46	4258811	1.26489	0.00600	0.00015	1.28685E-05	1.26489	0.00462	0.00015	5.74528E-05	0.00601	1.07E-02
523702.65	4258811	1.88815	0.00896	0.00025	2.14475E-05	1.88815	0.00689	0.00025	9.57547E-05	0.00898	1.60E-02
523746.84	4258811	2.83881	0.01347	0.00054	4.63266E-05	2.83881	0.01036	0.00054	2.06830E-04	0.01351	2.41E-02
523791.03	4258811	3.96259	0.01880	0.00138	1.18390E-04	3.96259	0.01446	0.00138	5.28566E-04	0.01892	3.39E-02
523481.7	4258855.47	0.36344	0.00172	0.00005	4.28950E-06	0.36344	0.00133	0.00005	1.91509E-05	0.00173	3.07E-03
523525.89	4258855.47	0.47473	0.00225	0.00007	6.00530E-06	0.47473	0.00173	0.00007	2.68113E-05	0.00226	4.02E-03
523570.08	4258855.47	0.63538	0.00301	0.00009	7.72110E-06	0.63538	0.00232	0.00009	3.44717E-05	0.00302	5.38E-03
523614.27	4258855.47	0.91924	0.00436	0.00011	9.43690E-06	0.91924	0.00336	0.00011	4.21320E-05	0.00437	7.77E-03
523658.46	4258855.47	1.42539	0.00676	0.00017	1.45843E-05	1.42539	0.00520	0.00017	6.51132E-05	0.00678	1.20E-02
523702.65	4258855.47	2.31758	0.01099	0.00035	3.00265E-05	2.31758	0.00846	0.00035	1.34057E-04	0.01102	1.96E-02
523746.84	4258855.47	3.76265	0.01785	0.00102	8.75058E-05	3.76265	0.01373	0.00102	3.90679E-04	0.01794	3.21E-02
523791.03	4258855.47	5.49492	0.02607	0.00118	1.01232E-04	5.49492	0.02006	0.00118	4.51962E-04	0.02617	4.67E-02
523481.7	4258899.94	0.36269	0.00172	0.00005	4.28950E-06	0.36269	0.00132	0.00005	1.91509E-05	0.00172	3.07E-03
523525.89	4258899.94	0.47205	0.00224	0.00006	5.14740E-06	0.47205	0.00172	0.00006	2.29811E-05	0.00224	3.99E-03
523570.08	4258899.94	0.64955	0.00308	0.00008	6.86320E-06	0.64955	0.00237	0.00008	3.06415E-05	0.00309	5.49E-03
523614.27	4258899.94	0.9641	0.00457	0.00011	9.43690E-06	0.9641	0.00352	0.00011	4.21320E-05	0.00458	8.14E-03
523658.46	4258899.94	1.59355	0.00756	0.00020	1.71580E-05	1.59355	0.00582	0.00020	7.66037E-05	0.00758	1.35E-02
523702.65	4258899.94	2.88514	0.01369	0.00078	6.69162E-05	2.88514	0.01053	0.00078	2.98755E-04	0.01375	2.46E-02
523746.84	4258899.94	5.42529	0.02574	0.00124	1.06380E-04	5.42529	0.01980	0.00124	4.74943E-04	0.02584	4.61E-02
523481.7	4258944.41	0.37233	0.00177	0.00005	4.28950E-06	0.37233	0.00136	0.00005	1.91509E-05	0.00177	3.15E-03
523525.89	4258944.41	0.47695	0.00226	0.00006	5.14740E-06	0.47695	0.00174	0.00006	2.29811E-05	0.00227	4.03E-03
523570.08	4258944.41	0.65339	0.00310	0.00008	6.86320E-06	0.65339	0.00238	0.00008	3.06415E-05	0.00311	5.52E-03
523614.27	4258944.41	0.98092	0.00465	0.00011	9.43690E-06	0.98092	0.00358	0.00011	4.21320E-05	0.00466	8.28E-03
523702.65	4258944.41	3.71775	0.01764	0.00067	5.74793E-05	3.71775	0.01357	0.00067	2.56622E-04	0.01769	3.15E-02
523746.84	4258944.41	9.35123	0.04436	0.00119	1.02090E-04	9.35123	0.03413	0.00119	4.55792E-04	0.04446	7.90E-02
523481.7	4258988.88	0.41749	0.00198	0.00004	3.43160E-06	0.41749	0.00152	0.00004	1.53207E-05	0.00198	3.52E-03
523525.89	4258988.88	0.52332	0.00248	0.00005	4.28950E-06	0.52332	0.00191	0.00005	1.91509E-05	0.00249	4.42E-03
523570.08	4258988.88	0.70048	0.00332	0.00007	6.00530E-06	0.70048	0.00256	0.00007	2.68113E-05	0.00333	5.91E-03
523614.27	4258988.88	1.04089	0.00494	0.00012	1.02948E-05	1.04089	0.00380	0.00012	4.59622E-05	0.00495	8.79E-03
523702.65	4258988.88	5.09636	0.02417	0.00118	1.01232E-04	5.09636	0.01860	0.00118	4.51962E-04	0.02428	4.33E-02
523481.7	4259033.35	0.47905	0.00227	0.00004	3.43160E-06	0.47905	0.00175	0.00004	1.53207E-05	0.00228	4.04E-03
523525.89	4259033.35	0.60432	0.00287	0.00005	4.28950E-06	0.60432	0.00221	0.00005	1.91509E-05	0.00287	5.10E-03
523570.08	4259033.35	0.81377	0.00386	0.00008	6.86320E-06	0.81377	0.00297	0.00008	3.06415E-05	0.00387	6.87E-03
523614.27	4259033.35	1.22782	0.00582	0.00013	1.11527E-05	1.22782	0.00448	0.00013	4.97924E-05	0.00584	1.04E-02
523481.7	4259077.82	0.5377	0.00255	0.00004	3.43160E-06	0.5377	0.00196	0.00004	1.53207E-05	0.00255	4.53E-03
523525.89	4259077.82	0.71023	0.00337	0.00005	4.28950E-06	0.71023	0.00259	0.00005	1.91509E-05	0.00337	5.98E-03
523570.08	4259077.82	1.01873	0.00483	0.00007	6.00530E-06	1.01873	0.00372	0.00007	2.68113E-05	0.00484	8.58E-03
523614.27	4259077.82	1.71891	0.00815	0.00011	9.43690E-06	1.71891	0.00627	0.00011	4.21320E-05	0.00816	1.45E-02
523481.7	4259122.29	0.60096	0.00285	0.00004	3.43160E-06	0.60096	0.00219	0.00004	1.53207E-05	0.00285	5.06E-03
523525.89	4259122.29	0.8497	0.00403	0.00005	4.28950E-06	0.8497	0.00310	0.00005	1.91509E-05	0.00403	7.16E-03
523570.08	4259122.29	1.33141	0.00632	0.00007	6.00530E-06	1.33141	0.00486	0.00007	2.68113E-05	0.00632	1.12E-02
523614.27	4259122.29	2.52575	0.01198	0.00009	7.72110E-06	2.52575	0.00922	0.00009	3.44717E-05	0.01199	2.12E-02
523481.7	4259166.76	0.68755	0.00326	0.00004	3.43160E-06	0.68755	0.00251	0.00004	1.53207E-05	0.00326	5.79E-03
523525.89	4259166.76	1.04676	0.00497	0.00005	4.28950E-06	1.04676	0.00382	0.00005	1.91509E-05	0.00497	8.81E-03
523570.08	4259166.76	1.77061	0.00840	0.00006	5.14740E-06	1.77061	0.00646	0.00006	2.29811E-05	0.00840	1.49E-02
523614.27	4259166.76	3.41015	0.01618	0.00008	6.86320E-06	3.41015	0.01245	0.00008	3.06415E-05	0.01618	2.87E-02
524232.93	4259166.76	5.835	0.02768	0.00002	1.71580E-06	5.835	0.02130	0.00002	7.66037E-06	0.02768	4.90E-02
524277.12	4259166.76	4.23132	0.02007	0.00001	8.57900E-07	4.23132	0.01544	0.00001	3.83019E-06	0.02007	3.55E-02
524321.31	4259166.76	2.91399	0.01382	0.00001	8.57900E-07	2.91399	0.01064	0.00001	3.83019E-06	0.01382	2.45E-02
523481.7	4259211.23	0.87225	0.00414	0.00003	2.57370E-06	0.87225	0.00318	0.00003	1.14906E-05	0.00414	7.34E-03
523525.89	4259211.23	1.34795	0.00639	0.00004	3.43160E-06	1.34795	0.00492	0.00004	1.53207E-05	0.00640	1.13E-02
523570.08	4259211.23	2.25962	0.01072	0.00005	4.28950E-06	2.25962	0.00825	0.00005	1.91509E-05	0.01072	1.90E-02
523614.27	4259211.23	3.93409	0.01866	0.00006	5.14740E-06	3.93409	0.01436	0.00006	2.29811E-05	0.01867	3.30E-02
523658.46	4259211.23	6.46095	0.03065	0.00007	6.00530E-06	6.46095	0.02358	0.00007	2.68113E-05	0.03065	5.43E-02
523702.65	4259211.23	10.33553	0.04903	0.00008	6.86320E-06	10.33553	0.03772	0.00008	3.06415E-05	0.04903	8.68E-02
523746.84	4259211.23	15.28164	0.07249	0.00009	7.72110E-06	15.28164	0.05578	0.00009	3.44717E-05	0.07250	1.28E-01
523791.03	4259211.23	18.642	0.08843	0.00008	6.86320E-06	18.642	0.06804	0.00008	3.06415E-05	0.08844	1.57E-01
523835.22	4259211.23	18.06213	0.08568	0.00007	6.00530E-06	18.06213	0.06592	0.00007	2.68113E-05	0.08568	1.52E-01
524144.55	4259211.23	7.14419	0.03389	0.00002	1.71580E-06	7.14419	0.02608	0.00002	7.66037E-06	0.03389	6.00E-02
524188.74	4259211.23	6.24329	0.02962	0.00002	1.71580E-06	6.24329	0.02279	0.00002	7.66037E-06	0.02962	5.24E-02
524232.93	4259211.23	4.76011	0.02258	0.00001	8.57900E-07	4.76011	0.01737	0.00001	3.83019E-06	0.02258	4.00E-02
524277.12	4259211.23	3.48118	0.01651	0.00001	8.57900E-07	3.48118	0.01271	0.00001	3.83019E-06	0.01651	2.92E-02
524321.31	4259211.23	2.63009	0.01248	0.00001	8.57900E-07	2.63009	0.00960	0.00001	3.83019E-06	0.01248	2.21E-02
523481.7	4259255.7	1.07706	0.00511	0.00003	2.57370E-06	1.07706	0.00393	0.00003	1.14906E-05	0.00511	9.05E-03
523525.89	4259255.7	1.60532	0.00761	0.00004	3.43160E-06	1.60532	0.00586	0.00004	1.53207E-05	0.00762	1.35E-02
523570.08	4259255.7	2.49252	0.01182	0.00005	4.28950E-06	2.49252	0.00910	0.00005	1.91509E-05	0.01183	2.09E-02
523614.27	4259255.7	3.75891	0.01783	0.00005	4.28950E-06	3.75891	0.01372	0.00005	1.91509E-05	0.01783	3.16E-02
523658.46	4259255.7	5.42052	0.02571	0.00006	5.14740E-06	5.42052	0.01978	0.00006	2.29811E-05	0.02572	4.55E-02
523702.65	4259255.7	7.65091	0.03629	0.00007	6.00530E-06	7.65091	0.02792	0.00007	2.68113E-05	0.03630	6.43E-02
523746.84	4259255.7	10.32378	0.04897	0.00007	6.00530E-06	10.32378	0.03768	0.00007	2.68113E-05	0.04898	8.67E-02
523791.03	4259255.7	12.26052	0.05816	0.00007	6.00530E-06	12.26052	0.04475	0.00007	2.68113E-05	0.05816	1.03E-01
523835.22	4259255.7	12.74914	0.06048	0.00006	5.14740E-06	12.74914	0.04653	0.00006	2.29811E-05	0.06048	1.07E-01
523879.41	4259255.7	12.63056	0.05991	0.00005	4.28950E-06	12.63056	0.04610	0.00005	1.91509E-05	0.05992	1.06E-01
523923.6	4259255.7	12.22517	0.05799	0.00004	3.43160E-06	12.22517	0.04462	0.00004	1.53207E-05	0.05799	1.03E-01
523967.79	4259255.7	11.36764	0.05392	0.00003	2.57370E-06	11.36764	0.04149	0.00003	1.14906E-05	0.05393	9.54E-02
524011.98	4259255.7	9.75888	0.04629	0.00003	2.57370E-06	9.75888	0.03562	0.00003	1.14906E-05	0.04629	8.19E-02
524056.17	4259255.7	8.37124	0.03971	0.00002	1.71580E-06	8.37124	0.03055	0.00002	7.66037E-06	0.03971	7.03E-02
524100.36	4259255.7	6.95563	0.03299	0.00002	1.71580E-06	6.95563	0.02539	0.00002	7.66037E-06	0.03300	5.84E-02
524144.55	4259255.7	5.91155	0.02804	0.00002	1.71580E-06	5.91155	0.02158	0.00002	7.66037E-06	0.02804	4.96E-02
524188.74	4259255.7	4.9491	0.02348	0.00001	8.57900E-07	4.9491	0.01806	0.00001	3.83019E-06	0.02348	4.15E-02
524232.93	4259255.7	3.74249	0.01775	0.00001	8.57900E-07	3.74249	0.01366	0.00001	3.83019E-06	0.01775	3.14E-02
524277.12	4259255.7	2.75749	0.01308	0.00001	8.57900E-07	2.75749	0.01006	0.00001	3.83019E-06	0.01308	2.31E-02
524321.31	4259255.7	2.20105	0.01044	0.00001	8.57900E-07	2.20105	0.00803	0.00001	3.83019E-06	0.01044	1.85E-02
523481.7	4259300.17	1.21499	0.00576	0.00003	2.57370E-06	1.21499	0.00443	0.00003	1.14906E-05	0.00577	1.02E-02
523525.89	4259300.17	1.70813	0.00810	0.00004	3.43160E-06	1.70813	0.00623	0.00004	1.53207E-05	0.00811	1.44E-02
523570.08	4259300.17	2.41406	0.01145	0.00004	3.43160E-06	2.41406	0.00881	0.00004	1.53207E-05	0.01145	2.03E-02
523614.27	4259300.17	3.34814	0.01588	0.00005	4.28950E-06	3.34814	0.01222	0.00005	1.91509E-05	0.01589	2.81E-02
523658.46	4259300.17	4.49649	0.02133	0.00005	4.28950E-06	4.49649	0.01641	0.00005	1.91509E-05	0.02133	3.78E-02
523702.65	4259300.17	6.00509	0.02849	0.00006	5.14740E-06	6.00509	0.02192	0.00006	2.29811E-05	0.02849	5.04E-02
523746.84	4259300.17	7.7946	0.03697	0.00006	5.14740E-06	7.7946	0.02845	0.00006	2.29811E-05	0.03698	6.55E-02
523791.03	4259300.17	9.15058	0.04341	0.00006	5.14740E-06	9.15058	0.03340	0.00006	2.29811E-05	0.04341	7.68E-02
523835.22	4259300.17	9.79213	0.04645	0.00005	4.28950E-06	9.79213	0.03574	0.00005	1.91509E-05	0.04645	8.22E-02
523879.41	4259300.17	10.1089	0.04795	0.00004	3.43160E-06	10.1089	0.03690	0.00004	1.53207E-05	0.04796	8.49E-02
523923.6	4259300.17	9.61961	0.04563	0.00004	3.43160E-06	9.61961	0.03511	0.00004	1.53207E-05	0.04563	8.08E-02
523967.79	4259300.17	8.93048	0.04236	0.00003	2.57370E-06	8.93048	0.03260	0.00003	1.14906E-05	0.04236	7.50E-02
524011.98	4259300.17	7.56498	0.03588	0.00002	1.71580E-06	7.56498	0.02761	0.00002	7.66037E-06	0.03589	6.35E-02
524056.17	4259300.17	6.64698	0.03153	0.00002	1.71580E-06	6.64698	0.02426	0.00002	7.66037E-06	0.03153	5.58E-02
524100.36	4259300.17	5.73651	0.02721	0.00002	1.71580E-06	5.73651	0.02094	0.00002	7.66037E-06	0.02721	4.82E-02
524144.55	4259300.17	4.92379	0.02336	0.00002	1.71580E-06	4.92379	0.01797	0.00002	7.66037E-06	0.02336	4.13E-02
524188.74	4259300.17	4.02069	0.01907	0.00001	8.57900E-07	4.02069	0.01467	0.00001	3.83019E-06	0.01907	3.38E-02
524232.93	4259300.17	3.08605	0.01464	0.00001	8.57900E-07	3.08605	0.01126	0.00001	3.83019E-06	0.01464	2.59E-02
524277.12	4259300.17	2.37375	0.01126	0.00001	8.57900E-07	2.37375	0.00866	0.00001	3.83019E-06	0.01126	1.99E-02
524321.31	4259300.17	1.89921	0.00901	0.00001	8.57900E-07	1.89921	0.00693	0.00001	3.83019E-06	0.00901	1.59E-02
523481.7	4259344.64	1.28503	0.00610	0.00003	2.57370E-06	1.28503	0.00469	0.00003	1.14906E-05	0.00610	1.08E-02
523525.89	4259344.64	1.6993	0.00806	0.00003	2.57370E-06	1.6993	0.00620	0.00003	1.14906E-05	0.00806	1.43E-02
523570.08	4259344.64	2.2477	0.01066	0.00004	3.43160E-06	2.2477	0.00820	0.00004	1.53207E-05	0.01067	1.89E-02
523614.27	4259344.64	2.96888	0.01408	0.00004	3.43160E-06	2.96888	0.01084	0.00004	1.53207E-05	0.01409	2.49E-02
523658.46	4259344.64	3.89409	0.01847	0.00004	3.43160E-06	3.89409	0.01421	0.00004	1.53207E-05	0.01848	3.27E-02
523702.65	4259344.64	4.9253	0.02336	0.00005	4.28950E-06	4.9253	0.01798	0.00005	1.91509E-05	0.02337	4.14E-02
523746.84	4259344.64	6.1603	0.02922	0.00005	4.28950E-06	6.1603	0.02248	0.00005	1.91509E-05	0.02923	5.17E-02
523791.03	4259344.64	7.23646	0.03433	0.00005	4.28950E-06	7.23646	0.02641	0.00005	1.91509E-05	0.03433	6.08E-02
523835.22	4259344.64	7.80256	0.03701	0.00004	3.43160E-06	7.80256	0.02848	0.00004	1.53207E-05	0.03702	6.55E-02
523879.41	4259344.64	7.96877	0.03780	0.00004	3.43160E-06	7.96877	0.02908	0.00004	1.53207E-05	0.03780	6.69E-02
523923.6	4259344.64	7.61647	0.03613	0.00003	2.57370E-06	7.61647	0.02780	0.00003	1.14906E-05	0.03613	6.39E-02
523967.79	4259344.64	7.18158	0.03407	0.00003	2.57370E-06	7.18158	0.02621	0.00003	1.14906E-05	0.03407	6.03E-02
524011.98	4259344.64	6.64443	0.03152	0.00002	1.71580E-06	6.64443	0.02425	0.00002	7.66037E-06	0.03152	5.58E-02
524056.17	4259344.64	6.08613	0.02887	0.00002	1.71580E-06	6.08613	0.02221	0.00002	7.66037E-06	0.02887	5.11E-02
524100.36	4259344.64	5.25219	0.02491	0.00002	1.71580E-06	5.25219	0.01917	0.00002	7.66037E-06	0.02492	4.41E-02
524144.55	4259344.64	4.25216	0.02017	0.00001	8.57900E-07	4.25216	0.01552	0.00001	3.83019E-06	0.02017	3.57E-02
524188.74	4259344.64	3.33524	0.01582	0.00001	8.57900E-07	3.33524	0.01217	0.00001	3.83019E-06	0.01582	2.80E-02
524232.93	4259344.64	2.65176	0.01258	0.00001	8.57900E-07	2.65176	0.00968	0.00001	3.83019E-06	0.01258	2.23E-02
524277.12	4259344.64	2.08054	0.00987	0.00001	8.57900E-07	2.08054	0.00759	0.00001	3.83019E-06	0.00987	1.75E-02
524321.31	4259344.64	1.69669	0.00805	0.00001	8.57900E-07	1.69669	0.00619	0.00001	3.83019E-06	0.00805	1.42E-02

Round Barn Village Project   2019   No Mitigation   at Sensitive Receptors

Construction Annual DPM Emissions (as PM2.5 Exhaust)

Annual Average Onsite DPM Exhaust Emission Rate: 2.81961E-07 grams/m2/sec

Annual Average Offsite DPM Exhaust Emission Rate: 8.22616E-05 grams/sec

Annual Average Onsite DPM Fugitive Emission Rate: 0.00000E+00 grams/m2/sec

Annual Average Offsite DPM Fugitive Emission Rate: 0.000556191 grams/sec

X (m)	Y (m)	Onsite Annual DPM Exhaust w/Unit Emissions (ug/m3)	Onsite Annual DPM Exhaust w/Actual Emissions (ug/m3)	Offsite Annual DPM Exhaust w/Unit Emissions (ug/m3)	Offsite Annual DPM Exhaust w/Actual Emissions (ug/m3)	Onsite Annual DPM Fugitive w/Unit Emissions (ug/m3)	Onsite Annual DPM Fugitive w/Actual Emissions (ug/m3)	Offsite Annual DPM Fugitive w/Unit Emissions (ug/m3)	Offsite Annual DPM Fugitive w/Actual Emissions (ug/m3)	Total DPM Exhaust (ug/m3)	Total PM2.5 (ug/m3)
523481.7	4258499.71	0.31936	0.00090	0.00007	5.75831E-05	0.00090047	0.00000	0.00006	3.20272E-04	0.00096	1.27833E-03
523525.89	4258499.71	0.40238	0.00113	0.00015	1.23392E-04	0.001134554	0.00000	0.00012	6.86297E-04	0.00126	1.94424E-03
523570.08	4258499.71	0.49882	0.00141	0.00031	2.55011E-04	0.001406477	0.00000	0.00026	1.41835E-03	0.00166	3.07984E-03
523614.27	4258499.71	0.59895	0.00169	0.00054	4.44212E-04	0.001688805	0.00000	0.00044	2.47067E-03	0.00213	4.60369E-03
523658.46	4258499.71	0.70947	0.00200	0.00092	7.56806E-04	0.002000428	0.00000	0.00076	4.20929E-03	0.00276	6.96652E-03
523702.65	4258499.71	0.85151	0.00240	0.00079	6.49866E-04	0.002400925	0.00000	0.00065	3.61450E-03	0.00305	6.66529E-03
523746.84	4258499.71	1.0326	0.00291	0.00058	4.77117E-04	0.002911528	0.00000	0.00048	2.65368E-03	0.00339	6.04233E-03
523791.03	4258499.71	1.25476	0.00354	0.00044	3.61951E-04	0.003537932	0.00000	0.00036	2.01314E-03	0.00390	5.91302E-03
523835.22	4258499.71	1.53204	0.00432	0.00036	2.96142E-04	0.004319753	0.00000	0.00030	1.64711E-03	0.00462	6.26301E-03
523879.41	4258499.71	1.87051	0.00527	0.00030	2.46785E-04	0.005274106	0.00000	0.00025	1.37259E-03	0.00552	6.89349E-03
523923.6	4258499.71	2.23062	0.00629	0.00027	2.22106E-04	0.006289476	0.00000	0.00022	1.23533E-03	0.00651	7.74692E-03
523967.79	4258499.71	2.63167	0.00742	0.00015	1.23392E-04	0.00742028	0.00000	0.00012	6.86297E-04	0.00754	8.22997E-03
524011.98	4258499.71	3.09199	0.00872	0.00010	8.22616E-05	0.008718202	0.00000	0.00008	4.57531E-04	0.00880	9.25800E-03
524056.17	4258499.71	3.55567	0.01003	0.00007	5.75831E-05	0.010025598	0.00000	0.00006	3.20272E-04	0.01008	1.04035E-02
524100.36	4258499.71	3.99326	0.01126	0.00005	4.11308E-05	0.011259431	0.00000	0.00004	2.28766E-04	0.01130	1.15293E-02
524144.55	4258499.71	4.43525	0.01251	0.00003	2.46785E-05	0.01250567	0.00000	0.00002	1.37259E-04	0.01253	1.26676E-02
524188.74	4258499.71	4.64905	0.01311	0.00002	1.64523E-05	0.013108502	0.00000	0.00002	9.15063E-05	0.01312	1.32165E-02
524232.93	4258499.71	4.56394	0.01287	0.00002	1.64523E-05	0.012868525	0.00000	0.00002	9.15063E-05	0.01288	1.29765E-02
523481.7	4258544.18	0.31138	0.00088	0.00010	8.22616E-05	0.00087797	0.00000	0.00008	4.57531E-04	0.00096	1.41776E-03
523525.89	4258544.18	0.40069	0.00113	0.00033	2.71463E-04	0.001129789	0.00000	0.00027	1.50985E-03	0.00140	2.91111E-03
523570.08	4258544.18	0.50845	0.00143	0.00090	7.40354E-04	0.00143363	0.00000	0.00074	4.11778E-03	0.00217	6.29177E-03
523614.27	4258544.18	0.62648	0.00177	0.00071	5.84057E-04	0.001766429	0.00000	0.00058	3.24847E-03	0.00235	5.59896E-03
523658.46	4258544.18	0.75436	0.00213	0.00183	1.50539E-03	0.002127	0.00000	0.00151	8.37282E-03	0.00363	1.20052E-02
523702.65	4258544.18	0.91727	0.00259	0.00065	5.34700E-04	0.002586343	0.00000	0.00053	2.97395E-03	0.00312	6.09500E-03
523746.84	4258544.18	1.127	0.00318	0.00061	5.01796E-04	0.003177699	0.00000	0.00050	2.79094E-03	0.00368	6.47044E-03
523791.03	4258544.18	1.37854	0.00389	0.00097	7.97937E-04	0.003886944	0.00000	0.00080	4.43805E-03	0.00468	9.12293E-03
523835.22	4258544.18	1.70215	0.00480	0.00062	5.10022E-04	0.004799397	0.00000	0.00051	2.83669E-03	0.00531	8.14611E-03
523879.41	4258544.18	2.09515	0.00591	0.00051	4.19534E-04	0.005907503	0.00000	0.00042	2.33341E-03	0.00633	8.66045E-03
523923.6	4258544.18	2.52187	0.00711	0.00035	2.87916E-04	0.007110687	0.00000	0.00029	1.60136E-03	0.00740	8.99996E-03
523967.79	4258544.18	2.9964	0.00845	0.00017	1.39845E-04	0.008448676	0.00000	0.00014	7.77803E-04	0.00859	9.36632E-03
524011.98	4258544.18	3.53801	0.00998	0.00010	8.22616E-05	0.009975804	0.00000	0.00008	4.57531E-04	0.01006	1.05156E-02
524056.17	4258544.18	4.10825	0.01158	0.00006	4.93569E-05	0.011583658	0.00000	0.00005	2.74519E-04	0.01163	1.19075E-02
524100.36	4258544.18	4.77426	0.01346	0.00004	3.29046E-05	0.013461546	0.00000	0.00003	1.83013E-04	0.01349	1.36775E-02
524144.55	4258544.18	5.39352	0.01521	0.00003	2.46785E-05	0.015207617	0.00000	0.00002	1.37259E-04	0.01523	1.53696E-02
524188.74	4258544.18	5.85066	0.01650	0.00002	1.64523E-05	0.016496572	0.00000	0.00002	9.15063E-05	0.01651	1.66045E-02
524232.93	4258544.18	5.42228	0.01529	0.00002	1.64523E-05	0.015288708	0.00000	0.00002	9.15063E-05	0.01531	1.53967E-02
523481.7	4258588.65	0.30273	0.00085	0.00015	1.23392E-04	0.00085358	0.00000	0.00012	6.86297E-04	0.00098	1.66327E-03
523525.89	4258588.65	0.3961	0.00112	0.00038	3.12594E-04	0.001116847	0.00000	0.00031	1.73862E-03	0.00143	3.16806E-03
523570.08	4258588.65	0.51594	0.00145	0.00109	8.96651E-04	0.001454749	0.00000	0.00090	4.98709E-03	0.00235	7.33849E-03
523614.27	4258588.65	0.65266	0.00184	0.00099	8.14390E-04	0.001840246	0.00000	0.00081	4.52956E-03	0.00265	7.18420E-03
523658.46	4258588.65	0.80298	0.00226	0.00070	5.75831E-04	0.002264089	0.00000	0.00058	3.20272E-03	0.00284	6.04264E-03
523702.65	4258588.65	0.99451	0.00280	0.00074	6.08736E-04	0.002804129	0.00000	0.00061	3.38573E-03	0.00341	6.79860E-03
523746.84	4258588.65	1.23722	0.00349	0.00106	8.71973E-04	0.003488476	0.00000	0.00087	4.84983E-03	0.00436	9.21028E-03
523791.03	4258588.65	1.53399	0.00433	0.00147	1.20925E-03	0.004325252	0.00000	0.00121	6.72571E-03	0.00553	1.22602E-02
523835.22	4258588.65	1.8981	0.00535	0.00068	5.59379E-04	0.005351899	0.00000	0.00056	3.11121E-03	0.00591	9.02249E-03
523879.41	4258588.65	2.34565	0.00661	0.00118	9.70687E-04	0.006613815	0.00000	0.00097	5.39887E-03	0.00758	1.29834E-02
523923.6	4258588.65	2.84915	0.00803	0.00049	4.03082E-04	0.008033488	0.00000	0.00040	2.24190E-03	0.00844	1.06785E-02
523967.79	4258588.65	3.36493	0.00949	0.00020	1.64523E-04	0.009487786	0.00000	0.00016	9.15063E-04	0.00965	1.05674E-02
524011.98	4258588.65	4.00087	0.01128	0.00011	9.04877E-05	0.011280888	0.00000	0.00009	5.03284E-04	0.01137	1.18747E-02
524056.17	4258588.65	4.79642	0.01352	0.00007	5.75831E-05	0.013524028	0.00000	0.00006	3.20272E-04	0.01358	1.39019E-02
524100.36	4258588.65	5.70791	0.01609	0.00004	3.29046E-05	0.016094073	0.00000	0.00003	1.83013E-04	0.01613	1.63100E-02
524144.55	4258588.65	6.46743	0.01824	0.00003	2.46785E-05	0.018235623	0.00000	0.00002	1.37259E-04	0.01826	1.83976E-02
524188.74	4258588.65	6.73179	0.01898	0.00002	1.64523E-05	0.018981014	0.00000	0.00002	9.15063E-05	0.01900	1.90890E-02
524232.93	4258588.65	6.32139	0.01782	0.00002	1.64523E-05	0.017823847	0.00000	0.00002	9.15063E-05	0.01784	1.79318E-02
523481.7	4258633.12	0.29526	0.00083	0.00022	1.80975E-04	0.000832518	0.00000	0.00018	1.00657E-03	0.00101	2.02006E-03
523525.89	4258633.12	0.39229	0.00111	0.00059	4.85343E-04	0.001106104	0.00000	0.00049	2.69943E-03	0.00159	4.29088E-03
523570.08	4258633.12	0.52667	0.00149	0.00044	3.61951E-04	0.001485003	0.00000	0.00036	2.01314E-03	0.00185	3.86009E-03
523614.27	4258633.12	0.68604	0.00193	0.00038	3.12594E-04	0.001934364	0.00000	0.00031	1.73862E-03	0.00225	3.98558E-03
523658.46	4258633.12	0.86102	0.00243	0.00037	3.04368E-04	0.00242774	0.00000	0.00030	1.69287E-03	0.00273	4.42497E-03
523702.65	4258633.12	1.0874	0.00307	0.00040	3.29046E-04	0.003066043	0.00000	0.00033	1.83013E-03	0.00340	5.22521E-03
523746.84	4258633.12	1.38583	0.00391	0.00047	3.86629E-04	0.003907498	0.00000	0.00039	2.15040E-03	0.00429	6.44453E-03
523791.03	4258633.12	1.74281	0.00491	0.00061	5.01796E-04	0.004914042	0.00000	0.00050	2.79094E-03	0.00542	8.20678E-03
523835.22	4258633.12	2.17542	0.00613	0.00098	8.06163E-04	0.006133833	0.00000	0.00081	4.48381E-03	0.00694	1.14238E-02
523879.41	4258633.12	2.68508	0.00757	0.00155	1.27505E-03	0.007570875	0.00000	0.00128	7.09174E-03	0.00885	1.59377E-02
523923.6	4258633.12	3.23859	0.00913	0.00057	4.68891E-04	0.009131557	0.00000	0.00047	2.60793E-03	0.00960	1.22084E-02
523967.79	4258633.12	3.8572	0.01088	0.00023	1.89202E-04	0.010875795	0.00000	0.00019	1.05232E-03	0.01106	1.21173E-02
524011.98	4258633.12	4.68702	0.01322	0.00012	9.87139E-05	0.013215563	0.00000	0.00010	5.49038E-04	0.01331	1.38633E-02
524056.17	4258633.12	5.73551	0.01617	0.00007	5.75831E-05	0.016171895	0.00000	0.00006	3.20272E-04	0.01623	1.65497E-02
524100.36	4258633.12	6.84881	0.01931	0.00005	4.11308E-05	0.019310965	0.00000	0.00004	2.28766E-04	0.01935	1.95809E-02
524144.55	4258633.12	7.68848	0.02168	0.00004	3.29046E-05	0.021678506	0.00000	0.00003	1.83013E-04	0.02171	2.18944E-02
524188.74	4258633.12	7.97573	0.02249	0.00003	2.46785E-05	0.022488439	0.00000	0.00002	1.37259E-04	0.02251	2.26504E-02
524232.93	4258633.12	7.37004	0.02078	0.00002	1.64523E-05	0.02078063	0.00000	0.00002	9.15063E-05	0.02080	2.08886E-02
523481.7	4258677.59	0.29831	0.00084	0.00015	1.23392E-04	0.000841118	0.00000	0.00012	6.86297E-04	0.00096	1.65081E-03
523525.89	4258677.59	0.39417	0.00111	0.00021	1.72749E-04	0.001111405	0.00000	0.00017	9.60816E-04	0.00128	2.24497E-03
523570.08	4258677.59	0.53876	0.00152	0.00021	1.72749E-04	0.001519092	0.00000	0.00017	9.60816E-04	0.00169	2.65266E-03
523614.27	4258677.59	0.714	0.00201	0.00024	1.97428E-04	0.002013201	0.00000	0.00020	1.09808E-03	0.00221	3.30870E-03
523658.46	4258677.59	0.93446	0.00263	0.00023	1.89202E-04	0.002634812	0.00000	0.00019	1.05232E-03	0.00282	3.87634E-03
523702.65	4258677.59	1.21383	0.00342	0.00026	2.13880E-04	0.003422526	0.00000	0.00021	1.18958E-03	0.00364	4.82599E-03
523746.84	4258677.59	1.58352	0.00446	0.00032	2.63237E-04	0.004464907	0.00000	0.00026	1.46410E-03	0.00473	6.19224E-03
523791.03	4258677.59	2.0286	0.00572	0.00049	4.03082E-04	0.005719858	0.00000	0.00040	2.24190E-03	0.00612	8.36484E-03
523835.22	4258677.59	2.54004	0.00716	0.00129	1.06117E-03	0.007161919	0.00000	0.00106	5.90215E-03	0.00822	1.41252E-02
523879.41	4258677.59	3.12075	0.00880	0.00137	1.12698E-03	0.008799294	0.00000	0.00113	6.26818E-03	0.00993	1.61945E-02
523923.6	4258677.59	3.76709	0.01062	0.00043	3.53725E-04	0.01062172	0.00000	0.00035	1.96738E-03	0.01098	1.29428E-02
523967.79	4258677.59	4.60453	0.01298	0.00019	1.56297E-04	0.012982973	0.00000	0.00016	8.69310E-04	0.01314	1.40086E-02
524011.98	4258677.59	5.80779	0.01638	0.00011	9.04877E-05	0.016375696	0.00000	0.00009	5.03284E-04	0.01647	1.69695E-02
524056.17	4258677.59	7.42159	0.02093	0.00007	5.75831E-05	0.020925981	0.00000	0.00006	3.20272E-04	0.02098	2.13038E-02
524100.36	4258677.59	9.12031	0.02572	0.00005	4.11308E-05	0.025715706	0.00000	0.00004	2.28766E-04	0.02576	2.59856E-02
524144.55	4258677.59	10.19371	0.02874	0.00004	3.29046E-05	0.028742275	0.00000	0.00003	1.83013E-04	0.02878	2.89582E-02
523481.7	4258722.06	0.31278	0.00088	0.00009	7.40354E-05	0.000881917	0.00000	0.00007	4.11778E-04	0.00096	1.36773E-03
523525.89	4258722.06	0.40308	0.00114	0.00013	1.06940E-04	0.001136528	0.00000	0.00011	5.94791E-04	0.00124	1.83826E-03
523570.08	4258722.06	0.54333	0.00153	0.00016	1.31619E-04	0.001531978	0.00000	0.00013	7.32050E-04	0.00166	2.39565E-03
523614.27	4258722.06	0.75373	0.00213	0.00017	1.39845E-04	0.002125224	0.00000	0.00014	7.77803E-04	0.00227	3.04287E-03
523658.46	4258722.06	1.03552	0.00292	0.00017	1.39845E-04	0.002919761	0.00000	0.00014	7.77803E-04	0.00306	3.83741E-03
523702.65	4258722.06	1.4041	0.00396	0.00020	1.64523E-04	0.003959013	0.00000	0.00016	9.15063E-04	0.00412	5.03860E-03
523746.84	4258722.06	1.87987	0.00530	0.00030	2.46785E-04	0.005300498	0.00000	0.00025	1.37259E-03	0.00555	6.91988E-03
523791.03	4258722.06	2.45262	0.00692	0.00067	5.51153E-04	0.006915429	0.00000	0.00055	3.06546E-03	0.00747	1.05320E-02
523481.7	4258766.53	0.33086	0.00093	0.00007	5.75831E-05	0.000932896	0.00000	0.00006	3.20272E-04	0.00099	1.31075E-03
523525.89	4258766.53	0.42202	0.00119	0.00010	8.22616E-05	0.001189931	0.00000	0.00008	4.57531E-04	0.00127	1.72972E-03
523570.08	4258766.53	0.56192	0.00158	0.00012	9.87139E-05	0.001584395	0.00000	0.00010	5.49038E-04	0.00168	2.23215E-03
523614.27	4258766.53	0.80018	0.00226	0.00013	1.06940E-04	0.002256195	0.00000	0.00011	5.94791E-04	0.00236	2.95793E-03
523658.46	4258766.53	1.14591	0.00323	0.00016	1.31619E-04	0.003231018	0.00000	0.00013	7.32050E-04	0.00336	4.09469E-03
523702.65	4258766.53	1.61529	0.00455	0.00021	1.72749E-04	0.004554486	0.00000	0.00017	9.60816E-04	0.00473	5.68805E-03
523746.84	4258766.53	2.25975	0.00637	0.00036	2.96142E-04	0.006371611	0.00000	0.00030	1.64711E-03	0.00667	8.31487E-03
523791.03	4258766.53	3.03113	0.00855	0.00124	1.02004E-03	0.008546601	0.00000	0.00102	5.67339E-03	0.00957	1.52400E-02
523481.7	4258811	0.35153	0.00099	0.00006	4.93569E-05	0.000991177	0.00000	0.00005	2.74519E-04	0.00104	1.31505E-03
523525.89	4258811	0.45261	0.00128	0.00008	6.58093E-05	0.001276183	0.00000	0.00007	3.66025E-04	0.00134	1.70802E-03
523570.08	4258811	0.59948	0.00169	0.00010	8.22616E-05	0.001690299	0.00000	0.00008	4.57531E-04	0.00177	2.23009E-03
523614.27	4258811	0.8532	0.00241	0.00012	9.87139E-05	0.00240569	0.00000	0.00010	5.49038E-04	0.00250	3.05344E-03
523658.46	4258811	1.26489	0.00357	0.00015	1.23392E-04	0.003566495	0.00000	0.00012	6.86297E-04	0.00369	4.37618E-03
523702.65	4258811	1.88815	0.00532	0.00025	2.05654E-04	0.005323844	0.00000	0.00021	1.14383E-03	0.00553	6.67333E-03
523746.84	4258811	2.83881	0.00800	0.00054	4.44212E-04	0.008004334	0.00000	0.00044	2.47067E-03	0.00845	1.09192E-02
523791.03	4258811	3.96259	0.01117	0.00138	1.13521E-03	0.011172954	0.00000	0.00114	6.31393E-03	0.01231	1.86221E-02
523481.7	4258855.47	0.36344	0.00102	0.00005	4.11308E-05	0.001024759	0.00000	0.00004	2.28766E-04	0.00107	1.29466E-03
523525.89	4258855.47	0.47473	0.00134	0.00007	5.75831E-05	0.001338553	0.00000	0.00006	3.20272E-04	0.00140	1.71641E-03
523570.08	4258855.47	0.63538	0.00179	0.00009	7.40354E-05	0.001791523	0.00000	0.00007	4.11778E-04	0.00187	2.27734E-03
523614.27	4258855.47	0.91924	0.00259	0.00011	9.04877E-05	0.002591897	0.00000	0.00009	5.03284E-04	0.00268	3.18567E-03
523658.46	4258855.47	1.42539	0.00402	0.00017	1.39845E-04	0.004019042	0.00000	0.00014	7.77803E-04	0.00416	4.93669E-03
523702.65	4258855.47	2.31758	0.00653	0.00035	2.87916E-04	0.006534669	0.00000	0.00029	1.60136E-03	0.00682	8.42394E-03
523746.84	4258855.47	3.76265	0.01061	0.00102	8.39068E-04	0.010609201	0.00000	0.00084	4.66682E-03	0.01145	1.61151E-02
523791.03	4258855.47	5.49492	0.01549	0.00118	9.70687E-04	0.015493525	0.00000	0.00097	5.39887E-03	0.01646	2.18631E-02
523481.7	4258899.94	0.36269	0.00102	0.00005	4.11308E-05	0.001022644	0.00000	0.00004	2.28766E-04	0.00106	1.29254E-03
523525.89	4258899.94	0.47205	0.00133	0.00006	4.93569E-05	0.001330996	0.00000	0.00005	2.74519E-04	0.00138	1.65487E-03
523570.08	4258899.94	0.64955	0.00183	0.00008	6.58093E-05	0.001831477	0.00000	0.00007	3.66025E-04	0.00190	2.26331E-03
523614.27	4258899.94	0.9641	0.00272	0.00011	9.04877E-05	0.002718385	0.00000	0.00009	5.03284E-04	0.00281	3.31216E-03
523658.46	4258899.94	1.59355	0.00449	0.00020	1.64523E-04	0.004493188	0.00000	0.00016	9.15063E-04	0.00466	5.57277E-03
523702.65	4258899.94	2.88514	0.00813	0.00078	6.41640E-04	0.008134966	0.00000	0.00064	3.56874E-03	0.00878	1.23454E-02
523746.84	4258899.94	5.42529	0.01530	0.00124	1.02004E-03	0.015297195	0.00000	0.00102	5.67339E-03	0.01632	2.19906E-02
523481.7	4258944.41	0.37233	0.00105	0.00005	4.11308E-05	0.001049825	0.00000	0.00004	2.28766E-04	0.00109	1.31972E-03
523525.89	4258944.41	0.47695	0.00134	0.00006	4.93569E-05	0.001344812	0.00000	0.00005	2.74519E-04	0.00139	1.66869E-03
523570.08	4258944.41	0.65339	0.00184	0.00008	6.58093E-05	0.001842304	0.00000	0.00007	3.66025E-04	0.00191	2.27414E-03
523614.27	4258944.41	0.98092	0.00277	0.00011	9.04877E-05	0.002765811	0.00000	0.00009	5.03284E-04	0.00286	3.35958E-03
523702.65	4258944.41	3.71775	0.01048	0.00067	5.51153E-04	0.010482601	0.00000	0.00055	3.06546E-03	0.01103	1.40992E-02
523746.84	4258944.41	9.35123	0.02637	0.00119	9.78913E-04	0.02636681	0.00000	0.00098	5.44462E-03	0.02735	3.27903E-02
523481.7	4258988.88	0.41749	0.00118	0.00004	3.29046E-05	0.001177158	0.00000	0.00003	1.83013E-04	0.00121	1.39308E-03
523525.89	4258988.88	0.52332	0.00148	0.00005	4.11308E-05	0.001475558	0.00000	0.00004	2.28766E-04	0.00152	1.74545E-03
523570.08	4258988.88	0.70048	0.00198	0.00007	5.75831E-05	0.00197508	0.00000	0.00006	3.20272E-04	0.00203	2.35293E-03
523614.27	4258988.88	1.04089	0.00293	0.00012	9.87139E-05	0.002934903	0.00000	0.00010	5.49038E-04	0.00303	3.58265E-03
523702.65	4258988.88	5.09636	0.01437	0.00118	9.70687E-04	0.014369742	0.00000	0.00097	5.39887E-03	0.01534	2.07393E-02
523481.7	4259033.35	0.47905	0.00135	0.00004	3.29046E-05	0.001350734	0.00000	0.00003	1.83013E-04	0.00138	1.56665E-03
523525.89	4259033.35	0.60432	0.00170	0.00005	4.11308E-05	0.001703946	0.00000	0.00004	2.28766E-04	0.00175	1.97384E-03
523570.08	4259033.35	0.81377	0.00229	0.00008	6.58093E-05	0.002294513	0.00000	0.00007	3.66025E-04	0.00236	2.72635E-03
523614.27	4259033.35	1.22782	0.00346	0.00013	1.06940E-04	0.003461972	0.00000	0.00011	5.94791E-04	0.00357	4.16370E-03
523481.7	4259077.82	0.5377	0.00152	0.00004	3.29046E-05	0.001516104	0.00000	0.00003	1.83013E-04	0.00155	1.73202E-03
523525.89	4259077.82	0.71023	0.00200	0.00005	4.11308E-05	0.002002571	0.00000	0.00004	2.28766E-04	0.00204	2.27247E-03
523570.08	4259077.82	1.01873	0.00287	0.00007	5.75831E-05	0.00287242	0.00000	0.00006	3.20272E-04	0.00293	3.25028E-03
523614.27	4259077.82	1.71891	0.00485	0.00011	9.04877E-05	0.004846654	0.00000	0.00009	5.03284E-04	0.00494	5.44043E-03
523481.7	4259122.29	0.60096	0.00169	0.00004	3.29046E-05	0.001694472	0.00000	0.00003	1.83013E-04	0.00173	1.91039E-03
523525.89	4259122.29	0.8497	0.00240	0.00005	4.11308E-05	0.002395822	0.00000	0.00004	2.28766E-04	0.00244	2.66572E-03
523570.08	4259122.29	1.33141	0.00375	0.00007	5.75831E-05	0.003754055	0.00000	0.00006	3.20272E-04	0.00381	4.13191E-03
523614.27	4259122.29	2.52575	0.00712	0.00009	7.40354E-05	0.007121627	0.00000	0.00007	4.11778E-04	0.00720	7.60744E-03
523481.7	4259166.76	0.68755	0.00194	0.00004	3.29046E-05	0.001938622	0.00000	0.00003	1.83013E-04	0.00197	2.15454E-03
523525.89	4259166.76	1.04676	0.00295	0.00005	4.11308E-05	0.002951454	0.00000	0.00004	2.28766E-04	0.00299	3.22135E-03
523570.08	4259166.76	1.77061	0.00499	0.00006	4.93569E-05	0.004992428	0.00000	0.00005	2.74519E-04	0.00504	5.31630E-03
523614.27	4259166.76	3.41015	0.00962	0.00008	6.58093E-05	0.009615289	0.00000	0.00007	3.66025E-04	0.00968	1.00471E-02
524232.93	4259166.76	5.835	0.01645	0.00002	1.64523E-05	0.016452417	0.00000	0.00002	9.15063E-05	0.01647	1.65604E-02
524277.12	4259166.76	4.23132	0.01193	0.00001	8.22616E-06	0.011930667	0.00000	0.00001	4.57531E-05	0.01194	1.19846E-02
524321.31	4259166.76	2.91399	0.00822	0.00001	8.22616E-06	0.008216312	0.00000	0.00001	4.57531E-05	0.00822	8.27029E-03
523481.7	4259211.23	0.87225	0.00246	0.00003	2.46785E-05	0.002459404	0.00000	0.00002	1.37259E-04	0.00248	2.62134E-03
523525.89	4259211.23	1.34795	0.00380	0.00004	3.29046E-05	0.003800692	0.00000	0.00003	1.83013E-04	0.00383	4.01661E-03
523570.08	4259211.23	2.25962	0.00637	0.00005	4.11308E-05	0.006371244	0.00000	0.00004	2.28766E-04	0.00641	6.64114E-03
523614.27	4259211.23	3.93409	0.01109	0.00006	4.93569E-05	0.011092595	0.00000	0.00005	2.74519E-04	0.01114	1.14165E-02
523658.46	4259211.23	6.46095	0.01822	0.00007	5.75831E-05	0.018217352	0.00000	0.00006	3.20272E-04	0.01827	1.85952E-02
523702.65	4259211.23	10.33553	0.02914	0.00008	6.58093E-05	0.029142151	0.00000	0.00007	3.66025E-04	0.02921	2.95740E-02
523746.84	4259211.23	15.28164	0.04309	0.00009	7.40354E-05	0.043088247	0.00000	0.00007	4.11778E-04	0.04316	4.35741E-02
523791.03	4259211.23	18.642	0.05256	0.00008	6.58093E-05	0.052563147	0.00000	0.00007	3.66025E-04	0.05263	5.29950E-02
523835.22	4259211.23	18.06213	0.05093	0.00007	5.75831E-05	0.050928141	0.00000	0.00006	3.20272E-04	0.05099	5.13060E-02
524144.55	4259211.23	7.14419	0.02014	0.00002	1.64523E-05	0.020143821	0.00000	0.00002	9.15063E-05	0.02016	2.02518E-02
524188.74	4259211.23	6.24329	0.01760	0.00002	1.64523E-05	0.017603635	0.00000	0.00002	9.15063E-05	0.01762	1.77116E-02
524232.93	4259211.23	4.76011	0.01342	0.00001	8.22616E-06	0.013421648	0.00000	0.00001	4.57531E-05	0.01343	1.34756E-02
524277.12	4259211.23	3.48118	0.00982	0.00001	8.22616E-06	0.009815566	0.00000	0.00001	4.57531E-05	0.00982	9.86955E-03
524321.31	4259211.23	2.63009	0.00742	0.00001	8.22616E-06	0.007415825	0.00000	0.00001	4.57531E-05	0.00742	7.46980E-03
523481.7	4259255.7	1.07706	0.00304	0.00003	2.46785E-05	0.003036888	0.00000	0.00002	1.37259E-04	0.00306	3.19883E-03
523525.89	4259255.7	1.60532	0.00453	0.00004	3.29046E-05	0.004526374	0.00000	0.00003	1.83013E-04	0.00456	4.74229E-03
523570.08	4259255.7	2.49252	0.00703	0.00005	4.11308E-05	0.007027931	0.00000	0.00004	2.28766E-04	0.00707	7.29783E-03
523614.27	4259255.7	3.75891	0.01060	0.00005	4.11308E-05	0.010598656	0.00000	0.00004	2.28766E-04	0.01064	1.08686E-02
523658.46	4259255.7	5.42052	0.01528	0.00006	4.93569E-05	0.015283746	0.00000	0.00005	2.74519E-04	0.01533	1.56076E-02
523702.65	4259255.7	7.65091	0.02157	0.00007	5.75831E-05	0.021572573	0.00000	0.00006	3.20272E-04	0.02163	2.19504E-02
523746.84	4259255.7	10.32378	0.02911	0.00007	5.75831E-05	0.029109021	0.00000	0.00006	3.20272E-04	0.02917	2.94869E-02
523791.03	4259255.7	12.26052	0.03457	0.00007	5.75831E-05	0.03456987	0.00000	0.00006	3.20272E-04	0.03463	3.49477E-02
523835.22	4259255.7	12.74914	0.03595	0.00006	4.93569E-05	0.035947587	0.00000	0.00005	2.74519E-04	0.03600	3.62715E-02
523879.41	4259255.7	12.63056	0.03561	0.00005	4.11308E-05	0.035613238	0.00000	0.00004	2.28766E-04	0.03565	3.58831E-02
523923.6	4259255.7	12.22517	0.03447	0.00004	3.29046E-05	0.034470197	0.00000	0.00003	1.83013E-04	0.03450	3.46861E-02
523967.79	4259255.7	11.36764	0.03205	0.00003	2.46785E-05	0.032052298	0.00000	0.00002	1.37259E-04	0.03208	3.22142E-02
524011.98	4259255.7	9.75888	0.02752	0.00003	2.46785E-05	0.027516224	0.00000	0.00002	1.37259E-04	0.02754	2.76782E-02
524056.17	4259255.7	8.37124	0.02360	0.00002	1.64523E-05	0.023603622	0.00000	0.00002	9.15063E-05	0.02362	2.37116E-02
524100.36	4259255.7	6.95563	0.01961	0.00002	1.64523E-05	0.019612156	0.00000	0.00002	9.15063E-05	0.01963	1.97201E-02
524144.55	4259255.7	5.91155	0.01667	0.00002	1.64523E-05	0.016668258	0.00000	0.00002	9.15063E-05	0.01668	1.67762E-02
52418874	4259255.7	4.9491	0.01395	0.00001	8.22616E-06	0.013954526	0.00000	0.00001	4.57531E-05	0.01396	1.40085E-02
524232.93	4259255.7	3.74249	0.01055	0.00001	8.22616E-06	0.010552358	0.00000	0.00001	4.57531E-05	0.01056	1.06063E-02
524277.12	4259255.7	2.75749	0.00778	0.00001	8.22616E-06	0.007775043	0.00000	0.00001	4.57531E-05	0.00778	7.82902E-03
524321.31	4259255.7	2.20105	0.00621	0.00001	8.22616E-06	0.0062061	0.00000	0.00001	4.57531E-05	0.00621	6.26008E-03
523481.7	4259300.17	1.21499	0.00343	0.00003	2.46785E-05	0.003425797	0.00000	0.00002	1.37259E-04	0.00345	3.58773E-03
523525.89	4259300.17	1.70813	0.00482	0.00004	3.29046E-05	0.004816258	0.00000	0.00003	1.83013E-04	0.00485	5.03218E-03
523570.08	4259300.17	2.41406	0.00681	0.00004	3.29046E-05	0.006806705	0.00000	0.00003	1.83013E-04	0.00684	7.02262E-03
523614.27	4259300.17	3.34814	0.00944	0.00005	4.11308E-05	0.009440445	0.00000	0.00004	2.28766E-04	0.00948	9.71034E-03
523658.46	4259300.17	4.49649	0.01268	0.00005	4.11308E-05	0.012678343	0.00000	0.00004	2.28766E-04	0.01272	1.29482E-02
523702.65	4259300.17	6.00509	0.01693	0.00006	4.93569E-05	0.016932005	0.00000	0.00005	2.74519E-04	0.01698	1.72559E-02
523746.84	4259300.17	7.7946	0.02198	0.00006	4.93569E-05	0.021977723	0.00000	0.00005	2.74519E-04	0.02203	2.23016E-02
523791.03	4259300.17	9.15058	0.02580	0.00006	4.93569E-05	0.025801056	0.00000	0.00005	2.74519E-04	0.02585	2.61249E-02
523835.22	4259300.17	9.79213	0.02761	0.00005	4.11308E-05	0.027609976	0.00000	0.00004	2.28766E-04	0.02765	2.78799E-02
523879.41	4259300.17	10.1089	0.02850	0.00004	3.29046E-05	0.028503144	0.00000	0.00003	1.83013E-04	0.02854	2.87191E-02
523923.6	4259300.17	9.61961	0.02712	0.00004	3.29046E-05	0.027123537	0.00000	0.00003	1.83013E-04	0.02716	2.73395E-02
523967.79	4259300.17	8.93048	0.02518	0.00003	2.46785E-05	0.02518046	0.00000	0.00002	1.37259E-04	0.02521	2.53424E-02
524011.98	4259300.17	7.56498	0.02133	0.00002	1.64523E-05	0.021330284	0.00000	0.00002	9.15063E-05	0.02135	2.14382E-02
524056.17	4259300.17	6.64698	0.01874	0.00002	1.64523E-05	0.018741883	0.00000	0.00002	9.15063E-05	0.01876	1.88498E-02
524100.36	4259300.17	5.73651	0.01617	0.00002	1.64523E-05	0.016174714	0.00000	0.00002	9.15063E-05	0.01619	1.62827E-02
524144.55	4259300.17	4.92379	0.01388	0.00002	1.64523E-05	0.013883162	0.00000	0.00002	9.15063E-05	0.01390	1.39911E-02
524188.74	4259300.17	4.02069	0.01134	0.00001	8.22616E-06	0.011336773	0.00000	0.00001	4.57531E-05	0.01134	1.13908E-02
524232.93	4259300.17	3.08605	0.00870	0.00001	8.22616E-06	0.008701454	0.00000	0.00001	4.57531E-05	0.00871	8.75543E-03
524277.12	4259300.17	2.37375	0.00669	0.00001	8.22616E-06	0.006693046	0.00000	0.00001	4.57531E-05	0.00670	6.74703E-03
524321.31	4259300.17	1.89921	0.00536	0.00001	8.22616E-06	0.005355029	0.00000	0.00001	4.57531E-05	0.00536	5.40901E-03
523481.7	4259344.64	1.28503	0.00362	0.00003	2.46785E-05	0.003623282	0.00000	0.00002	1.37259E-04	0.00365	3.78522E-03
523525.89	4259344.64	1.6993	0.00479	0.00003	2.46785E-05	0.004791361	0.00000	0.00002	1.37259E-04	0.00482	4.95330E-03
523570.08	4259344.64	2.2477	0.00634	0.00004	3.29046E-05	0.006337635	0.00000	0.00003	1.83013E-04	0.00637	6.55355E-03
523614.27	4259344.64	2.96888	0.00837	0.00004	3.29046E-05	0.00837108	0.00000	0.00003	1.83013E-04	0.00840	8.58700E-03
523658.46	4259344.64	3.89409	0.01098	0.00004	3.29046E-05	0.01097981	0.00000	0.00003	1.83013E-04	0.01101	1.11957E-02
523702.65	4259344.64	4.9253	0.01389	0.00005	4.11389E-05	0.013887419	0.00000	0.00004	2.28766E-04	0.01393	1.41573E-02
523746.84	4259344.64	6.1603	0.01737	0.00005	4.11308E-05	0.017369636	0.00000	0.00004	2.28766E-04	0.01741	1.76395E-02
523791.03	4259344.64	7.23646	0.02040	0.00005	4.11308E-05	0.020403986	0.00000	0.00004	2.28766E-04	0.02045	2.06739E-02
523835.22	4259344.64	7.80256	0.02200	0.00004	3.29046E-05	0.022000167	0.00000	0.00003	1.83013E-04	0.02203	2.22161E-02
523879.41	4259344.64	7.96877	0.02247	0.00004	3.29046E-05	0.022468814	0.00000	0.00003	1.83013E-04	0.02250	2.26847E-02
523923.6	4259344.64	7.61647	0.02148	0.00003	2.46785E-05	0.021475466	0.00000	0.00002	1.37259E-04	0.02150	2.16374E-02
523967.79	4259344.64	7.18158	0.02025	0.00003	2.46785E-05	0.020249246	0.00000	0.00002	1.37259E-04	0.02027	2.04112E-02
524011.98	4259344.64	6.64443	0.01873	0.00002	1.64523E-05	0.018734693	0.00000	0.00002	9.15063E-05	0.01875	1.88427E-02
524056.17	4259344.64	6.08613	0.01716	0.00002	1.64523E-05	0.017160506	0.00000	0.00002	9.15063E-05	0.01718	1.72685E-02
524100.36	4259344.64	5.25219	0.01481	0.00002	1.64523E-05	0.014809121	0.00000	0.00002	9.15063E-05	0.01483	1.49171E-02
524144.55	4259344.64	4.25216	0.01199	0.00001	8.22616E-06	0.011989428	0.00000	0.00001	4.57531E-05	0.01200	1.20434E-02
524188.74	4259344.64	3.33524	0.00940	0.00001	8.22616E-06	0.009404072	0.00000	0.00001	4.57531E-05	0.00941	9.45805E-03
524232.93	4259344.64	2.65176	0.00748	0.00001	8.22616E-06	0.007476926	0.00000	0.00001	4.57531E-05	0.00749	7.53091E-03
524277.12	4259344.64	2.08054	0.00587	0.00001	8.22616E-06	0.005866309	0.00000	0.00001	4.57531E-05	0.00587	5.92029E-03
524321.31	4259344.64	1.69669	0.00478	0.00001	8.22616E-06	0.004784002	0.00000	0.00001	4.57531E-05	0.00479	4.83798E-03

Round Barn Village Project 2020 No Mitigation at Sensitive Receptors

Construction Annual DPM Emissions (as PM2.5 Exhaust)

Annual Average Onsite DPM Exhaust Emission Rate: 1.37028E-07 grams/m2/sec

Annual Average Offsite DPM Exhaust Emission Rate: 2.93326E-05 grams/sec

Annual Average Onsite DPM Fugitive Emission Rate: 0.00000E+00 grams/m2/sec

Annual Average Offsite DPM Fugitive Emission Rate: 0.000325804 grams/sec

X (m)	Y (m)	Onsite Annual DPM Exhaust w/Unit Emissions (ug/m3)	Onsite Annual DPM Exhaust w/Actual Emissions (ug/m3)	Offsite Annual DPM Exhaust w/Unit Emissions (ug/m3)	Offsite Annual DPM Exhaust w/Actual Emissions (ug/m3)	Onsite Annual DPM Fugitive w/Unit Emissions (ug/m3)	Onsite Annual DPM Fugitive w/Actual Emissions (ug/m3)	Offsite Annual DPM Fugitive w/Unit Emissions (ug/m3)	Offsite Annual DPM Fugitive w/Actual Emissions (ug/m3)	Total DPM Exhaust (ug/m3)	Total PM2.5 (ug/m3)
523481.7	4258499.71	0.31936	0.00044	0.00007	2.05328E-05	0.000437612	0.00000	0.00002	6.68968E-05	0.00046	5.25041E-04
523525.89	4258499.71	0.40238	0.00055	0.00015	4.39989E-05	0.000551372	0.00000	0.00004	1.43350E-04	0.00060	7.38721E-04
523570.08	4258499.71	0.49882	0.00068	0.00031	9.09310E-05	0.000683522	0.00000	0.00009	2.96257E-04	0.00077	1.07071E-03
523614.27	4258499.71	0.59895	0.00082	0.00054	1.58396E-04	0.000820728	0.00000	0.00016	5.16061E-04	0.00098	1.49518E-03
523658.46	4258499.71	0.70947	0.00097	0.00092	2.69860E-04	0.000972171	0.00000	0.00027	8.79215E-04	0.00124	2.12125E-03
523702.65	4258499.71	0.85151	0.00117	0.00079	2.31727E-04	0.001166805	0.00000	0.00023	7.54978E-04	0.00140	2.15351E-03
523746.84	4258499.71	1.0326	0.00141	0.00058	1.70129E-04	0.001414948	0.00000	0.00017	5.54288E-04	0.00159	2.13936E-03
523791.03	4258499.71	1.25476	0.00172	0.00044	1.29063E-04	0.001719369	0.00000	0.00013	4.20494E-04	0.00185	2.26893E-03
523835.22	4258499.71	1.53204	0.00210	0.00036	1.05597E-04	0.002099319	0.00000	0.00011	3.44041E-04	0.00220	2.54896E-03
523879.41	4258499.71	1.87051	0.00256	0.00030	8.79977E-05	0.002563117	0.00000	0.00009	2.86700E-04	0.00265	2.93782E-03
523923.6	4258499.71	2.23062	0.00306	0.00027	7.91980E-05	0.003056568	0.00000	0.00008	2.58030E-04	0.00314	3.39380E-03
523967.79	4258499.71	2.63167	0.00361	0.00015	4.39989E-05	0.003606117	0.00000	0.00004	1.43350E-04	0.00365	3.79347E-03
524011.98	4258499.71	3.09199	0.00424	0.00010	2.93326E-05	0.004236883	0.00000	0.00003	9.55668E-05	0.00427	4.36178E-03
524056.17	4258499.71	3.55567	0.00487	0.00007	2.05328E-05	0.004872253	0.00000	0.00002	6.68968E-05	0.00489	4.95968E-03
524100.36	4258499.71	3.99326	0.00547	0.00005	1.46663E-05	0.005471873	0.00000	0.00001	4.77834E-05	0.00549	5.53432E-03
524144.55	4258499.71	4.43525	0.00608	0.00003	8.79977E-06	0.006077522	0.00000	0.00001	2.86700E-05	0.00609	6.11499E-03
524188.74	4258499.71	4.64905	0.00637	0.00002	5.86652E-06	0.006370487	0.00000	0.00001	1.91134E-05	0.00638	6.39547E-03
524232.93	4258499.71	4.56394	0.00625	0.00002	5.86652E-06	0.006253863	0.00000	0.00001	1.91134E-05	0.00626	6.27884E-03
523481.7	4258544.18	0.31138	0.00043	0.00010	2.93326E-05	0.000426677	0.00000	0.00003	9.55668E-05	0.00046	5.51576E-04
523525.89	4258544.18	0.40069	0.00055	0.00033	9.67975E-05	0.000549056	0.00000	0.00010	3.15371E-04	0.00065	9.61224E-04
523570.08	4258544.18	0.50845	0.00070	0.00090	2.63993E-04	0.000696717	0.00000	0.00026	8.60101E-04	0.00096	1.82081E-03
523614.27	4258544.18	0.62648	0.00086	0.00071	2.08261E-04	0.000858451	0.00000	0.00021	6.78525E-04	0.00107	1.74524E-03
523658.46	4258544.18	0.75436	0.00103	0.00183	5.36786E-04	0.001033682	0.00000	0.00054	1.74887E-03	0.00157	3.31934E-03
523702.65	4258544.18	0.91727	0.00126	0.00065	1.90662E-04	0.001256914	0.00000	0.00019	6.21184E-04	0.00145	2.06876E-03
523746.84	4258544.18	1.127	0.00154	0.00061	1.78929E-04	0.001544302	0.00000	0.00018	5.82958E-04	0.00172	2.30619E-03
523791.03	4258544.18	1.37854	0.00189	0.00097	2.84526E-04	0.001888982	0.00000	0.00028	9.26998E-04	0.00217	3.10051E-03
523835.22	4258544.18	1.70215	0.00233	0.00062	1.81862E-04	0.002332417	0.00000	0.00018	5.92514E-04	0.00251	3.10679E-03
523879.41	4258544.18	2.09515	0.00287	0.00051	1.49596E-04	0.002870936	0.00000	0.00015	4.87391E-04	0.00302	3.50792E-03
523923.6	4258544.18	2.52187	0.00346	0.00035	1.02664E-04	0.003455661	0.00000	0.00010	3.34484E-04	0.00356	3.89281E-03
523967.79	4258544.18	2.9964	0.00411	0.00017	4.98654E-05	0.004105899	0.00000	0.00005	1.62464E-04	0.00416	4.31823E-03
524011.98	4258544.18	3.53801	0.00485	0.00010	2.93326E-05	0.004848054	0.00000	0.00003	9.55668E-05	0.00488	4.97295E-03
524056.17	4258544.18	4.10825	0.00563	0.00006	1.75995E-05	0.005629441	0.00000	0.00002	5.73401E-05	0.00565	5.70438E-03
524100.36	4258544.18	4.77426	0.00654	0.00004	1.17330E-05	0.00654206	0.00000	0.00001	3.82267E-05	0.00655	6.59202E-03
524144.55	4258544.18	5.39352	0.00739	0.00003	8.79977E-06	0.007390617	0.00000	0.00001	2.86700E-05	0.00740	7.42809E-03
524188.74	4258544.18	5.85066	0.00802	0.00002	5.86652E-06	0.008017026	0.00000	0.00001	1.91134E-05	0.00802	8.04201E-03
524232.93	4258544.18	5.42228	0.00743	0.00002	5.86652E-06	0.007430027	0.00000	0.00001	1.91134E-05	0.00744	7.45501E-03
523481.7	4258588.65	0.30273	0.00041	0.00015	4.39989E-05	0.000414824	0.00000	0.00004	1.43350E-04	0.00046	6.02173E-04
523525.89	4258588.65	0.3961	0.00054	0.00038	1.11464E-04	0.000542767	0.00000	0.00011	3.63154E-04	0.00065	1.01738E-03
523570.08	4258588.65	0.51594	0.00071	0.00109	3.19725E-04	0.000706981	0.00000	0.00032	1.04168E-03	0.00103	2.06838E-03
523614.27	4258588.65	0.65266	0.00089	0.00099	2.90393E-04	0.000894325	0.00000	0.00029	9.46112E-04	0.00118	2.13083E-03
523658.46	4258588.65	0.80298	0.00110	0.00070	2.05328E-04	0.001100305	0.00000	0.00021	6.68968E-04	0.00131	1.97460E-03
523702.65	4258588.65	0.99451	0.00136	0.00074	2.17061E-04	0.001362754	0.00000	0.00022	7.07195E-04	0.00158	2.28701E-03
523746.84	4258588.65	1.23722	0.00170	0.00106	3.10925E-04	0.001695334	0.00000	0.00031	1.01301E-03	0.00201	3.01927E-03
523791.03	4258588.65	1.53399	0.00210	0.00147	4.31189E-04	0.002101991	0.00000	0.00043	1.40483E-03	0.00253	3.93801E-03
523835.22	4258588.65	1.8981	0.00260	0.00068	1.99462E-04	0.002600923	0.00000	0.00020	6.49854E-04	0.00280	3.45024E-03
523879.41	4258588.65	2.34565	0.00321	0.00118	3.46124E-04	0.003214191	0.00000	0.00035	1.12769E-03	0.00356	4.68800E-03
523923.6	4258588.65	2.84915	0.00390	0.00049	1.43730E-04	0.003904125	0.00000	0.00014	4.68277E-04	0.00405	4.51613E-03
523967.79	4258588.65	3.36493	0.00461	0.00020	5.86652E-05	0.004610887	0.00000	0.00006	1.91134E-04	0.00467	4.86069E-03
524011.98	4258588.65	4.00087	0.00548	0.00011	3.22658E-05	0.005482301	0.00000	0.00003	1.05124E-04	0.00551	5.61969E-03
524056.17	4258588.65	4.79642	0.00657	0.00007	2.05328E-05	0.006572425	0.00000	0.00002	6.68968E-05	0.00659	6.65985E-03
524100.36	4258588.65	5.70791	0.00782	0.00004	1.17330E-05	0.007821419	0.00000	0.00001	3.82267E-05	0.00783	7.87138E-03
524144.55	4258588.65	6.46743	0.00886	0.00003	8.79977E-06	0.008862172	0.00000	0.00001	2.86700E-05	0.00887	8.89964E-03
524188.74	4258588.65	6.73179	0.00922	0.00002	5.86652E-06	0.009224418	0.00000	0.00001	1.91134E-05	0.00923	9.24940E-03
524232.93	4258588.65	6.32139	0.00866	0.00002	5.86652E-06	0.008662056	0.00000	0.00001	1.91134E-05	0.00867	8.68704E-03
523481.7	4258633.12	0.29526	0.00040	0.00022	6.45317E-05	0.000404588	0.00000	0.00006	2.10247E-04	0.00047	6.79367E-04
523525.89	4258633.12	0.39229	0.00054	0.00059	1.73062E-04	0.000537546	0.00000	0.00017	5.63844E-04	0.00071	1.27445E-03
523570.08	4258633.12	0.52667	0.00072	0.00044	1.29063E-04	0.000721684	0.00000	0.00013	4.20494E-04	0.00085	1.27124E-03
523614.27	4258633.12	0.68604	0.00094	0.00038	1.11464E-04	0.000940065	0.00000	0.00011	3.63154E-04	0.00105	1.41468E-03
523658.46	4258633.12	0.86102	0.00118	0.00037	1.08531E-04	0.001179836	0.00000	0.00011	3.53597E-04	0.00129	1.64196E-03
523702.65	4258633.12	1.0874	0.00149	0.00040	1.17330E-04	0.001490039	0.00000	0.00012	3.82267E-04	0.00161	1.98964E-03
523746.84	4258633.12	1.38583	0.00190	0.00047	1.37863E-04	0.001898971	0.00000	0.00014	4.49164E-04	0.00204	2.48600E-03
523791.03	4258633.12	1.74281	0.00239	0.00061	1.78929E-04	0.002388133	0.00000	0.00018	5.82958E-04	0.00257	3.15002E-03
523835.22	4258633.12	2.17542	0.00298	0.00098	2.87459E-04	0.002980928	0.00000	0.00029	9.36555E-04	0.00327	4.20494E-03
523879.41	4258633.12	2.68508	0.00368	0.00155	4.54655E-04	0.003679304	0.00000	0.00045	1.48129E-03	0.00413	5.61524E-03
523923.6	4258633.12	3.23859	0.00444	0.00057	1.67196E-04	0.004437766	0.00000	0.00017	5.44731E-04	0.00460	5.14969E-03
523967.79	4258633.12	3.8572	0.00529	0.00023	6.74649E-05	0.005285433	0.00000	0.00007	2.19804E-04	0.00535	5.57270E-03
524011.98	4258633.12	4.68702	0.00642	0.00012	3.51991E-05	0.006422517	0.00000	0.00004	1.14680E-04	0.00646	6.57240E-03
524056.17	4258633.12	5.73551	0.00786	0.00007	2.05328E-05	0.007859238	0.00000	0.00002	6.68968E-05	0.00788	7.94667E-03
524100.36	4258633.12	6.84881	0.00938	0.00005	1.46663E-05	0.009384768	0.00000	0.00001	4.77834E-05	0.00940	9.44722E-03
524144.55	4258633.12	7.68848	0.01054	0.00004	1.17330E-05	0.010535349	0.00000	0.00001	3.82267E-05	0.01055	1.05853E-02
524188.74	4258633.12	7.97573	0.01093	0.00003	8.79977E-06	0.010928961	0.00000	0.00001	2.86700E-05	0.01094	1.09664E-02
524232.93	4258633.12	7.37004	0.01010	0.00002	5.86652E-06	0.010098998	0.00000	0.00001	1.91134E-05	0.01010	1.01240E-02
523481.7	4258677.59	0.29831	0.00041	0.00015	4.39989E-05	0.000408767	0.00000	0.00004	1.43350E-04	0.00045	5.96116E-04
523525.89	4258677.59	0.39417	0.00054	0.00021	6.15984E-05	0.000540122	0.00000	0.00006	2.00690E-04	0.00060	8.02411E-04
523570.08	4258677.59	0.53876	0.00074	0.00021	6.15984E-05	0.000738251	0.00000	0.00006	2.00690E-04	0.00080	1.00054E-03
523614.27	4258677.59	0.714	0.00098	0.00024	7.03982E-05	0.000978378	0.00000	0.00007	2.29360E-04	0.00105	1.27814E-03
523658.46	4258677.59	0.93446	0.00128	0.00023	6.74649E-05	0.001280469	0.00000	0.00007	2.19804E-04	0.00135	1.56774E-03
523702.65	4258677.59	1.21383	0.00166	0.00026	7.62647E-05	0.001663284	0.00000	0.00008	2.48474E-04	0.00174	1.98802E-03
523746.84	4258677.59	1.58352	0.00217	0.00032	9.38642E-05	0.002169861	0.00000	0.00009	3.05814E-04	0.00226	2.56954E-03
523791.03	4258677.59	2.0286	0.00278	0.00049	1.43730E-04	0.002779744	0.00000	0.00014	4.68277E-04	0.00292	3.39175E-03
523835.22	4258677.59	2.54004	0.00348	0.00129	3.78390E-04	0.003480559	0.00000	0.00038	1.23281E-03	0.00386	5.09176E-03
523879.41	4258677.59	3.12075	0.00428	0.00137	4.01856E-04	0.004276293	0.00000	0.00040	1.30927E-03	0.00468	5.98741E-03
523923.6	4258677.59	3.76709	0.00516	0.00043	1.26130E-04	0.005161957	0.00000	0.00013	4.10937E-04	0.00529	5.69902E-03
523967.79	4258677.59	4.60453	0.00631	0.00019	5.57319E-05	0.006309482	0.00000	0.00006	1.81577E-04	0.00637	6.54679E-03
524011.98	4258677.59	5.80779	0.00796	0.00011	3.22658E-05	0.007958282	0.00000	0.00003	1.05124E-04	0.00799	8.09567E-03
524056.17	4258677.59	7.42159	0.01017	0.00007	2.05328E-05	0.010169635	0.00000	0.00002	6.68968E-05	0.01019	1.02571E-02
524100.36	4258677.59	9.12031	0.01250	0.00005	1.46663E-05	0.012497353	0.00000	0.00001	4.77834E-05	0.01251	1.25598E-02
524144.55	4258677.59	10.19371	0.01397	0.00004	1.17330E-05	0.013968208	0.00000	0.00001	3.82267E-05	0.01398	1.40182E-02
523481.7	4258722.06	0.31278	0.00043	0.00009	2.63993E-05	0.000428595	0.00000	0.00003	8.60101E-05	0.00045	5.41005E-04
523525.89	4258722.06	0.40308	0.00055	0.00013	3.81324E-05	0.000552331	0.00000	0.00004	1.24237E-04	0.00059	7.14701E-04
523570.08	4258722.06	0.54333	0.00074	0.00016	4.69321E-05	0.000744513	0.00000	0.00005	1.52907E-04	0.00079	9.44352E-04
523614.27	4258722.06	0.75373	0.00103	0.00017	4.98654E-05	0.001032819	0.00000	0.00005	1.62464E-04	0.00108	1.24515E-03
523658.46	4258722.06	1.03552	0.00142	0.00017	4.98654E-05	0.001418949	0.00000	0.00005	1.62464E-04	0.00147	1.63128E-03
523702.65	4258722.06	1.4041	0.00192	0.00020	5.86652E-05	0.001924006	0.00000	0.00006	1.91134E-04	0.00198	2.17381E-03
523746.84	4258722.06	1.87987	0.00258	0.00030	8.79977E-05	0.002575943	0.00000	0.00009	2.86700E-04	0.00266	2.95064E-03
523791.03	4258722.06	2.45262	0.00336	0.00067	1.96528E-04	0.003360769	0.00000	0.00020	6.40298E-04	0.00356	4.19760E-03
523481.7	4258766.53	0.33086	0.00045	0.00007	2.05328E-05	0.00045337	0.00000	0.00002	6.68968E-05	0.00047	5.40799E-04
523525.89	4258766.53	0.42202	0.00058	0.00010	2.93326E-05	0.000578284	0.00000	0.00003	9.55668E-05	0.00061	7.03184E-04
523570.08	4258766.53	0.56192	0.00077	0.00012	3.51991E-05	0.000769986	0.00000	0.00004	1.14680E-04	0.00081	9.19865E-04
523614.27	4258766.53	0.80018	0.00110	0.00013	3.81324E-05	0.001096468	0.00000	0.00004	1.24237E-04	0.00113	1.25884E-03
523658.46	4258766.53	1.14591	0.00157	0.00016	4.69321E-05	0.001570214	0.00000	0.00005	1.52907E-04	0.00162	1.77005E-03
523702.65	4258766.53	1.61529	0.00221	0.00021	6.15984E-05	0.002213395	0.00000	0.00006	2.00690E-04	0.00227	2.47568E-03
523746.84	4258766.53	2.25975	0.00310	0.00036	1.05597E-04	0.003096484	0.00000	0.00011	3.44041E-04	0.00320	3.54612E-03
523791.03	4258766.53	3.03113	0.00415	0.00124	3.63724E-04	0.004153488	0.00000	0.00036	1.18503E-03	0.00452	5.70224E-03
523481.7	4258811	0.35153	0.00048	0.00006	1.75995E-05	0.000481694	0.00000	0.00002	5.73401E-05	0.00050	5.56633E-04
523525.89	4258811	0.45261	0.00062	0.00008	2.34661E-05	0.000620201	0.00000	0.00002	7.64535E-05	0.00064	7.20121E-04
523570.08	4258811	0.59948	0.00082	0.00010	2.93326E-05	0.000821454	0.00000	0.00003	9.55668E-05	0.00085	9.46353E-04
523614.27	4258811	0.8532	0.00117	0.00012	3.51991E-05	0.00116912	0.00000	0.00004	1.14680E-04	0.00120	1.31900E-03
523658.46	4258811	1.26489	0.00173	0.00015	4.39989E-05	0.00173325	0.00000	0.00004	1.43350E-04	0.00178	1.92060E-03
523702.65	4258811	1.88815	0.00259	0.00025	7.33314E-05	0.002587289	0.00000	0.00007	2.38917E-04	0.00266	2.89954E-03
523746.84	4258811	2.83881	0.00389	0.00054	1.58396E-04	0.003889957	0.00000	0.00016	5.16061E-04	0.00405	4.56441E-03
523791.03	4258811	3.96259	0.00543	0.00138	4.04790E-04	0.005429847	0.00000	0.00040	1.31882E-03	0.00583	7.15346E-03
523481.7	4258855.47	0.36344	0.00050	0.00005	1.46663E-05	0.000498014	0.00000	0.00001	4.77834E-05	0.00051	5.60463E-04
523525.89	4258855.47	0.47473	0.00065	0.00007	2.05328E-05	0.000650512	0.00000	0.00002	6.68968E-05	0.00067	7.37941E-04
523570.08	4258855.47	0.63538	0.00087	0.00009	2.63993E-05	0.000870647	0.00000	0.00003	8.60101E-05	0.00090	9.83056E-04
523614.27	4258855.47	0.91924	0.00126	0.00011	3.22658E-05	0.001259614	0.00000	0.00003	1.05124E-04	0.00129	1.39700E-03
523658.46	4258855.47	1.42539	0.00195	0.00017	4.98654E-05	0.001953179	0.00000	0.00005	1.62464E-04	0.00200	2.16551E-03
523702.65	4258855.47	2.31758	0.00318	0.00035	1.02664E-04	0.003175727	0.00000	0.00010	3.34484E-04	0.00328	3.61287E-03
523746.84	4258855.47	3.76265	0.00516	0.00102	2.99192E-04	0.005155873	0.00000	0.00030	9.74782E-04	0.00546	6.42985E-03
523791.03	4258855.47	5.49492	0.00753	0.00118	3.46124E-04	0.007529563	0.00000	0.00035	1.12769E-03	0.00788	9.00338E-03
523481.7	4258899.94	0.36269	0.00050	0.00005	1.46663E-05	0.000496986	0.00000	0.00001	4.77834E-05	0.00051	5.59436E-04
523525.89	4258899.94	0.47205	0.00065	0.00006	1.75995E-05	0.000646839	0.00000	0.00002	5.73401E-05	0.00066	7.21779E-04
523570.08	4258899.94	0.64955	0.00089	0.00008	2.34661E-05	0.000890064	0.00000	0.00002	7.64535E-05	0.00091	9.89983E-04
523614.27	4258899.94	0.9641	0.00132	0.00011	3.22658E-05	0.001321084	0.00000	0.00003	1.05124E-04	0.00135	1.45847E-03
523658.46	4258899.94	1.59355	0.00218	0.00020	5.86652E-05	0.002183605	0.00000	0.00006	1.91134E-04	0.00224	2.43340E-03
523702.65	4258899.94	2.88514	0.00395	0.00078	2.28794E-04	0.003953441	0.00000	0.00023	7.45421E-04	0.00418	4.92766E-03
523746.84	4258899.94	5.42529	0.00743	0.00124	3.63724E-04	0.007434151	0.00000	0.00036	1.18503E-03	0.00780	8.98290E-03
523481.7	4258944.41	0.37233	0.00051	0.00005	1.46663E-05	0.000510195	0.00000	0.00001	4.77834E-05	0.00052	5.72645E-04
523525.89	4258944.41	0.47695	0.00065	0.00006	1.75995E-05	0.000653554	0.00000	0.00002	5.73401E-05	0.00067	7.28493E-04
523570.08	4258944.41	0.65339	0.00090	0.00008	2.34661E-05	0.000895325	0.00000	0.00002	7.64535E-05	0.00092	9.95245E-04
523614.27	4258944.41	0.98092	0.00134	0.00011	3.22658E-05	0.001344132	0.00000	0.00003	1.05124E-04	0.00138	1.48152E-03
523702.65	4258944.41	3.71775	0.00509	0.00067	1.96528E-04	0.005094348	0.00000	0.00020	6.40298E-04	0.00529	5.93117E-03
523746.84	4258944.41	9.35123	0.01281	0.00119	3.49058E-04	0.012813777	0.00000	0.00035	1.13725E-03	0.01316	1.43001E-02
523481.7	4258988.88	0.41749	0.00057	0.00004	1.17330E-05	0.000572077	0.00000	0.00001	3.82267E-05	0.00058	6.22037E-04
523525.89	4258988.88	0.52332	0.00072	0.00005	1.46663E-05	0.000717093	0.00000	0.00001	4.77834E-05	0.00073	7.79543E-04
523570.08	4258988.88	0.70048	0.00096	0.00007	2.05328E-05	0.000959852	0.00000	0.00002	6.68968E-05	0.00098	1.04728E-03
523614.27	4258988.88	1.04089	0.00143	0.00012	3.51991E-05	0.001426308	0.00000	0.00004	1.14680E-04	0.00146	1.57619E-03
523702.65	4258988.88	5.09636	0.00698	0.00118	3.46124E-04	0.006983426	0.00000	0.00035	1.12769E-03	0.00733	8.45724E-03
523481.7	4259033.35	0.47905	0.00066	0.00004	1.17330E-05	0.000656431	0.00000	0.00001	3.82267E-05	0.00067	7.06391E-04
523525.89	4259033.35	0.60432	0.00083	0.00005	1.46663E-05	0.000828086	0.00000	0.00001	4.77834E-05	0.00084	8.90536E-04
523570.08	4259033.35	0.81377	0.00112	0.00008	2.34661E-05	0.00111509	0.00000	0.00002	7.64535E-05	0.00114	1.21501E-03
523614.27	4259033.35	1.22782	0.00168	0.00013	3.81324E-05	0.001682454	0.00000	0.00004	1.24237E-04	0.00172	1.84482E-03
523481.7	4259077.82	0.5377	0.00074	0.00004	1.17330E-05	0.000736798	0.00000	0.00001	3.82267E-05	0.00075	7.86758E-04
523525.89	4259077.82	0.71023	0.00097	0.00005	1.46663E-05	0.000973212	0.00000	0.00001	4.77834E-05	0.00099	1.03566E-03
523570.08	4259077.82	1.01873	0.00140	0.00007	2.05328E-05	0.001395942	0.00000	0.00002	6.68968E-05	0.00142	1.48337E-03
523614.27	4259077.82	1.71891	0.00236	0.00011	3.22658E-05	0.002355383	0.00000	0.00003	1.05124E-04	0.00239	2.49277E-03
523481.7	4259122.29	0.60096	0.00082	0.00004	1.17330E-05	0.000823482	0.00000	0.00001	3.82267E-05	0.00084	8.73442E-04
523525.89	4259122.29	0.8497	0.00116	0.00005	1.46663E-05	0.001164325	0.00000	0.00001	4.77834E-05	0.00118	1.22677E-03
523570.08	4259122.29	1.33141	0.00182	0.00007	2.05328E-05	0.001824401	0.00000	0.00002	6.68968E-05	0.00184	1.91183E-03
523614.27	4259122.29	2.52575	0.00346	0.00009	2.63993E-05	0.003460978	0.00000	0.00003	8.60101E-05	0.00349	3.57339E-03
523481.7	4259166.76	0.68755	0.00094	0.00004	1.17330E-05	0.000942134	0.00000	0.00001	3.82267E-05	0.00095	9.92094E-04
523525.89	4259166.76	1.04676	0.00143	0.00005	1.46663E-05	0.001434351	0.00000	0.00001	4.77834E-05	0.00145	1.49680E-03
523570.08	4259166.76	1.77061	0.00243	0.00006	1.75995E-05	0.002426226	0.00000	0.00002	5.73401E-05	0.00244	2.50117E-03
523614.27	4259166.76	3.41015	0.00467	0.00008	2.34661E-05	0.004672851	0.00000	0.00002	7.64535E-05	0.00470	4.77277E-03
524232.93	4259166.76	5.835	0.00800	0.00002	5.86652E-06	0.007995567	0.00000	0.00001	1.91134E-05	0.00800	8.02055E-03
524277.12	4259166.76	4.23132	0.00580	0.00001	2.93326E-06	0.005798081	0.00000	0.00000	9.55668E-06	0.00580	5.81057E-03
524321.31	4259166.76	2.91399	0.00399	0.00001	2.93326E-06	0.003992974	0.00000	0.00000	9.55668E-06	0.00400	4.00546E-03
523481.7	4259211.23	0.87225	0.00120	0.00003	8.79977E-06	0.001195224	0.00000	0.00001	2.86700E-05	0.00120	1.23269E-03
523525.89	4259211.23	1.34795	0.00185	0.00004	1.17330E-05	0.001847065	0.00000	0.00001	3.82267E-05	0.00186	1.89702E-03
523570.08	4259211.23	2.25962	0.00310	0.00005	1.46663E-05	0.003096306	0.00000	0.00001	4.77834E-05	0.00311	3.15876E-03
523614.27	4259211.23	3.93409	0.00539	0.00006	1.75995E-05	0.005390794	0.00000	0.00002	5.73401E-05	0.00541	5.46573E-03
523658.46	4259211.23	6.46095	0.00885	0.00007	2.05328E-05	0.008853292	0.00000	0.00002	6.68968E-05	0.00887	8.94072E-03
523702.65	4259211.23	10.33553	0.01416	0.00008	2.34661E-05	0.014162541	0.00000	0.00002	7.64535E-05	0.01419	1.42625E-02
523746.84	4259211.23	15.28164	0.02094	0.00009	2.63993E-05	0.020940083	0.00000	0.00003	8.60101E-05	0.02097	2.10525E-02
523791.03	4259211.23	18.642	0.02554	0.00008	2.34661E-05	0.025544707	0.00000	0.00002	7.64535E-05	0.02557	2.56446E-02
52383522	4259211.23	18.06213	0.02475	0.00007	2.05328E-05	0.024750125	0.00000	0.00002	6.68968E-05	0.02477	2.48376E-02
524144.55	4259211.23	7.14419	0.00979	0.00002	5.86652E-06	0.009789521	0.00000	0.00001	1.91134E-05	0.00980	9.81450E-03
524188.74	4259211.23	6.24329	0.00856	0.00002	5.86652E-06	0.008555038	0.00000	0.00001	1.91134E-05	0.00856	8.58002E-03
524232.93	4259211.23	4.76011	0.00652	0.00001	2.93326E-06	0.00652267	0.00000	0.00000	9.55668E-06	0.00653	6.53516E-03
524277.12	4259211.23	3.48118	0.00477	0.00001	2.93326E-06	0.004770182	0.00000	0.00000	9.55668E-06	0.00477	4.78267E-03
524321.31	4259211.23	2.63009	0.00360	0.00001	2.93326E-06	0.003603952	0.00000	0.00000	9.55668E-06	0.00361	3.61644E-03
523481.7	4259255.7	1.07706	0.00148	0.00003	8.79977E-06	0.001475871	0.00000	0.00001	2.86700E-05	0.00148	1.51334E-03
523525.89	4259255.7	1.60532	0.00220	0.00004	1.17330E-05	0.002199733	0.00000	0.00001	3.82267E-05	0.00221	2.24969E-03
523570.08	4259255.7	2.49252	0.00342	0.00005	1.46663E-05	0.003415443	0.00000	0.00001	4.77834E-05	0.00343	3.47789E-03
523614.27	4259255.7	3.75891	0.00515	0.00005	1.46663E-05	0.005150749	0.00000	0.00001	4.77834E-05	0.00517	5.21320E-03
523658.46	4259255.7	5.42052	0.00743	0.00006	1.75995E-05	0.007427615	0.00000	0.00002	5.73401E-05	0.00745	7.50255E-03
523702.65	4259255.7	7.65091	0.01048	0.00007	2.05328E-05	0.010483867	0.00000	0.00002	6.68968E-05	0.01050	1.05713E-02
523746.84	4259255.7	10.32378	0.01415	0.00007	2.05328E-05	0.01414644	0.00000	0.00002	6.68968E-05	0.01417	1.42339E-02
523791.03	4259255.7	12.26052	0.01680	0.00007	2.05328E-05	0.016800311	0.00000	0.00002	6.68968E-05	0.01682	1.68877E-02
523835.22	4259255.7	12.74914	0.01747	0.00006	1.75995E-05	0.017469856	0.00000	0.00002	5.73401E-05	0.01749	1.75448E-02
523879.41	4259255.7	12.63056	0.01731	0.00005	1.46663E-05	0.017307368	0.00000	0.00001	4.77834E-05	0.01732	1.73698E-02
523923.6	4259255.7	12.22517	0.01675	0.00004	1.17330E-05	0.016751871	0.00000	0.00001	3.82267E-05	0.01676	1.68018E-02
523967.79	4259255.7	11.36764	0.01558	0.00003	8.79977E-06	0.015576818	0.00000	0.00001	2.86700E-05	0.01559	1.56143E-02
524011.98	4259255.7	9.75888	0.01337	0.00003	8.79977E-06	0.013372371	0.00000	0.00001	2.86700E-05	0.01338	1.34098E-02
524056.17	4259255.7	8.37124	0.01147	0.00002	5.86652E-06	0.011470919	0.00000	0.00001	1.91134E-05	0.01148	1.14959E-02
524100.36	4259255.7	6.95563	0.00953	0.00002	5.86652E-06	0.009531141	0.00000	0.00001	1.91134E-05	0.00954	9.55612E-03
524144.55	4259255.7	5.91155	0.00810	0.00002	5.86652E-06	0.008100462	0.00000	0.00001	1.91134E-05	0.00811	8.12544E-03
524188.74	4259255.7	4.9491	0.00678	0.00001	2.93326E-06	0.006781639	0.00000	0.00000	9.55668E-06	0.00678	6.79413E-03
524232.93	4259255.7	3.74249	0.00513	0.00001	2.93326E-06	0.005128249	0.00000	0.00000	9.55668E-06	0.00513	5.14074E-03
524277.12	4259255.7	2.75749	0.00378	0.00001	2.93326E-06	0.003778526	0.00000	0.00000	9.55668E-06	0.00378	3.79102E-03
524321.31	4259255.7	2.20105	0.00302	0.00001	2.93326E-06	0.003016049	0.00000	0.00000	9.55668E-06	0.00302	3.02854E-03
523481.7	4259300.17	1.21499	0.00166	0.00003	8.79977E-06	0.001664873	0.00000	0.00001	2.86700E-05	0.00167	1.70234E-03
523525.89	4259300.17	1.70813	0.00234	0.00004	1.17330E-05	0.002340612	0.00000	0.00001	3.82267E-05	0.00235	2.39057E-03
523570.08	4259300.17	2.41406	0.00331	0.00004	1.17330E-05	0.003307931	0.00000	0.00001	3.82267E-05	0.00332	3.35789E-03
523614.27	4259300.17	3.34814	0.00459	0.00005	1.46663E-05	0.00458788	0.00000	0.00001	4.77834E-05	0.00460	4.65033E-03
523658.46	4259300.17	4.49649	0.00616	0.00005	1.46663E-05	0.006161438	0.00000	0.00001	4.77834E-05	0.00618	6.22389E-03
523702.65	4259300.17	6.00509	0.00823	0.00006	1.75995E-05	0.008228638	0.00000	0.00002	5.73401E-05	0.00825	8.30358E-03
523746.84	4259300.17	7.7946	0.01068	0.00006	1.75995E-05	0.010680762	0.00000	0.00002	5.73401E-05	0.01070	1.07557E-02
523791.03	4259300.17	9.15058	0.01254	0.00006	1.75995E-05	0.012538831	0.00000	0.00002	5.73401E-05	0.01256	1.26138E-02
523835.22	4259300.17	9.79213	0.01342	0.00005	1.46663E-05	0.013417932	0.00000	0.00001	4.77834E-05	0.01343	1.34804E-02
523879.41	4259300.17	10.1089	0.01385	0.00004	1.17330E-05	0.013851995	0.00000	0.00001	3.82267E-05	0.01386	1.39020E-02
523923.6	4259300.17	9.61961	0.01318	0.00004	1.17330E-05	0.013181532	0.00000	0.00001	3.82267E-05	0.01319	1.32315E-02
523967.79	4259300.17	8.93048	0.01224	0.00003	8.79977E-06	0.012237233	0.00000	0.00001	2.86700E-05	0.01225	1.22747E-02
524011.98	4259300.17	7.56498	0.01037	0.00002	5.86652E-06	0.010366119	0.00000	0.00001	1.91134E-05	0.01037	1.03911E-02
524056.17	4259300.17	6.64698	0.00911	0.00002	5.86652E-06	0.009108205	0.00000	0.00001	1.91134E-05	0.00911	9.13318E-03
524100.36	4259300.17	5.73651	0.00786	0.00002	5.86652E-06	0.007860609	0.00000	0.00001	1.91134E-05	0.00787	7.88559E-03
524144.55	4259300.17	4.92379	0.00675	0.00002	5.86652E-06	0.006746957	0.00000	0.00001	1.91134E-05	0.00675	6.77194E-03
524188.74	4259300.17	4.02069	0.00551	0.00001	2.93326E-06	0.00550946	0.00000	0.00000	9.55668E-06	0.00551	5.52195E-03
524232.93	4259300.17	3.08605	0.00423	0.00001	2.93326E-06	0.004228744	0.00000	0.00000	9.55668E-06	0.00423	4.24123E-03
524277.12	4259300.17	2.37375	0.00325	0.00001	2.93326E-06	0.003252695	0.00000	0.00000	9.55668E-06	0.00326	3.26519E-03
524321.31	4259300.17	1.89921	0.00260	0.00001	2.93326E-06	0.002602444	0.00000	0.00000	9.55668E-06	0.00261	2.61493E-03
523481.7	4259344.64	1.28503	0.00176	0.00003	8.79977E-06	0.001760847	0.00000	0.00001	2.86700E-05	0.00177	1.79832E-03
523525.89	4259344.64	1.6993	0.00233	0.00003	8.79977E-06	0.002328512	0.00000	0.00001	2.86700E-05	0.00234	2.36598E-03
523570.08	4259344.64	2.2477	0.00308	0.00004	1.17330E-05	0.003079972	0.00000	0.00001	3.82267E-05	0.00309	3.12993E-03
523614.27	4259344.64	2.96888	0.00407	0.00004	1.17330E-05	0.004068189	0.00000	0.00001	3.82267E-05	0.00408	4.11815E-03
523658.46	4259344.64	3.89409	0.00534	0.00004	1.17330E-05	0.005335983	0.00000	0.00001	3.82267E-05	0.00535	5.38594E-03
523702.65	4259344.64	4.9253	0.00675	0.00005	1.46663E-05	0.006749026	0.00000	0.00001	4.77834E-05	0.00676	6.81148E-03
523746.84	4259344.64	6.1603	0.00844	0.00005	1.46663E-05	0.008441319	0.00000	0.00001	4.77834E-05	0.00846	8.50377E-03
523791.03	4259344.64	7.23646	0.00992	0.00005	1.46663E-05	0.009915956	0.00000	0.00001	4.77834E-05	0.00993	9.97841E-03
523835.22	4259344.64	7.80256	0.01069	0.00004	1.17330E-05	0.01069167	0.00000	0.00001	3.82267E-05	0.01070	1.07416E-02
523879.41	4259344.64	7.96877	0.01092	0.00004	1.17330E-05	0.010919424	0.00000	0.00001	3.82267E-05	0.01093	1.09694E-02
523923.6	4259344.64	7.61647	0.01044	0.00003	8.79977E-06	0.010436675	0.00000	0.00001	2.86700E-05	0.01045	1.04741E-02
523967.79	4259344.64	7.18158	0.00984	0.00003	8.79977E-06	0.009840755	0.00000	0.00001	2.86700E-05	0.00985	9.87823E-03
524011.98	4259344.64	6.64443	0.00910	0.00002	5.86652E-06	0.009104711	0.00000	0.00001	1.91134E-05	0.00911	9.12969E-03
524056.17	4259344.64	6.08613	0.00834	0.00002	5.86652E-06	0.008339685	0.00000	0.00001	1.91134E-05	0.00835	8.36466E-03
524100.36	4259344.64	5.25219	0.00720	0.00002	5.86652E-06	0.007196956	0.00000	0.00001	1.91134E-05	0.00720	7.22194E-03
524144.55	4259344.64	4.25216	0.00583	0.00001	2.93326E-06	0.005826638	0.00000	0.00000	9.55668E-06	0.00583	5.83913E-03
524188.74	4259344.64	3.33524	0.00457	0.00001	2.93326E-06	0.004570203	0.00000	0.00000	9.55668E-06	0.00457	4.58269E-03
524232.93	4259344.64	2.65176	0.00363	0.00001	2.93326E-06	0.003633646	0.00000	0.00000	9.55668E-06	0.00364	3.64614E-03
524277.12	4259344.64	2.08054	0.00285	0.00001	2.93326E-06	0.002850916	0.00000	0.00000	9.55668E-06	0.00285	2.86341E-03
524321.31	4259344.64	1.69669	0.00232	0.00001	2.93326E-06	0.002324936	0.00000	0.00000	9.55668E-06	0.00233	2.33743E-03

Round Barn Village Project

Cancer Risk Impacts from Construction at the Maximum Impacted Sensitive Receptor - Infant

Cancer Potency Factor:	1.1	$(mg/kg\text{-}day)^{-1}$
Exposure Frequency	350	days/year
Averaging Period	25550	days

Year	Unit DPM Concentration (ug/m3)	Age Sensitivty Factor	Daily Breathing Rate (L/kg-day)	Time At Home Factor	Exposure Duration (years)	Unit Risk Factor $(ug/m3)^{-1}$
3rd Trimester	1	10	361	0.85	0.25	11.6
1	1	10	1090	0.85	1	139.6
2	1	10	1090	0.85	1	139.6
3	1	3	572	0.72	1	18.6

BAAQMD 2016. Air Toxics NSR Program Health Risk Assessment (HRA) Guidelines

Round Barn Village Project No Mitigation at Sensitive Receptors

Estimated Cancer Risks from Construction DPM - Infant Receptors

X (m)	Y (m)	InfantCancer Risk (3rd Trimester) 2018 (/million)	Infant Cancer Risk (year 1) 2018 (/million)	Infant Cancer Risk (year 2) 2019 (/million)	Child Cancer Risk (year 1) 2020 (/million)	Total Cancer Risk (/million)
523481.7	4258499.71	0.018	0.212	0.134	0.009	0.37220
523525.89	4258499.71	0.022	0.268	0.176	0.011	0.47719
523570.08	4258499.71	0.028	0.334	0.232	0.014	0.60809
523614.27	4258499.71	0.033	0.403	0.298	0.018	0.75252
523658.46	4258499.71	0.040	0.481	0.385	0.023	0.92874
523702.65	4258499.71	0.047	0.573	0.426	0.026	1.07280
523746.84	4258499.71	0.057	0.691	0.473	0.030	1.25058
523791.03	4258499.71	0.069	0.836	0.544	0.034	1.48434
523835.22	4258499.71	0.084	1.019	0.644	0.041	1.78874
523879.41	4258499.71	0.103	1.242	0.771	0.049	2.16532
523923.6	4258499.71	0.123	1.480	0.909	0.058	2.57049
523967.79	4258499.71	0.144	1.745	1.053	0.068	3.01019
524011.98	4258499.71	0.170	2.049	1.229	0.079	3.52655
524056.17	4258499.71	0.195	2.356	1.408	0.091	4.04940
524100.36	4258499.71	0.219	2.645	1.578	0.102	4.54394
524144.55	4258499.71	0.243	2.938	1.740	0.113	5.04348
524188.74	4258499.71	0.255	3.079	1.832	0.119	5.28508
524232.93	4258499.71	0.250	3.023	1.799	0.117	5.18837
523481.7	4258544.18	0.017	0.207	0.134	0.008	0.36713
523525.89	4258544.18	0.022	0.269	0.196	0.012	0.49926
523570.08	4258544.18	0.029	0.347	0.304	0.018	0.69767
523614.27	4258544.18	0.035	0.423	0.328	0.020	0.80645
523658.46	4258544.18	0.043	0.521	0.507	0.029	1.10102
523702.65	4258544.18	0.051	0.615	0.436	0.027	1.12886
523746.84	4258544.18	0.062	0.754	0.514	0.032	1.36183
523791.03	4258544.18	0.077	0.925	0.654	0.040	1.69562
523835.22	4258544.18	0.094	1.135	0.741	0.047	2.01667
523879.41	4258544.18	0.115	1.394	0.883	0.056	2.44855
523923.6	4258544.18	0.139	1.674	1.033	0.066	2.91208
523967.79	4258544.18	0.164	1.986	1.199	0.077	3.42727
524011.98	4258544.18	0.194	2.344	1.404	0.091	4.03334
524056.17	4258544.18	0.225	2.721	1.624	0.105	4.67593
524100.36	4258544.18	0.262	3.162	1.884	0.122	5.43001
524144.55	4258544.18	0.296	3.572	2.127	0.138	6.13230
524188.74	4258544.18	0.321	3.875	2.305	0.149	6.65039
524232.93	4258544.18	0.297	3.591	2.137	0.138	6.16365
523481.7	4258588.65	0.017	0.202	0.136	0.009	0.36396
523525.89	4258588.65	0.022	0.267	0.200	0.012	0.50071
523570.08	4258588.65	0.029	0.355	0.328	0.019	0.73150
523614.27	4258588.65	0.037	0.444	0.371	0.022	0.87352
523658.46	4258588.65	0.045	0.540	0.396	0.024	1.00567
523702.65	4258588.65	0.055	0.667	0.476	0.029	1.22862
523746.84	4258588.65	0.069	0.832	0.609	0.037	1.54704
523791.03	4258588.65	0.086	1.033	0.773	0.047	1.93889
523835.22	4258588.65	0.105	1.265	0.825	0.052	2.24731
523879.41	4258588.65	0.130	1.568	1.059	0.066	2.82247
523923.6	4258588.65	0.157	1.893	1.178	0.075	3.30261
523967.79	4258588.65	0.185	2.231	1.348	0.087	3.85000
524011.98	4258588.65	0.219	2.651	1.588	0.103	4.56059
524056.17	4258588.65	0.263	3.177	1.896	0.123	5.45919
524100.36	4258588.65	0.313	3.781	2.251	0.146	6.49086
524144.55	4258588.65	0.355	4.283	2.549	0.165	7.35252
524188.74	4258588.65	0.369	4.458	2.652	0.172	7.65156
524232.93	4258588.65	0.347	4.187	2.491	0.161	7.18525
523481.7	4258633.12	0.016	0.198	0.141	0.009	0.36481
523525.89	4258633.12	0.022	0.267	0.222	0.013	0.52437
523570.08	4258633.12	0.029	0.354	0.258	0.016	0.65706
523614.27	4258633.12	0.038	0.459	0.314	0.020	0.83015
523658.46	4258633.12	0.048	0.575	0.381	0.024	1.02763
523702.65	4258633.12	0.060	0.725	0.474	0.030	1.28885
523746.84	4258633.12	0.076	0.923	0.600	0.038	1.63727
523791.03	4258633.12	0.096	1.161	0.756	0.048	2.06154
523835.22	4258633.12	0.120	1.452	0.969	0.061	2.60240
523879.41	4258633.12	0.149	1.797	1.235	0.077	3.25746
523923.6	4258633.12	0.178	2.152	1.340	0.086	3.75576
523967.79	4258633.12	0.212	2.557	1.545	0.100	4.41334
524011.98	4258633.12	0.257	3.105	1.859	0.120	5.34155
524056.17	4258633.12	0.315	3.799	2.266	0.147	6.52621
524100.36	4258633.12	0.376	4.536	2.702	0.175	7.78852
524144.55	4258633.12	0.422	5.092	3.031	0.196	8.74125
524188.74	4258633.12	0.437	5.282	3.143	0.204	9.06630
524232.93	4258633.12	0.404	4.881	2.903	0.188	8.37676
523481.7	4258677.59	0.017	0.199	0.135	0.008	0.35894
523525.89	4258677.59	0.022	0.264	0.179	0.011	0.47586
523570.08	4258677.59	0.030	0.359	0.236	0.015	0.64015
523614.27	4258677.59	0.039	0.476	0.309	0.020	0.84326
523658.46	4258677.59	0.051	0.622	0.394	0.025	1.09242
523702.65	4258677.59	0.067	0.807	0.508	0.032	1.41385
523746.84	4258677.59	0.087	1.053	0.660	0.042	1.84190
523791.03	4258677.59	0.112	1.349	0.855	0.054	2.37027
523835.22	4258677.59	0.141	1.698	1.148	0.072	3.05801
523879.41	4258677.59	0.172	2.083	1.386	0.087	3.72849
523923.6	4258677.59	0.207	2.500	1.532	0.098	4.33761
523967.79	4258677.59	0.253	3.052	1.834	0.119	5.25715
524011.98	4258677.59	0.319	3.848	2.299	0.149	6.61367
524056.17	4258677.59	0.407	4.916	2.930	0.190	8.44200
524100.36	4258677.59	0.500	6.040	3.596	0.233	10.36947
524144.55	4258677.59	0.559	6.751	4.017	0.260	11.58778
523481.7	4258722.06	0.017	0.208	0.133	0.008	0.36739
523525.89	4258722.06	0.022	0.268	0.174	0.011	0.47532
523570.08	4258722.06	0.030	0.362	0.232	0.015	0.63867
523614.27	4258722.06	0.041	0.501	0.316	0.020	0.87907
523658.46	4258722.06	0.057	0.688	0.427	0.027	1.19925
523702.65	4258722.06	0.077	0.932	0.576	0.037	1.62204
523746.84	4258722.06	0.103	1.249	0.774	0.050	2.17596
523791.03	4258722.06	0.135	1.632	1.042	0.066	2.87605
523481.7	4258766.53	0.018	0.220	0.138	0.009	0.38526
523525.89	4258766.53	0.023	0.281	0.178	0.011	0.49284
523570.08	4258766.53	0.031	0.374	0.235	0.015	0.65447
523614.27	4258766.53	0.044	0.531	0.330	0.021	0.92652
523658.46	4258766.53	0.063	0.761	0.469	0.030	1.32335
523702.65	4258766.53	0.089	1.072	0.660	0.042	1.86334
523746.84	4258766.53	0.124	1.501	0.931	0.060	2.61558
523791.03	4258766.53	0.167	2.022	1.336	0.084	3.60934
523481.7	4258811	0.019	0.234	0.145	0.009	0.40742
523525.89	4258811	0.025	0.301	0.187	0.012	0.52493
523570.08	4258811	0.033	0.398	0.247	0.016	0.69448
523614.27	4258811	0.047	0.566	0.350	0.022	0.98543
523658.46	4258811	0.070	0.839	0.515	0.033	1.45720
523702.65	4258811	0.104	1.253	0.772	0.050	2.17870
523746.84	4258811	0.156	1.886	1.179	0.075	3.29752
523791.03	4258811	0.219	2.641	1.718	0.109	4.68635
523481.7	4258855.47	0.020	0.241	0.149	0.010	0.41962
523525.89	4258855.47	0.026	0.315	0.195	0.012	0.54873
523570.08	4258855.47	0.035	0.422	0.260	0.017	0.73194
523614.27	4258855.47	0.051	0.610	0.374	0.024	1.05913
523658.46	4258855.47	0.078	0.946	0.581	0.037	1.64223
523702.65	4258855.47	0.127	1.539	0.952	0.061	2.67996
523746.84	4258855.47	0.207	2.504	1.598	0.102	4.41119
523791.03	4258855.47	0.302	3.653	2.299	0.147	6.40078
523481.7	4258899.94	0.020	0.241	0.149	0.010	0.41876
523525.89	4258899.94	0.026	0.313	0.193	0.012	0.54436
523570.08	4258899.94	0.036	0.431	0.265	0.017	0.74870
523614.27	4258899.94	0.053	0.640	0.392	0.025	1.11010
523658.46	4258899.94	0.088	1.058	0.650	0.042	1.83730
523702.65	4258899.94	0.159	1.920	1.225	0.078	3.38215
523746.84	4258899.94	0.299	3.608	2.278	0.145	6.32966
523481.7	4258944.41	0.020	0.247	0.152	0.010	0.42972
523525.89	4258944.41	0.026	0.317	0.195	0.012	0.54992
523570.08	4258944.41	0.036	0.434	0.266	0.017	0.75307
523614.27	4258944.41	0.054	0.651	0.399	0.026	1.12922
523702.65	4258944.41	0.205	2.470	1.540	0.099	4.31353
523746.84	4258944.41	0.514	6.207	3.818	0.245	10.78379
523481.7	4258988.88	0.023	0.277	0.169	0.011	0.47970
523525.89	4258988.88	0.029	0.347	0.212	0.014	0.60128
523570.08	4258988.88	0.038	0.465	0.284	0.018	0.80524
523614.27	4258988.88	0.057	0.691	0.424	0.027	1.19869
523702.65	4258988.88	0.281	3.389	2.142	0.136	5.94792
523481.7	4259033.35	0.026	0.318	0.193	0.012	0.54964
523525.89	4259033.35	0.033	0.401	0.244	0.016	0.69331
523570.08	4259033.35	0.045	0.540	0.330	0.021	0.93530
523614.27	4259033.35	0.067	0.815	0.498	0.032	1.41242
523481.7	4259077.82	0.030	0.357	0.216	0.014	0.61628
523525.89	4259077.82	0.039	0.471	0.285	0.018	0.81365
523570.08	4259077.82	0.056	0.675	0.409	0.026	1.16685
523614.27	4259077.82	0.094	1.140	0.689	0.044	1.96775
523481.7	4259122.29	0.033	0.398	0.241	0.016	0.68816
523525.89	4259122.29	0.047	0.563	0.340	0.022	0.97212
523570.08	4259122.29	0.073	0.883	0.532	0.034	1.52212
523614.27	4259122.29	0.139	1.674	1.005	0.065	2.88184
523481.7	4259166.76	0.038	0.456	0.275	0.018	0.78655
523525.89	4259166.76	0.057	0.694	0.418	0.027	1.19603
523570.08	4259166.76	0.097	1.173	0.704	0.045	2.01982
523614.27	4259166.76	0.187	2.259	1.352	0.087	3.88539
524232.93	4259166.76	0.320	3.864	2.299	0.149	6.63259
524277.12	4259166.76	0.232	2.802	1.667	0.108	4.80910
524321.31	4259166.76	0.160	1.930	1.148	0.074	3.31231
523481.7	4259211.23	0.048	0.578	0.347	0.022	0.99508
523525.89	4259211.23	0.074	0.893	0.535	0.035	1.53692
523570.08	4259211.23	0.124	1.497	0.895	0.058	2.57412
523614.27	4259211.23	0.216	2.606	1.556	0.101	4.47805
523658.46	4259211.23	0.354	4.280	2.551	0.165	7.35048
523702.65	4259211.23	0.567	6.846	4.078	0.264	11.75425
523746.84	4259211.23	0.838	10.121	6.026	0.390	17.37552
523791.03	4259211.23	1.022	12.347	7.348	0.476	21.19235
523835.22	4259211.23	0.990	11.962	7.118	0.461	20.53214
524144.55	4259211.23	0.392	4.731	2.815	0.182	8.12014
524188.74	4259211.23	0.342	4.135	2.460	0.159	7.09651
524232.93	4259211.23	0.261	3.152	1.875	0.121	5.40993
524277.12	4259211.23	0.191	2.306	1.371	0.089	3.95677
524321.31	4259211.23	0.144	1.742	1.036	0.067	2.98973
523481.7	4259255.7	0.059	0.714	0.427	0.028	1.22779
523525.89	4259255.7	0.088	1.064	0.637	0.041	1.82935
523570.08	4259255.7	0.137	1.651	0.987	0.064	2.83875
523614.27	4259255.7	0.206	2.490	1.485	0.096	4.27767
523658.46	4259255.7	0.297	3.590	2.141	0.139	6.16698
523702.65	4259255.7	0.420	5.068	3.020	0.196	8.70256
523746.84	4259255.7	0.566	6.838	4.072	0.264	11.73956
523791.03	4259255.7	0.672	8.120	4.834	0.313	13.94016
523835.22	4259255.7	0.699	8.444	5.026	0.326	14.49401
523879.41	4259255.7	0.693	8.365	4.978	0.322	14.35794
523923.6	4259255.7	0.670	8.097	4.817	0.312	13.89599
523967.79	4259255.7	0.623	7.529	4.478	0.290	12.92030
524011.98	4259255.7	0.535	6.463	3.845	0.249	11.09237
524056.17	4259255.7	0.459	5.544	3.298	0.214	9.51436
524100.36	4259255.7	0.381	4.607	2.740	0.178	7.90589
524144.55	4259255.7	0.324	3.915	2.329	0.151	6.71957
524188.74	4259255.7	0.271	3.278	1.949	0.126	5.62467
524232.93	4259255.7	0.205	2.479	1.474	0.096	4.25368
524277.12	4259255.7	0.151	1.826	1.087	0.070	3.13449
524321.31	4259255.7	0.121	1.458	0.868	0.056	2.50224
523481.7	4259300.17	0.067	0.805	0.482	0.031	1.38451
523525.89	4259300.17	0.094	1.132	0.677	0.044	1.94617
523570.08	4259300.17	0.132	1.599	0.955	0.062	2.74827
523614.27	4259300.17	0.184	2.218	1.324	0.086	3.81094
523658.46	4259300.17	0.247	2.978	1.776	0.115	5.11573
523702.65	4259300.17	0.329	3.978	2.371	0.154	6.83119
523746.84	4259300.17	0.427	5.163	3.075	0.199	8.86449
523791.03	4259300.17	0.502	6.061	3.609	0.234	10.40520
523835.22	4259300.17	0.537	6.485	3.860	0.250	11.13282
523879.41	4259300.17	0.554	6.695	3.984	0.258	11.49141
523923.6	4259300.17	0.528	6.371	3.791	0.246	10.93546
523967.79	4259300.17	0.490	5.915	3.519	0.228	10.15112
524011.98	4259300.17	0.415	5.010	2.980	0.193	8.59826
524056.17	4259300.17	0.364	4.402	2.619	0.170	7.55519
524100.36	4259300.17	0.315	3.799	2.260	0.146	6.52069
524144.55	4259300.17	0.270	3.261	1.941	0.126	5.59725
524188.74	4259300.17	0.220	2.663	1.584	0.103	4.56978
524232.93	4259300.17	0.169	2.044	1.216	0.079	3.50781
524277.12	4259300.17	0.130	1.572	0.936	0.061	2.69847
524321.31	4259300.17	0.104	1.258	0.749	0.049	2.15928
523481.7	4259344.64	0.070	0.851	0.509	0.033	1.46409
523525.89	4259344.64	0.093	1.126	0.672	0.044	1.93480
523570.08	4259344.64	0.123	1.489	0.889	0.058	2.55925
523614.27	4259344.64	0.163	1.967	1.173	0.076	3.37867
523658.46	4259344.64	0.214	2.579	1.537	0.100	4.42993
523702.65	4259344.64	0.270	3.262	1.945	0.126	5.60296
523746.84	4259344.64	0.338	4.080	2.431	0.157	7.00621
523791.03	4259344.64	0.397	4.793	2.854	0.185	8.22898
523835.22	4259344.64	0.428	5.168	3.076	0.199	8.87087
523879.41	4259344.64	0.437	5.278	3.141	0.204	9.05972
523923.6	4259344.64	0.418	5.044	3.002	0.194	8.65809
523967.79	4259344.64	0.394	4.756	2.830	0.183	8.16396
524011.98	4259344.64	0.364	4.400	2.618	0.170	7.55230
524056.17	4259344.64	0.334	4.031	2.398	0.155	6.91794
524100.36	4259344.64	0.288	3.478	2.070	0.134	5.97038
524144.55	4259344.64	0.233	2.816	1.675	0.109	4.83278
524188.74	4259344.64	0.183	2.209	1.314	0.085	3.79095
524232.93	4259344.64	0.145	1.756	1.045	0.068	3.01435
524277.12	4259344.64	0.114	1.378	0.820	0.053	2.36531
524321.31	4259344.64	0.093	1.124	0.669	0.043	1.92917

MIR Cancer Risk 21.2

BAAQMD thresholds of significance 10

Exceed threshold? Yes

Round Barn Village Project

No Mitigation

Cancer Risk Impacts from Construction at the Maximum Impacted Sensitive Receptor - Child
UTM: (565046,4185977)

Cancer Potency Factor:	1.1	$(mg/kg\text{-}day)^{-1}$
Exposure Frequency	350	days/year
Averaging Period	25550	days

Year	DPM Concentration (ug/m3)	Age Sensitivty Factor	Daily Breathing Rate (L/kg-day)	Time At Home Factor	Exposure Duration (years)	Unit Risk Factor $(ug/m3)^{-1}$
1	1	3	572	0.72	1	18.6
2	1	3	572	0.72	1	18.6
3	1	3	572	0.72	1	18.6

BAAQMD 2016. Air Toxics NSR Program Health Risk Assessment (HRA) Guidelines

Round Barn Village Project No Mitigation at Sensitive Receptors

Estimated Cancer Risks from Construction DPM

X (m)	Y (m)	Child Cancer Risk (year 1) 2018 (/million)	Child Cancer Risk (year 2) 2019 (/million)	Child Cancer Risk (year 3) 2020 (/million)	Total Cancer Risk (/million)
523481.7	4258499.71	0.028	0.018	0.009	0.05468
523525.89	4258499.71	0.036	0.023	0.011	0.07028
523570.08	4258499.71	0.045	0.031	0.014	0.08990
523614.27	4258499.71	0.054	0.040	0.018	0.11170
523658.46	4258499.71	0.064	0.051	0.023	0.13858
523702.65	4258499.71	0.076	0.057	0.026	0.15930
523746.84	4258499.71	0.092	0.063	0.030	0.18472
523791.03	4258499.71	0.112	0.073	0.034	0.21853
523835.22	4258499.71	0.136	0.086	0.041	0.26286
523879.41	4258499.71	0.166	0.103	0.049	0.31781
523923.6	4258499.71	0.197	0.121	0.058	0.37703
523967.79	4258499.71	0.233	0.140	0.068	0.44105
524011.98	4258499.71	0.273	0.164	0.079	0.51649
524056.17	4258499.71	0.314	0.188	0.091	0.59294
524100.36	4258499.71	0.353	0.210	0.102	0.66527
524144.55	4258499.71	0.392	0.233	0.113	0.73833
524188.74	4258499.71	0.411	0.244	0.119	0.77367
524232.93	4258499.71	0.403	0.240	0.117	0.75951
523481.7	4258544.18	0.028	0.018	0.008	0.05403
523525.89	4258544.18	0.036	0.026	0.012	0.07402
523570.08	4258544.18	0.046	0.040	0.018	0.10470
523614.27	4258544.18	0.056	0.044	0.020	0.12008
523658.46	4258544.18	0.070	0.068	0.029	0.16641
523702.65	4258544.18	0.082	0.058	0.027	0.16710
523746.84	4258544.18	0.101	0.069	0.032	0.20109
523791.03	4258544.18	0.123	0.087	0.040	0.25098
523835.22	4258544.18	0.151	0.099	0.047	0.29697
523879.41	4258544.18	0.186	0.118	0.056	0.35987
523923.6	4258544.18	0.223	0.138	0.066	0.42726
523967.79	4258544.18	0.265	0.160	0.077	0.50216
524011.98	4258544.18	0.313	0.187	0.091	0.59067
524056.17	4258544.18	0.363	0.217	0.105	0.68462
524100.36	4258544.18	0.422	0.251	0.122	0.79494
524144.55	4258544.18	0.476	0.284	0.138	0.89771
524188.74	4258544.18	0.517	0.307	0.149	0.97352
524232.93	4258544.18	0.479	0.285	0.138	0.90227
523481.7	4258588.65	0.027	0.018	0.009	0.05371
523525.89	4258588.65	0.036	0.027	0.012	0.07438
523570.08	4258588.65	0.047	0.044	0.019	0.11020
523614.27	4258588.65	0.059	0.049	0.022	0.13070
523658.46	4258588.65	0.072	0.053	0.024	0.14921
523702.65	4258588.65	0.089	0.064	0.029	0.18196
523746.84	4258588.65	0.111	0.081	0.037	0.22949
523791.03	4258588.65	0.138	0.103	0.047	0.28802
523835.22	4258588.65	0.169	0.110	0.052	0.33090
523879.41	4258588.65	0.209	0.141	0.066	0.41652
523923.6	4258588.65	0.252	0.157	0.075	0.48483
523967.79	4258588.65	0.297	0.180	0.087	0.56412
524011.98	4258588.65	0.354	0.212	0.103	0.66788
524056.17	4258588.65	0.424	0.253	0.123	0.79930
524100.36	4258588.65	0.504	0.300	0.146	0.95022
524144.55	4258588.65	0.571	0.340	0.165	1.07632
524188.74	4258588.65	0.595	0.354	0.172	1.12006
524232.93	4258588.65	0.558	0.332	0.161	1.05181
523481.7	4258633.12	0.026	0.019	0.009	0.05403
523525.89	4258633.12	0.036	0.030	0.013	0.07844
523570.08	4258633.12	0.047	0.034	0.016	0.09744
523614.27	4258633.12	0.061	0.042	0.020	0.12260
523658.46	4258633.12	0.077	0.051	0.024	0.15148
523702.65	4258633.12	0.097	0.063	0.030	0.18980
523746.84	4258633.12	0.123	0.080	0.038	0.24100
523791.03	4258633.12	0.155	0.101	0.048	0.30351
523835.22	4258633.12	0.194	0.129	0.061	0.38374
523879.41	4258633.12	0.240	0.165	0.077	0.48125
523923.6	4258633.12	0.287	0.179	0.086	0.55139
523967.79	4258633.12	0.341	0.206	0.100	0.64667
524011.98	4258633.12	0.414	0.248	0.120	0.78222
524056.17	4258633.12	0.507	0.302	0.147	0.95548
524100.36	4258633.12	0.605	0.360	0.175	1.14020
524144.55	4258633.12	0.679	0.404	0.196	1.27963
524188.74	4258633.12	0.704	0.419	0.204	1.32718
524232.93	4258633.12	0.651	0.387	0.188	1.22622
523481.7	4258677.59	0.027	0.018	0.008	0.05297
523525.89	4258677.59	0.035	0.024	0.011	0.07026
523570.08	4258677.59	0.048	0.031	0.015	0.09430
523614.27	4258677.59	0.063	0.041	0.020	0.12412
523658.46	4258677.59	0.083	0.053	0.025	0.16056
523702.65	4258677.59	0.108	0.068	0.032	0.20770
523746.84	4258677.59	0.140	0.088	0.042	0.27053
523791.03	4258677.59	0.180	0.114	0.054	0.34835
523835.22	4258677.59	0.226	0.153	0.072	0.45132
523879.41	4258677.59	0.278	0.185	0.087	0.54969
523923.6	4258677.59	0.333	0.204	0.098	0.63615
523967.79	4258677.59	0.407	0.245	0.119	0.77007
524011.98	4258677.59	0.513	0.307	0.149	0.96840
524056.17	4258677.59	0.656	0.391	0.190	1.23591
524100.36	4258677.59	0.806	0.480	0.233	1.51799
524144.55	4258677.59	0.900	0.536	0.260	1.69629
523481.7	4258722.06	0.028	0.018	0.008	0.05403
523525.89	4258722.06	0.036	0.023	0.011	0.06995
523570.08	4258722.06	0.048	0.031	0.015	0.09395
523614.27	4258722.06	0.067	0.042	0.020	0.12916
523658.46	4258722.06	0.092	0.057	0.027	0.17603
523702.65	4258722.06	0.124	0.077	0.037	0.23800
523746.84	4258722.06	0.166	0.103	0.050	0.31937
523791.03	4258722.06	0.218	0.139	0.066	0.42290
523481.7	4258766.53	0.029	0.018	0.009	0.05659
523525.89	4258766.53	0.037	0.024	0.011	0.07245
523570.08	4258766.53	0.050	0.031	0.015	0.09614
523614.27	4258766.53	0.071	0.044	0.021	0.13599
523658.46	4258766.53	0.101	0.063	0.030	0.19416
523702.65	4258766.53	0.143	0.088	0.042	0.27335
523746.84	4258766.53	0.200	0.124	0.060	0.38389
523791.03	4258766.53	0.270	0.178	0.084	0.53187
523481.7	4258811	0.031	0.019	0.009	0.05981
523525.89	4258811	0.040	0.025	0.012	0.07707
523570.08	4258811	0.053	0.033	0.016	0.10194
523614.27	4258811	0.076	0.047	0.022	0.14459
523658.46	4258811	0.112	0.069	0.033	0.21373
523702.65	4258811	0.167	0.103	0.050	0.31963
523746.84	4258811	0.252	0.157	0.075	0.48423
523791.03	4258811	0.352	0.229	0.109	0.68992
523481.7	4258855.47	0.032	0.020	0.010	0.06157
523525.89	4258855.47	0.042	0.026	0.012	0.08052
523570.08	4258855.47	0.056	0.035	0.017	0.10769
523614.27	4258855.47	0.081	0.050	0.024	0.15535
523658.46	4258855.47	0.126	0.077	0.037	0.24087
523702.65	4258855.47	0.205	0.127	0.061	0.39329
523746.84	4258855.47	0.334	0.213	0.102	0.64862
523791.03	4258855.47	0.487	0.307	0.147	0.94030
523481.7	4258899.94	0.032	0.020	0.010	0.06144
523525.89	4258899.94	0.042	0.026	0.012	0.07985
523570.08	4258899.94	0.057	0.035	0.017	0.10982
523614.27	4258899.94	0.085	0.052	0.025	0.16281
523658.46	4258899.94	0.141	0.087	0.042	0.26951
523702.65	4258899.94	0.256	0.163	0.078	0.49730
523746.84	4258899.94	0.481	0.304	0.145	0.93006
523481.7	4258944.41	0.033	0.020	0.010	0.06304
523525.89	4258944.41	0.042	0.026	0.012	0.08067
523570.08	4258944.41	0.058	0.036	0.017	0.11046
523614.27	4258944.41	0.087	0.053	0.026	0.16561
523702.65	4258944.41	0.329	0.205	0.099	0.63332
523746.84	4258944.41	0.828	0.509	0.245	1.58190
523481.7	4258988.88	0.037	0.023	0.011	0.07033
523525.89	4258988.88	0.046	0.028	0.014	0.08816
523570.08	4258988.88	0.062	0.038	0.018	0.11807
523614.27	4258988.88	0.092	0.056	0.027	0.17580
523702.65	4258988.88	0.452	0.286	0.136	0.87402
523481.7	4259033.35	0.042	0.026	0.012	0.08057
523525.89	4259033.35	0.053	0.032	0.016	0.10163
523570.08	4259033.35	0.072	0.044	0.021	0.13713
523614.27	4259033.35	0.109	0.066	0.032	0.20712
523481.7	4259077.82	0.048	0.029	0.014	0.09032
523525.89	4259077.82	0.063	0.038	0.018	0.11924
523570.08	4259077.82	0.090	0.055	0.026	0.17100
523614.27	4259077.82	0.152	0.092	0.044	0.28835
523481.7	4259122.29	0.053	0.032	0.016	0.10085
523525.89	4259122.29	0.075	0.045	0.022	0.14244
523570.08	4259122.29	0.118	0.071	0.034	0.22300
523614.27	4259122.29	0.223	0.134	0.065	0.42209
523481.7	4259166.76	0.061	0.037	0.018	0.11525
523525.89	4259166.76	0.093	0.056	0.027	0.17521
523570.08	4259166.76	0.156	0.094	0.045	0.29583
523614.27	4259166.76	0.301	0.180	0.087	0.56896
524232.93	4259166.76	0.515	0.307	0.149	0.97091
524277.12	4259166.76	0.374	0.222	0.108	0.70397
524321.31	4259166.76	0.257	0.153	0.074	0.48487
523481.7	4259211.23	0.077	0.046	0.022	0.14574
523525.89	4259211.23	0.119	0.071	0.035	0.22508
523570.08	4259211.23	0.200	0.119	0.058	0.37693
523614.27	4259211.23	0.348	0.207	0.101	0.65565
523658.46	4259211.23	0.571	0.340	0.165	1.07614
523702.65	4259211.23	0.913	0.544	0.264	1.72077
523746.84	4259211.23	1.350	0.804	0.390	2.54362
523791.03	4259211.23	1.646	0.980	0.476	3.10229
523835.22	4259211.23	1.595	0.949	0.461	3.00562
524144.55	4259211.23	0.631	0.375	0.182	1.18865
524188.74	4259211.23	0.551	0.328	0.159	1.03882
524232.93	4259211.23	0.420	0.250	0.121	0.79191
524277.12	4259211.23	0.307	0.183	0.089	0.57921
524321.31	4259211.23	0.232	0.138	0.067	0.43765
523481.7	4259255.7	0.095	0.057	0.028	0.17981
523525.89	4259255.7	0.142	0.085	0.041	0.26789
523570.08	4259255.7	0.220	0.132	0.064	0.41567
523614.27	4259255.7	0.332	0.198	0.096	0.62629
523658.46	4259255.7	0.479	0.285	0.139	0.90287
523702.65	4259255.7	0.676	0.403	0.196	1.27405
523746.84	4259255.7	0.912	0.543	0.264	1.71859
523791.03	4259255.7	1.083	0.645	0.313	2.04071
523835.22	4259255.7	1.126	0.670	0.326	2.12175
523879.41	4259255.7	1.116	0.664	0.322	2.10180
523923.6	4259255.7	1.080	0.642	0.312	2.03416
523967.79	4259255.7	1.004	0.597	0.290	1.89131
524011.98	4259255.7	0.862	0.513	0.249	1.62375
524056.17	4259255.7	0.739	0.440	0.214	1.39273
524100.36	4259255.7	0.614	0.365	0.178	1.15729
524144.55	4259255.7	0.522	0.311	0.151	0.98364
524188.74	4259255.7	0.437	0.260	0.126	0.82335
524232.93	4259255.7	0.331	0.197	0.096	0.62267
524277.12	4259255.7	0.244	0.145	0.070	0.45884
524321.31	4259255.7	0.194	0.116	0.056	0.36630
523481.7	4259300.17	0.107	0.064	0.031	0.20275
523525.89	4259300.17	0.151	0.090	0.044	0.28499
523570.08	4259300.17	0.213	0.127	0.062	0.40240
523614.27	4259300.17	0.296	0.177	0.086	0.55797
523658.46	4259300.17	0.397	0.237	0.115	0.74896
523702.65	4259300.17	0.530	0.316	0.154	1.00010
523746.84	4259300.17	0.688	0.410	0.199	1.29772
523791.03	4259300.17	0.808	0.481	0.234	1.52325
523835.22	4259300.17	0.865	0.515	0.250	1.62972
523879.41	4259300.17	0.893	0.531	0.258	1.68218
523923.6	4259300.17	0.850	0.506	0.246	1.60081
523967.79	4259300.17	0.789	0.469	0.228	1.48597
524011.98	4259300.17	0.668	0.397	0.193	1.25864
524056.17	4259300.17	0.587	0.349	0.170	1.10596
524100.36	4259300.17	0.507	0.301	0.146	0.95453
524144.55	4259300.17	0.455	0.259	0.126	0.81936
524188.74	4259300.17	0.355	0.211	0.103	0.66894
524232.93	4259300.17	0.273	0.162	0.079	0.51349
524277.12	4259300.17	0.210	0.125	0.061	0.39502
524321.31	4259300.17	0.168	0.100	0.049	0.31610
523481.7	4259344.64	0.114	0.068	0.033	0.21439
523525.89	4259344.64	0.150	0.090	0.044	0.28329
523570.08	4259344.64	0.199	0.119	0.058	0.37473
523614.27	4259344.64	0.262	0.156	0.076	0.49467
523658.46	4259344.64	0.344	0.205	0.100	0.64855
523702.65	4259344.64	0.435	0.259	0.126	0.82028
523746.84	4259344.64	0.544	0.324	0.157	1.02569
523791.03	4259344.64	0.639	0.381	0.185	1.20467
523835.22	4259344.64	0.689	0.410	0.199	1.29860
523879.41	4259344.64	0.704	0.419	0.204	1.32624
523923.6	4259344.64	0.673	0.400	0.194	1.26743
523967.79	4259344.64	0.634	0.377	0.183	1.19510
524011.98	4259344.64	0.587	0.349	0.170	1.10553
524056.17	4259344.64	0.538	0.320	0.155	1.01268
524100.36	4259344.64	0.464	0.276	0.134	0.87398
524144.55	4259344.64	0.376	0.223	0.109	0.70743
524188.74	4259344.64	0.295	0.175	0.085	0.55493
524232.93	4259344.64	0.234	0.139	0.068	0.44126
524277.12	4259344.64	0.184	0.109	0.053	0.34625
524321.31	4259344.64	0.150	0.089	0.043	0.28241

MIR Cancer Risk
3.1

BAAQMD thresholds of significance
10

Exceed threshold?
No

Round Barn Village Project

No Mitigation

Cancer Risk Impacts from Construction at the Maximum Impacted Sensitive Receptor - Adult

Cancer Potency Factor:	1.1	$(mg/kg\text{-}day)^{-1}$
Exposure Frequency	350	days/year
Averaging Period	25550	days

Year	DPM Concentration (ug/m3)	Age Sensitivty Factor	Daily Breathing Rate (L/kg-day)	Time At Home Factor	Exposure Duration (years)	Unit Risk Factor $(ug/m3)^{-1}$
1	1	1	261	0.73	1	2.9
2	1	1	261	0.73	1	2.9
3	1	1	261	0.73	1	2.9

BAAQMD 2016. Air Toxics NSR Program Health Risk Assessment (HRA) Guidelines

Round Barn Village Project No Mitigation at Sensitive Receptors

Estimated Cancer Risks from Construction DPM

X (m)	Y (m)	Adult Cancer Risk (year 1) 2018 (/million)	Adult Cancer Risk (year 2) 2019 (/million)	Adult Cancer Risk (year 3) 2020 (/million)	Total Cancer Risk (/million)
523481.7	4258499.71	0.004	0.003	0.001	0.00843
523525.89	4258499.71	0.006	0.004	0.002	0.01084
523570.08	4258499.71	0.007	0.005	0.002	0.01386
523614.27	4258499.71	0.008	0.006	0.003	0.01722
523658.46	4258499.71	0.010	0.008	0.004	0.02137
523702.65	4258499.71	0.012	0.009	0.004	0.02457
523746.84	4258499.71	0.014	0.010	0.005	0.02849
523791.03	4258499.71	0.017	0.011	0.005	0.03370
523835.22	4258499.71	0.021	0.013	0.006	0.04054
523879.41	4258499.71	0.026	0.016	0.008	0.04901
523923.6	4258499.71	0.030	0.019	0.009	0.05814
523967.79	4258499.71	0.036	0.022	0.010	0.06801
524011.98	4258499.71	0.042	0.025	0.012	0.07965
524056.17	4258499.71	0.048	0.029	0.014	0.09144
524100.36	4258499.71	0.054	0.032	0.016	0.10259
524144.55	4258499.71	0.060	0.036	0.017	0.11386
524188.74	4258499.71	0.063	0.038	0.018	0.11931
524232.93	4258499.71	0.062	0.037	0.018	0.11712
523481.7	4258544.18	0.004	0.003	0.001	0.00833
523525.89	4258544.18	0.006	0.004	0.002	0.01142
523570.08	4258544.18	0.007	0.006	0.003	0.01615
523614.27	4258544.18	0.009	0.007	0.003	0.01852
523658.46	4258544.18	0.011	0.010	0.005	0.02566
523702.65	4258544.18	0.013	0.009	0.004	0.02577
523746.84	4258544.18	0.015	0.011	0.005	0.03101
523791.03	4258544.18	0.019	0.013	0.006	0.03870
523835.22	4258544.18	0.023	0.015	0.007	0.04580
523879.41	4258544.18	0.029	0.018	0.009	0.05550
523923.6	4258544.18	0.034	0.021	0.010	0.06589
523967.79	4258544.18	0.041	0.025	0.012	0.07744
524011.98	4258544.18	0.048	0.029	0.014	0.09109
524056.17	4258544.18	0.056	0.033	0.016	0.10558
524100.36	4258544.18	0.065	0.039	0.019	0.12259
524144.55	4258544.18	0.073	0.044	0.021	0.13844
524188.74	4258544.18	0.080	0.047	0.023	0.15013
524232.93	4258544.18	0.074	0.044	0.021	0.13914
523481.7	4258588.65	0.004	0.003	0.001	0.00828
523525.89	4258588.65	0.005	0.004	0.002	0.01147
523570.08	4258588.65	0.007	0.005	0.003	0.01699
523614.27	4258588.65	0.009	0.008	0.003	0.02016
523658.46	4258588.65	0.011	0.008	0.004	0.02301
523702.65	4258588.65	0.014	0.010	0.005	0.02806
523746.84	4258588.65	0.017	0.013	0.006	0.03539
523791.03	4258588.65	0.021	0.016	0.007	0.04442
523835.22	4258588.65	0.026	0.017	0.008	0.05103
523879.41	4258588.65	0.032	0.022	0.010	0.06423
523923.6	4258588.65	0.039	0.024	0.012	0.07477
523967.79	4258588.65	0.046	0.028	0.013	0.08699
524011.98	4258588.65	0.055	0.033	0.016	0.10299
524056.17	4258588.65	0.065	0.039	0.019	0.12326
524100.36	4258588.65	0.078	0.046	0.022	0.14653
524144.55	4258588.65	0.088	0.052	0.025	0.16598
524188.74	4258588.65	0.092	0.055	0.027	0.17273
524232.93	4258588.65	0.086	0.051	0.025	0.16220
523481.7	4258633.12	0.004	0.003	0.001	0.00833
523525.89	4258633.12	0.005	0.005	0.002	0.01210
523570.08	4258633.12	0.007	0.005	0.002	0.01503
523614.27	4258633.12	0.009	0.006	0.003	0.01891
523658.46	4258633.12	0.012	0.008	0.004	0.02336
523702.65	4258633.12	0.015	0.010	0.005	0.02927
523746.84	4258633.12	0.019	0.012	0.006	0.03717
523791.03	4258633.12	0.024	0.016	0.007	0.04680
523835.22	4258633.12	0.030	0.020	0.009	0.05918
523879.41	4258633.12	0.037	0.025	0.012	0.07421
523923.6	4258633.12	0.044	0.028	0.013	0.08503
523967.79	4258633.12	0.053	0.032	0.015	0.09972
524011.98	4258633.12	0.064	0.038	0.019	0.12063
524056.17	4258633.12	0.078	0.047	0.023	0.14735
524100.36	4258633.12	0.093	0.056	0.027	0.17583
524144.55	4258633.12	0.105	0.062	0.030	0.19733
524188.74	4258633.12	0.109	0.065	0.031	0.20466
524232.93	4258633.12	0.100	0.060	0.029	0.18910
523481.7	4258677.59	0.004	0.003	0.001	0.00817
523525.89	4258677.59	0.005	0.004	0.002	0.01083
523570.08	4258677.59	0.007	0.005	0.002	0.01454
523614.27	4258677.59	0.010	0.006	0.003	0.01914
523658.46	4258677.59	0.013	0.008	0.004	0.02476
523702.65	4258677.59	0.017	0.010	0.005	0.03203
523746.84	4258677.59	0.022	0.014	0.006	0.04172
523791.03	4258677.59	0.028	0.018	0.008	0.05372
523835.22	4258677.59	0.035	0.024	0.011	0.06960
523879.41	4258677.59	0.043	0.028	0.013	0.08477
523923.6	4258677.59	0.051	0.032	0.015	0.09810
523967.79	4258677.59	0.063	0.038	0.018	0.11875
524011.98	4258677.59	0.079	0.047	0.023	0.14934
524056.17	4258677.59	0.101	0.060	0.029	0.19059
524100.36	4258677.59	0.124	0.074	0.036	0.23409
524144.55	4258677.59	0.139	0.083	0.040	0.26159
523481.7	4258722.06	0.004	0.003	0.001	0.00833
523525.89	4258722.06	0.006	0.004	0.002	0.01079
523570.08	4258722.06	0.007	0.005	0.002	0.01449
523614.27	4258722.06	0.010	0.007	0.003	0.01992
523658.46	4258722.06	0.014	0.009	0.004	0.02715
523702.65	4258722.06	0.019	0.012	0.006	0.03670
523746.84	4258722.06	0.026	0.016	0.008	0.04925
523791.03	4258722.06	0.034	0.021	0.010	0.06522
523481.7	4258766.53	0.005	0.003	0.001	0.00873
523525.89	4258766.53	0.006	0.004	0.002	0.01117
523570.08	4258766.53	0.008	0.005	0.002	0.01483
523614.27	4258766.53	0.011	0.007	0.003	0.02097
523658.46	4258766.53	0.016	0.010	0.005	0.02994
523702.65	4258766.53	0.022	0.014	0.007	0.04215
523746.84	4258766.53	0.031	0.019	0.009	0.05920
523791.03	4258766.53	0.042	0.027	0.013	0.08202
523481.7	4258811	0.005	0.003	0.001	0.00922
523525.89	4258811	0.006	0.004	0.002	0.01188
523570.08	4258811	0.008	0.005	0.002	0.01572
523614.27	4258811	0.012	0.007	0.003	0.02230
523658.46	4258811	0.017	0.011	0.005	0.03296
523702.65	4258811	0.026	0.016	0.008	0.04929
523746.84	4258811	0.039	0.024	0.012	0.07467
523791.03	4258811	0.054	0.035	0.017	0.10639
523481.7	4258855.47	0.005	0.003	0.001	0.00949
523525.89	4258855.47	0.006	0.004	0.002	0.01242
523570.08	4258855.47	0.009	0.005	0.003	0.01661
523614.27	4258855.47	0.013	0.008	0.004	0.02396
523658.46	4258855.47	0.019	0.012	0.006	0.03714
523702.65	4258855.47	0.032	0.020	0.009	0.06065
523746.84	4258855.47	0.051	0.033	0.016	0.10002
523791.03	4258855.47	0.075	0.047	0.023	0.14500
523481.7	4258899.94	0.005	0.003	0.001	0.00947
523525.89	4258899.94	0.006	0.004	0.002	0.01231
523570.08	4258899.94	0.009	0.005	0.003	0.01694
523614.27	4258899.94	0.013	0.008	0.004	0.02511
523658.46	4258899.94	0.022	0.013	0.006	0.04156
523702.65	4258899.94	0.039	0.025	0.012	0.07669
523746.84	4258899.94	0.074	0.047	0.022	0.14343
523481.7	4258944.41	0.005	0.003	0.002	0.00972
523525.89	4258944.41	0.007	0.004	0.002	0.01244
523570.08	4258944.41	0.009	0.005	0.003	0.01703
523614.27	4258944.41	0.013	0.008	0.004	0.02554
523702.65	4258944.41	0.051	0.032	0.015	0.09766
523746.84	4258944.41	0.128	0.079	0.038	0.24395
523481.7	4258988.88	0.006	0.003	0.002	0.01085
523525.89	4258988.88	0.007	0.004	0.002	0.01359
523570.08	4258988.88	0.010	0.006	0.003	0.01821
523614.27	4258988.88	0.014	0.009	0.004	0.02711
523702.65	4258988.88	0.070	0.044	0.021	0.13478
523481.7	4259033.35	0.007	0.004	0.002	0.01242
523525.89	4259033.35	0.008	0.005	0.002	0.01567
523570.08	4259033.35	0.011	0.007	0.003	0.02115
523614.27	4259033.35	0.017	0.010	0.005	0.03194
523481.7	4259077.82	0.007	0.004	0.002	0.01393
523525.89	4259077.82	0.010	0.006	0.003	0.01839
523570.08	4259077.82	0.014	0.008	0.004	0.02637
523614.27	4259077.82	0.023	0.014	0.007	0.04447
523481.7	4259122.29	0.008	0.005	0.002	0.01555
523525.89	4259122.29	0.012	0.007	0.003	0.02197
523570.08	4259122.29	0.018	0.011	0.005	0.03439
523614.27	4259122.29	0.034	0.021	0.010	0.06509
523481.7	4259166.76	0.009	0.006	0.003	0.01777
523525.89	4259166.76	0.014	0.009	0.004	0.02702
523570.08	4259166.76	0.024	0.014	0.007	0.04562
523614.27	4259166.76	0.046	0.028	0.013	0.08774
524232.93	4259166.76	0.079	0.047	0.023	0.14972
524277.12	4259166.76	0.058	0.034	0.017	0.10856
524321.31	4259166.76	0.040	0.024	0.011	0.07477
523481.7	4259211.23	0.012	0.007	0.003	0.02247
523525.89	4259211.23	0.018	0.011	0.005	0.03471
523570.08	4259211.23	0.031	0.018	0.009	0.05813
523614.27	4259211.23	0.054	0.032	0.016	0.10111
523658.46	4259211.23	0.088	0.052	0.025	0.16595
523702.65	4259211.23	0.141	0.084	0.041	0.26536
523746.84	4259211.23	0.208	0.124	0.060	0.39225
523791.03	4259211.23	0.254	0.151	0.073	0.47840
523835.22	4259211.23	0.246	0.146	0.071	0.46350
524144.55	4259211.23	0.097	0.058	0.028	0.18330
524188.74	4259211.23	0.085	0.051	0.025	0.16020
524232.93	4259211.23	0.065	0.039	0.019	0.12212
524277.12	4259211.23	0.047	0.028	0.014	0.08932
524321.31	4259211.23	0.036	0.021	0.010	0.06749
523481.7	4259255.7	0.015	0.009	0.004	0.02773
523525.89	4259255.7	0.022	0.013	0.006	0.04131
523570.08	4259255.7	0.034	0.020	0.010	0.06410
523614.27	4259255.7	0.051	0.031	0.015	0.09658
523658.46	4259255.7	0.074	0.044	0.021	0.13923
523702.65	4259255.7	0.104	0.062	0.030	0.19647
523746.84	4259255.7	0.141	0.084	0.041	0.26502
523791.03	4259255.7	0.167	0.099	0.048	0.31470
523835.22	4259255.7	0.174	0.103	0.050	0.32720
523879.41	4259255.7	0.172	0.102	0.050	0.32412
523923.6	4259255.7	0.167	0.099	0.048	0.31369
523967.79	4259255.7	0.155	0.092	0.045	0.29166
524011.98	4259255.7	0.133	0.079	0.038	0.25040
524056.17	4259255.7	0.114	0.068	0.033	0.21477
524100.36	4259255.7	0.095	0.056	0.027	0.17847
524144.55	4259255.7	0.081	0.048	0.023	0.15169
524188.74	4259255.7	0.067	0.040	0.019	0.12697
524232.93	4259255.7	0.051	0.030	0.015	0.09602
524277.12	4259255.7	0.038	0.022	0.011	0.07076
524321.31	4259255.7	0.030	0.018	0.009	0.05649
523481.7	4259300.17	0.017	0.010	0.005	0.03127
523525.89	4259300.17	0.023	0.014	0.007	0.04395
523570.08	4259300.17	0.033	0.020	0.010	0.06205
523614.27	4259300.17	0.046	0.027	0.013	0.08605
523658.46	4259300.17	0.061	0.037	0.018	0.11550
523702.65	4259300.17	0.082	0.049	0.024	0.15423
523746.84	4259300.17	0.106	0.063	0.031	0.20012
523791.03	4259300.17	0.125	0.074	0.036	0.23490
523835.22	4259300.17	0.133	0.079	0.039	0.25132
523879.41	4259300.17	0.138	0.082	0.040	0.25941
523923.6	4259300.17	0.131	0.078	0.038	0.24686
523967.79	4259300.17	0.122	0.072	0.035	0.22915
524011.98	4259300.17	0.103	0.061	0.030	0.19410
524056.17	4259300.17	0.091	0.054	0.026	0.17055
524100.36	4259300.17	0.078	0.046	0.023	0.14720
524144.55	4259300.17	0.067	0.040	0.019	0.12635
524188.74	4259300.17	0.055	0.033	0.016	0.10316
524232.93	4259300.17	0.042	0.025	0.012	0.07919
524277.12	4259300.17	0.032	0.019	0.009	0.06092
524321.31	4259300.17	0.026	0.015	0.007	0.04875
523481.7	4259344.64	0.018	0.010	0.005	0.03306
523525.89	4259344.64	0.023	0.014	0.007	0.04369
523570.08	4259344.64	0.031	0.018	0.009	0.05779
523614.27	4259344.64	0.040	0.024	0.012	0.07628
523658.46	4259344.64	0.053	0.032	0.015	0.10001
523702.65	4259344.64	0.067	0.040	0.019	0.12650
523746.84	4259344.64	0.084	0.050	0.024	0.15817
523791.03	4259344.64	0.099	0.059	0.029	0.18577
523835.22	4259344.64	0.106	0.063	0.031	0.20026
523879.41	4259344.64	0.109	0.065	0.031	0.20452
523923.6	4259344.64	0.104	0.062	0.030	0.19545
523967.79	4259344.64	0.098	0.058	0.028	0.18430
524011.98	4259344.64	0.090	0.054	0.026	0.17048
524056.17	4259344.64	0.083	0.049	0.024	0.15617
524100.36	4259344.64	0.072	0.043	0.021	0.13478
524144.55	4259344.64	0.058	0.034	0.017	0.10909
524188.74	4259344.64	0.045	0.027	0.013	0.08558
524232.93	4259344.64	0.036	0.021	0.010	0.06805
524277.12	4259344.64	0.028	0.017	0.008	0.05340
524321.31	4259344.64	0.023	0.014	0.007	0.04355

MIR Cancer Risk	
	0.5
BAAQMD thresholds of significance	
	10
Exceed threshold?	
	No

Round Barn Village Project

No Mitigation at Sensitive Receptors

Chronic Non-Cancer Hazard Index

Reference Exposure Level (REL) for DPM: 5 ug/m3

CNCHI = DPM/REL

X	Y	2018 DPM	2019 DPM	2020 DPM	Max DPM	
(m)	(m)	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)	CNCHI
523481.7	4258499.71	0.001521	0.000958	0.000458	0.001521	0.00030
523525.89	4258499.71	0.001922	0.001258	0.000595	0.001922	0.00038
523570.08	4258499.71	0.002393	0.001661	0.000774	0.002393	0.00048
523614.27	4258499.71	0.002887	0.002133	0.000979	0.002887	0.00058
523658.46	4258499.71	0.003444	0.002757	0.001242	0.003444	0.00069
523702.65	4258499.71	0.004107	0.003051	0.001399	0.004107	0.00082
523746.84	4258499.71	0.004948	0.003389	0.001585	0.004948	0.00099
523791.03	4258499.71	0.00599	0.0039	0.001848	0.00599	0.00120
523835.22	4258499.71	0.007298	0.004616	0.002205	0.007298	0.00146
523879.41	4258499.71	0.008899	0.005521	0.002651	0.008899	0.00178
523923.6	4258499.71	0.010604	0.006512	0.003136	0.010604	0.00212
523967.79	4258499.71	0.012496	0.007544	0.00365	0.012496	0.00250
524011.98	4258499.71	0.014676	0.0088	0.004266	0.014676	0.00294
524056.17	4258499.71	0.016873	0.010083	0.004893	0.016873	0.00337
524100.36	4258499.71	0.018947	0.011301	0.005487	0.018947	0.00379
524144.55	4258499.71	0.021041	0.01253	0.006086	0.021041	0.00421
524188.74	4258499.71	0.022055	0.013125	0.006376	0.022055	0.00441
524232.93	4258499.71	0.021651	0.012885	0.00626	0.021651	0.00433
523481.7	4258544.18	0.001486	0.00096	0.000456	0.001486	0.00030
523525.89	4258544.18	0.001929	0.001401	0.000646	0.001929	0.00039
523570.08	4258544.18	0.002489	0.002174	0.000961	0.002489	0.00050
523614.27	4258544.18	0.003033	0.00235	0.001067	0.003033	0.00061
523658.46	4258544.18	0.003735	0.003632	0.00157	0.003735	0.00075
523702.65	4258544.18	0.004407	0.003121	0.001448	0.004407	0.00088
523746.84	4258544.18	0.005398	0.003679	0.001723	0.005398	0.00108
523791.03	4258544.18	0.006622	0.004685	0.002174	0.006622	0.00132
523835.22	4258544.18	0.008127	0.005309	0.002514	0.008127	0.00163
523879.41	4258544.18	0.009982	0.006327	0.003021	0.009982	0.00200
523923.6	4258544.18	0.011993	0.007399	0.003558	0.011993	0.00240
523967.79	4258544.18	0.014228	0.008589	0.004156	0.014228	0.00285
524011.98	4258544.18	0.016791	0.010058	0.004877	0.016791	0.00336
524056.17	4258544.18	0.019493	0.011633	0.005647	0.019493	0.00390
524100.36	4258544.18	0.02265	0.013494	0.006554	0.02265	0.00453
524144.55	4258544.18	0.025587	0.015232	0.007399	0.025587	0.00512
524188.74	4258544.18	0.027755	0.016513	0.008023	0.027755	0.00555
524232.93	4258544.18	0.025723	0.015305	0.007436	0.025723	0.00514
523481.7	4258588.65	0.001449	0.000977	0.000459	0.001449	0.00029
523525.89	4258588.65	0.001912	0.001429	0.000654	0.001912	0.00038
523570.08	4258588.65	0.002541	0.002351	0.001027	0.002541	0.00051
523614.27	4258588.65	0.003181	0.002655	0.001185	0.003181	0.00064
523658.46	4258588.65	0.003869	0.00284	0.001306	0.003869	0.00077
523702.65	4258588.65	0.004781	0.003413	0.00158	0.004781	0.00096
523746.84	4258588.65	0.00596	0.00436	0.002006	0.00596	0.00119
523791.03	4258588.65	0.007403	0.005534	0.002533	0.007403	0.00148
523835.22	4258588.65	0.009062	0.005911	0.0028	0.009062	0.00181
523879.41	4258588.65	0.011228	0.007585	0.00356	0.011228	0.00225
523923.6	4258588.65	0.013557	0.008437	0.004048	0.013557	0.00271
523967.79	4258588.65	0.015979	0.009652	0.00467	0.015979	0.00320
524011.98	4258588.65	0.018988	0.011371	0.005515	0.018988	0.00380
524056.17	4258588.65	0.022758	0.013582	0.006593	0.022758	0.00455
524100.36	4258588.65	0.027079	0.016127	0.007833	0.027079	0.00542
524144.55	4258588.65	0.030681	0.01826	0.008871	0.030681	0.00614
524188.74	4258588.65	0.031934	0.018997	0.00923	0.031934	0.00639
524232.93	4258588.65	0.029988	0.01784	0.008668	0.029988	0.00600
523481.7	4258633.12	0.001419	0.001013	0.000469	0.001419	0.00028
523525.89	4258633.12	0.001911	0.001591	0.000711	0.001911	0.00038
523570.08	4258633.12	0.002536	0.001847	0.000851	0.002536	0.00051
523614.27	4258633.12	0.003287	0.002247	0.001052	0.003287	0.00066
523658.46	4258633.12	0.004116	0.002732	0.001288	0.004116	0.00082
523702.65	4258633.12	0.005192	0.003395	0.001607	0.005192	0.00104
523746.84	4258633.12	0.006614	0.004294	0.002037	0.006614	0.00132
523791.03	4258633.12	0.008319	0.005416	0.002567	0.008319	0.00166
523835.22	4258633.12	0.010403	0.00694	0.003268	0.010403	0.00208
523879.41	4258633.12	0.01287	0.008846	0.004134	0.01287	0.00257
523923.6	4258633.12	0.015411	0.0096	0.004605	0.015411	0.00308
523967.79	4258633.12	0.018317	0.011065	0.005353	0.018317	0.00366
524011.98	4258633.12	0.022243	0.013314	0.006458	0.022243	0.00445
524056.17	4258633.12	0.027213	0.016229	0.00788	0.027213	0.00544
524100.36	4258633.12	0.032492	0.019352	0.009399	0.032492	0.00650
524144.55	4258633.12	0.036474	0.021711	0.010547	0.036474	0.00729
524188.74	4258633.12	0.037836	0.022513	0.010938	0.037836	0.00757
524232.93	4258633.12	0.034962	0.020797	0.010105	0.034962	0.00699
523481.7	4258677.59	0.001428	0.000965	0.000453	0.001428	0.00029
523525.89	4258677.59	0.001888	0.001284	0.000602	0.001888	0.00038
523570.08	4258677.59	0.002574	0.001692	0.0008	0.002574	0.00051
523614.27	4258677.59	0.003407	0.002211	0.001049	0.003407	0.00068
523658.46	4258677.59	0.004452	0.002824	0.001348	0.004452	0.00089
523702.65	4258677.59	0.00578	0.003636	0.00174	0.00578	0.00116
523746.84	4258677.59	0.007539	0.004728	0.002264	0.007539	0.00151
523791.03	4258677.59	0.009665	0.006123	0.002923	0.009665	0.00193
523835.22	4258677.59	0.012159	0.008223	0.003859	0.012159	0.00243
523879.41	4258677.59	0.014921	0.009926	0.004678	0.014921	0.00298
523923.6	4258677.59	0.017906	0.010975	0.005288	0.017906	0.00358
523967.79	4258677.59	0.021858	0.013139	0.006365	0.021858	0.00437
524011.98	4258677.59	0.027559	0.016466	0.007991	0.027559	0.00551
524056.17	4258677.59	0.035211	0.020984	0.01019	0.035211	0.00704
524100.36	4258677.59	0.043267	0.025757	0.012512	0.043267	0.00865
524144.55	4258677.59	0.048358	0.028775	0.01398	0.048358	0.00967
523481.7	4258722.06	0.001491	0.000956	0.000455	0.001491	0.00030
523525.89	4258722.06	0.001923	0.001243	0.00059	0.001923	0.00038
523570.08	4258722.06	0.002591	0.001664	0.000791	0.002591	0.00052
523614.27	4258722.06	0.00359	0.002265	0.001083	0.00359	0.00072
523658.46	4258722.06	0.004927	0.00306	0.001469	0.004927	0.00099
523702.65	4258722.06	0.006678	0.004124	0.001983	0.006678	0.00134
523746.84	4258722.06	0.008943	0.005547	0.002664	0.008943	0.00179
523791.03	4258722.06	0.011692	0.007467	0.003557	0.011692	0.00234
523481.7	4258766.53	0.001575	0.00099	0.000474	0.001575	0.00032
523525.89	4258766.53	0.00201	0.001272	0.000608	0.00201	0.00040
523570.08	4258766.53	0.002676	0.001683	0.000805	0.002676	0.00054
523614.27	4258766.53	0.003807	0.002363	0.001135	0.003807	0.00076
523658.46	4258766.53	0.005449	0.003363	0.001617	0.005449	0.00109
523702.65	4258766.53	0.00768	0.004727	0.002275	0.00768	0.00154
523746.84	4258766.53	0.01075	0.006668	0.003202	0.01075	0.00215
523791.03	4258766.53	0.014485	0.009567	0.004517	0.014485	0.00290
523481.7	4258811	0.001673	0.001041	0.000499	0.001673	0.00033
523525.89	4258811	0.002154	0.001342	0.000644	0.002154	0.00043
523570.08	4258811	0.002852	0.001773	0.000851	0.002852	0.00057
523614.27	4258811	0.004057	0.002504	0.001204	0.004057	0.00081
523658.46	4258811	0.006013	0.00369	0.001777	0.006013	0.00120
523702.65	4258811	0.008978	0.005529	0.002661	0.008978	0.00180
523746.84	4258811	0.013512	0.008449	0.004048	0.013512	0.00270
523791.03	4258811	0.018915	0.012308	0.005835	0.018915	0.00378
523481.7	4258855.47	0.001728	0.001066	0.000513	0.001728	0.00035
523525.89	4258855.47	0.002258	0.001396	0.000671	0.002258	0.00045
523570.08	4258855.47	0.003022	0.001866	0.000897	0.003022	0.00060
523614.27	4258855.47	0.00437	0.002682	0.001292	0.00437	0.00087
523658.46	4258855.47	0.006776	0.004159	0.002003	0.006776	0.00136
523702.65	4258855.47	0.011024	0.006823	0.003278	0.011024	0.00220
523746.84	4258855.47	0.017936	0.011448	0.005455	0.017936	0.00359
523791.03	4258855.47	0.026167	0.016464	0.007876	0.026167	0.00523
523481.7	4258899.94	0.001725	0.001064	0.000512	0.001725	0.00034
523525.89	4258899.94	0.002244	0.00138	0.000664	0.002244	0.00045
523570.08	4258899.94	0.003088	0.001897	0.000914	0.003088	0.00062
523614.27	4258899.94	0.004583	0.002809	0.001353	0.004583	0.00092
523658.46	4258899.94	0.007576	0.004658	0.002242	0.007576	0.00152
523702.65	4258899.94	0.013753	0.008777	0.004182	0.013753	0.00275
523746.84	4258899.94	0.025842	0.016317	0.007798	0.025842	0.00517
523481.7	4258944.41	0.00177	0.001091	0.000525	0.00177	0.00035
523525.89	4258944.41	0.002268	0.001394	0.000671	0.002268	0.00045
523570.08	4258944.41	0.003106	0.001908	0.000919	0.003106	0.00062
523614.27	4258944.41	0.004662	0.002856	0.001376	0.004662	0.00093
523702.65	4258944.41	0.017693	0.011034	0.005291	0.017693	0.00354
523746.84	4258944.41	0.04446	0.027346	0.013163	0.04446	0.00889
523481.7	4258988.88	0.001984	0.00121	0.000584	0.001984	0.00040
523525.89	4258988.88	0.002487	0.001517	0.000732	0.002487	0.00050
523570.08	4258988.88	0.003329	0.002033	0.00098	0.003329	0.00067
523614.27	4258988.88	0.004948	0.003034	0.001462	0.004948	0.00099
523702.65	4258988.88	0.024276	0.01534	0.00733	0.024276	0.00486
523481.7	4259033.35	0.002276	0.001384	0.000668	0.002276	0.00046
523525.89	4259033.35	0.002871	0.001745	0.000843	0.002871	0.00057
523570.08	4259033.35	0.003867	0.00236	0.001139	0.003867	0.00077
523614.27	4259033.35	0.005835	0.003569	0.001721	0.005835	0.00117
523481.7	4259077.82	0.002554	0.001549	0.000749	0.002554	0.00051
523525.89	4259077.82	0.003373	0.002044	0.000988	0.003373	0.00067
523570.08	4259077.82	0.004838	0.00293	0.001416	0.004838	0.00097
523614.27	4259077.82	0.008163	0.004937	0.002388	0.008163	0.00163
523481.7	4259122.29	0.002854	0.001727	0.000835	0.002854	0.00057
523525.89	4259122.29	0.004035	0.002437	0.001179	0.004035	0.00081
523570.08	4259122.29	0.006322	0.003812	0.001845	0.006322	0.00126
523614.27	4259122.29	0.011989	0.007196	0.003487	0.011989	0.00240
523481.7	4259166.76	0.003265	0.001972	0.000954	0.003265	0.00065
523525.89	4259166.76	0.00497	0.002993	0.001449	0.00497	0.00099
523570.08	4259166.76	0.008404	0.005042	0.002444	0.008404	0.00168
523614.27	4259166.76	0.016183	0.009681	0.004696	0.016183	0.00324
524232.93	4259166.76	0.02768	0.016469	0.008001	0.02768	0.00554
524277.12	4259166.76	0.020072	0.011939	0.005801	0.020072	0.00401
524321.31	4259166.76	0.013824	0.008225	0.003996	0.013824	0.00276
523481.7	4259211.23	0.00414	0.002484	0.001204	0.00414	0.00083
523525.89	4259211.23	0.006398	0.003834	0.001859	0.006398	0.00128
523570.08	4259211.23	0.010723	0.006412	0.003111	0.010723	0.00214
523614.27	4259211.23	0.018667	0.011142	0.005408	0.018667	0.00373
523658.46	4259211.23	0.030654	0.018275	0.008874	0.030654	0.00613
523702.65	4259211.23	0.049034	0.029208	0.014186	0.049034	0.00981
523746.84	4259211.23	0.072497	0.043162	0.020966	0.072497	0.01450
523791.03	4259211.23	0.088436	0.052629	0.025568	0.088436	0.01769
523835.22	4259211.23	0.085685	0.050986	0.024771	0.085685	0.01714
524144.55	4259211.23	0.033891	0.02016	0.009795	0.033891	0.00678
524188.74	4259211.23	0.029617	0.01762	0.008561	0.029617	0.00592
524232.93	4259211.23	0.022581	0.01343	0.006526	0.022581	0.00452
524277.12	4259211.23	0.016514	0.009824	0.004773	0.016514	0.00330
524321.31	4259211.23	0.012477	0.007424	0.003607	0.012477	0.00250
523481.7	4259255.7	0.005112	0.003062	0.001485	0.005112	0.00102
523525.89	4259255.7	0.007618	0.004559	0.002211	0.007618	0.00152
523570.08	4259255.7	0.011828	0.007069	0.00343	0.011828	0.00237
523614.27	4259255.7	0.017835	0.01064	0.005165	0.017835	0.00357
523658.46	4259255.7	0.025718	0.015333	0.007445	0.025718	0.00514
523702.65	4259255.7	0.036299	0.02163	0.010504	0.036299	0.00726
523746.84	4259255.7	0.048977	0.029167	0.014167	0.048977	0.00980
523791.03	4259255.7	0.058165	0.034627	0.016821	0.058165	0.01163
523835.22	4259255.7	0.060481	0.035997	0.017487	0.060481	0.01210
523879.41	4259255.7	0.059918	0.035654	0.017322	0.059918	0.01198
523923.6	4259255.7	0.057994	0.034503	0.016764	0.057994	0.01160
523967.79	4259255.7	0.053926	0.032077	0.015586	0.053926	0.01079
524011.98	4259255.7	0.046294	0.027541	0.013381	0.046294	0.00926
524056.17	4259255.7	0.039711	0.02362	0.011477	0.039711	0.00794
524100.36	4259255.7	0.032996	0.019629	0.009537	0.032996	0.00660
524144.55	4259255.7	0.028043	0.016685	0.008106	0.028043	0.00561
524188.74	4259255.7	0.023477	0.013963	0.006785	0.023477	0.00470
524232.93	4259255.7	0.017754	0.010561	0.005131	0.017754	0.00355
524277.12	4259255.7	0.013081	0.007783	0.003781	0.013081	0.00262
524321.31	4259255.7	0.010442	0.006214	0.003019	0.010442	0.00209
523481.7	4259300.17	0.005766	0.00345	0.001674	0.005766	0.00115
523525.89	4259300.17	0.008106	0.004849	0.002352	0.008106	0.00162
523570.08	4259300.17	0.011455	0.00684	0.00332	0.011455	0.00229
523614.27	4259300.17	0.015886	0.009482	0.004603	0.015886	0.00318
523658.46	4259300.17	0.021334	0.012719	0.006176	0.021334	0.00427
523702.65	4259300.17	0.028491	0.016981	0.008246	0.028491	0.00570
523746.84	4259300.17	0.036979	0.022027	0.010698	0.036979	0.00740
523791.03	4259300.17	0.043411	0.02585	0.012556	0.043411	0.00868
523835.22	4259300.17	0.046454	0.027651	0.013433	0.046454	0.00929
523879.41	4259300.17	0.047956	0.028536	0.013864	0.047956	0.00959
523923.6	4259300.17	0.045635	0.027156	0.013193	0.045635	0.00913
523967.79	4259300.17	0.042365	0.025205	0.012246	0.042365	0.00847
524011.98	4259300.17	0.035887	0.021347	0.010372	0.035887	0.00718
524056.17	4259300.17	0.031532	0.018758	0.009114	0.031532	0.00631
524100.36	4259300.17	0.027213	0.016191	0.007866	0.027213	0.00544
524144.55	4259300.17	0.023358	0.0139	0.006753	0.023358	0.00467
524188.74	4259300.17	0.019073	0.011345	0.005512	0.019073	0.00381
524232.93	4259300.17	0.01464	0.00871	0.004232	0.01464	0.00293
524277.12	4259300.17	0.011261	0.006701	0.003256	0.011261	0.00225
524321.31	4259300.17	0.00901	0.005363	0.002605	0.00901	0.00180
523481.7	4259344.64	0.006098	0.003648	0.00177	0.006098	0.00122
523525.89	4259344.64	0.008063	0.004816	0.002337	0.008063	0.00161
523570.08	4259344.64	0.010666	0.006371	0.003092	0.010666	0.00213
523614.27	4259344.64	0.014086	0.008404	0.00408	0.014086	0.00282
523658.46	4259344.64	0.018475	0.011013	0.005348	0.018475	0.00370
523702.65	4259344.64	0.023368	0.013929	0.006764	0.023368	0.00467
523746.84	4259344.64	0.029226	0.017411	0.008456	0.029226	0.00585
523791.03	4259344.64	0.034331	0.020445	0.009931	0.034331	0.00687
523835.22	4259344.64	0.037015	0.022033	0.010703	0.037015	0.00740
523879.41	4259344.64	0.037804	0.022502	0.010931	0.037804	0.00756
523923.6	4259344.64	0.036132	0.0215	0.010445	0.036132	0.00723
523967.79	4259344.64	0.034069	0.020274	0.00985	0.034069	0.00681
524011.98	4259344.64	0.03152	0.018751	0.009111	0.03152	0.00630
524056.17	4259344.64	0.028872	0.017177	0.008346	0.028872	0.00577
524100.36	4259344.64	0.024916	0.014826	0.007203	0.024916	0.00498
524144.55	4259344.64	0.020171	0.011998	0.00583	0.020171	0.00403
524188.74	4259344.64	0.015822	0.009412	0.004573	0.015822	0.00316
524232.93	4259344.64	0.01258	0.007485	0.003637	0.01258	0.00252
524277.12	4259344.64	0.00987	0.005875	0.002854	0.00987	0.00197
524321.31	4259344.64	0.008049	0.004792	0.002328	0.008049	0.00161

Maximum 0.02

BAAQMD thresholds of significance 1

Exceed thresholds? No

Round Barn Village Project

Annual Average PM2.5 (Exhaust + Fugitive Dust)

No Mitigation
at Semitive Receptors

X (m)	Y (m)	2018 DPM (ug/m3)	2019 DPM (ug/m3)	2020 DPM (ug/m3)	Max PM2.5 (ug/m3)
523481.7	4258499.71	2.71E-03	0.001278	0.000525	0.00271
523525.89	4258499.71	3.45E-03	0.001944	0.000739	0.00345
523570.08	4258499.71	4.33E-03	0.00308	0.001071	0.00433
523614.27	4258499.71	5.28E-03	0.004604	0.001495	0.00528
523658.46	4258499.71	6.39E-03	0.006967	0.002121	0.00697
523702.65	4258499.71	7.52E-03	0.00665	0.002154	0.00752
523746.84	4258499.71	8.94E-03	0.006042	0.002139	0.00894
523791.03	4258499.71	1.07E-02	0.005913	0.002269	0.01074
523835.22	4258499.71	1.30E-02	0.006263	0.002549	0.01303
523879.41	4258499.71	1.58E-02	0.006893	0.002938	0.01584
523923.6	4258499.71	1.88E-02	0.007747	0.003394	0.01885
523967.79	4258499.71	2.22E-02	0.00823	0.003793	0.02216
524011.98	4258499.71	2.60E-02	0.009258	0.004362	0.02600
524056.17	4258499.71	2.99E-02	0.010403	0.00496	0.02988
524100.36	4258499.71	3.35E-02	0.011529	0.005534	0.03354
524144.55	4258499.71	3.72E-02	0.012668	0.006115	0.03724
524188.74	4258499.71	3.90E-02	0.013216	0.006395	0.03903
524232.93	4258499.71	3.83E-02	0.012976	0.006279	0.03832
523481.7	4258544.18	2.66E-03	0.001418	0.000552	0.00266
523525.89	4258544.18	3.52E-03	0.002911	0.000961	0.00352
523570.08	4258544.18	4.69E-03	0.006292	0.001821	0.00629
523614.27	4258544.18	5.59E-03	0.005599	0.001745	0.00560
523658.46	4258544.18	7.19E-03	0.012005	0.003319	0.01201
523702.65	4258544.18	8.00E-03	0.006095	0.002069	0.00800
523746.84	4258544.18	9.75E-03	0.00647	0.002306	0.00975
523791.03	4258544.18	1.20E-02	0.009123	0.003101	0.01203
523835.22	4258544.18	1.46E-02	0.008146	0.003107	0.01458
523879.41	4258544.18	1.78E-02	0.00866	0.003508	0.01782
523923.6	4258544.18	2.13E-02	0.009	0.003893	0.02133
523967.79	4258544.18	2.52E-02	0.009366	0.004318	0.02523
524011.98	4258544.18	2.97E-02	0.010516	0.004973	0.02974
524056.17	4258544.18	3.45E-02	0.011908	0.005704	0.03451
524100.36	4258544.18	4.01E-02	0.013677	0.006592	0.04009
524144.55	4258544.18	4.53E-02	0.01537	0.007428	0.04528
524188.74	4258544.18	4.91E-02	0.016605	0.008042	0.04912
524232.93	4258544.18	4.55E-02	0.015397	0.007455	0.04552
523481.7	4258588.65	2.61E-03	0.001663	0.000602	0.00261
523525.89	4258588.65	3.50E-03	0.003168	0.001017	0.00350
523570.08	4258588.65	4.84E-03	0.007338	0.002068	0.00734
523614.27	4258588.65	5.94E-03	0.007184	0.002131	0.00718
523658.46	4258588.65	7.07E-03	0.006043	0.001975	0.00707
523702.65	4258588.65	8.69E-03	0.006799	0.002287	0.00869
523746.84	4258588.65	1.09E-02	0.00921	0.003019	0.01088
523791.03	4258588.65	1.36E-02	0.01226	0.003938	0.01356
523835.22	4258588.65	1.63E-02	0.009022	0.00345	0.01625
523879.41	4258588.65	2.02E-02	0.012983	0.004688	0.02024
523923.6	4258588.65	2.41E-02	0.010678	0.004516	0.02414
523967.79	4258588.65	2.83E-02	0.010567	0.004861	0.02834
524011.98	4258588.65	3.36E-02	0.011875	0.00562	0.03363
524056.17	4258588.65	4.03E-02	0.013902	0.00666	0.04029
524100.36	4258588.65	4.79E-02	0.01631	0.007871	0.04793
524144.55	4258588.65	5.43E-02	0.018398	0.0089	0.05430
524188.74	4258588.65	5.65E-02	0.019089	0.009249	0.05651
524232.93	4258588.65	5.31E-02	0.017932	0.008687	0.05307
523481.7	4258633.12	2.58E-03	0.00202	0.000679	0.00258
523525.89	4258633.12	3.57E-03	0.004291	0.001274	0.00429
523570.08	4258633.12	4.63E-03	0.00386	0.001271	0.00463
523614.27	4258633.12	5.94E-03	0.003986	0.001415	0.00594
523658.46	4258633.12	7.40E-03	0.004425	0.001642	0.00740
523702.65	4258633.12	9.31E-03	0.005225	0.00199	0.00931
523746.84	4258633.12	1.19E-02	0.006445	0.002486	0.01185
523791.03	4258633.12	1.49E-02	0.008207	0.00315	0.01491
523835.22	4258633.12	1.87E-02	0.011424	0.004205	0.01872
523879.41	4258633.12	2.33E-02	0.015938	0.005615	0.02326
523923.6	4258633.12	2.75E-02	0.012208	0.00515	0.02745
523967.79	4258633.12	3.25E-02	0.012117	0.005573	0.03248
524011.98	4258633.12	3.94E-02	0.013863	0.006572	0.03940
524056.17	4258633.12	4.82E-02	0.01655	0.007947	0.04817
524100.36	4258633.12	5.75E-02	0.019581	0.009447	0.05751
524144.55	4258633.12	6.46E-02	0.021894	0.010585	0.06455
524188.74	4258633.12	6.70E-02	0.02265	0.010966	0.06696
524232.93	4258633.12	6.19E-02	0.020889	0.010124	0.06187
523481.7	4258677.59	2.57E-03	0.001651	0.000596	0.00257
523525.89	4258677.59	3.41E-03	0.002245	0.000802	0.00341
523570.08	4258677.59	4.62E-03	0.002653	0.001001	0.00462
523614.27	4258677.59	6.11E-03	0.003309	0.001278	0.00611
523658.46	4258677.59	7.95E-03	0.003876	0.001568	0.00795
523702.65	4258677.59	1.03E-02	0.004826	0.001988	0.01031
523746.84	4258677.59	1.34E-02	0.006192	0.00257	0.01344
523791.03	4258677.59	1.73E-02	0.008365	0.003392	0.01726
523835.22	4258677.59	2.19E-02	0.014125	0.005092	0.02192
523879.41	4258677.59	2.68E-02	0.016194	0.005987	0.02684
523923.6	4258677.59	3.18E-02	0.012943	0.005699	0.03182
523967.79	4258677.59	3.87E-02	0.014099	0.006547	0.03874
524011.98	4258677.59	4.88E-02	0.016969	0.008096	0.04880
524056.17	4258677.59	6.23E-02	0.021304	0.010257	0.06233
524100.36	4258677.59	7.66E-02	0.025986	0.01256	0.07657
524144.55	4258677.59	8.56E-02	0.028958	0.014018	0.08558
523481.7	4258722.06	2.67E-03	0.001368	0.000541	0.00267
523525.89	4258722.06	3.44E-03	0.001838	0.000715	0.00344
523570.08	4258722.06	4.64E-03	0.002396	0.000944	0.00464
523614.27	4258722.06	6.41E-03	0.003043	0.001245	0.00641
523658.46	4258722.06	8.77E-03	0.003837	0.001631	0.00877
523702.65	4258722.06	1.19E-02	0.005039	0.002174	0.01188
523746.84	4258722.06	1.59E-02	0.00692	0.002951	0.01592
523791.03	4258722.06	2.09E-02	0.010532	0.004198	0.02090
523481.7	4258766.53	2.81E-03	0.001311	0.000541	0.00281
523525.89	4258766.53	3.59E-03	0.00173	0.000703	0.00359
523570.08	4258766.53	4.77E-03	0.002232	0.00092	0.00477
523614.27	4258766.53	6.78E-03	0.002958	0.001259	0.00678
523658.46	4258766.53	9.69E-03	0.004095	0.00177	0.00969
523702.65	4258766.53	1.37E-02	0.005688	0.002476	0.01366
523746.84	4258766.53	1.91E-02	0.008315	0.003546	0.01914
523791.03	4258766.53	2.60E-02	0.01524	0.005702	0.02602
523481.7	4258811	2.98E-03	0.001315	0.000557	0.00298
523525.89	4258811	3.84E-03	0.001708	0.00072	0.00384
523570.08	4258811	5.08E-03	0.00223	0.000946	0.00508
523614.27	4258811	7.22E-03	0.003053	0.001319	0.00722
523658.46	4258811	1.07E-02	0.004376	0.001921	0.01069
523702.65	4258811	1.60E-02	0.006673	0.0029	0.01597
523746.84	4258811	2.41E-02	0.010919	0.004564	0.02408
523791.03	4258811	3.39E-02	0.018622	0.007153	0.03391
523481.7	4258855.47	3.07E-03	0.001295	0.00056	0.00307
523525.89	4258855.47	4.02E-03	0.001716	0.000738	0.00402
523570.08	4258855.47	5.38E-03	0.002277	0.000983	0.00538
523614.27	4258855.47	7.77E-03	0.003186	0.001397	0.00777
523658.46	4258855.47	1.20E-02	0.004937	0.002166	0.01204
523702.65	4258855.47	1.96E-02	0.008424	0.003613	0.01962
523746.84	4258855.47	3.21E-02	0.016115	0.00643	0.03206
523791.03	4258855.47	4.67E-02	0.021863	0.009003	0.04667
523481.7	4258899.94	3.07E-03	0.001293	0.000559	0.00307
523525.89	4258899.94	3.99E-03	0.001655	0.000722	0.00399
523570.08	4258899.94	5.49E-03	0.002263	0.00099	0.00549
523614.27	4258899.94	8.14E-03	0.003312	0.001458	0.00814
523658.46	4258899.94	1.35E-02	0.005573	0.002433	0.01347
523702.65	4258899.94	2.46E-02	0.012345	0.004928	0.02458
523746.84	4258899.94	4.61E-02	0.021991	0.008983	0.04612
523481.7	4258944.41	3.15E-03	0.00132	0.000573	0.00315
523525.89	4258944.41	4.03E-03	0.001669	0.000728	0.00403
523570.08	4258944.41	5.52E-03	0.002274	0.000995	0.00552
523614.27	4258944.41	8.28E-03	0.00336	0.001482	0.00828
523702.65	4258944.41	3.15E-02	0.014099	0.005931	0.03152
523746.84	4258944.41	7.90E-02	0.03279	0.0143	0.07905
523481.7	4258988.88	3.52E-03	0.001393	0.000622	0.00352
523525.89	4258988.88	4.42E-03	0.001745	0.00078	0.00442
523570.08	4258988.88	5.91E-03	0.002353	0.001047	0.00591
523614.27	4258988.88	8.79E-03	0.003583	0.001576	0.00879
523702.65	4258988.88	4.33E-02	0.020739	0.008457	0.04333
523481.7	4259033.35	4.04E-03	0.001567	0.000706	0.00404
523525.89	4259033.35	5.10E-03	0.001974	0.000891	0.00510
523570.08	4259033.35	6.87E-03	0.002726	0.001215	0.00687
523614.27	4259033.35	1.04E-02	0.004164	0.001845	0.01037
523481.7	4259077.82	4.53E-03	0.001732	0.000787	0.00453
523525.89	4259077.82	5.98E-03	0.002372	0.001036	0.00598
523570.08	4259077.82	8.58E-03	0.00325	0.001483	0.00858
523614.27	4259077.82	1.45E-02	0.00544	0.002493	0.01448
523481.7	4259122.29	5.06E-03	0.00191	0.000873	0.00506
523525.89	4259122.29	7.16E-03	0.002666	0.001227	0.00716
523570.08	4259122.29	1.12E-02	0.004132	0.001912	0.01121
523614.27	4259122.29	2.12E-02	0.007607	0.003573	0.02124
523481.7	4259166.76	5.79E-03	0.002155	0.000992	0.00579
523525.89	4259166.76	8.81E-03	0.003221	0.001497	0.00881
523570.08	4259166.76	1.49E-02	0.005516	0.002501	0.01489
523614.27	4259166.76	2.87E-02	0.010047	0.004773	0.02866
524232.93	4259166.76	4.90E-02	0.01656	0.008021	0.04898
524277.12	4259166.76	3.55E-02	0.011985	0.005811	0.03552
524321.31	4259166.76	2.45E-02	0.00827	0.004005	0.02446
523481.7	4259211.23	7.34E-03	0.002621	0.001233	0.00734
523525.89	4259211.23	1.13E-02	0.004017	0.001897	0.01133
523570.08	4259211.23	1.90E-02	0.006641	0.003159	0.01899
523614.27	4259211.23	3.30E-02	0.011416	0.005466	0.03305
523658.46	4259211.23	5.43E-02	0.018595	0.008941	0.05426
523702.65	4259211.23	8.68E-02	0.029574	0.014262	0.08679
523746.84	4259211.23	1.28E-01	0.043574	0.021052	0.12831
523791.03	4259211.23	1.57E-01	0.052995	0.025645	0.15651
523835.22	4259211.23	1.52E-01	0.051306	0.024838	0.15164
524144.55	4259211.23	6.00E-02	0.020252	0.009815	0.05997
524188.74	4259211.23	5.24E-02	0.017712	0.00858	0.05241
524232.93	4259211.23	4.00E-02	0.013476	0.006535	0.03996
524277.12	4259211.23	2.92E-02	0.00987	0.004783	0.02922
524321.31	4259211.23	2.21E-02	0.00747	0.003616	0.02208
523481.7	4259255.7	9.05E-03	0.003199	0.001513	0.00905
523525.89	4259255.7	1.35E-02	0.004742	0.00225	0.01349
523570.08	4259255.7	2.09E-02	0.007298	0.003478	0.02094
523614.27	4259255.7	3.16E-02	0.010869	0.005213	0.03157
523658.46	4259255.7	4.55E-02	0.015698	0.007503	0.04552
523702.65	4259255.7	6.43E-02	0.02195	0.010571	0.06425
523746.84	4259255.7	8.67E-02	0.029487	0.014234	0.08668
523791.03	4259255.7	1.03E-01	0.034948	0.016888	0.10294
523835.22	4259255.7	1.07E-01	0.036271	0.017545	0.10704
523879.41	4259255.7	1.06E-01	0.035883	0.01737	0.10604
523923.6	4259255.7	1.03E-01	0.034686	0.016802	0.10263
523967.79	4259255.7	9.54E-02	0.032214	0.015614	0.09543
524011.98	4259255.7	8.19E-02	0.027678	0.01341	0.08192
524056.17	4259255.7	7.03E-02	0.023712	0.011496	0.07027
524100.36	4259255.7	5.84E-02	0.01972	0.009556	0.05839
524144.55	4259255.7	4.96E-02	0.016776	0.008125	0.04963
524188.74	4259255.7	4.15E-02	0.014009	0.006794	0.04154
524232.93	4259255.7	3.14E-02	0.010606	0.005141	0.03142
524277.12	4259255.7	2.31E-02	0.007829	0.003791	0.02315
524321.31	4259255.7	1.85E-02	0.00626	0.003029	0.01848
523481.7	4259300.17	1.02E-02	0.003588	0.001702	0.01021
523525.89	4259300.17	1.44E-02	0.005032	0.002391	0.01436
523570.08	4259300.17	2.03E-02	0.007023	0.003358	0.02028
523614.27	4259300.17	2.81E-02	0.00971	0.00465	0.02813
523658.46	4259300.17	3.78E-02	0.012948	0.006224	0.03776
523702.65	4259300.17	5.04E-02	0.017256	0.008304	0.05043
523746.84	4259300.17	6.55E-02	0.022302	0.010756	0.06545
523791.03	4259300.17	7.68E-02	0.026125	0.012614	0.07683
523835.22	4259300.17	8.22E-02	0.02788	0.01348	0.08221
523879.41	4259300.17	8.49E-02	0.028719	0.013902	0.08487
523923.6	4259300.17	8.08E-02	0.027339	0.013231	0.08076
523967.79	4259300.17	7.50E-02	0.025342	0.012275	0.07497
524011.98	4259300.17	6.35E-02	0.021438	0.010391	0.06351
524056.17	4259300.17	5.58E-02	0.01885	0.009133	0.05580
524100.36	4259300.17	4.82E-02	0.016283	0.007886	0.04816
524144.55	4259300.17	4.13E-02	0.013991	0.006772	0.04134
524188.74	4259300.17	3.38E-02	0.011391	0.005522	0.03375
524232.93	4259300.17	2.59E-02	0.008755	0.004241	0.02591
524277.12	4259300.17	1.99E-02	0.006747	0.003265	0.01993
524321.31	4259300.17	1.59E-02	0.005409	0.002615	0.01595
523481.7	4259344.64	1.08E-02	0.003785	0.001798	0.01080
523525.89	4259344.64	1.43E-02	0.004953	0.002366	0.01428
523570.08	4259344.64	1.89E-02	0.006554	0.00313	0.01888
523614.27	4259344.64	2.49E-02	0.008587	0.004118	0.02494
523658.46	4259344.64	3.27E-02	0.011196	0.005386	0.03270
523702.65	4259344.64	4.14E-02	0.014157	0.006811	0.04136
523746.84	4259344.64	5.17E-02	0.01764	0.008504	0.05173
523791.03	4259344.64	6.08E-02	0.020674	0.009978	0.06076
523835.22	4259344.64	6.55E-02	0.022216	0.010742	0.06551
523879.41	4259344.64	6.69E-02	0.022685	0.010969	0.06690
523923.6	4259344.64	6.39E-02	0.021637	0.010474	0.06394
523967.79	4259344.64	6.03E-02	0.020411	0.009878	0.06029
524011.98	4259344.64	5.58E-02	0.018843	0.00913	0.05578
524056.17	4259344.64	5.11E-02	0.017268	0.008365	0.05109
524100.36	4259344.64	4.41E-02	0.014917	0.007222	0.04409
524144.55	4259344.64	3.57E-02	0.012043	0.005839	0.03569
524188.74	4259344.64	2.80E-02	0.009458	0.004583	0.02800
524232.93	4259344.64	2.23E-02	0.007531	0.003646	0.02226
524277.12	4259344.64	1.75E-02	0.00592	0.002863	0.01747
524321.31	4259344.64	1.42E-02	0.004838	0.002337	0.01425

Maximum
0.16

BAAQMD thresholds of significance
0.3

Exceed thresholds?
No

Round Barn Village Project

Tier IV Mitigation

Construction Annual DPM Emissions (as PM2.5 Exhaust)

Construction Scheduling **2018**

8 hours/day
5 days/week
31 weeks/year *start from 5/28/2018
1240 hours/year

Onsite Construction Area Source Size (m2): 64423.3 from AERMOD

Onsite Construction PM2.5 Emissions

2018 Construction Activity	Onsite Annual DPM Exhaust Emissions (tons/year)	Onsite Annual DPM Exhaust Emissions (g/sec)	Onsite DPM Source Exhaust Emissions (g/m2-sec)
Demolition	3.390E-03	6.895E-04	1.070E-08
Site Preparation	3.100E-04	6.306E-05	9.788E-10
Grading	1.520E-03	3.092E-04	4.799E-09
Paving	1.100E-04	2.237E-05	3.473E-10
Total	**5.330E-03**	**1.084E-03**	**1.683E-08**

Onsite Annual PM2.5 Fugitive Emissions (tons/year)	Onsite Annual PM2.5 Fugitive Emissions (g/sec)	Onsite Source PM2.5 Fugitive Emissions (g/m2-sec)
6.83E-03	1.39E-03	2.16E-08
2.23E-02	4.54E-03	7.04E-08
2.28E-02	4.64E-03	7.20E-08
0.00E+00	0.00E+00	0.00E+00
5.193E-02	**1.056E-02**	**1.640E-07**

Offsite Construction Vehicle PM2.5 Emissions

2018 Construction Activity	Offsite Hauling Annual DPM Exhaust Emissions (tons/year)	Offsite Vendor Annual DPM Exhaust Emissions (tons/year)	Offsite Workers Annual DPM Exhaust Emissions (tons/year)	
Demolition	8.400E-04	0.000E+00	5.000E-05	
Site Preparation	0.000E+00	0.000E+00	1.000E-05	
Grading	0.000E+00	0.000E+00	2.000E-05	
Paving	0.000E+00	0.000E+00	0.000E+00	
Total (tons/year)	**8.400E-04**	**0.000E+00**	**8.000E-05**	**9.200E-04**
Trip Distance assumed in CalEEMod (mi)	20.0	7.3	10.8	
Offsite Project Trip Distance Along Roadway Segment Project> Round Barn Blvd> Fountain Grove Parkway> US 101(mi)	0.54	0.54	0.54	
Offsite Project Emissions Along Roadway Segment Project> (tons/year)	**2.266E-05**	**0.000E+00**	**3.996E-06**	

Offsite Hauling Annual PM2.5 Fugitive Emissions (tons/year)	Offsite Vendor Annual PM2.5 Fugitive Emissions (tons/year)	Offsite Workers Annual PM2.5 Fugitive Emissions (tons/year)
2.11E-03	0.00E+00	1.72E-03
0.00E+00	0.00E+00	1.90E-04
0.000000	0.00E+00	6.30E-04
0.00E+00	0.00E+00	9.00E-05
2.110E-03	**0.000E+00**	**2.630E-03**
20	7.3	10.8
0.54	0.54	0.54
5.692E-05	**0.000E+00**	**1.314E-04**

Offsite Emissions Along Roadway Segment Analyzed	
Total Offsite Project Exhaust Emissions (tons/year)	**2.666E-05**
Total Offsite Project Exhaust Emissions (grams/sec)	**5.422E-06**

Onsite Exhaust Emissions (tons/year)	**5.330E-03**
Total Onsite Emissions (tons/year)	**5.330E-03**
Onsite Exhaust Emissions (g/m2-sec)	**1.683E-08**

Total PM@2.5 Exhaust (tons/year)	5.357E-03

5.747E-02

Offsite Emissions Along Roadway Segment Analyzed	
Total Offsite Project Fugitive Emissions (tons/year)	**1.883E-04**
Total Offsite Project Fugitive Emissions (grams/sec)	**3.830E-05**

Onsite Fugitive Emissions (tons/year)	**5.193E-02**
Onsite Fugitive Emissions (g/m2-sec)	**1.640E-07**

Total PM@2.5 Fugitive (tons/year)	5.212E-02

Round Barn Village Project

Tier IV Mitigation

Construction Annual DPM Emissions (as PM2.5 Exhaust)

Construction Scheduling **2019**

8	hours/day
5	days/week
52	weeks/year
2080	hours/year

Onsite Construction Area Source Size (m2): 64423.30

Onsite Construction PM2.5 Emissions

2019	Onsite	Onsite	Onsite DPM
Construction Activity	**Annual DPM Exhaust Emissions (tons/year)**	**Annual DPM Exhaust Emissions (g/sec)**	**Source Exhaust Emissions (g/m2-sec)**
Paving	2.600E-04	3.153E-05	4.894E-10
Building Construction	1.700E-02	2.061E-03	3.200E-08
Total	**1.700E-02**	**2.061E-03**	**3.200E-08**

	Onsite	Onsite	Onsite
	Annual PM2.5 Fugitive Emissions (tons/year)	**Annual PM2.5 Fugitive Emissions (g/sec)**	**Source PM2.5 Fugitive Emissions (g/m2-sec)**
	0.00E+00	0.00E+00	0.00E+00
	0.00E+00	0.00E+00	0.00E+00
Total	**0.000E+00**	**0.000E+00**	**0.000E+00**

Offsite Construction Vehicle PM2.5 Emissions

2019	Offsite Hauling	Offsite Vendor	Offsite Workers	
	Annual DPM	**Annual DPM**	**Annual DPM**	
Construction Activity	**Exhaust Emissions (tons/year)**	**Exhaust Emissions (tons/year)**	**Exhaust Emissions (tons/year)**	
Paving	0.000E+00	0.000E+00	1.000E-05	
Building Construction	0.000E+00	7.800E-03	2.040E-03	
Total (tons/year)	**0.000E+00**	**7.800E-03**	**2.040E-03**	**9.840E-03**
Trip Distance assumed in CalEEMod (mi)	20.0	7.3	10.8	
Offsite Project Trip Distance Project> Round Barn Blvd> Fountain Grove Parkway> US 101(mi)	0.54	0.54	0.54	
Offsite Project Emissions Project> (tons/year)	**0.000E+00**	**5.765E-04**	**1.019E-04**	

	Offsite Hauling	Offsite Vendor	Offsite Workers
	Annual PM2.5 Fugitive Emissions (tons/year)	**Annual PM2.5 Fugitive Emissions (tons/year)**	**Annual PM2.5 Fugitive Emissions (tons/year)**
	0.00E+00	0.00E+00	2.20E-04
	0.00E+00	1.48E-02	6.97E-02
Total (tons/year)	**0.000E+00**	**1.480E-02**	**6.992E-02**
	20	7.3	10.8
	0.54	0.54	0.54
	0.000E+00	**1.094E-03**	**3.493E-03**

Emissions Along Roadway Segment	
Offsite Project Exhaust Emissions (tons/year)	**6.784E-04**
Offsite Project Exhaust Emissions (grams/sec)	**8.226E-05**

Onsite Exhaust Emissions (tons/year)	**1.700E-02**
Total Onsite Emissions (tons/year)	**1.700E-02**
Onsite Exhaust Emissions (g/m2-sec)	**3.200E-08**

Total PM@2.5 Exhaust (tons/year)	1.768E-02
Total PM2.5 (tons/year)	**2.227E-02**

Offsite Emissions Along Roadway Segment Analyzed	
Total Offsite Project Fug	**4.587E-03**
Total Offsite Project Fug	**5.562E-04**

Onsite Fugitive Emission	**0.000E+00**
Onsite Fugitive Emission	**0.000E+00**

Total PM@2.5 Fugitive (	4.587E-03

Round Barn Village Project

Tier IV Mitigation

Construction Annual DPM Emissions (as PM2.5 Exhaust)

Construction Scheduling **2020**

8 hours/day
5 days/week
22 weeks/year
880 hours/year ends at 5/28/2020

Onsite Construction Area Source Size (m2): 64423.30

Onsite Construction PM2.5 Emissions

2020 Construction Activity	Onsite Annual DPM Exhaust Emissions (tons/year)	Onsite Annual DPM Exhaust Emissions (g/sec)	Onsite DPM Source Exhaust Emissions (g/m2-sec)
Building Construction	3.310E-03	9.487E-04	1.473E-08
Architectural Coating	1.100E-04	3.153E-05	4.894E-10
Total	**3.420E-03**	**9.802E-04**	**1.522E-08**

Onsite Annual PM2.5 Fugitive Emissions (tons/year)	Onsite Annual PM2.5 Fugitive Emissions (g/sec)	Onsite Source PM2.5 Fugitive Emissions (g/m2-sec)
0.00E+00	0.00E+00	0.00E+00
0.00E+00	0.00E+00	0.00E+00
0.000E+00	**0.000E+00**	**0.000E+00**

Offsite Construction Vehicle PM2.5 Emissions

2020 Construction Activity	Offsite Hauling Annual DPM Exhaust Emissions (tons/year)	Offsite Vendor Annual DPM Exhaust Emissions (tons/year)	Offsite Workers Annual DPM Exhaust Emissions (tons/year)
Building Construction	0.000E+00	1.040E-03	4.200E-04
Architectural Coating	0.000E+00	0.000E+00	9.000E-05
Total (tons/year)	**0.000E+00**	**1.040E-03**	**5.100E-04**
Trip Distance assumed in CalEEMod (mi)	20.0	7.3	10.8
Offsite Project Trip Distance	0.54	0.54	0.54
Project> Round Barn Blvd> Fountain Grove Parkway> US 101(mi)			
Offsite Project Emissions	**0.000E+00**	**7.686E-05**	**2.548E-05**
Project> (tons/year)			

1.550E-03

Offsite Hauling Annual PM2.5 Fugitive Emissions (tons/year)	Offsite Vendor Annual PM2.5 Fugitive Emissions (tons/year)	Offsite Workers Annual PM2.5 Fugitive Emissions (tons/year)
0.00E+00	3.18E-03	1.50E-02
0.00E+00	0.00E+00	3.05E-03
0.000E+00	**3.180E-03**	**1.805E-02**
20	7.3	10.8
0.54	0.54	0.54
0.000E+00	**2.350E-04**	**9.017E-04**

Emissions Along Roadway Segment	
Offsite Project Exhaust Emissions (tons/year)	**1.023E-04**
Offsite Project Exhaust Emissions (grams/sec)	**2.933E-05**

Onsite Exhaust Emissions (tons/year)	**3.420E-03**
Total Onsite Emissions (tons/year)	**3.420E-03**
Onsite Exhaust Emissions (g/m2-sec)	**1.522E-08**

Total PM@2.5 Exhaust (tons/year)	3.522E-03
Total PM2.5 (tons/year)	**4.659E-03**

Offsite Emissions Along Roadway Segment Analyzed	
Total Offsite Project Fug	**1.137E-03**
Total Offsite Project Fug	**3.258E-04**

Onsite Fugitive Emission	**0.000E+00**
Onsite Fugitive Emission	**0.000E+00**

Total PM@2.5 Fugitive (	1.137E-03

Round Barn Village Project 2018 Tier IV Mitigation At Sensitive Receptors

Construction Annual DPM Emissions (as PM2.5 Exhaust)

Annual Average Onsite DPM Exhaust Emission Rate (2018): 1.68285E-08
Annual Average Offsite DPM Exhaust Emission Rate (2018): 5.42205E-06

Annual Average Onsite DPM Fugitive Emission Rate (2018): 1.63960E-07
Annual Average Offsite DPM Fugitive Emission Rate (2018): 3.83019E-05

X (m)	Y (m)	Onsite Annual DPM Exhaust w/Unit Emissions (ug/m3)	Onsite Annual DPM Exhaust w/Actual Emissions (ug/m3)	Offsite Annual DPM Exhaust w/Unit Emissions (ug/m3)	Offsite Annual DPM Exhaust w/Actual Emissions (ug/m3)	Onsite Annual DPM Fugitive w/Unit Emissions (ug/m3)	Onsite Annual DPM Fugitive w/Actual Emissions (ug/m3)	Offsite Annual DPM Fugitive w/Unit Emissions (ug/m3)	Offsite Annual DPM Fugitive w/Actual Emissions (ug/m3)	Total DMP Exhaust (ug/m3)	Total PM2.5 (ug/m3)
523481.7	4258499.71	0.31936	0.00005	0.00007	3.79543E-06	0.31936	0.00052	0.00007	2.68113E-05	0.00006	6.08E-04
523525.89	4258499.71	0.40238	0.00007	0.00015	8.13307E-06	0.40238	0.00066	0.00015	5.74528E-05	0.00008	7.93E-04
523570.08	4258499.71	0.49882	0.00008	0.00031	1.68084E-05	0.49882	0.00082	0.00031	1.18736E-04	0.00010	1.04E-03
523614.27	4258499.71	0.59895	0.00010	0.00054	2.92791E-05	0.59895	0.00098	0.00054	2.06830E-04	0.00013	1.32E-03
523658.46	4258499.71	0.70947	0.00012	0.00092	4.98829E-05	0.70947	0.00116	0.00092	3.52377E-04	0.00017	1.68E-03
523702.65	4258499.71	0.85151	0.00014	0.00079	4.28342E-05	0.85151	0.00140	0.00079	3.02585E-04	0.00019	1.88E-03
523746.84	4258499.71	1.0326	0.00017	0.00058	3.14479E-05	1.0326	0.00169	0.00058	2.22151E-04	0.00021	2.12E-03
523791.03	4258499.71	1.25476	0.00021	0.00044	2.38570E-05	1.25476	0.00206	0.00044	1.68528E-04	0.00024	2.46E-03
523835.22	4258499.71	1.53204	0.00026	0.00036	1.95194E-05	1.53204	0.00251	0.00036	1.37887E-04	0.00028	2.93E-03
523879.41	4258499.71	1.87051	0.00031	0.00030	1.62661E-05	1.87051	0.00307	0.00030	1.14906E-04	0.00033	3.51E-03
523923.6	4258499.71	2.23062	0.00038	0.00027	1.46395E-05	2.23062	0.00366	0.00027	1.03415E-04	0.00039	4.15E-03
523967.79	4258499.71	2.63167	0.00044	0.00015	8.13307E-06	2.63167	0.00431	0.00015	5.74528E-05	0.00045	4.82E-03
524011.98	4258499.71	3.09199	0.00052	0.00010	5.42205E-06	3.09199	0.00507	0.00010	3.83019E-05	0.00053	5.63E-03
524056.17	4258499.71	3.55567	0.00060	0.00007	3.79543E-06	3.55567	0.00583	0.00007	2.68113E-05	0.00060	6.46E-03
524100.36	4258499.71	3.99326	0.00067	0.00005	2.71102E-06	3.99326	0.00655	0.00005	1.91509E-05	0.00067	7.24E-03
524144.55	4258499.71	4.43525	0.00075	0.00003	1.62661E-06	4.43525	0.00727	0.00003	1.14906E-05	0.00075	8.03E-03
524188.74	4258499.71	4.64905	0.00078	0.00002	1.08441E-06	4.64905	0.00762	0.00002	7.66037E-06	0.00078	8.41E-03
524232.93	4258499.71	4.56394	0.00077	0.00002	1.08441E-06	4.56394	0.00748	0.00002	7.66037E-06	0.00077	8.26E-03
523481.7	4258544.18	0.31138	0.00005	0.00010	5.42205E-06	0.31138	0.00051	0.00010	3.83019E-05	0.00006	6.07E-04
523525.89	4258544.18	0.40069	0.00007	0.00033	1.78928E-05	0.40069	0.00066	0.00033	1.26396E-04	0.00009	8.69E-04
523570.08	4258544.18	0.50845	0.00009	0.00090	4.87984E-05	0.50845	0.00083	0.00090	3.44717E-04	0.00013	1.31E-03
523614.27	4258544.18	0.62648	0.00011	0.00071	3.84966E-05	0.62648	0.00103	0.00071	2.71943E-04	0.00014	1.44E-03
523658.46	4258544.18	0.75436	0.00013	0.00183	9.92235E-05	0.75436	0.00124	0.00183	7.00924E-04	0.00023	2.16E-03
523702.65	4258544.18	0.91727	0.00015	0.00065	3.52433E-05	0.91727	0.00150	0.00065	2.48962E-04	0.00019	1.94E-03
523746.84	4258544.18	1.127	0.00019	0.00061	3.30745E-05	1.127	0.00185	0.00061	2.33641E-04	0.00022	2.30E-03
523791.03	4258544.18	1.37854	0.00023	0.00097	5.25939E-05	1.37854	0.00226	0.00097	3.71528E-04	0.00028	2.92E-03
523835.22	4258544.18	1.70215	0.00029	0.00062	3.36167E-05	1.70215	0.00279	0.00062	2.37472E-04	0.00032	3.35E-03
523879.41	4258544.18	2.09515	0.00035	0.00051	2.76525E-05	2.09515	0.00344	0.00051	1.95339E-04	0.00038	4.01E-03
523923.6	4258544.18	2.52187	0.00042	0.00035	1.89772E-05	2.52187	0.00413	0.00035	1.34057E-04	0.00044	4.71E-03
523967.79	4258544.18	2.9964	0.00050	0.00017	9.21748E-06	2.9964	0.00491	0.00017	6.51132E-05	0.00051	5.49E-03
524011.98	4258544.18	3.53801	0.00060	0.00010	5.42205E-06	3.53801	0.00580	0.00010	3.83019E-05	0.00060	6.44E-03
524056.17	4258544.18	4.10825	0.00069	0.00006	3.25323E-06	4.10825	0.00674	0.00006	2.29811E-05	0.00069	7.45E-03
524100.36	4258544.18	4.77426	0.00080	0.00004	2.16882E-06	4.77426	0.00783	0.00004	1.53207E-05	0.00081	8.65E-03
524144.55	4258544.18	5.39352	0.00091	0.00003	1.62661E-06	5.39352	0.00884	0.00003	1.14906E-05	0.00091	9.76E-03
524188.74	4258544.18	5.85066	0.00098	0.00002	1.08441E-06	5.85066	0.00959	0.00002	7.66037E-06	0.00099	1.06E-02
524232.93	4258544.18	5.42228	0.00091	0.00002	1.08441E-06	5.42228	0.00889	0.00002	7.66037E-06	0.00091	9.81E-03
523481.7	4258588.65	0.30273	0.00005	0.00015	8.13307E-06	0.30273	0.00050	0.00015	5.74528E-05	0.00006	6.13E-04
523525.89	4258588.65	0.3961	0.00007	0.00038	2.06038E-05	0.3961	0.00065	0.00038	1.45547E-04	0.00009	8.82E-04
523570.08	4258588.65	0.51594	0.00009	0.00109	5.91003E-05	0.51594	0.00085	0.00109	4.17490E-04	0.00015	1.41E-03
523614.27	4258588.65	0.65266	0.00011	0.00099	5.36783E-05	0.65266	0.00107	0.00099	3.79188E-04	0.00016	1.61E-03
523658.46	4258588.65	0.80298	0.00014	0.00070	3.79543E-05	0.80298	0.00132	0.00070	2.68113E-04	0.00017	1.76E-03
523702.65	4258588.65	0.99451	0.00017	0.00074	4.01232E-05	0.99451	0.00163	0.00074	2.83434E-04	0.00021	2.12E-03
523746.84	4258588.65	1.23722	0.00021	0.00106	5.74737E-05	1.23722	0.00203	0.00106	4.06000E-04	0.00027	2.70E-03
523791.03	4258588.65	1.53399	0.00026	0.00147	7.97041E-05	1.53399	0.00252	0.00147	5.63037E-04	0.00034	3.42E-03
523835.22	4258588.65	1.8981	0.00032	0.00068	3.68699E-05	1.8981	0.00311	0.00068	2.60453E-04	0.00036	3.73E-03
523879.41	4258588.65	2.34565	0.00039	0.00118	6.39802E-05	2.34565	0.00385	0.00118	4.51962E-04	0.00046	4.76E-03
523923.6	4258588.65	2.84915	0.00048	0.00049	2.65680E-05	2.84915	0.00467	0.00049	1.87679E-04	0.00051	5.37E-03
523967.79	4258588.65	3.36493	0.00057	0.00020	1.08441E-05	3.36493	0.00552	0.00020	7.66037E-05	0.00058	6.17E-03
524011.98	4258588.65	4.00087	0.00067	0.00011	5.96425E-06	4.00087	0.00656	0.00011	4.21320E-05	0.00068	7.28E-03
524056.17	4258588.65	4.79642	0.00081	0.00007	3.79543E-06	4.79642	0.00786	0.00007	2.68113E-05	0.00081	8.70E-03
524100.36	4258588.65	5.70791	0.00096	0.00004	2.16882E-06	5.70791	0.00936	0.00004	1.53207E-05	0.00096	1.03E-02
524144.55	4258588.65	6.46743	0.00109	0.00003	1.62661E-06	6.46743	0.01060	0.00003	1.14906E-05	0.00109	1.17E-02
524188.74	4258588.65	6.73179	0.00113	0.00002	1.08441E-06	6.73179	0.01104	0.00002	7.66037E-06	0.00113	1.22E-02
524232.93	4258588.65	6.32139	0.00106	0.00002	1.08441E-06	6.32139	0.01036	0.00002	7.66037E-06	0.00106	1.14E-02
523481.7	4258633.12	0.29526	0.00005	0.00022	1.19285E-05	0.29526	0.00048	0.00022	8.42641E-05	0.00006	6.30E-04
523525.89	4258633.12	0.39229	0.00007	0.00059	3.19901E-05	0.39229	0.00064	0.00059	2.25981E-04	0.00010	9.67E-04
523570.08	4258633.12	0.52667	0.00009	0.00044	2.38570E-05	0.52667	0.00086	0.00044	1.68528E-04	0.00011	1.14E-03
523614.27	4258633.12	0.68604	0.00012	0.00038	2.06038E-05	0.68604	0.00112	0.00038	1.45547E-04	0.00014	1.41E-03
523658.46	4258633.12	0.86102	0.00014	0.00037	2.00616E-05	0.86102	0.00141	0.00037	1.41717E-04	0.00016	1.72E-03
523702.65	4258633.12	1.0874	0.00018	0.00040	2.16882E-05	1.0874	0.00178	0.00040	1.53207E-04	0.00020	2.14E-03
523746.84	4258633.12	1.38583	0.00023	0.00047	2.54836E-05	1.38583	0.00227	0.00047	1.80019E-04	0.00026	2.71E-03
523791.03	4258633.12	1.74281	0.00029	0.00061	3.30745E-05	1.74281	0.00286	0.00061	2.33641E-04	0.00033	3.42E-03
523835.22	4258633.12	2.17542	0.00037	0.00098	5.31361E-05	2.17542	0.00357	0.00098	3.75358E-04	0.00042	4.36E-03
523879.41	4258633.12	2.68508	0.00045	0.00155	8.40418E-05	2.68508	0.00440	0.00155	5.93679E-04	0.00054	5.53E-03
523923.6	4258633.12	3.23859	0.00055	0.00057	3.09057E-05	3.23859	0.00531	0.00057	2.18321E-04	0.00058	6.10E-03
523967.79	4258633.12	3.8572	0.00065	0.00023	1.24707E-05	3.8572	0.00632	0.00023	8.80943E-05	0.00066	7.07E-03
524011.98	4258633.12	4.68702	0.00079	0.00012	6.50646E-06	4.68702	0.00768	0.00012	4.59622E-05	0.00080	8.53E-03
524056.17	4258633.12	5.73551	0.00097	0.00007	3.79543E-06	5.73551	0.00940	0.00007	2.68113E-05	0.00097	1.04E-02
524100.36	4258633.12	6.84881	0.00115	0.00005	2.71102E-06	6.84881	0.01123	0.00005	1.91509E-05	0.00116	1.24E-02
524144.55	4258633.12	7.68848	0.00129	0.00004	2.16882E-06	7.68848	0.01261	0.00004	1.53207E-05	0.00130	1.39E-02
524188.74	4258633.12	7.97573	0.00134	0.00003	1.62661E-06	7.97573	0.01308	0.00003	1.14906E-05	0.00134	1.44E-02
524232.93	4258633.12	7.37004	0.00124	0.00002	1.08441E-06	7.37004	0.01208	0.00002	7.66037E-06	0.00124	1.33E-02
523481.7	4258677.59	0.29831	0.00005	0.00015	8.13307E-06	0.29831	0.00049	0.00015	5.74528E-05	0.00006	6.05E-04
523525.89	4258677.59	0.39417	0.00007	0.00021	1.13863E-05	0.39417	0.00065	0.00021	8.04339E-05	0.00008	8.04E-04
523570.08	4258677.59	0.53876	0.00009	0.00021	1.13863E-05	0.53876	0.00088	0.00021	8.04339E-05	0.00010	1.07E-03
523614.27	4258677.59	0.714	0.00012	0.00024	1.30129E-05	0.714	0.00117	0.00024	9.19245E-05	0.00013	1.40E-03
523658.46	4258677.59	0.93446	0.00016	0.00023	1.24707E-05	0.93446	0.00153	0.00023	8.80943E-05	0.00017	1.79E-03
523702.65	4258677.59	1.21383	0.00020	0.00026	1.40973E-05	1.21383	0.00199	0.00026	9.95848E-05	0.00022	2.31E-03
523746.84	4258677.59	1.58352	0.00027	0.00032	1.73506E-05	1.58352	0.00260	0.00032	1.22566E-04	0.00028	3.00E-03
523791.03	4258677.59	2.0286	0.00034	0.00049	2.65680E-05	2.0286	0.00333	0.00049	1.87679E-04	0.00037	3.88E-03
523835.22	4258677.59	2.54004	0.00043	0.00129	6.99444E-05	2.54004	0.00416	0.00129	4.94094E-04	0.00050	5.16E-03
523879.41	4258677.59	3.12075	0.00053	0.00137	7.42821E-05	3.12075	0.00512	0.00137	5.24735E-04	0.00060	6.24E-03
523923.6	4258677.59	3.76709	0.00063	0.00043	2.33148E-05	3.76709	0.00618	0.00043	1.64698E-04	0.00066	7.00E-03
523967.79	4258677.59	4.60453	0.00077	0.00019	1.03019E-05	4.60453	0.00755	0.00019	7.27735E-05	0.00079	8.41E-03
524011.98	4258677.59	5.80779	0.00098	0.00011	5.96425E-06	5.80779	0.00952	0.00011	4.21320E-05	0.00098	1.05E-02
524056.17	4258677.59	7.42159	0.00125	0.00007	3.79543E-06	7.42159	0.01217	0.00007	2.68113E-05	0.00125	1.34E-02
524100.36	4258677.59	9.12031	0.00153	0.00005	2.71102E-06	9.12031	0.01495	0.00005	1.91509E-05	0.00154	1.65E-02
524144.55	4258677.59	10.19371	0.00172	0.00004	2.16882E-06	10.19371	0.01671	0.00004	1.53207E-05	0.00172	1.84E-02
523481.7	4258722.06	0.31278	0.00005	0.00009	4.87984E-06	0.31278	0.00051	0.00009	3.44717E-05	0.00006	6.05E-04
523525.89	4258722.06	0.40308	0.00007	0.00013	7.04866E-06	0.40308	0.00066	0.00013	4.97924E-05	0.00007	7.86E-04
523570.08	4258722.06	0.54333	0.00009	0.00016	8.67528E-06	0.54333	0.00089	0.00016	6.12830E-05	0.00010	1.05E-03
523614.27	4258722.06	0.75373	0.00013	0.00017	9.21748E-06	0.75373	0.00124	0.00017	6.51132E-05	0.00014	1.44E-03
523658.46	4258722.06	1.03552	0.00017	0.00017	9.21748E-06	1.03552	0.00170	0.00017	6.51132E-05	0.00018	1.95E-03
523702.65	4258722.06	1.4041	0.00024	0.00020	1.08441E-05	1.4041	0.00230	0.00020	7.66037E-05	0.00025	2.63E-03
523746.84	4258722.06	1.87987	0.00032	0.00030	1.62661E-05	1.87987	0.00308	0.00030	1.14906E-04	0.00033	3.53E-03
523791.03	4258722.06	2.45262	0.00041	0.00067	3.63277E-05	2.45262	0.00402	0.00067	2.56622E-04	0.00045	4.73E-03
523481.7	4258766.53	0.33086	0.00006	0.00007	3.79543E-06	0.33086	0.00054	0.00007	2.68113E-05	0.00006	6.29E-04
523525.89	4258766.53	0.42202	0.00007	0.00010	5.42205E-06	0.42202	0.00069	0.00010	3.83019E-05	0.00008	8.07E-04
523570.08	4258766.53	0.56192	0.00009	0.00012	6.50646E-06	0.56192	0.00092	0.00012	4.59622E-05	0.00010	1.07E-03
523614.27	4258766.53	0.80018	0.00013	0.00013	7.04866E-06	0.80018	0.00131	0.00013	4.97924E-05	0.00014	1.50E-03
523658.46	4258766.53	1.14591	0.00019	0.00016	8.67528E-06	1.14591	0.00188	0.00016	6.12830E-05	0.00020	2.14E-03
523702.65	4258766.53	1.61529	0.00027	0.00021	1.13863E-05	1.61529	0.00265	0.00021	8.04339E-05	0.00028	3.01E-03
523746.84	4258766.53	2.25975	0.00038	0.00036	1.95194E-05	2.25975	0.00371	0.00036	1.37887E-04	0.00040	4.24E-03
523791.03	4258766.53	3.03113	0.00051	0.00124	6.72334E-05	3.03113	0.00497	0.00124	4.74943E-04	0.00058	6.02E-03
523481.7	4258811	0.35153	0.00006	0.00006	3.25323E-06	0.35153	0.00058	0.00006	2.29811E-05	0.00006	6.62E-04
523525.89	4258811	0.45261	0.00008	0.00008	4.33764E-06	0.45261	0.00074	0.00008	3.06415E-05	0.00008	8.53E-04
523570.08	4258811	0.59948	0.00010	0.00010	5.42205E-06	0.59948	0.00098	0.00010	3.83019E-05	0.00011	1.13E-03
523614.27	4258811	0.8532	0.00014	0.00012	6.50646E-06	0.8532	0.00140	0.00012	4.59622E-05	0.00015	1.59E-03
523658.46	4258811	1.26489	0.00021	0.00015	8.13307E-06	1.26489	0.00207	0.00015	5.74528E-05	0.00022	2.35E-03
523702.65	4258811	1.88815	0.00032	0.00025	1.35551E-05	1.88815	0.00310	0.00025	9.57547E-05	0.00033	3.52E-03
523746.84	4258811	2.83881	0.00048	0.00054	2.92791E-05	2.83881	0.00465	0.00054	2.06830E-04	0.00051	5.37E-03
523791.03	4258811	3.96259	0.00067	0.00138	7.48243E-05	3.96259	0.00650	0.00138	5.28566E-04	0.00074	7.77E-03
523481.7	4258855.47	0.36344	0.00006	0.00005	2.71102E-06	0.36344	0.00060	0.00005	1.91509E-05	0.00006	6.79E-04
523525.89	4258855.47	0.47473	0.00008	0.00007	3.79543E-06	0.47473	0.00078	0.00007	2.68113E-05	0.00008	8.89E-04
523570.08	4258855.47	0.63538	0.00011	0.00009	4.87984E-06	0.63538	0.00104	0.00009	3.44717E-05	0.00011	1.19E-03
523614.27	4258855.47	0.91924	0.00015	0.00011	5.96425E-06	0.91924	0.00151	0.00011	4.21320E-05	0.00016	1.71E-03
523658.46	4258855.47	1.42539	0.00024	0.00017	9.21748E-06	1.42539	0.00234	0.00017	6.51132E-05	0.00025	2.65E-03
523702.65	4258855.47	2.31758	0.00039	0.00035	1.89772E-05	2.31758	0.00380	0.00035	1.34057E-04	0.00041	4.34E-03
523746.84	4258855.47	3.76265	0.00063	0.00102	5.53049E-05	3.76265	0.00617	0.00102	3.90679E-04	0.00069	7.25E-03
523791.03	4258855.47	5.49492	0.00092	0.00118	6.39802E-05	5.49492	0.00901	0.00118	4.51962E-04	0.00099	1.05E-02
523481.7	4258899.94	0.36269	0.00006	0.00005	2.71102E-06	0.36269	0.00059	0.00005	1.91509E-05	0.00006	6.78E-04
523525.89	4258899.94	0.47205	0.00008	0.00006	3.25323E-06	0.47205	0.00077	0.00006	2.29811E-05	0.00008	8.80E-04
523570.08	4258899.94	0.64955	0.00011	0.00008	4.33764E-06	0.64955	0.00106	0.00008	3.06415E-05	0.00011	1.21E-03
523614.27	4258899.94	0.9641	0.00016	0.00011	5.96425E-06	0.9641	0.00158	0.00011	4.21320E-05	0.00017	1.79E-03
523658.46	4258899.94	1.59355	0.00027	0.00020	1.08441E-05	1.59355	0.00261	0.00020	7.66037E-05	0.00028	2.97E-03
523702.65	4258899.94	2.88514	0.00049	0.00078	4.22920E-05	2.88514	0.00473	0.00078	2.98755E-04	0.00053	5.56E-03
523746.84	4258899.94	5.42529	0.00091	0.00124	6.72334E-05	5.42529	0.00890	0.00124	4.74943E-04	0.00098	1.04E-02
523481.7	4258944.41	0.37233	0.00006	0.00005	2.71102E-06	0.37233	0.00061	0.00005	1.91509E-05	0.00007	6.95E-04
523525.89	4258944.41	0.47695	0.00008	0.00006	3.25323E-06	0.47695	0.00078	0.00006	2.29811E-05	0.00008	8.89E-04
523570.08	4258944.41	0.65339	0.00011	0.00008	4.33764E-06	0.65339	0.00107	0.00008	3.06415E-05	0.00011	1.22E-03
523614.27	4258944.41	0.98092	0.00017	0.00011	5.96425E-06	0.98092	0.00161	0.00011	4.21320E-05	0.00017	1.82E-03
523702.65	4258944.41	3.71775	0.00063	0.00067	3.63277E-05	3.71775	0.00610	0.00067	2.56622E-04	0.00066	7.01E-03
523746.84	4258944.41	9.35123	0.00157	0.00119	6.45224E-05	9.35123	0.01533	0.00119	4.55792E-04	0.00164	1.74E-02
523481.7	4258988.88	0.41749	0.00007	0.00004	2.16882E-06	0.41749	0.00068	0.00004	1.53207E-05	0.00007	7.72E-04
523525.89	4258988.88	0.52332	0.00009	0.00005	2.71102E-06	0.52332	0.00086	0.00005	1.91509E-05	0.00009	9.68E-04
523570.08	4258988.88	0.70048	0.00012	0.00007	3.79543E-06	0.70048	0.00115	0.00007	2.68113E-05	0.00012	1.30E-03
523614.27	4258988.88	1.04089	0.00018	0.00012	6.50646E-06	1.04089	0.00171	0.00012	4.59622E-05	0.00018	1.93E-03
523702.65	4258988.88	5.09636	0.00086	0.00118	6.39802E-05	5.09636	0.00836	0.00118	4.51962E-04	0.00092	9.73E-03
523481.7	4259033.35	0.47905	0.00008	0.00004	2.16882E-06	0.47905	0.00079	0.00004	1.53207E-05	0.00008	8.84E-04
523525.89	4259033.35	0.60432	0.00010	0.00005	2.71102E-06	0.60432	0.00099	0.00005	1.91509E-05	0.00010	1.11E-03
523570.08	4259033.35	0.81377	0.00014	0.00008	4.33764E-06	0.81377	0.00133	0.00008	3.06415E-05	0.00014	1.51E-03
523614.27	4259033.35	1.22782	0.00021	0.00013	7.04866E-06	1.22782	0.00201	0.00013	4.97924E-05	0.00021	2.28E-03
523481.7	4259077.82	0.5377	0.00009	0.00004	2.16882E-06	0.5377	0.00088	0.00004	1.53207E-05	0.00009	9.90E-04
523525.89	4259077.82	0.71023	0.00012	0.00005	2.71102E-06	0.71023	0.00116	0.00005	1.91509E-05	0.00012	1.31E-03
523570.08	4259077.82	1.01873	0.00017	0.00007	3.79543E-06	1.01873	0.00167	0.00007	2.68113E-05	0.00018	1.87E-03
523614.27	4259077.82	1.71891	0.00029	0.00011	5.96425E-06	1.71891	0.00282	0.00011	4.21320E-05	0.00030	3.16E-03
523481.7	4259122.29	0.60096	0.00010	0.00004	2.16882E-06	0.60096	0.00099	0.00004	1.53207E-05	0.00010	1.10E-03
523525.89	4259122.29	0.8497	0.00014	0.00005	2.71102E-06	0.8497	0.00139	0.00005	1.91509E-05	0.00015	1.56E-03
523570.08	4259122.29	1.33141	0.00022	0.00007	3.79543E-06	1.33141	0.00218	0.00007	2.68113E-05	0.00023	2.44E-03
523614.27	4259122.29	2.52575	0.00043	0.00009	4.87984E-06	2.52575	0.00414	0.00009	3.44717E-05	0.00043	4.61E-03
523481.7	4259166.76	0.68755	0.00012	0.00004	2.16882E-06	0.68755	0.00113	0.00004	1.53207E-05	0.00012	1.26E-03
523525.89	4259166.76	1.04676	0.00018	0.00005	2.71102E-06	1.04676	0.00172	0.00005	1.91509E-05	0.00018	1.91E-03
523570.08	4259166.76	1.77061	0.00030	0.00006	3.25323E-06	1.77061	0.00290	0.00006	2.29811E-05	0.00030	3.23E-03
523614.27	4259166.76	3.41015	0.00057	0.00008	4.33764E-06	3.41015	0.00559	0.00008	3.06415E-05	0.00058	6.20E-03
524232.93	4259166.76	5.835	0.00098	0.00002	1.08441E-06	5.835	0.00957	0.00002	7.66037E-06	0.00098	1.06E-02
524277.12	4259166.76	4.23132	0.00071	0.00001	5.42205E-07	4.23132	0.00694	0.00001	3.83019E-06	0.00071	7.65E-03
524321.31	4259166.76	2.91399	0.00049	0.00001	5.42205E-07	2.91399	0.00478	0.00001	3.83019E-06	0.00049	5.27E-03
523481.7	4259211.23	0.87225	0.00015	0.00003	1.62661E-06	0.87225	0.00143	0.00003	1.14906E-05	0.00015	1.59E-03
523525.89	4259211.23	1.34795	0.00023	0.00004	2.16882E-06	1.34795	0.00221	0.00004	1.53207E-05	0.00023	2.45E-03
523570.08	4259211.23	2.25962	0.00038	0.00005	2.71102E-06	2.25962	0.00370	0.00005	1.91509E-05	0.00038	4.11E-03
523614.27	4259211.23	3.93409	0.00066	0.00006	3.25323E-06	3.93409	0.00645	0.00006	2.29811E-05	0.00067	7.14E-03
523658.46	4259211.23	6.46095	0.00109	0.00007	3.79543E-06	6.46095	0.01059	0.00007	2.68113E-05	0.00109	1.17E-02
523702.65	4259211.23	10.33553	0.00174	0.00008	4.33764E-06	10.33553	0.01695	0.00008	3.06415E-05	0.00174	1.87E-02
523746.84	4259211.23	15.28164	0.00257	0.00009	4.87984E-06	15.28164	0.02506	0.00009	3.44717E-05	0.00258	2.77E-02
523791.03	4259211.23	18.642	0.00314	0.00008	4.33764E-06	18.642	0.03057	0.00008	3.06415E-05	0.00314	3.37E-02
523835.22	4259211.23	18.06213	0.00304	0.00007	3.79543E-06	18.06213	0.02961	0.00007	2.68113E-05	0.00304	3.27E-02
524144.55	4259211.23	7.14419	0.00120	0.00002	1.08441E-06	7.14419	0.01171	0.00002	7.66037E-06	0.00120	1.29E-02
524188.74	4259211.23	6.24329	0.00105	0.00002	1.08441E-06	6.24329	0.01024	0.00002	7.66037E-06	0.00105	1.13E-02
524232.93	4259211.23	4.76011	0.00080	0.00001	5.42205E-07	4.76011	0.00780	0.00001	3.83019E-06	0.00080	8.61E-03
524277.12	4259211.23	3.48118	0.00059	0.00001	5.42205E-07	3.48118	0.00571	0.00001	3.83019E-06	0.00059	6.30E-03
524321.31	4259211.23	2.63009	0.00044	0.00001	5.42205E-07	2.63009	0.00431	0.00001	3.83019E-06	0.00044	4.76E-03
523481.7	4259255.7	1.07706	0.00018	0.00003	1.62661E-06	1.07706	0.00177	0.00003	1.14906E-05	0.00018	1.96E-03
523525.89	4259255.7	1.60532	0.00027	0.00004	2.16882E-06	1.60532	0.00263	0.00004	1.53207E-05	0.00027	2.92E-03
523570.08	4259255.7	2.49252	0.00042	0.00005	2.71102E-06	2.49252	0.00409	0.00005	1.91509E-05	0.00042	4.53E-03
523614.27	4259255.7	3.75891	0.00063	0.00005	2.71102E-06	3.75891	0.00616	0.00005	1.91509E-05	0.00064	6.82E-03
523658.46	4259255.7	5.42052	0.00091	0.00006	3.25323E-06	5.42052	0.00889	0.00006	2.29811E-05	0.00092	9.83E-03
523702.65	4259255.7	7.65091	0.00129	0.00007	3.79543E-06	7.65091	0.01254	0.00007	2.68113E-05	0.00129	1.39E-02
523746.84	4259255.7	10.32378	0.00174	0.00007	3.79543E-06	10.32378	0.01693	0.00007	2.68113E-05	0.00174	1.87E-02
523791.03	4259255.7	12.26052	0.00206	0.00007	3.79543E-06	12.26052	0.02010	0.00007	2.68113E-05	0.00207	2.22E-02
523835.22	4259255.7	12.74914	0.00215	0.00006	3.25323E-06	12.74914	0.02090	0.00006	2.29811E-05	0.00215	2.31E-02
523879.41	4259255.7	12.63056	0.00213	0.00005	2.71102E-06	12.63056	0.02071	0.00005	1.91509E-05	0.00213	2.29E-02
523923.6	4259255.7	12.22517	0.00206	0.00004	2.16882E-06	12.22517	0.02004	0.00004	1.53207E-05	0.00206	2.21E-02
523967.79	4259255.7	11.36764	0.00191	0.00003	1.62661E-06	11.36764	0.01864	0.00003	1.14906E-05	0.00191	2.06E-02
524011.98	4259255.7	9.75888	0.00164	0.00003	1.62661E-06	9.75888	0.01600	0.00003	1.14906E-05	0.00164	1.77E-02
524056.17	4259255.7	8.37124	0.00141	0.00002	1.08441E-06	8.37124	0.01373	0.00002	7.66037E-06	0.00141	1.51E-02
524100.36	4259255.7	6.95563	0.00117	0.00002	1.08441E-06	6.95563	0.01140	0.00002	7.66037E-06	0.00117	1.26E-02
524144.55	4259255.7	5.91155	0.00099	0.00002	1.08441E-06	5.91155	0.00969	0.00002	7.66037E-06	0.00100	1.07E-02
524188.74	4259255.7	4.9491	0.00083	0.00001	5.42205E-07	4.9491	0.00811	0.00001	3.83019E-06	0.00083	8.95E-03
524232.93	4259255.7	3.74249	0.00063	0.00001	5.42205E-07	3.74249	0.00614	0.00001	3.83019E-06	0.00063	6.77E-03
524277.12	4259255.7	2.75749	0.00046	0.00001	5.42205E-07	2.75749	0.00452	0.00001	3.83019E-06	0.00046	4.99E-03
524321.31	4259255.7	2.20105	0.00037	0.00001	5.42205E-07	2.20105	0.00361	0.00001	3.83019E-06	0.00037	3.98E-03
523481.7	4259300.17	1.21499	0.00020	0.00003	1.62661E-06	1.21499	0.00199	0.00003	1.14906E-05	0.00021	2.21E-03
523525.89	4259300.17	1.70813	0.00029	0.00004	2.16882E-06	1.70813	0.00280	0.00004	1.53207E-05	0.00029	3.11E-03
523570.08	4259300.17	2.41406	0.00041	0.00004	2.16882E-06	2.41406	0.00396	0.00004	1.53207E-05	0.00041	4.38E-03
523614.27	4259300.17	3.34814	0.00056	0.00005	2.71102E-06	3.34814	0.00549	0.00005	1.91509E-05	0.00057	6.07E-03
523658.46	4259300.17	4.49649	0.00076	0.00005	2.71102E-06	4.49649	0.00737	0.00005	1.91509E-05	0.00076	8.15E-03
523702.65	4259300.17	6.00509	0.00101	0.00006	3.25323E-06	6.00509	0.00985	0.00006	2.29811E-05	0.00101	1.09E-02
523746.84	4259300.17	7.7946	0.00131	0.00006	3.25323E-06	7.7946	0.01278	0.00006	2.29811E-05	0.00131	1.41E-02
523791.03	4259300.17	9.15058	0.00154	0.00006	3.25323E-06	9.15058	0.01500	0.00006	2.29811E-05	0.00154	1.66E-02
523835.22	4259300.17	9.79213	0.00165	0.00005	2.71102E-06	9.79213	0.01606	0.00005	1.91509E-05	0.00165	1.77E-02
523879.41	4259300.17	10.1089	0.00170	0.00004	2.16882E-06	10.1089	0.01657	0.00004	1.53207E-05	0.00170	1.83E-02
523923.6	4259300.17	9.61961	0.00162	0.00004	2.16882E-06	9.61961	0.01577	0.00004	1.53207E-05	0.00162	1.74E-02
523967.79	4259300.17	8.93048	0.00150	0.00003	1.62661E-06	8.93048	0.01464	0.00003	1.14906E-05	0.00150	1.62E-02
524011.98	4259300.17	7.56498	0.00127	0.00002	1.08441E-06	7.56498	0.01240	0.00002	7.66037E-06	0.00127	1.37E-02
524056.17	4259300.17	6.64698	0.00112	0.00002	1.08441E-06	6.64698	0.01090	0.00002	7.66037E-06	0.00112	1.20E-02
524100.36	4259300.17	5.73651	0.00097	0.00002	1.08441E-06	5.73651	0.00941	0.00002	7.66037E-06	0.00097	1.04E-02
524144.55	4259300.17	4.92379	0.00083	0.00002	1.08441E-06	4.92379	0.00807	0.00002	7.66037E-06	0.00083	8.91E-03
524188.74	4259300.17	4.02069	0.00068	0.00001	5.42205E-07	4.02069	0.00659	0.00001	3.83019E-06	0.00068	7.27E-03
524232.93	4259300.17	3.08605	0.00052	0.00001	5.42205E-07	3.08605	0.00506	0.00001	3.83019E-06	0.00052	5.58E-03
524277.12	4259300.17	2.37375	0.00040	0.00001	5.42205E-07	2.37375	0.00389	0.00001	3.83019E-06	0.00040	4.30E-03
524321.31	4259300.17	1.89921	0.00032	0.00001	5.42205E-07	1.89921	0.00311	0.00001	3.83019E-06	0.00032	3.44E-03
523481.7	4259344.64	1.28503	0.00022	0.00003	1.62661E-06	1.28503	0.00211	0.00003	1.14906E-05	0.00022	2.34E-03
523525.89	4259344.64	1.6993	0.00029	0.00003	1.62661E-06	1.6993	0.00279	0.00003	1.14906E-05	0.00029	3.09E-03
523570.08	4259344.64	2.2477	0.00038	0.00004	2.16882E-06	2.2477	0.00369	0.00004	1.53207E-05	0.00038	4.08E-03
523614.27	4259344.64	2.96888	0.00050	0.00004	2.16882E-06	2.96888	0.00487	0.00004	1.53207E-05	0.00050	5.38E-03
523658.46	4259344.64	3.89409	0.00066	0.00004	2.16882E-06	3.89409	0.00638	0.00004	1.53207E-05	0.00066	7.06E-03
523702.65	4259344.64	4.9253	0.00083	0.00005	2.71102E-06	4.9253	0.00808	0.00005	1.91509E-05	0.00083	8.93E-03
523746.84	4259344.64	6.1603	0.00104	0.00005	2.71102E-06	6.1603	0.01010	0.00005	1.91509E-05	0.00104	1.12E-02
523791.03	4259344.64	7.23646	0.00122	0.00005	2.71102E-06	7.23646	0.01186	0.00005	1.91509E-05	0.00122	1.31E-02
523835.22	4259344.64	7.80256	0.00131	0.00004	2.16882E-06	7.80256	0.01279	0.00004	1.53207E-05	0.00132	1.41E-02
523879.41	4259344.64	7.96877	0.00134	0.00004	2.16882E-06	7.96877	0.01307	0.00004	1.53207E-05	0.00134	1.44E-02
523923.6	4259344.64	7.61647	0.00128	0.00003	1.62661E-06	7.61647	0.01249	0.00003	1.14906E-05	0.00128	1.38E-02
523967.79	4259344.64	7.18158	0.00121	0.00003	1.62661E-06	7.18158	0.01177	0.00003	1.14906E-05	0.00121	1.30E-02
524011.98	4259344.64	6.64443	0.00112	0.00002	1.08441E-06	6.64443	0.01089	0.00002	7.66037E-06	0.00112	1.20E-02
524056.17	4259344.64	6.08613	0.00102	0.00002	1.08441E-06	6.08613	0.00998	0.00002	7.66037E-06	0.00103	1.10E-02
524100.36	4259344.64	5.25219	0.00088	0.00002	1.08441E-06	5.25219	0.00861	0.00002	7.66037E-06	0.00088	9.50E-03
524144.55	4259344.64	4.25216	0.00072	0.00001	5.42205E-07	4.25216	0.00697	0.00001	3.83019E-06	0.00072	7.69E-03
524188.74	4259344.64	3.33524	0.00056	0.00001	5.42205E-07	3.33524	0.00547	0.00001	3.83019E-06	0.00056	6.03E-03
524232.93	4259344.64	2.65176	0.00045	0.00001	5.42205E-07	2.65176	0.00435	0.00001	3.83019E-06	0.00045	4.80E-03
524277.12	4259344.64	2.08054	0.00035	0.00001	5.42205E-07	2.08054	0.00341	0.00001	3.83019E-06	0.00035	3.77E-03
524321.31	4259344.64	1.69669	0.00029	0.00001	5.42205E-07	1.69669	0.00278	0.00001	3.83019E-06	0.00029	3.07E-03

Round Barn Village Project 2019 Tier IV Mitigation at Sensitive Receptors

Construction Annual DPM Emissions (as PM2.5 Exhaust)

Annual Average Onsite DPM Exhaust Emission Rate: 3.19982E-08 grams/m2/sec

Annual Average Offsite DPM Exhaust Emission Rate: 8.22616E-05 grams/sec

Annual Average Onsite DPM Fugitive Emission Rate: 0.00000E+00 grams/m2/sec

Annual Average Offsite DPM Fugitive Emission Rate: 0.000556191 grams/sec

X (m)	Y (m)	Onsite Annual DPM Exhaust w/Unit Emissions (ug/m3)	Onsite Annual DPM Exhaust w/Actual Emissions (ug/m3)	Offsite Annual DPM Exhaust w/Unit Emissions (ug/m3)	Offsite Annual DPM Exhaust w/Actual Emissions (ug/m3)	Onsite Annual DPM Fugitive w/Unit Emissions (ug/m3)	Onsite Annual DPM Fugitive w/Actual Emissions (ug/m3)	Offsite Annual DPM Fugitive w/Unit Emissions (ug/m3)	Offsite Annual DPM Fugitive w/Actual Emissions (ug/m3)	Total DPM Exhaust (ug/m3)	Total PM2.5 (ug/m3)
523481.7	4258499.71	0.31936	0.00010	0.00007	5.75831E-05	0.00010219	0.00000	0.00006	3.20272E-04	0.00016	4.80045E-04
523525.89	4258499.71	0.40238	0.00013	0.00015	1.23392E-04	0.000128754	0.00000	0.00012	6.86297E-04	0.00025	9.38444E-04
523570.08	4258499.71	0.49882	0.00016	0.00031	2.55011E-04	0.000159614	0.00000	0.00026	1.41835E-03	0.00041	1.83297E-03
523614.27	4258499.71	0.59895	0.00019	0.00054	4.44212E-04	0.000191653	0.00000	0.00044	2.47067E-03	0.00064	3.10654E-03
523658.46	4258499.71	0.70947	0.00023	0.00092	7.56806E-04	0.000227018	0.00000	0.00076	4.20929E-03	0.00098	5.19311E-03
523702.65	4258499.71	0.85151	0.00027	0.00079	6.49866E-04	0.000272468	0.00000	0.00065	3.61450E-03	0.00092	4.53683E-03
523746.84	4258499.71	1.0326	0.00033	0.00058	4.77117E-04	0.000330414	0.00000	0.00048	2.65368E-03	0.00081	3.46121E-03
523791.03	4258499.71	1.25476	0.00040	0.00044	3.61951E-04	0.000401501	0.00000	0.00036	2.01314E-03	0.00076	2.77659E-03
523835.22	4258499.71	1.53204	0.00049	0.00036	2.96142E-04	0.000490226	0.00000	0.00030	1.64711E-03	0.00079	2.43348E-03
523879.41	4258499.71	1.87051	0.00060	0.00030	2.46785E-04	0.00059853	0.00000	0.00025	1.37259E-03	0.00085	2.21791E-03
523923.6	4258499.71	2.23062	0.00071	0.00027	2.22106E-04	0.000713759	0.00000	0.00022	1.23533E-03	0.00094	2.17120E-03
523967.79	4258499.71	2.63167	0.00084	0.00015	1.23392E-04	0.000842088	0.00000	0.00012	6.86297E-04	0.00097	1.65178E-03
524011.98	4258499.71	3.09199	0.00099	0.00010	8.22616E-05	0.000989382	0.00000	0.00008	4.57531E-04	0.00107	1.52918E-03
524056.17	4258499.71	3.55567	0.00114	0.00007	5.75831E-05	0.001137751	0.00000	0.00006	3.20272E-04	0.00120	1.51561E-03
524100.36	4258499.71	3.99326	0.00128	0.00005	4.11308E-05	0.001277773	0.00000	0.00004	2.28766E-04	0.00132	1.54767E-03
524144.55	4258499.71	4.43525	0.00142	0.00003	2.46785E-05	0.001419202	0.00000	0.00002	1.37259E-04	0.00144	1.58114E-03
524188.74	4258499.71	4.64905	0.00149	0.00002	1.64523E-05	0.001487614	0.00000	0.00002	9.15063E-05	0.00150	1.59557E-03
524232.93	4258499.71	4.56394	0.00146	0.00002	1.64523E-05	0.00146038	0.00000	0.00002	9.15063E-05	0.00148	1.56834E-03
523481.7	4258544.18	0.31138	0.00010	0.00010	8.22616E-05	9.96361E-05	0.00000	0.00008	4.57531E-04	0.00018	6.39429E-04
523525.89	4258544.18	0.40069	0.00013	0.00033	2.71463E-04	0.000128214	0.00000	0.00027	1.50985E-03	0.00040	1.90953E-03
523570.08	4258544.18	0.50845	0.00016	0.00090	7.40354E-04	0.000162695	0.00000	0.00074	4.11778E-03	0.00090	5.02083E-03
523614.27	4258544.18	0.62648	0.00020	0.00071	5.84057E-04	0.000200463	0.00000	0.00058	3.24847E-03	0.00078	4.03299E-03
523658.46	4258544.18	0.75436	0.00024	0.00183	1.50539E-03	0.000241382	0.00000	0.00151	8.37282E-03	0.00175	1.01196E-02
523702.65	4258544.18	0.91727	0.00029	0.00065	5.34700E-04	0.00029351	0.00000	0.00053	2.97395E-03	0.00083	3.80216E-03
523746.84	4258544.18	1.127	0.00036	0.00061	5.01796E-04	0.00036062	0.00000	0.00050	2.79094E-03	0.00086	3.65336E-03
523791.03	4258544.18	1.37854	0.00044	0.00097	7.97937E-04	0.000441108	0.00000	0.00080	4.43805E-03	0.00124	5.67710E-03
523835.22	4258544.18	1.70215	0.00054	0.00062	5.10022E-04	0.000544658	0.00000	0.00051	2.83669E-03	0.00105	3.89137E-03
523879.41	4258544.18	2.09515	0.00067	0.00051	4.19534E-04	0.000670411	0.00000	0.00042	2.33341E-03	0.00109	3.42335E-03
523923.6	4258544.18	2.52187	0.00081	0.00035	2.87916E-04	0.000806954	0.00000	0.00029	1.60136E-03	0.00109	2.69623E-03
523967.79	4258544.18	2.9964	0.00096	0.00017	1.39845E-04	0.000958795	0.00000	0.00014	7.77803E-04	0.00110	1.87644E-03
524011.98	4258544.18	3.53801	0.00113	0.00010	8.22616E-05	0.001132101	0.00000	0.00008	4.57531E-04	0.00121	1.67189E-03
524056.17	4258544.18	4.10825	0.00131	0.00006	4.93569E-05	0.001314567	0.00000	0.00005	2.74519E-04	0.00136	1.63844E-03
524100.36	4258544.18	4.77426	0.00153	0.00004	3.29046E-05	0.001527679	0.00000	0.00003	1.83013E-04	0.00156	1.74360E-03
524144.55	4258544.18	5.39352	0.00173	0.00003	2.46785E-05	0.001725831	0.00000	0.00002	1.37259E-04	0.00175	1.88777E-03
524188.74	4258544.18	5.85066	0.00187	0.00002	1.64523E-05	0.001872108	0.00000	0.00002	9.15063E-05	0.00189	1.98007E-03
524232.93	4258544.18	5.42228	0.00174	0.00002	1.64523E-05	0.001735034	0.00000	0.00002	9.15063E-05	0.00175	1.84299E-03
523481.7	4258588.65	0.30273	0.00010	0.00015	1.23392E-04	9.68682E-05	0.00000	0.00012	6.86297E-04	0.00022	9.06558E-04
523525.89	4258588.65	0.3961	0.00013	0.00038	3.12594E-04	0.000126745	0.00000	0.00031	1.73862E-03	0.00044	2.17796E-03
523570.08	4258588.65	0.51594	0.00017	0.00109	8.96651E-04	0.000165092	0.00000	0.00090	4.98709E-03	0.00106	6.04883E-03
523614.27	4258588.65	0.65266	0.00021	0.00099	8.14390E-04	0.00020884	0.00000	0.00081	4.52956E-03	0.00102	5.55279E-03
523658.46	4258588.65	0.80298	0.00026	0.00070	5.75831E-04	0.000256939	0.00000	0.00058	3.20272E-03	0.00083	4.03549E-03
523702.65	4258588.65	0.99451	0.00032	0.00074	6.08736E-04	0.000318226	0.00000	0.00061	3.38573E-03	0.00093	4.31269E-03
523746.84	4258588.65	1.23722	0.00040	0.00106	8.71973E-04	0.000395889	0.00000	0.00087	4.84983E-03	0.00127	6.11769E-03
523791.03	4258588.65	1.53399	0.00049	0.00147	1.20925E-03	0.00049085	0.00000	0.00121	6.72571E-03	0.00170	8.42581E-03
523835.22	4258588.65	1.8981	0.00061	0.00068	5.59379E-04	0.000607358	0.00000	0.00056	3.11121E-03	0.00117	4.27795E-03
523879.41	4258588.65	2.34565	0.00075	0.00118	9.70687E-04	0.000750567	0.00000	0.00097	5.39887E-03	0.00172	7.12012E-03
523923.6	4258588.65	2.84915	0.00091	0.00049	4.03082E-04	0.000911678	0.00000	0.00040	2.24190E-03	0.00131	3.55666E-03
523967.79	4258588.65	3.36493	0.00108	0.00020	1.64523E-04	0.001076718	0.00000	0.00016	9.15063E-04	0.00124	2.15630E-03
524011.98	4258588.65	4.00087	0.00128	0.00011	9.04877E-05	0.001280208	0.00000	0.00009	5.03284E-04	0.00137	1.87398E-03
524056.17	4258588.65	4.79642	0.00153	0.00007	5.75831E-05	0.00153477	0.00000	0.00006	3.20272E-04	0.00159	1.91262E-03
524100.36	4258588.65	5.70791	0.00183	0.00004	3.29046E-05	0.00182643	0.00000	0.00003	1.83013E-04	0.00186	2.04235E-03
524144.55	4258588.65	6.46743	0.00207	0.00003	2.46785E-05	0.002069463	0.00000	0.00002	1.37259E-04	0.00209	2.23140E-03
524188.74	4258588.65	6.73179	0.00215	0.00002	1.64523E-05	0.002154054	0.00000	0.00002	9.15063E-05	0.00217	2.26201E-03
524232.93	4258588.65	6.32139	0.00202	0.00002	1.64523E-05	0.002022733	0.00000	0.00002	9.15063E-05	0.00204	2.13069E-03
523481.7	4258633.12	0.29526	0.00009	0.00022	1.80975E-04	9.4478E-05	0.00000	0.00018	1.00657E-03	0.00028	1.28202E-03
523525.89	4258633.12	0.39229	0.00013	0.00059	4.85343E-04	0.000125526	0.00000	0.00049	2.69943E-03	0.00061	3.31030E-03
523570.08	4258633.12	0.52667	0.00017	0.00044	3.61951E-04	0.000168525	0.00000	0.00036	2.01314E-03	0.00053	2.54361E-03
523614.27	4258633.12	0.68604	0.00022	0.00038	3.12594E-04	0.000219521	0.00000	0.00031	1.73862E-03	0.00053	2.27073E-03
523658.46	4258633.12	0.86102	0.00028	0.00037	3.04368E-04	0.000275511	0.00000	0.00030	1.69287E-03	0.00058	2.27274E-03
523702.65	4258633.12	1.0874	0.00035	0.00040	3.29046E-04	0.000347949	0.00000	0.00033	1.83013E-03	0.00068	2.50712E-03
523746.84	4258633.12	1.38583	0.00044	0.00047	3.86629E-04	0.000443441	0.00000	0.00039	2.15040E-03	0.00083	2.98047E-03
523791.03	4258633.12	1.74281	0.00056	0.00061	5.01796E-04	0.000557668	0.00000	0.00050	2.79094E-03	0.00106	3.85041E-03
523835.22	4258633.12	2.17542	0.00070	0.00098	8.06163E-04	0.000696096	0.00000	0.00081	4.48381E-03	0.00150	5.98607E-03
523879.41	4258633.12	2.68508	0.00086	0.00155	1.27505E-03	0.000859178	0.00000	0.00128	7.09174E-03	0.00213	9.22597E-03
523923.6	4258633.12	3.23859	0.00104	0.00057	4.68891E-04	0.001036292	0.00000	0.00047	2.60793E-03	0.00151	4.11311E-03
523967.79	4258633.12	3.8572	0.00123	0.00023	1.89202E-04	0.001234236	0.00000	0.00019	1.05232E-03	0.00142	2.47576E-03
524011.98	4258633.12	4.68702	0.00150	0.00012	9.87139E-05	0.001499763	0.00000	0.00010	5.49038E-04	0.00160	2.14751E-03
524056.17	4258633.12	5.73551	0.00184	0.00007	5.75831E-05	0.001835262	0.00000	0.00006	3.20272E-04	0.00189	2.21312E-03
524100.36	4258633.12	6.84881	0.00219	0.00005	4.11308E-05	0.002191498	0.00000	0.00004	2.28766E-04	0.00223	2.46139E-03
524144.55	4258633.12	7.68848	0.00246	0.00004	3.29046E-05	0.002460178	0.00000	0.00003	1.83013E-04	0.00249	2.67609E-03
524188.74	4258633.12	7.97573	0.00255	0.00003	2.46785E-05	0.002552092	0.00000	0.00002	1.37259E-04	0.00258	2.71403E-03
524232.93	4258633.12	7.37004	0.00236	0.00002	1.64523E-05	0.002358282	0.00000	0.00002	9.15063E-05	0.00237	2.46624E-03
523481.7	4258677.59	0.29831	0.00010	0.00015	1.23392E-04	9.54539E-05	0.00000	0.00012	6.86297E-04	0.00022	9.05143E-04
523525.89	4258677.59	0.39417	0.00013	0.00021	1.72749E-04	0.000126127	0.00000	0.00017	9.60816E-04	0.00030	1.25969E-03
523570.08	4258677.59	0.53876	0.00017	0.00021	1.72749E-04	0.000172394	0.00000	0.00017	9.60816E-04	0.00035	1.30596E-03
523614.27	4258677.59	0.714	0.00023	0.00024	1.97428E-04	0.000228467	0.00000	0.00020	1.09808E-03	0.00043	1.52397E-03
523658.46	4258677.59	0.93446	0.00030	0.00023	1.89202E-04	0.000299011	0.00000	0.00019	1.05232E-03	0.00049	1.54053E-03
523702.65	4258677.59	1.21383	0.00039	0.00026	2.13880E-04	0.000388404	0.00000	0.00021	1.18958E-03	0.00060	1.79187E-03
523746.84	4258677.59	1.58352	0.00051	0.00032	2.63237E-04	0.000506698	0.00000	0.00026	1.46410E-03	0.00077	2.23404E-03
523791.03	4258677.59	2.0286	0.00065	0.00049	4.03082E-04	0.000649116	0.00000	0.00040	2.24190E-03	0.00105	3.29410E-03
523835.22	4258677.59	2.54004	0.00081	0.00129	1.06117E-03	0.000812768	0.00000	0.00106	5.90215E-03	0.00187	7.77610E-03
523879.41	4258677.59	3.12075	0.00100	0.00137	1.12698E-03	0.000998585	0.00000	0.00113	6.26818E-03	0.00213	8.39375E-03
523923.6	4258677.59	3.76709	0.00121	0.00043	3.53725E-04	0.001205402	0.00000	0.00035	1.96738E-03	0.00156	3.52651E-03
523967.79	4258677.59	4.60453	0.00147	0.00019	1.56297E-04	0.001473368	0.00000	0.00016	8.69310E-04	0.00163	2.49897E-03
524011.98	4258677.59	5.80779	0.00186	0.00011	9.04877E-05	0.00185839	0.00000	0.00009	5.03284E-04	0.00195	2.45216E-03
524056.17	4258677.59	7.42159	0.00237	0.00007	5.75831E-05	0.002374777	0.00000	0.00006	3.20272E-04	0.00243	2.75263E-03
524100.36	4258677.59	9.12031	0.00292	0.00005	4.11308E-05	0.002918338	0.00000	0.00004	2.28766E-04	0.00296	3.18823E-03
524144.55	4258677.59	10.19371	0.00326	0.00004	3.29046E-05	0.003261807	0.00000	0.00003	1.83013E-04	0.00329	3.47772E-03
523481.7	4258722.06	0.31278	0.00010	0.00009	7.40354E-05	0.000100084	0.00000	0.00007	4.11778E-04	0.00017	5.85898E-04
523525.89	4258722.06	0.40308	0.00013	0.00013	1.06940E-04	0.000128978	0.00000	0.00011	5.94791E-04	0.00024	8.30709E-04
523570.08	4258722.06	0.54333	0.00017	0.00016	1.31619E-04	0.000173856	0.00000	0.00013	7.32050E-04	0.00031	1.03752E-03
523614.27	4258722.06	0.75373	0.00024	0.00017	1.39845E-04	0.00024118	0.00000	0.00014	7.77803E-04	0.00038	1.15883E-03
523658.46	4258722.06	1.03552	0.00033	0.00017	1.39845E-04	0.000331348	0.00000	0.00014	7.77803E-04	0.00047	1.24900E-03
523702.65	4258722.06	1.4041	0.00045	0.00020	1.64523E-04	0.000449287	0.00000	0.00016	9.15063E-04	0.00061	1.52887E-03
523746.84	4258722.06	1.87987	0.00060	0.00030	2.46785E-04	0.000601525	0.00000	0.00025	1.37259E-03	0.00085	2.22090E-03
523791.03	4258722.06	2.45262	0.00078	0.00067	5.51153E-04	0.000784795	0.00000	0.00055	3.06546E-03	0.00134	4.40141E-03
523481.7	4258766.53	0.33086	0.00011	0.00007	5.75831E-05	0.000105869	0.00000	0.00006	3.20272E-04	0.00016	4.83724E-04
523525.89	4258766.53	0.42202	0.00014	0.00010	8.22616E-05	0.000135039	0.00000	0.00008	4.57531E-04	0.00022	6.74832E-04
523570.08	4258766.53	0.56192	0.00018	0.00012	9.87139E-05	0.000179804	0.00000	0.00010	5.49038E-04	0.00028	8.27556E-04
523614.27	4258766.53	0.80018	0.00026	0.00013	1.06940E-04	0.000256043	0.00000	0.00011	5.94791E-04	0.00036	9.57774E-04
523658.46	4258766.53	1.14591	0.00037	0.00016	1.31619E-04	0.000366671	0.00000	0.00013	7.32050E-04	0.00050	1.23034E-03
523702.65	4258766.53	1.61529	0.00052	0.00021	1.72749E-04	0.000516864	0.00000	0.00017	9.60816E-04	0.00069	1.65043E-03
523746.84	4258766.53	2.25975	0.00072	0.00036	2.96142E-04	0.00072308	0.00000	0.00030	1.64711E-03	0.00102	2.66633E-03
523791.03	4258766.53	3.03113	0.00097	0.00124	1.02004E-03	0.000969908	0.00000	0.00102	5.67339E-03	0.00199	7.66334E-03
523481.7	4258811	0.35153	0.00011	0.00006	4.93569E-05	0.000112483	0.00000	0.00005	2.74519E-04	0.00016	4.36359E-04
523525.89	4258811	0.45261	0.00014	0.00008	6.58093E-05	0.000144827	0.00000	0.00007	3.66025E-04	0.00021	5.76662E-04
523570.08	4258811	0.59948	0.00019	0.00010	8.22616E-05	0.000191823	0.00000	0.00008	4.57531E-04	0.00027	7.31616E-04
523614.27	4258811	0.8532	0.00027	0.00012	9.87139E-05	0.000273009	0.00000	0.00010	5.49038E-04	0.00037	9.20760E-04
523658.46	4258811	1.26489	0.00040	0.00015	1.23392E-04	0.000404742	0.00000	0.00012	6.86297E-04	0.00053	1.21443E-03
523702.65	4258811	1.88815	0.00060	0.00025	2.05654E-04	0.000604175	0.00000	0.00021	1.14383E-03	0.00081	1.95366E-03
523746.84	4258811	2.83881	0.00091	0.00054	4.44212E-04	0.000908369	0.00000	0.00044	2.47067E-03	0.00135	3.82325E-03
523791.03	4258811	3.96259	0.00127	0.00138	1.13521E-03	0.001267959	0.00000	0.00114	6.31393E-03	0.00240	8.71710E-03
523481.7	4258855.47	0.36344	0.00012	0.00005	4.11308E-05	0.000116294	0.00000	0.00004	2.28766E-04	0.00016	3.86191E-04
523525.89	4258855.47	0.47473	0.00015	0.00007	5.75831E-05	0.000151905	0.00000	0.00006	3.20272E-04	0.00021	5.29760E-04
523570.08	4258855.47	0.63538	0.00020	0.00009	7.40354E-05	0.00020331	0.00000	0.00007	4.11778E-04	0.00028	6.89124E-04
523614.27	4258855.47	0.91924	0.00029	0.00011	9.04877E-05	0.000294141	0.00000	0.00009	5.03284E-04	0.00038	8.87913E-04
523658.46	4258855.47	1.42539	0.00046	0.00017	1.39845E-04	0.0004561	0.00000	0.00014	7.77803E-04	0.00060	1.37375E-03
523702.65	4258855.47	2.31758	0.00074	0.00035	2.87916E-04	0.000741585	0.00000	0.00029	1.60136E-03	0.00103	2.63086E-03
523746.84	4258855.47	3.76265	0.00120	0.00102	8.39068E-04	0.001203981	0.00000	0.00084	4.66682E-03	0.00204	6.70987E-03
523791.03	4258855.47	5.49492	0.00176	0.00118	9.70687E-04	0.001758277	0.00000	0.00097	5.39887E-03	0.00273	8.12783E-03
523481.7	4258899.94	0.36269	0.00012	0.00005	4.11308E-05	0.000116054	0.00000	0.00004	2.28766E-04	0.00016	3.85951E-04
523525.89	4258899.94	0.47205	0.00015	0.00006	4.93569E-05	0.000151048	0.00000	0.00005	2.74519E-04	0.00020	4.74923E-04
523570.08	4258899.94	0.64955	0.00021	0.00008	6.58093E-05	0.000207845	0.00000	0.00007	3.66025E-04	0.00027	6.39679E-04
523614.27	4258899.94	0.9641	0.00031	0.00011	9.04877E-05	0.000308495	0.00000	0.00009	5.03284E-04	0.00040	9.02267E-04
523658.46	4258899.94	1.59355	0.00051	0.00020	1.64523E-04	0.000509908	0.00000	0.00016	9.15063E-04	0.00067	1.58949E-03
523702.65	4258899.94	2.88514	0.00092	0.00078	6.41640E-04	0.000923194	0.00000	0.00064	3.56874E-03	0.00156	5.13358E-03
523746.84	4258899.94	5.42529	0.00174	0.00124	1.02004E-03	0.001735997	0.00000	0.00102	5.67339E-03	0.00276	8.42943E-03
523481.7	4258944.41	0.37233	0.00012	0.00005	4.11308E-05	0.000119139	0.00000	0.00004	2.28766E-04	0.00016	3.89035E-04
523525.89	4258944.41	0.47695	0.00015	0.00006	4.93569E-05	0.000152616	0.00000	0.00005	2.74519E-04	0.00020	4.76491E-04
523570.08	4258944.41	0.65339	0.00021	0.00008	6.58093E-05	0.000209073	0.00000	0.00007	3.66025E-04	0.00027	6.40908E-04
523614.27	4258944.41	0.98092	0.00031	0.00011	9.04877E-05	0.000313877	0.00000	0.00009	5.03284E-04	0.00040	9.07649E-04
523702.65	4258944.41	3.71775	0.00119	0.00067	5.51153E-04	0.001189614	0.00000	0.00055	3.06546E-03	0.00174	4.80623E-03
523746.84	4258944.41	9.35123	0.00299	0.00119	9.78913E-04	0.002992228	0.00000	0.00098	5.44462E-03	0.00397	9.41576E-03
523481.7	4258988.88	0.41749	0.00013	0.00004	3.29046E-05	0.000133589	0.00000	0.00003	1.83013E-04	0.00017	3.49507E-04
523525.89	4258988.88	0.52332	0.00017	0.00005	4.11308E-05	0.000167453	0.00000	0.00004	2.28766E-04	0.00021	4.37350E-04
523570.08	4258988.88	0.70048	0.00022	0.00007	5.75831E-05	0.000224141	0.00000	0.00006	3.20272E-04	0.00028	6.01996E-04
523614.27	4258988.88	1.04089	0.00033	0.00012	9.87139E-05	0.000333066	0.00000	0.00010	5.49038E-04	0.00043	9.80818E-04
523702.65	4258988.88	5.09636	0.00163	0.00118	9.70687E-04	0.001630745	0.00000	0.00097	5.39887E-03	0.00260	8.00030E-03
523481.7	4259033.35	0.47905	0.00015	0.00004	3.29046E-05	0.000153288	0.00000	0.00003	1.83013E-04	0.00019	3.69205E-04
523525.89	4259033.35	0.60432	0.00019	0.00005	4.11308E-05	0.000193372	0.00000	0.00004	2.28766E-04	0.00023	4.63268E-04
523570.08	4259033.35	0.81377	0.00026	0.00008	6.58093E-05	0.000260392	0.00000	0.00007	3.66025E-04	0.00033	6.92226E-04
523614.27	4259033.35	1.22782	0.00039	0.00013	1.06940E-04	0.000392881	0.00000	0.00011	5.94791E-04	0.00050	1.09461E-03
523481.7	4259077.82	0.5377	0.00017	0.00004	3.29046E-05	0.000172054	0.00000	0.00003	1.83013E-04	0.00020	3.87972E-04
523525.89	4259077.82	0.71023	0.00023	0.00005	4.11308E-05	0.000227261	0.00000	0.00004	2.28766E-04	0.00027	4.97157E-04
523570.08	4259077.82	1.01873	0.00033	0.00007	5.75831E-05	0.000325976	0.00000	0.00006	3.20272E-04	0.00038	7.03831E-04
523614.27	4259077.82	1.71891	0.00055	0.00011	9.04877E-05	0.000550021	0.00000	0.00009	5.03284E-04	0.00064	1.14379E-03
523481.7	4259122.29	0.60096	0.00019	0.00004	3.29046E-05	0.000192297	0.00000	0.00003	1.83013E-04	0.00023	4.08214E-04
523525.89	4259122.29	0.8497	0.00027	0.00005	4.11308E-05	0.000271889	0.00000	0.00004	2.28766E-04	0.00031	5.41785E-04
523570.08	4259122.29	1.33141	0.00043	0.00007	5.75831E-05	0.000426028	0.00000	0.00006	3.20272E-04	0.00048	8.03883E-04
523614.27	4259122.29	2.52575	0.00081	0.00009	7.40354E-05	0.000808195	0.00000	0.00007	4.11778E-04	0.00088	1.29401E-03
523481.7	4259166.76	0.68755	0.00022	0.00004	3.29046E-05	0.000220004	0.00000	0.00003	1.83013E-04	0.00025	4.35921E-04
523525.89	4259166.76	1.04676	0.00033	0.00005	4.11308E-05	0.000334945	0.00000	0.00004	2.28766E-04	0.00038	6.04841E-04
523570.08	4259166.76	1.77061	0.00057	0.00006	4.93569E-05	0.000566564	0.00000	0.00005	2.74519E-04	0.00062	8.90440E-04
523614.27	4259166.76	3.41015	0.00109	0.00008	6.58093E-05	0.001091188	0.00000	0.00007	3.66025E-04	0.00116	1.52302E-03
524232.93	4259166.76	5.835	0.00187	0.00002	1.64523E-05	0.001867097	0.00000	0.00002	9.15063E-05	0.00188	1.97506E-03
524277.12	4259166.76	4.23132	0.00135	0.00001	8.22616E-06	0.001353948	0.00000	0.00001	4.57531E-05	0.00136	1.40793E-03
524321.31	4259166.76	2.91399	0.00093	0.00001	8.22616E-06	0.000932425	0.00000	0.00001	4.57531E-05	0.00094	9.86405E-04
523481.7	4259211.23	0.87225	0.00028	0.00003	2.46785E-05	0.000279105	0.00000	0.00002	1.37259E-04	0.00030	4.41042E-04
523525.89	4259211.23	1.34795	0.00043	0.00004	3.29046E-05	0.00043132	0.00000	0.00003	1.83013E-04	0.00046	6.47237E-04
523570.08	4259211.23	2.25962	0.00072	0.00005	4.11308E-05	0.000723038	0.00000	0.00004	2.28766E-04	0.00076	9.92935E-04
523614.27	4259211.23	3.93409	0.00126	0.00006	4.93569E-05	0.001258839	0.00000	0.00005	2.74519E-04	0.00131	1.58271E-03
523658.46	4259211.23	6.46095	0.00207	0.00007	5.75831E-05	0.00206739	0.00000	0.00006	3.20272E-04	0.00212	2.44524E-03
523702.65	4259211.23	10.33553	0.00331	0.00008	6.58093E-05	0.003307187	0.00000	0.00007	3.66025E-04	0.00337	3.73902E-03
523746.84	4259211.23	15.28164	0.00489	0.00009	7.40354E-05	0.004889854	0.00000	0.00007	4.11778E-04	0.00496	5.37567E-03
523791.03	4259211.23	18.642	0.00597	0.00008	6.58093E-05	0.00596511	0.00000	0.00007	3.66025E-04	0.00603	6.39694E-03
523835.22	4259211.23	18.06213	0.00578	0.00007	5.75831E-05	0.005779562	0.00000	0.00006	3.20272E-04	0.00584	6.15742E-03
524144.55	4259211.23	7.14419	0.00229	0.00002	1.64523E-05	0.002286014	0.00000	0.00002	9.15063E-05	0.00230	2.39397E-03
524188.74	4259211.23	6.24329	0.00200	0.00002	1.64523E-05	0.001997742	0.00000	0.00002	9.15063E-05	0.00201	2.10570E-03
524232.93	4259211.23	4.76011	0.00152	0.00001	8.22616E-06	0.001523151	0.00000	0.00001	4.57531E-05	0.00153	1.57713E-03
524277.12	4259211.23	3.48118	0.00111	0.00001	8.22616E-06	0.001113916	0.00000	0.00001	4.57531E-05	0.00112	1.16790E-03
524321.31	4259211.23	2.63009	0.00084	0.00001	8.22616E-06	0.000841582	0.00000	0.00001	4.57531E-05	0.00085	8.95562E-04
523481.7	4259255.7	1.07706	0.00034	0.00003	2.46785E-05	0.00034464	0.00000	0.00002	1.37259E-04	0.00037	5.06578E-04
523525.89	4259255.7	1.60532	0.00051	0.00004	3.29046E-05	0.000513674	0.00000	0.00003	1.83013E-04	0.00055	7.29591E-04
523570.08	4259255.7	2.49252	0.00080	0.00005	4.11308E-05	0.000797562	0.00000	0.00004	2.28766E-04	0.00084	1.06746E-03
523614.27	4259255.7	3.75891	0.00120	0.00005	4.11308E-05	0.001202785	0.00000	0.00004	2.28766E-04	0.00124	1.47268E-03
523658.46	4259255.7	5.42052	0.00173	0.00006	4.93569E-05	0.001734471	0.00000	0.00005	2.74519E-04	0.00178	2.05835E-03
523702.65	4259255.7	7.65091	0.00245	0.00007	5.75831E-05	0.002448156	0.00000	0.00006	3.20272E-04	0.00251	2.82601E-03
523746.84	4259255.7	10.32378	0.00330	0.00007	5.75831E-05	0.003303427	0.00000	0.00006	3.20272E-04	0.00336	3.68128E-03
523791.03	4259255.7	12.26052	0.00392	0.00007	5.75831E-05	0.003923149	0.00000	0.00006	3.20272E-04	0.00398	4.30100E-03
523835.22	4259255.7	12.74914	0.00408	0.00006	4.93569E-05	0.004079499	0.00000	0.00005	2.74519E-04	0.00413	4.40338E-03
523879.41	4259255.7	12.63056	0.00404	0.00005	4.11308E-05	0.004041556	0.00000	0.00004	2.28766E-04	0.00408	4.31145E-03
523923.6	4259255.7	12.22517	0.00391	0.00004	3.29046E-05	0.003911838	0.00000	0.00003	1.83013E-04	0.00394	4.12776E-03
523967.79	4259255.7	11.36764	0.00364	0.00003	2.46785E-05	0.003637444	0.00000	0.00002	1.37259E-04	0.00366	3.79938E-03
524011.98	4259255.7	9.75888	0.00312	0.00003	2.46785E-05	0.003122669	0.00000	0.00002	1.37259E-04	0.00315	3.28461E-03
524056.17	4259255.7	8.37124	0.00268	0.00002	1.64523E-05	0.002678649	0.00000	0.00002	9.15063E-05	0.00270	2.78661E-03
524100.36	4259255.7	6.95563	0.00223	0.00002	1.64523E-05	0.002225679	0.00000	0.00002	9.15063E-05	0.00224	2.33364E-03
524144.55	4259255.7	5.91155	0.00189	0.00002	1.64523E-05	0.001891591	0.00000	0.00002	9.15063E-05	0.00191	1.99955E-03
524188.74	4259255.7	4.9491	0.00158	0.00001	8.22616E-06	0.001583624	0.00000	0.00001	4.57531E-05	0.00159	1.63760E-03
524232.93	4259255.7	3.74249	0.00120	0.00001	8.22616E-06	0.001197531	0.00000	0.00001	4.57531E-05	0.00121	1.25151E-03
524277.12	4259255.7	2.75749	0.00088	0.00001	8.22616E-06	0.000882348	0.00000	0.00001	4.57531E-05	0.00089	9.36327E-04
524321.31	4259255.7	2.20105	0.00070	0.00001	8.22616E-06	0.000704297	0.00000	0.00001	4.57531E-05	0.00071	7.58276E-04
523481.7	4259300.17	1.21499	0.00039	0.00003	2.46785E-05	0.000388775	0.00000	0.00002	1.37259E-04	0.00041	5.50713E-04
523525.89	4259300.17	1.70813	0.00055	0.00004	3.29046E-05	0.000546571	0.00000	0.00003	1.83013E-04	0.00058	7.62489E-04
523570.08	4259300.17	2.41406	0.00077	0.00004	3.29046E-05	0.000772456	0.00000	0.00003	1.83013E-04	0.00081	9.88374E-04
523614.27	4259300.17	3.34814	0.00107	0.00005	4.11308E-05	0.001071346	0.00000	0.00004	2.28766E-04	0.00111	1.34124E-03
523658.46	4259300.17	4.49649	0.00144	0.00005	4.11308E-05	0.001438797	0.00000	0.00004	2.28766E-04	0.00148	1.70869E-03
523702.65	4259300.17	6.00509	0.00192	0.00006	4.93569E-05	0.001921523	0.00000	0.00005	2.74519E-04	0.00197	2.24540E-03
523746.84	4259300.17	7.7946	0.00249	0.00006	4.93569E-05	0.002494134	0.00000	0.00005	2.74519E-04	0.00254	2.81801E-03
523791.03	4259300.17	9.15058	0.00293	0.00006	4.93569E-05	0.002928024	0.00000	0.00005	2.74519E-04	0.00298	3.25190E-03
523835.22	4259300.17	9.79213	0.00313	0.00005	4.11308E-05	0.003133308	0.00000	0.00004	2.28766E-04	0.00317	3.40320E-03
523879.41	4259300.17	10.1089	0.00323	0.00004	3.29046E-05	0.003234669	0.00000	0.00003	1.83013E-04	0.00327	3.45059E-03
523923.6	4259300.17	9.61961	0.00308	0.00004	3.29046E-05	0.003078105	0.00000	0.00003	1.83013E-04	0.00311	3.29402E-03
523967.79	4259300.17	8.93048	0.00286	0.00003	2.46785E-05	0.002857596	0.00000	0.00002	1.37259E-04	0.00288	3.01953E-03
524011.98	4259300.17	7.56498	0.00242	0.00002	1.64523E-05	0.00242066	0.00000	0.00002	9.15063E-05	0.00244	2.52862E-03
524056.17	4259300.17	6.64698	0.00213	0.00002	1.64523E-05	0.002126916	0.00000	0.00002	9.15063E-05	0.00214	2.23487E-03
524100.36	4259300.17	5.73651	0.00184	0.00002	1.64523E-05	0.001835582	0.00000	0.00002	9.15063E-05	0.00185	1.94354E-03
524144.55	4259300.17	4.92379	0.00158	0.00002	1.64523E-05	0.001575526	0.00000	0.00002	9.15063E-05	0.00159	1.68348E-03
524188.74	4259300.17	4.02069	0.00129	0.00001	8.22616E-06	0.00128655	0.00000	0.00001	4.57531E-05	0.00129	1.34053E-03
524232.93	4259300.17	3.08605	0.00099	0.00001	8.22616E-06	0.000987481	0.00000	0.00001	4.57531E-05	0.00100	1.04146E-03
524277.12	4259300.17	2.37375	0.00076	0.00001	8.22616E-06	0.000759558	0.00000	0.00001	4.57531E-05	0.00077	8.13537E-04
524321.31	4259300.17	1.89921	0.00061	0.00001	8.22616E-06	0.000607714	0.00000	0.00001	4.57531E-05	0.00062	6.61693E-04
523481.7	4259344.64	1.28503	0.00041	0.00003	2.46785E-05	0.000411187	0.00000	0.00002	1.37259E-04	0.00044	5.73125E-04
523525.89	4259344.64	1.6993	0.00054	0.00003	2.46785E-05	0.000543746	0.00000	0.00002	1.37259E-04	0.00057	7.05684E-04
523570.08	4259344.64	2.2477	0.00072	0.00004	3.29046E-05	0.000719224	0.00000	0.00003	1.83013E-04	0.00075	9.35141E-04
523614.27	4259344.64	2.96888	0.00095	0.00004	3.29046E-05	0.000949989	0.00000	0.00003	1.83013E-04	0.00098	1.16591E-03
523658.46	4259344.64	3.89409	0.00125	0.00004	3.29046E-05	0.00124604	0.00000	0.00003	1.83013E-04	0.00128	1.46196E-03
523702.65	4259344.64	4.9253	0.00158	0.00005	4.11308E-05	0.001576009	0.00000	0.00004	2.28766E-04	0.00162	1.84591E-03
523746.84	4259344.64	6.1603	0.00197	0.00005	4.11308E-05	0.001971187	0.00000	0.00004	2.28766E-04	0.00201	2.24108E-03
523791.03	4259344.64	7.23646	0.00232	0.00005	4.11308E-05	0.002315539	0.00000	0.00004	2.28766E-04	0.00236	2.58544E-03
523835.22	4259344.64	7.80256	0.00250	0.00004	3.29046E-05	0.002496681	0.00000	0.00003	1.83013E-04	0.00253	2.71260E-03
523879.41	4259344.64	7.96877	0.00255	0.00004	3.29046E-05	0.002549865	0.00000	0.00003	1.83013E-04	0.00258	2.76578E-03
523923.6	4259344.64	7.61647	0.00244	0.00003	2.46785E-05	0.002437136	0.00000	0.00002	1.37259E-04	0.00246	2.59907E-03
523967.79	4259344.64	7.18158	0.00230	0.00003	2.46785E-05	0.002297979	0.00000	0.00002	1.37259E-04	0.00232	2.45992E-03
524011.98	4259344.64	6.64443	0.00213	0.00002	1.64523E-05	0.0021261	0.00000	0.00002	9.15063E-05	0.00214	2.23406E-03
524056.17	4259344.64	6.08613	0.00195	0.00002	1.64523E-05	0.001947454	0.00000	0.00002	9.15063E-05	0.00196	2.05541E-03
524100.36	4259344.64	5.25219	0.00168	0.00002	1.64523E-05	0.001680608	0.00000	0.00002	9.15063E-05	0.00170	1.78857E-03
524144.55	4259344.64	4.25216	0.00136	0.00001	8.22616E-06	0.001360616	0.00000	0.00001	4.57531E-05	0.00137	1.41460E-03
524188.74	4259344.64	3.33524	0.00107	0.00001	8.22616E-06	0.001067218	0.00000	0.00001	4.57531E-05	0.00108	1.12120E-03
524232.93	4259344.64	2.65176	0.00085	0.00001	8.22616E-06	0.000848516	0.00000	0.00001	4.57531E-05	0.00086	9.02496E-04
524277.12	4259344.64	2.08054	0.00067	0.00001	8.22616E-06	0.000665736	0.00000	0.00001	4.57531E-05	0.00067	7.19715E-04
524321.31	4259344.64	1.69669	0.00054	0.00001	8.22616E-06	0.000542911	0.00000	0.00001	4.57531E-05	0.00055	5.96890E-04

Round Barn Village Project 2020 Tier IV Mitigation at Sensitive Receptors

Construction Annual DPM Emissions (as PM2.5 Exhaust)

Annual Average Onsite DPM Exhaust Emission Rate: 1.52154E-08 grams/m2/sec

Annual Average Offsite DPM Exhaust Emission Rate: 2.93326E-05 grams/sec

Annual Average Onsite DPM Fugitive Emission Rate: 0.00000E+00 grams/m2/sec

Annual Average Offsite DPM Fugitive Emission Rate: 0.000325804 grams/sec

X (m)	Y (m)	Onsite Annual DPM Exhaust w/Unit Emissions (ug/m3)	Onsite Annual DPM Exhaust w/Actual Emissions (ug/m3)	Offsite Annual DPM Exhaust w/Unit Emissions (ug/m3)	Offsite Annual DPM Exhaust w/Actual Emissions (ug/m3)	Onsite Annual DPM Fugitive w/Unit Emissions (ug/m3)	Onsite Annual DPM Fugitive w/Actual Emissions (ug/m3)	Offsite Annual DPM Fugitive w/Unit Emissions (ug/m3)	Offsite Annual DPM Fugitive w/Actual Emissions (ug/m3)	Total DPM Exhaust (ug/m3)	Total PM2.5 (ug/m3)
523481.7	4258499.71	0.31936	0.00005	0.00007	2.05328E-05	4.8592E-05	0.00000	0.00002	6.68968E-05	0.00007	1.36022E-04
523525.89	4258499.71	0.40238	0.00006	0.00015	4.39989E-05	6.12238E-05	0.00000	0.00004	1.43350E-04	0.00011	2.48573E-04
523570.08	4258499.71	0.49882	0.00008	0.00031	9.09310E-05	7.58975E-05	0.00000	0.00009	2.96257E-04	0.00017	4.63086E-04
523614.27	4258499.71	0.59895	0.00009	0.00054	1.58396E-04	9.11327E-05	0.00000	0.00016	5.16061E-04	0.00025	7.65590E-04
523658.46	4258499.71	0.70947	0.00011	0.00092	2.69860E-04	0.000107949	0.00000	0.00027	8.79215E-04	0.00038	1.25702E-03
523702.65	4258499.71	0.85151	0.00013	0.00079	2.31727E-04	0.000129561	0.00000	0.00023	7.54978E-04	0.00036	1.11627E-03
523746.84	4258499.71	1.0326	0.00016	0.00058	1.70129E-04	0.000157114	0.00000	0.00017	5.54288E-04	0.00033	8.81531E-04
523791.03	4258499.71	1.25476	0.00019	0.00044	1.29063E-04	0.000190917	0.00000	0.00013	4.20494E-04	0.00032	7.40474E-04
523835.22	4258499.71	1.53204	0.00023	0.00036	1.05597E-04	0.000233106	0.00000	0.00011	3.44041E-04	0.00034	6.82744E-04
523879.41	4258499.71	1.87051	0.00028	0.00030	8.79977E-05	0.000284606	0.00000	0.00009	2.86700E-04	0.00037	6.59304E-04
523923.6	4258499.71	2.23062	0.00034	0.00027	7.91980E-05	0.000339398	0.00000	0.00008	2.58030E-04	0.00042	6.76627E-04
523967.79	4258499.71	2.63167	0.00040	0.00015	4.39989E-05	0.00040042	0.00000	0.00004	1.43350E-04	0.00044	5.87769E-04
524011.98	4258499.71	3.09199	0.00047	0.00010	2.93326E-05	0.000470459	0.00000	0.00003	9.55668E-05	0.00050	5.95359E-04
524056.17	4258499.71	3.55567	0.00054	0.00007	2.05328E-05	0.00054101	0.00000	0.00002	6.68968E-05	0.00056	6.28440E-04
524100.36	4258499.71	3.99326	0.00061	0.00005	1.46663E-05	0.000607591	0.00000	0.00001	4.77834E-05	0.00062	6.70041E-04
524144.55	4258499.71	4.43525	0.00067	0.00003	8.79977E-06	0.000674842	0.00000	0.00001	2.86700E-05	0.00068	7.12312E-04
524188.74	4258499.71	4.64905	0.00071	0.00002	5.86652E-06	0.000707372	0.00000	0.00001	1.91134E-05	0.00071	7.32352E-04
524232.93	4258499.71	4.56394	0.00069	0.00002	5.86652E-06	0.000694422	0.00000	0.00001	1.91134E-05	0.00070	7.19402E-04
523481.7	4258544.18	0.31138	0.00005	0.00010	2.93326E-05	4.73778E-05	0.00000	0.00003	9.55668E-05	0.00008	1.72277E-04
523525.89	4258544.18	0.40069	0.00006	0.00033	9.67975E-05	6.09666E-05	0.00000	0.00010	3.15371E-04	0.00016	4.73135E-04
523570.08	4258544.18	0.50845	0.00008	0.00090	2.63993E-04	7.73628E-05	0.00000	0.00026	8.60101E-04	0.00034	1.20146E-03
523614.27	4258544.18	0.62648	0.00010	0.00071	2.08261E-04	9.53215E-05	0.00000	0.00021	6.78525E-04	0.00030	9.82107E-04
523658.46	4258544.18	0.75436	0.00011	0.00183	5.36786E-04	0.000114779	0.00000	0.00054	1.74887E-03	0.00065	2.40044E-03
523702.65	4258544.18	0.91727	0.00014	0.00065	1.90662E-04	0.000139566	0.00000	0.00019	6.21184E-04	0.00033	9.51413E-04
523746.84	4258544.18	1.127	0.00017	0.00061	1.78929E-04	0.000171478	0.00000	0.00018	5.82958E-04	0.00035	9.33364E-04
523791.03	4258544.18	1.37854	0.00021	0.00097	2.84526E-04	0.000209751	0.00000	0.00028	9.26998E-04	0.00049	1.42127E-03
523835.22	4258544.18	1.70215	0.00026	0.00062	1.81862E-04	0.000258989	0.00000	0.00018	5.92514E-04	0.00044	1.03337E-03
523879.41	4258544.18	2.09515	0.00032	0.00051	1.49596E-04	0.000318786	0.00000	0.00015	4.87391E-04	0.00047	9.55773E-04
523923.6	4258544.18	2.52187	0.00038	0.00035	1.02664E-04	0.000383713	0.00000	0.00010	3.34484E-04	0.00049	8.20861E-04
523967.79	4258544.18	2.9964	0.00046	0.00017	4.98654E-05	0.000455915	0.00000	0.00005	1.62464E-04	0.00051	6.68244E-04
524011.98	4258544.18	3.53801	0.00054	0.00010	2.93326E-05	0.000538323	0.00000	0.00003	9.55668E-05	0.00057	6.63222E-04
524056.17	4258544.18	4.10825	0.00063	0.00006	1.75995E-05	0.000625087	0.00000	0.00002	5.73401E-05	0.00064	7.00027E-04
524100.36	4258544.18	4.77426	0.00073	0.00004	1.17330E-05	0.000726423	0.00000	0.00001	3.82267E-05	0.00074	7.76383E-04
524144.55	4258544.18	5.39352	0.00082	0.00003	8.79977E-06	0.000820646	0.00000	0.00001	2.86700E-05	0.00083	8.58116E-04
524188.74	4258544.18	5.85066	0.00089	0.00002	5.86652E-06	0.000890202	0.00000	0.00001	1.91134E-05	0.00090	9.15182E-04
524232.93	4258544.18	5.42228	0.00083	0.00002	5.86652E-06	0.000825022	0.00000	0.00001	1.91134E-05	0.00083	8.50002E-04
523481.7	4258588.65	0.30273	0.00005	0.00015	4.39989E-05	4.60616E-05	0.00000	0.00004	1.43350E-04	0.00009	2.33411E-04
523525.89	4258588.65	0.3961	0.00006	0.00038	1.11464E-04	6.02683E-05	0.00000	0.00011	3.63154E-04	0.00017	5.34886E-04
523570.08	4258588.65	0.51594	0.00008	0.00109	3.19725E-04	7.85024E-05	0.00000	0.00032	1.04168E-03	0.00040	1.43991E-03
523614.27	4258588.65	0.65266	0.00010	0.00099	2.90393E-04	9.93049E-05	0.00000	0.00029	9.46112E-04	0.00039	1.33581E-03
523658.46	4258588.65	0.80298	0.00012	0.00070	2.05328E-04	0.000122177	0.00000	0.00021	6.68968E-04	0.00033	9.96473E-04
523702.65	4258588.65	0.99451	0.00015	0.00074	2.17061E-04	0.000151319	0.00000	0.00022	7.07195E-04	0.00037	1.07557E-03
523746.84	4258588.65	1.23722	0.00019	0.00106	3.10925E-04	0.000188248	0.00000	0.00031	1.01301E-03	0.00050	1.51218E-03
523791.03	4258588.65	1.53399	0.00023	0.00147	4.31189E-04	0.000233403	0.00000	0.00043	1.40483E-03	0.00066	2.06942E-03
523835.22	4258588.65	1.8981	0.00029	0.00068	1.99462E-04	0.000288804	0.00000	0.00020	6.49854E-04	0.00049	1.13812E-03
523879.41	4258588.65	2.34565	0.00036	0.00118	3.46124E-04	0.0003569	0.00000	0.00035	1.12769E-03	0.00070	1.83071E-03
523923.6	4258588.65	2.84915	0.00043	0.00049	1.43730E-04	0.00043351	0.00000	0.00014	4.68277E-04	0.00058	1.04552E-03
523967.79	4258588.65	3.36493	0.00051	0.00020	5.86652E-05	0.000511988	0.00000	0.00006	1.91134E-04	0.00057	7.61787E-04
524011.98	4258588.65	4.00087	0.00061	0.00011	3.22658E-05	0.000608749	0.00000	0.00003	1.05124E-04	0.00064	7.46138E-04
524056.17	4258588.65	4.79642	0.00073	0.00007	2.05328E-05	0.000729795	0.00000	0.00002	6.68968E-05	0.00075	8.17225E-04
524100.36	4258588.65	5.70791	0.00087	0.00004	1.17330E-05	0.000868482	0.00000	0.00001	3.82267E-05	0.00088	9.18442E-04
524144.55	4258588.65	6.46743	0.00098	0.00003	8.79977E-06	0.000984046	0.00000	0.00001	2.86700E-05	0.00099	1.02152E-03
524188.74	4258588.65	6.73179	0.00102	0.00002	5.86652E-06	0.00102427	0.00000	0.00001	1.91134E-05	0.00103	1.04925E-03
524232.93	4258588.65	6.32139	0.00096	0.00002	5.86652E-06	0.000961826	0.00000	0.00001	1.91134E-05	0.00097	9.86806E-04
523481.7	4258633.12	0.29526	0.00004	0.00022	6.45317E-05	4.4925E-05	0.00000	0.00006	2.10247E-04	0.00011	3.19704E-04
523525.89	4258633.12	0.39229	0.00006	0.00059	1.73062E-04	5.96886E-05	0.00000	0.00017	5.63844E-04	0.00023	7.96595E-04
523570.08	4258633.12	0.52667	0.00008	0.00044	1.29063E-04	8.0135E-05	0.00000	0.00013	4.20494E-04	0.00021	6.29692E-04
523614.27	4258633.12	0.68604	0.00010	0.00038	1.11464E-04	0.000104384	0.00000	0.00011	3.63154E-04	0.00022	5.79002E-04
523658.46	4258633.12	0.86102	0.00013	0.00037	1.08531E-04	0.000131008	0.00000	0.00011	3.53597E-04	0.00024	5.93136E-04
523702.65	4258633.12	1.0874	0.00017	0.00040	1.17330E-04	0.000165452	0.00000	0.00012	3.82267E-04	0.00028	6.65050E-04
523746.84	4258633.12	1.38583	0.00021	0.00047	1.37863E-04	0.00021086	0.00000	0.00014	4.49164E-04	0.00035	7.97887E-04
523791.03	4258633.12	1.74281	0.00027	0.00061	1.78929E-04	0.000265176	0.00000	0.00018	5.82958E-04	0.00044	1.02706E-03
523835.22	4258633.12	2.17542	0.00033	0.00098	2.87459E-04	0.000330999	0.00000	0.00029	9.36555E-04	0.00062	1.55501E-03
523879.41	4258633.12	2.68508	0.00041	0.00155	4.54655E-04	0.000408546	0.00000	0.00045	1.48129E-03	0.00086	2.34449E-03
523923.6	4258633.12	3.23859	0.00049	0.00057	1.67196E-04	0.000492765	0.00000	0.00017	5.44731E-04	0.00066	1.20469E-03
523967.79	4258633.12	3.8572	0.00059	0.00023	6.74649E-05	0.000586889	0.00000	0.00007	2.19804E-04	0.00065	8.74158E-04
524011.98	4258633.12	4.68702	0.00071	0.00012	3.51991E-05	0.00071315	0.00000	0.00004	1.14680E-04	0.00075	8.63029E-04
524056.17	4258633.12	5.73551	0.00087	0.00007	2.05328E-05	0.000872682	0.00000	0.00002	6.68968E-05	0.00089	9.60111E-04
524100.36	4258633.12	6.84881	0.00104	0.00005	1.46663E-05	0.001042075	0.00000	0.00001	4.77834E-05	0.00106	1.10452E-03
524144.55	4258633.12	7.68848	0.00117	0.00004	1.17330E-05	0.001169834	0.00000	0.00001	3.82267E-05	0.00118	1.21979E-03
524188.74	4258633.12	7.97573	0.00121	0.00003	8.79977E-06	0.00121354	0.00000	0.00001	2.86700E-05	0.00122	1.25101E-03
524232.93	4258633.12	7.37004	0.00112	0.00002	5.86652E-06	0.001121382	0.00000	0.00001	1.91134E-05	0.00113	1.14636E-03
523481.7	4258677.59	0.29831	0.00005	0.00015	4.39989E-05	4.53891E-05	0.00000	0.00004	1.43350E-04	0.00009	2.32738E-04
523525.89	4258677.59	0.39417	0.00006	0.00021	6.15984E-05	5.99746E-05	0.00000	0.00006	2.00690E-04	0.00012	3.22263E-04
523570.08	4258677.59	0.53876	0.00008	0.00021	6.15984E-05	8.19746E-05	0.00000	0.00006	2.00690E-04	0.00014	3.44263E-04
523614.27	4258677.59	0.714	0.00011	0.00024	7.03982E-05	0.000108638	0.00000	0.00007	2.29360E-04	0.00018	4.08397E-04
523658.46	4258677.59	0.93446	0.00014	0.00023	6.74649E-05	0.000142182	0.00000	0.00007	2.19804E-04	0.00021	4.29451E-04
523702.65	4258677.59	1.21383	0.00018	0.00026	7.62647E-05	0.000184689	0.00000	0.00008	2.48474E-04	0.00026	5.09428E-04
523746.84	4258677.59	1.58352	0.00024	0.00032	9.38642E-05	0.000240939	0.00000	0.00009	3.05814E-04	0.00033	6.40617E-04
523791.03	4258677.59	2.0286	0.00031	0.00049	1.43730E-04	0.00030866	0.00000	0.00014	4.68277E-04	0.00045	9.20667E-04
523835.22	4258677.59	2.54004	0.00039	0.00129	3.78390E-04	0.000386478	0.00000	0.00038	1.23281E-03	0.00076	1.99768E-03
523879.41	4258677.59	3.12075	0.00047	0.00137	4.01856E-04	0.000474835	0.00000	0.00040	1.30927E-03	0.00088	2.18596E-03
523923.6	4258677.59	3.76709	0.00057	0.00043	1.26130E-04	0.000573178	0.00000	0.00013	4.10937E-04	0.00070	1.11025E-03
523967.79	4258677.59	4.60453	0.00070	0.00019	5.57319E-05	0.000700598	0.00000	0.00006	1.81577E-04	0.00076	9.37907E-04
524011.98	4258677.59	5.80779	0.00088	0.00011	3.22658E-05	0.000883679	0.00000	0.00003	1.05124E-04	0.00092	1.02107E-03
524056.17	4258677.59	7.42159	0.00113	0.00007	2.05328E-05	0.001129226	0.00000	0.00002	6.68968E-05	0.00115	1.21666E-03
524100.36	4258677.59	9.12031	0.00139	0.00005	1.46663E-05	0.001387693	0.00000	0.00001	4.77834E-05	0.00140	1.45014E-03
524144.55	4258677.59	10.19371	0.00155	0.00004	1.17330E-05	0.001551015	0.00000	0.00001	3.82267E-05	0.00156	1.60098E-03
523481.7	4258722.06	0.31278	0.00005	0.00009	2.63993E-05	4.75908E-05	0.00000	0.00003	8.60101E-05	0.00007	1.60000E-04
523525.89	4258722.06	0.40308	0.00006	0.00013	3.81324E-05	6.13303E-05	0.00000	0.00004	1.24237E-04	0.00010	2.23700E-04
523570.08	4258722.06	0.54333	0.00008	0.00016	4.69321E-05	8.26699E-05	0.00000	0.00005	1.52907E-04	0.00013	2.82509E-04
523614.27	4258722.06	0.75373	0.00011	0.00017	4.98654E-05	0.000114683	0.00000	0.00005	1.62464E-04	0.00016	3.27012E-04
523658.46	4258722.06	1.03552	0.00016	0.00017	4.98654E-05	0.000157559	0.00000	0.00005	1.62464E-04	0.00021	3.69888E-04
523702.65	4258722.06	1.4041	0.00021	0.00020	5.86652E-05	0.00021364	0.00000	0.00006	1.91134E-04	0.00027	4.63438E-04
523746.84	4258722.06	1.87987	0.00029	0.00030	8.79977E-05	0.00028603	0.00000	0.00009	2.86700E-04	0.00037	6.60728E-04
523791.03	4258722.06	2.45262	0.00037	0.00067	1.96528E-04	0.000373176	0.00000	0.00020	6.40298E-04	0.00057	1.21000E-03
523481.7	4258766.53	0.33086	0.00005	0.00007	2.05328E-05	5.03417E-05	0.00000	0.00002	6.68968E-05	0.00007	1.37771E-04
523525.89	4258766.53	0.42202	0.00006	0.00010	2.93326E-05	6.42121E-05	0.00000	0.00003	9.55668E-05	0.00009	1.89112E-04
523570.08	4258766.53	0.56192	0.00009	0.00012	3.51991E-05	8.54985E-05	0.00000	0.00004	1.14680E-04	0.00012	2.35378E-04
523614.27	4258766.53	0.80018	0.00012	0.00013	3.81324E-05	0.000121751	0.00000	0.00004	1.24237E-04	0.00016	2.84120E-04
523658.46	4258766.53	1.14591	0.00017	0.00016	4.69321E-05	0.000174355	0.00000	0.00005	1.52907E-04	0.00022	3.74194E-04
523702.65	4258766.53	1.61529	0.00025	0.00021	6.15984E-05	0.000245773	0.00000	0.00006	2.00690E-04	0.00031	5.08062E-04
523746.84	4258766.53	2.25975	0.00034	0.00036	1.05597E-04	0.00034383	0.00000	0.00011	3.44041E-04	0.00045	7.93468E-04
523791.03	4258766.53	3.03113	0.00046	0.00124	3.63724E-04	0.000461199	0.00000	0.00036	1.18503E-03	0.00082	2.00995E-03
523481.7	4258811	0.35153	0.00005	0.00006	1.75995E-05	5.34867E-05	0.00000	0.00002	5.73401E-05	0.00007	1.28426E-04
523525.89	4258811	0.45261	0.00007	0.00008	2.34661E-05	6.88665E-05	0.00000	0.00002	7.64535E-05	0.00009	1.68786E-04
523570.08	4258811	0.59948	0.00009	0.00010	2.93326E-05	9.12134E-05	0.00000	0.00003	9.55668E-05	0.00012	2.16113E-04
523614.27	4258811	0.8532	0.00013	0.00012	3.51991E-05	0.000129818	0.00000	0.00004	1.14680E-04	0.00017	2.79697E-04
523658.46	4258811	1.26489	0.00019	0.00015	4.39989E-05	0.000192458	0.00000	0.00004	1.43350E-04	0.00024	3.79807E-04
523702.65	4258811	1.88815	0.00029	0.00025	7.33314E-05	0.00028729	0.00000	0.00007	2.38917E-04	0.00036	5.99538E-04
523746.84	4258811	2.83881	0.00043	0.00054	1.58396E-04	0.000431937	0.00000	0.00016	5.16061E-04	0.00059	1.10639E-03
523791.03	4258811	3.96259	0.00060	0.00138	4.04790E-04	0.000602925	0.00000	0.00040	1.31882E-03	0.00101	2.32654E-03
523481.7	4258855.47	0.36344	0.00006	0.00005	1.46663E-05	5.52989E-05	0.00000	0.00001	4.77834E-05	0.00007	1.17749E-04
523525.89	4258855.47	0.47473	0.00007	0.00007	2.05328E-05	7.22321E-05	0.00000	0.00002	6.68968E-05	0.00009	1.59662E-04
523570.08	4258855.47	0.63538	0.00010	0.00009	2.63993E-05	9.66757E-05	0.00000	0.00003	8.60101E-05	0.00012	2.09085E-04
523614.27	4258855.47	0.91924	0.00014	0.00011	3.22658E-05	0.000139866	0.00000	0.00003	1.05124E-04	0.00017	2.77256E-04
523658.46	4258855.47	1.42539	0.00022	0.00017	4.98654E-05	0.000216879	0.00000	0.00005	1.62464E-04	0.00027	4.29208E-04
523702.65	4258855.47	2.31758	0.00035	0.00035	1.02664E-04	0.000352629	0.00000	0.00010	3.34484E-04	0.00046	7.89777E-04
523746.84	4258855.47	3.76265	0.00057	0.00102	2.99192E-04	0.000572503	0.00000	0.00030	9.74782E-04	0.00087	1.84648E-03
523791.03	4258855.47	5.49492	0.00084	0.00118	3.46124E-04	0.000836075	0.00000	0.00035	1.12769E-03	0.00118	2.30989E-03
523481.7	4258899.94	0.36269	0.00006	0.00005	1.46663E-05	5.51848E-05	0.00000	0.00001	4.77834E-05	0.00007	1.17634E-04
523525.89	4258899.94	0.47205	0.00007	0.00006	1.75995E-05	7.18244E-05	0.00000	0.00002	5.73401E-05	0.00009	1.46764E-04
523570.08	4258899.94	0.64955	0.00010	0.00008	2.34661E-05	9.88317E-05	0.00000	0.00002	7.64535E-05	0.00012	1.98751E-04
523614.27	4258899.94	0.9641	0.00015	0.00011	3.22658E-05	0.000146692	0.00000	0.00003	1.05124E-04	0.00018	2.84081E-04
523658.46	4258899.94	1.59355	0.00024	0.00020	5.86652E-05	0.000242465	0.00000	0.00006	1.91134E-04	0.00030	4.92264E-04
523702.65	4258899.94	2.88514	0.00044	0.00078	2.28794E-04	0.000438986	0.00000	0.00023	7.45421E-04	0.00067	1.41320E-03
523746.84	4258899.94	5.42529	0.00083	0.00124	3.63724E-04	0.00082548	0.00000	0.00036	1.18503E-03	0.00119	2.37423E-03
523481.7	4258944.41	0.37233	0.00006	0.00005	1.46663E-05	5.66516E-05	0.00000	0.00001	4.77834E-05	0.00007	1.19101E-04
523525.89	4258944.41	0.47695	0.00007	0.00006	1.75995E-05	7.25699E-05	0.00000	0.00002	5.73401E-05	0.00009	1.47510E-04
523570.08	4258944.41	0.65339	0.00010	0.00008	2.34661E-05	9.9416E-05	0.00000	0.00002	7.64535E-05	0.00012	1.99336E-04
523614.27	4258944.41	0.98092	0.00015	0.00011	3.22658E-05	0.000149251	0.00000	0.00003	1.05124E-04	0.00018	2.86640E-04
523702.65	4258944.41	3.71775	0.00057	0.00067	1.96528E-04	0.000565671	0.00000	0.00020	6.40298E-04	0.00076	1.40250E-03
523746.84	4258944.41	9.35123	0.00142	0.00119	3.49058E-04	0.001422828	0.00000	0.00035	1.13725E-03	0.00177	2.90913E-03
523481.7	4258988.88	0.41749	0.00006	0.00004	1.17330E-05	6.35228E-05	0.00000	0.00001	3.82267E-05	0.00008	1.13483E-04
523525.89	4258988.88	0.52332	0.00008	0.00005	1.46663E-05	7.96253E-05	0.00000	0.00001	4.77834E-05	0.00009	1.42075E-04
523570.08	4258988.88	0.70048	0.00011	0.00007	2.05328E-05	0.000106581	0.00000	0.00002	6.68968E-05	0.00013	1.94011E-04
523614.27	4258988.88	1.04089	0.00016	0.00012	3.51991E-05	0.000158376	0.00000	0.00004	1.14680E-04	0.00019	3.08255E-04
523702.65	4258988.88	5.09636	0.00078	0.00118	3.46124E-04	0.000775432	0.00000	0.00035	1.12769E-03	0.00112	2.24925E-03
523481.7	4259033.35	0.47905	0.00007	0.00004	1.17330E-05	7.28894E-05	0.00000	0.00001	3.82267E-05	0.00008	1.22849E-04
523525.89	4259033.35	0.60432	0.00009	0.00005	1.46663E-05	9.19498E-05	0.00000	0.00001	4.77834E-05	0.00011	1.54400E-04
523570.08	4259033.35	0.81377	0.00012	0.00008	2.34661E-05	0.000123818	0.00000	0.00002	7.64535E-05	0.00015	2.23738E-04
523614.27	4259033.35	1.22782	0.00019	0.00013	3.81324E-05	0.000186818	0.00000	0.00004	1.24237E-04	0.00022	3.49187E-04
523481.7	4259077.82	0.5377	0.00008	0.00004	1.17330E-05	8.18133E-05	0.00000	0.00001	3.82267E-05	0.00009	1.31773E-04
523525.89	4259077.82	0.71023	0.00011	0.00005	1.46663E-05	0.000108064	0.00000	0.00001	4.77834E-05	0.00012	1.70514E-04
523570.08	4259077.82	1.01873	0.00016	0.00007	2.05328E-05	0.000155004	0.00000	0.00002	6.68968E-05	0.00018	2.42434E-04
523614.27	4259077.82	1.71891	0.00026	0.00011	3.22658E-05	0.000261539	0.00000	0.00003	1.05124E-04	0.00029	3.98929E-04
523481.7	4259122.29	0.60096	0.00009	0.00004	1.17330E-05	9.14386E-05	0.00000	0.00001	3.82267E-05	0.00010	1.41398E-04
523525.89	4259122.29	0.8497	0.00013	0.00005	1.46663E-05	0.000129285	0.00000	0.00001	4.77834E-05	0.00014	1.91735E-04
523570.08	4259122.29	1.33141	0.00020	0.00007	2.05328E-05	0.00020258	0.00000	0.00002	6.68968E-05	0.00022	2.90009E-04
523614.27	4259122.29	2.52575	0.00038	0.00009	2.63993E-05	0.000384303	0.00000	0.00003	8.60101E-05	0.00041	4.96713E-04
523481.7	4259166.76	0.68755	0.00010	0.00004	1.17330E-05	0.000104614	0.00000	0.00001	3.82267E-05	0.00012	1.54573E-04
523525.89	4259166.76	1.04676	0.00016	0.00005	1.46663E-05	0.000159269	0.00000	0.00001	4.77834E-05	0.00017	2.21719E-04
523570.08	4259166.76	1.77061	0.00027	0.00006	1.75995E-05	0.000269406	0.00000	0.00002	5.73401E-05	0.00029	3.44345E-04
523614.27	4259166.76	3.41015	0.00052	0.00008	2.34661E-05	0.000518868	0.00000	0.00002	7.64535E-05	0.00054	6.18788E-04
524232.93	4259166.76	5.835	0.00089	0.00002	5.86652E-06	0.000887819	0.00000	0.00001	1.91134E-05	0.00089	9.12799E-04
524277.12	4259166.76	4.23132	0.00064	0.00001	2.93326E-06	0.000643813	0.00000	0.00000	9.55668E-06	0.00065	6.56303E-04
524321.31	4259166.76	2.91399	0.00044	0.00001	2.93326E-06	0.000443376	0.00000	0.00000	9.55668E-06	0.00045	4.55866E-04
523481.7	4259211.23	0.87225	0.00013	0.00003	8.79977E-06	0.000132716	0.00000	0.00001	2.86700E-05	0.00014	1.70186E-04
523525.89	4259211.23	1.34795	0.00021	0.00004	1.17330E-05	0.000205096	0.00000	0.00001	3.82267E-05	0.00022	2.55056E-04
523570.08	4259211.23	2.25962	0.00034	0.00005	1.46663E-05	0.000343811	0.00000	0.00001	4.77834E-05	0.00036	4.06260E-04
523614.27	4259211.23	3.93409	0.00060	0.00006	1.75995E-05	0.000598588	0.00000	0.00002	5.73401E-05	0.00062	6.73528E-04
523658.46	4259211.23	6.46095	0.00098	0.00007	2.05328E-05	0.00098306	0.00000	0.00002	6.68968E-05	0.00100	1.07049E-03
523702.65	4259211.23	10.33553	0.00157	0.00008	2.34661E-05	0.001572594	0.00000	0.00002	7.64535E-05	0.00160	1.67251E-03
523746.84	4259211.23	15.28164	0.00233	0.00009	2.63993E-05	0.002325165	0.00000	0.00003	8.60101E-05	0.00235	2.43757E-03
523791.03	4259211.23	18.642	0.00284	0.00008	2.34661E-05	0.002836458	0.00000	0.00002	7.64535E-05	0.00286	2.93638E-03
523835.22	4259211.23	18.06213	0.00275	0.00007	2.05328E-05	0.002748228	0.00000	0.00002	6.68968E-05	0.00277	2.83566E-03
524144.55	4259211.23	7.14419	0.00109	0.00002	5.86652E-06	0.001087018	0.00000	0.00001	1.91134E-05	0.00109	1.11200E-03
524188.74	4259211.23	6.24329	0.00095	0.00002	5.86652E-06	0.000949943	0.00000	0.00001	1.91134E-05	0.00096	9.74922E-04
524232.93	4259211.23	4.76011	0.00072	0.00001	2.93326E-06	0.000724271	0.00000	0.00000	9.55668E-06	0.00073	7.36760E-04
524277.12	4259211.23	3.48118	0.00053	0.00001	2.93326E-06	0.000529676	0.00000	0.00000	9.55668E-06	0.00053	5.42166E-04
524321.31	4259211.23	2.63009	0.00040	0.00001	2.93326E-06	0.000400179	0.00000	0.00000	9.55668E-06	0.00040	4.12669E-04
523481.7	4259255.7	1.07706	0.00016	0.00003	8.79977E-06	0.000163879	0.00000	0.00001	2.86700E-05	0.00017	2.01349E-04
523525.89	4259255.7	1.60532	0.00024	0.00004	1.17330E-05	0.000244256	0.00000	0.00001	3.82267E-05	0.00026	2.94216E-04
523570.08	4259255.7	2.49252	0.00038	0.00005	1.46663E-05	0.000379247	0.00000	0.00001	4.77834E-05	0.00039	4.41697E-04
523614.27	4259255.7	3.75891	0.00057	0.00005	1.46663E-05	0.000571934	0.00000	0.00001	4.77834E-05	0.00059	6.34383E-04
523658.46	4259255.7	5.42052	0.00082	0.00006	1.75995E-05	0.000824755	0.00000	0.00002	5.73401E-05	0.00084	8.99694E-04
523702.65	4259255.7	7.65091	0.00116	0.00007	2.05328E-05	0.001164118	0.00000	0.00002	6.68968E-05	0.00118	1.25155E-03
523746.84	4259255.7	10.32378	0.00157	0.00007	2.05328E-05	0.001570806	0.00000	0.00002	6.68968E-05	0.00159	1.65824E-03
523791.03	4259255.7	12.26052	0.00187	0.00007	2.05328E-05	0.001865489	0.00000	0.00002	6.68968E-05	0.00189	1.95292E-03
523835.22	4259255.7	12.74914	0.00194	0.00006	1.75995E-05	0.001939835	0.00000	0.00002	5.73401E-05	0.00196	2.01477E-03
523879.41	4259255.7	12.63056	0.00192	0.00005	1.46663E-05	0.001921792	0.00000	0.00001	4.77834E-05	0.00194	1.98424E-03
523923.6	4259255.7	12.22517	0.00186	0.00004	1.17330E-05	0.00186011	0.00000	0.00001	3.82267E-05	0.00187	1.91007E-03
523967.79	4259255.7	11.36764	0.00173	0.00003	8.79977E-06	0.001729634	0.00000	0.00001	2.86700E-05	0.00174	1.76710E-03
524011.98	4259255.7	9.75888	0.00148	0.00003	8.79977E-06	0.001484854	0.00000	0.00001	2.86700E-05	0.00149	1.52232E-03
524056.17	4259255.7	8.37124	0.00127	0.00002	5.86652E-06	0.001273719	0.00000	0.00001	1.91134E-05	0.00128	1.29870E-03
524100.36	4259255.7	6.95563	0.00106	0.00002	5.86652E-06	0.001058328	0.00000	0.00001	1.91134E-05	0.00106	1.08331E-03
524144.55	4259255.7	5.91155	0.00090	0.00002	5.86652E-06	0.000899467	0.00000	0.00001	1.91134E-05	0.00091	9.24447E-04
524188.74	4259255.7	4.9491	0.00075	0.00001	2.93326E-06	0.000753026	0.00000	0.00000	9.55668E-06	0.00076	7.65516E-04
524232.93	4259255.7	3.74249	0.00057	0.00001	2.93326E-06	0.000569435	0.00000	0.00000	9.55668E-06	0.00057	5.81925E-04
524277.12	4259255.7	2.75749	0.00042	0.00001	2.93326E-06	0.000419564	0.00000	0.00000	9.55668E-06	0.00042	4.32053E-04
524321.31	4259255.7	2.20105	0.00033	0.00001	2.93326E-06	0.000334899	0.00000	0.00000	9.55668E-06	0.00034	3.47389E-04
523481.7	4259300.17	1.21499	0.00018	0.00003	8.79977E-06	0.000184866	0.00000	0.00001	2.86700E-05	0.00019	2.22336E-04
523525.89	4259300.17	1.70813	0.00026	0.00004	1.17330E-05	0.000259899	0.00000	0.00001	3.82267E-05	0.00027	3.09859E-04
523570.08	4259300.17	2.41406	0.00037	0.00004	1.17330E-05	0.000367309	0.00000	0.00001	3.82267E-05	0.00038	4.17269E-04
523614.27	4259300.17	3.34814	0.00051	0.00005	1.46663E-05	0.000509433	0.00000	0.00001	4.77834E-05	0.00052	5.71883E-04
523658.46	4259300.17	4.49649	0.00068	0.00005	1.46663E-05	0.00068416	0.00000	0.00001	4.77834E-05	0.00070	7.46609E-04
523702.65	4259300.17	6.00509	0.00091	0.00006	1.75995E-05	0.000913699	0.00000	0.00002	5.73401E-05	0.00093	9.88639E-04
523746.84	4259300.17	7.7946	0.00119	0.00006	1.75995E-05	0.001185981	0.00000	0.00002	5.73401E-05	0.00120	1.26092E-03
523791.03	4259300.17	9.15058	0.00139	0.00006	1.75995E-05	0.001392299	0.00000	0.00002	5.73401E-05	0.00141	1.46724E-03
523835.22	4259300.17	9.79213	0.00149	0.00005	1.46663E-05	0.001489913	0.00000	0.00001	4.77834E-05	0.00150	1.55236E-03
523879.41	4259300.17	10.1089	0.00154	0.00004	1.17330E-05	0.001538111	0.00000	0.00001	3.82267E-05	0.00155	1.58807E-03
523923.6	4259300.17	9.61961	0.00146	0.00004	1.17330E-05	0.001463664	0.00000	0.00001	3.82267E-05	0.00148	1.51362E-03
523967.79	4259300.17	8.93048	0.00136	0.00003	8.79977E-06	0.00135881	0.00000	0.00001	2.86700E-05	0.00137	1.39628E-03
524011.98	4259300.17	7.56498	0.00115	0.00002	5.86652E-06	0.001151043	0.00000	0.00001	1.91134E-05	0.00116	1.17602E-03
524056.17	4259300.17	6.64698	0.00101	0.00002	5.86652E-06	0.001011366	0.00000	0.00001	1.91134E-05	0.00102	1.03635E-03
524100.36	4259300.17	5.73651	0.00087	0.00002	5.86652E-06	0.000872834	0.00000	0.00001	1.91134E-05	0.00088	8.97814E-04
524144.55	4259300.17	4.92379	0.00075	0.00002	5.86652E-06	0.000749175	0.00000	0.00001	1.91134E-05	0.00076	7.74155E-04
524188.74	4259300.17	4.02069	0.00061	0.00001	2.93326E-06	0.000611765	0.00000	0.00000	9.55668E-06	0.00061	6.24255E-04
524232.93	4259300.17	3.08605	0.00047	0.00001	2.93326E-06	0.000469555	0.00000	0.00000	9.55668E-06	0.00047	4.82045E-04
524277.12	4259300.17	2.37375	0.00036	0.00001	2.93326E-06	0.000361176	0.00000	0.00000	9.55668E-06	0.00036	3.73666E-04
524321.31	4259300.17	1.89921	0.00029	0.00001	2.93326E-06	0.000288973	0.00000	0.00000	9.55668E-06	0.00029	3.01463E-04
523481.7	4259344.64	1.28503	0.00020	0.00003	8.79977E-06	0.000195523	0.00000	0.00001	2.86700E-05	0.00020	2.32992E-04
523525.89	4259344.64	1.6993	0.00026	0.00003	8.79977E-06	0.000258556	0.00000	0.00001	2.86700E-05	0.00027	2.96025E-04
523570.08	4259344.64	2.2477	0.00034	0.00004	1.17330E-05	0.000341997	0.00000	0.00001	3.82267E-05	0.00035	3.91957E-04
523614.27	4259344.64	2.96888	0.00045	0.00004	1.17330E-05	0.000451727	0.00000	0.00001	3.82267E-05	0.00046	5.01687E-04
523658.46	4259344.64	3.89409	0.00059	0.00004	1.17330E-05	0.000592502	0.00000	0.00001	3.82267E-05	0.00060	6.42462E-04
523702.65	4259344.64	4.9253	0.00075	0.00005	1.46663E-05	0.000749405	0.00000	0.00001	4.77834E-05	0.00076	8.11855E-04
523746.84	4259344.64	6.1603	0.00094	0.00005	1.46663E-05	0.000937315	0.00000	0.00001	4.77834E-05	0.00095	9.99765E-04
523791.03	4259344.64	7.23646	0.00110	0.00005	1.46663E-05	0.001101057	0.00000	0.00001	4.77834E-05	0.00112	1.16351E-03
523835.22	4259344.64	7.80256	0.00119	0.00004	1.17330E-05	0.001187192	0.00000	0.00001	3.82267E-05	0.00120	1.23715E-03
523879.41	4259344.64	7.96877	0.00121	0.00004	1.17330E-05	0.001212481	0.00000	0.00001	3.82267E-05	0.00122	1.26244E-03
523923.6	4259344.64	7.61647	0.00116	0.00003	8.79977E-06	0.001158878	0.00000	0.00001	2.86700E-05	0.00117	1.19635E-03
523967.79	4259344.64	7.18158	0.00109	0.00003	8.79977E-06	0.001092707	0.00000	0.00001	2.86700E-05	0.00110	1.13018E-03
524011.98	4259344.64	6.64443	0.00101	0.00002	5.86652E-06	0.001010978	0.00000	0.00001	1.91134E-05	0.00102	1.03596E-03
524056.17	4259344.64	6.08613	0.00093	0.00002	5.86652E-06	0.00092603	0.00000	0.00001	1.91134E-05	0.00093	9.51010E-04
524100.36	4259344.64	5.25219	0.00080	0.00002	5.86652E-06	0.000799143	0.00000	0.00001	1.91134E-05	0.00081	8.24122E-04
524144.55	4259344.64	4.25216	0.00065	0.00001	2.93326E-06	0.000646984	0.00000	0.00000	9.55668E-06	0.00065	6.59474E-04
524188.74	4259344.64	3.33524	0.00051	0.00001	2.93326E-06	0.000507471	0.00000	0.00000	9.55668E-06	0.00051	5.19961E-04
524232.93	4259344.64	2.65176	0.00040	0.00001	2.93326E-06	0.000403476	0.00000	0.00000	9.55668E-06	0.00041	4.15966E-04
524277.12	4259344.64	2.08054	0.00032	0.00001	2.93326E-06	0.000316563	0.00000	0.00000	9.55668E-06	0.00032	3.29053E-04
524321.31	4259344.64	1.69669	0.00026	0.00001	2.93326E-06	0.000258158	0.00000	0.00000	9.55668E-06	0.00026	2.70648E-04

Round Barn Village Project

Cancer Risk Impacts from Construction at the Maximum Impacted Sensitive Receptor - Infant

Cancer Potency Factor:	1.1	$(mg/kg\text{-}day)^{-1}$
Exposure Frequency	350	days/year
Averaging Period	25550	days

Year	Unit DPM Concentration (ug/m3)	Age Sensitivty Factor	Daily Breathing Rate (L/kg-day)	Time At Home Factor	Exposure Duration (years)	Unit Risk Factor $(ug/m3)^{-1}$
3rd Trimester	1	10	361	0.85	0.25	11.6
1	1	10	1090	0.85	1	139.6
2	1	10	1090	0.85	1	139.6
3	1	3	572	0.72	1	18.6

BAAQMD 2016. Air Toxics NSR Program Health Risk Assessment (HRA) Guidelines

Round Barn Village Project **Tier IV Mitigation** **at Sensitive Receptors**

Estimated Cancer Risks from Construction DPM - Infant Receptors

X (m)	Y (m)	InfantCancer Risk (3rd Trimester) 2018 (/million)	Infant Cancer Risk (year 1) 2018 (/million)	Infant Cancer Risk (year 2) 2019 (/million)	Child Cancer Risk (year 1) 2020 (/million)	Total Cancer Risk (/million)
523481.7	4258499.71	0.001	0.008	0.022	0.001	0.03229
523525.89	4258499.71	0.001	0.011	0.035	0.002	0.04863
523570.08	4258499.71	0.001	0.014	0.058	0.003	0.07622
523614.27	4258499.71	0.002	0.018	0.089	0.005	0.11308
523658.46	4258499.71	0.002	0.024	0.137	0.007	0.16997
523702.65	4258499.71	0.002	0.026	0.129	0.007	0.16363
523746.84	4258499.71	0.002	0.029	0.113	0.006	0.14985
523791.03	4258499.71	0.003	0.033	0.107	0.006	0.14807
523835.22	4258499.71	0.003	0.039	0.110	0.006	0.15802
523879.41	4258499.71	0.004	0.046	0.118	0.007	0.17499
523923.6	4258499.71	0.005	0.054	0.131	0.008	0.19741
523967.79	4258499.71	0.005	0.063	0.135	0.008	0.21124
524011.98	4258499.71	0.006	0.073	0.150	0.009	0.23839
524056.17	4258499.71	0.007	0.084	0.167	0.010	0.26836
524100.36	4258499.71	0.008	0.094	0.184	0.012	0.29771
524144.55	4258499.71	0.009	0.104	0.202	0.013	0.32738
524188.74	4258499.71	0.009	0.109	0.210	0.013	0.34169
524232.93	4258499.71	0.009	0.107	0.206	0.013	0.33549
5234817	4258544.18	0.001	0.008	0.025	0.001	0.03556
523525.89	4258544.18	0.001	0.012	0.056	0.003	0.07163
523570.08	4258544.18	0.002	0.019	0.126	0.006	0.15274
523614.27	4258544.18	0.002	0.020	0.110	0.006	0.13694
523658.46	4258544.18	0.003	0.032	0.244	0.012	0.29019
523702.65	4258544.18	0.002	0.026	0.116	0.006	0.15044
523746.84	4258544.18	0.003	0.031	0.120	0.007	0.16060
523791.03	4258544.18	0.003	0.040	0.173	0.009	0.22520
523835.22	4258544.18	0.004	0.045	0.147	0.008	0.20383
523879.41	4258544.18	0.004	0.053	0.152	0.009	0.21837
5239236	4258544.18	0.005	0.062	0.153	0.009	0.22893
523967.79	4258544.18	0.006	0.072	0.153	0.009	0.24042
524011.98	4258544.18	0.007	0.084	0.170	0.011	0.27093
524056.17	4258544.18	0.008	0.097	0.190	0.012	0.30739
524100.36	4258544.18	0.009	0.112	0.218	0.014	0.35340
524144.55	4258544.18	0.011	0.127	0.244	0.015	0.39728
524188.74	4258544.18	0.011	0.138	0.264	0.017	0.42935
524232.93	4258544.18	0.011	0.128	0.245	0.015	0.39810
5234817	4258588.65	0.001	0.008	0.031	0.002	0.04136
523525.89	4258588.65	0.001	0.012	0.061	0.003	0.07772
523570.08	4258588.65	0.002	0.020	0.148	0.007	0.17770
523614.27	4258588.65	0.002	0.023	0.143	0.007	0.17483
523658.46	4258588.65	0.002	0.024	0.116	0.006	0.14852
523702.65	4258588.65	0.002	0.029	0.129	0.007	0.16764
523746.84	4258588.65	0.003	0.037	0.177	0.009	0.22646
523791.03	4258588.65	0.004	0.047	0.237	0.012	0.30080
523835.22	4258588.65	0.004	0.050	0.163	0.009	0.22584
523879.41	4258588.65	0.005	0.064	0.240	0.013	0.32274
5239236	4258588.65	0.006	0.071	0.184	0.011	0.27080
523967.79	4258588.65	0.007	0.081	0.173	0.011	0.27115
524011.98	4258588.65	0.008	0.095	0.191	0.012	0.30598
524056.17	4258588.65	0.009	0.113	0.222	0.014	0.35887
524100.36	4258588.65	0.011	0.134	0.260	0.016	0.42150
524144.55	4258588.65	0.013	0.152	0.292	0.018	0.47562
524188.74	4258588.65	0.013	0.158	0.303	0.019	0.49362
524232.93	4258588.65	0.012	0.149	0.285	0.018	0.46368
5234817	4258633.12	0.001	0.009	0.038	0.002	0.04981
523525.89	4258633.12	0.001	0.014	0.085	0.004	0.10443
523570.08	4258633.12	0.001	0.016	0.074	0.004	0.09496
523614.27	4258633.12	0.002	0.019	0.074	0.004	0.09887
523658.46	4258633.12	0.002	0.023	0.081	0.004	0.11035
523702.65	4258633.12	0.002	0.029	0.095	0.005	0.13072
523746.84	4258633.12	0.003	0.036	0.116	0.006	0.16149
523791.03	4258633.12	0.004	0.046	0.148	0.008	0.20552
523835.22	4258633.12	0.005	0.059	0.210	0.012	0.28462
523879.41	4258633.12	0.006	0.075	0.298	0.016	0.39504
5239236	4258633.12	0.007	0.080	0.210	0.012	0.30948
523967.79	4258633.12	0.008	0.092	0.199	0.012	0.31092
524011.98	4258633.12	0.009	0.111	0.223	0.014	0.35731
524056.17	4258633.12	0.011	0.135	0.264	0.017	0.42737
524100.36	4258633.12	0.013	0.161	0.312	0.020	0.50601
524144.55	4258633.12	0.015	0.181	0.348	0.022	0.56597
524188.74	4258633.12	0.016	0.188	0.360	0.023	0.58564
524232.93	4258633.12	0.014	0.173	0.332	0.021	0.54018
5234817	4258677.59	0.001	0.008	0.031	0.002	0.04104
523525.89	4258677.59	0.001	0.011	0.042	0.002	0.05574
523570.08	4258677.59	0.001	0.014	0.048	0.003	0.06629
523614.27	4258677.59	0.002	0.019	0.059	0.003	0.08292
523658.46	4258677.59	0.002	0.024	0.068	0.004	0.09772
523702.65	4258677.59	0.003	0.030	0.084	0.005	0.12195
523746.84	4258677.59	0.003	0.040	0.107	0.006	0.15663
523791.03	4258677.59	0.004	0.051	0.147	0.008	0.21094
523835.22	4258677.59	0.006	0.069	0.262	0.014	0.35105
523879.41	4258677.59	0.007	0.084	0.297	0.016	0.40369
5239236	4258677.59	0.008	0.092	0.218	0.013	0.33005
523967.79	4258677.59	0.009	0.110	0.228	0.014	0.36029
524011.98	4258677.59	0.011	0.137	0.272	0.017	0.43778
524056.17	4258677.59	0.014	0.175	0.340	0.021	0.55036
524100.36	4258677.59	0.018	0.215	0.413	0.026	0.67170
524144.55	4258677.59	0.020	0.240	0.460	0.029	0.74872
5234817	4258722.06	0.001	0.008	0.024	0.001	0.03438
523525.89	4258722.06	0.001	0.010	0.033	0.002	0.04611
523570.08	4258722.06	0.001	0.014	0.043	0.002	0.06019
523614.27	4258722.06	0.002	0.019	0.053	0.003	0.07683
523658.46	4258722.06	0.002	0.026	0.066	0.004	0.09738
523702.65	4258722.06	0.003	0.035	0.086	0.005	0.12812
523746.84	4258722.06	0.004	0.046	0.118	0.007	0.17568
523791.03	4258722.06	0.005	0.063	0.187	0.011	0.26500
5234817	4258766.53	0.001	0.008	0.023	0.001	0.03313
523525.89	4258766.53	0.001	0.011	0.030	0.002	0.04363
523570.08	4258766.53	0.001	0.014	0.039	0.002	0.05641
523614.27	4258766.53	0.002	0.020	0.051	0.003	0.07507
523658.46	4258766.53	0.002	0.028	0.070	0.004	0.10415
523702.65	4258766.53	0.003	0.040	0.096	0.006	0.14481
523746.84	4258766.53	0.005	0.056	0.142	0.008	0.21110
523791.03	4258766.53	0.007	0.081	0.278	0.015	0.38045
5234817	4258811	0.001	0.009	0.023	0.001	0.03335
523525.89	4258811	0.001	0.011	0.029	0.002	0.04330
523570.08	4258811	0.001	0.015	0.038	0.002	0.05658
523614.27	4258811	0.002	0.021	0.052	0.003	0.07766
523658.46	4258811	0.003	0.031	0.074	0.004	0.11154
523702.65	4258811	0.004	0.046	0.113	0.007	0.16986
523746.84	4258811	0.006	0.071	0.189	0.011	0.27647
523791.03	4258811	0.009	0.104	0.336	0.019	0.46638
5234817	4258855.47	0.001	0.009	0.022	0.001	0.03294
523525.89	4258855.47	0.001	0.012	0.029	0.002	0.04362
523570.08	4258855.47	0.001	0.016	0.039	0.002	0.05791
523614.27	4258855.47	0.002	0.022	0.054	0.003	0.08119
523658.46	4258855.47	0.003	0.035	0.083	0.005	0.12582
523702.65	4258855.47	0.005	0.057	0.144	0.008	0.21403
523746.84	4258855.47	0.008	0.096	0.285	0.016	0.40554
523791.03	4258855.47	0.011	0.138	0.381	0.022	0.55346
5234817	4258899.94	0.001	0.009	0.022	0.001	0.03288
523525.89	4258899.94	0.001	0.012	0.028	0.002	0.04214
523570.08	4258899.94	0.001	0.016	0.038	0.002	0.05766
523614.27	4258899.94	0.002	0.023	0.056	0.003	0.08446
523658.46	4258899.94	0.003	0.039	0.094	0.006	0.14194
523702.65	4258899.94	0.006	0.074	0.218	0.012	0.31069
523746.84	4258899.94	0.011	0.137	0.385	0.022	0.55509
5234817	4259944.41	0.001	0.009	0.022	0.001	0.03358
523525.89	4259944.41	0.001	0.012	0.028	0.002	0.04250
523570.08	4259944.41	0.001	0.016	0.038	0.002	0.05794
523614.27	4259944.41	0.002	0.024	0.056	0.003	0.08569
523702.65	4259944.41	0.008	0.092	0.243	0.014	0.35729
523746.84	4259944.41	0.019	0.229	0.554	0.033	0.83504
5234817	4259988.88	0.001	0.010	0.023	0.001	0.03559
523525.89	4259988.88	0.001	0.013	0.029	0.002	0.04460
523570.08	4259988.88	0.001	0.017	0.039	0.002	0.06009
523614.27	4259988.88	0.002	0.025	0.060	0.004	0.09135
523702.65	4259988.88	0.011	0.129	0.363	0.021	0.52339
5234817	4259033.35	0.001	0.012	0.026	0.002	0.04008
523525.89	4259033.35	0.001	0.015	0.033	0.002	0.05051
523570.08	4259033.35	0.002	0.020	0.046	0.003	0.06964
523614.27	4259033.35	0.002	0.030	0.070	0.004	0.10627
5234817	4259077.82	0.001	0.013	0.029	0.002	0.04436
523525.89	4259077.82	0.001	0.017	0.037	0.002	0.05823
523570.08	4259077.82	0.002	0.024	0.054	0.003	0.08331
523614.27	4259077.82	0.003	0.041	0.089	0.005	0.13952
5234817	4259122.29	0.001	0.014	0.031	0.002	0.04898
523525.89	4259122.29	0.002	0.020	0.044	0.003	0.06841
523570.08	4259122.29	0.003	0.032	0.068	0.004	0.10611
523614.27	4259122.29	0.005	0.060	0.123	0.008	0.19581
5234817	4259166.76	0.001	0.016	0.035	0.002	0.05529
523525.89	4259166.76	0.002	0.025	0.053	0.003	0.08278
523570.08	4259166.76	0.003	0.042	0.086	0.005	0.13687
523614.27	4259166.76	0.007	0.081	0.162	0.010	0.25903
524232.93	4259166.76	0.011	0.137	0.263	0.017	0.42820
524277.12	4259166.76	0.008	0.099	0.190	0.012	0.30994
524321.31	4259166.76	0.006	0.069	0.131	0.008	0.21385
5234817	4259211.23	0.002	0.021	0.042	0.003	0.06748
523525.89	4259211.23	0.003	0.032	0.065	0.004	0.10347
523570.08	4259211.23	0.004	0.053	0.107	0.007	0.17125
523614.27	4259211.23	0.008	0.093	0.183	0.011	0.29468
523658.46	4259211.23	0.013	0.152	0.297	0.019	0.48029
523702.65	4259211.23	0.020	0.243	0.471	0.030	0.76420
523746.84	4259211.23	0.030	0.360	0.693	0.044	1.12628
523791.03	4259211.23	0.036	0.439	0.842	0.053	1.37012
523835.22	4259211.23	0.035	0.425	0.815	0.052	1.32653
524144.55	4259211.23	0.014	0.168	0.321	0.020	0.52370
524188.74	4259211.23	0.012	0.147	0.281	0.018	0.45799
524232.93	4259211.23	0.009	0.112	0.214	0.014	0.34851
524277.12	4259211.23	0.007	0.082	0.157	0.010	0.25522
524321.31	4259211.23	0.005	0.062	0.119	0.008	0.19314
5234817	4259255.7	0.002	0.026	0.052	0.003	0.08242
523525.89	4259255.7	0.003	0.038	0.076	0.005	0.12224
523570.08	4259255.7	0.005	0.059	0.117	0.007	0.18824
523614.27	4259255.7	0.007	0.089	0.174	0.011	0.28062
523658.46	4259255.7	0.011	0.128	0.249	0.016	0.40311
523702.65	4259255.7	0.015	0.180	0.350	0.022	0.56709
523746.84	4259255.7	0.020	0.243	0.469	0.030	0.76206
523791.03	4259255.7	0.024	0.289	0.556	0.035	0.90334
523835.22	4259255.7	0.025	0.300	0.576	0.036	0.93769
523879.41	4259255.7	0.025	0.297	0.570	0.036	0.92776
5239236	4259255.7	0.024	0.288	0.551	0.035	0.89690
523967.79	4259255.7	0.022	0.267	0.511	0.032	0.83307
524011.98	4259255.7	0.019	0.230	0.439	0.028	0.71571
524056.17	4259255.7	0.016	0.197	0.376	0.024	0.61321
524100.36	4259255.7	0.014	0.164	0.313	0.020	0.50995
524144.55	4259255.7	0.012	0.139	0.266	0.017	0.43379
524188.74	4259255.7	0.010	0.116	0.222	0.014	0.36230
524232.93	4259255.7	0.007	0.088	0.168	0.011	0.27428
524277.12	4259255.7	0.005	0.065	0.124	0.008	0.20243
524321.31	4259255.7	0.004	0.052	0.099	0.006	0.16184
5234817	4259300.17	0.002	0.029	0.058	0.004	0.09248
523525.89	4259300.17	0.003	0.040	0.081	0.005	0.12974
523570.08	4259300.17	0.005	0.057	0.112	0.007	0.18123
523614.27	4259300.17	0.007	0.079	0.155	0.010	0.25065
523658.46	4259300.17	0.009	0.106	0.207	0.013	0.33442
523702.65	4259300.17	0.012	0.142	0.275	0.017	0.44575
523746.84	4259300.17	0.015	0.184	0.355	0.022	0.57629
523791.03	4259300.17	0.018	0.215	0.416	0.026	0.67520
523835.22	4259300.17	0.019	0.230	0.443	0.028	0.72071
523879.41	4259300.17	0.020	0.238	0.456	0.029	0.74253
5239236	4259300.17	0.019	0.226	0.434	0.027	0.70684
523967.79	4259300.17	0.017	0.210	0.402	0.025	0.65529
524011.98	4259300.17	0.015	0.178	0.340	0.022	0.55440
524056.17	4259300.17	0.013	0.156	0.299	0.019	0.48743
524100.36	4259300.17	0.011	0.135	0.259	0.016	0.42102
524144.55	4259300.17	0.010	0.116	0.222	0.014	0.36174
524188.74	4259300.17	0.008	0.095	0.181	0.011	0.29457
524232.93	4259300.17	0.006	0.073	0.139	0.009	0.22640
524277.12	4259300.17	0.005	0.056	0.107	0.007	0.17444
524321.31	4259300.17	0.004	0.045	0.086	0.005	0.13982
5234817	4259344.64	0.003	0.030	0.061	0.004	0.09759
523525.89	4259344.64	0.003	0.040	0.079	0.005	0.12781
523570.08	4259344.64	0.004	0.053	0.105	0.007	0.16910
523614.27	4259344.64	0.006	0.070	0.137	0.009	0.22170
523658.46	4259344.64	0.008	0.092	0.179	0.011	0.28919
523702.65	4259344.64	0.010	0.116	0.226	0.014	0.36570
523746.84	4259344.64	0.012	0.145	0.281	0.018	0.45579
523791.03	4259344.64	0.014	0.170	0.329	0.021	0.53429
523835.22	4259344.64	0.015	0.184	0.353	0.022	0.57430
523879.41	4259344.64	0.016	0.188	0.361	0.023	0.58642
5239236	4259344.64	0.015	0.179	0.344	0.022	0.55944
523967.79	4259344.64	0.014	0.169	0.324	0.021	0.52771
524011.98	4259344.64	0.013	0.156	0.299	0.019	0.48725
524056.17	4259344.64	0.012	0.143	0.274	0.017	0.44652
524100.36	4259344.64	0.010	0.124	0.237	0.015	0.38569
524144.55	4259344.64	0.008	0.100	0.191	0.012	0.31146
524188.74	4259344.64	0.006	0.078	0.150	0.010	0.24457
524232.93	4259344.64	0.005	0.062	0.120	0.008	0.19472
524277.12	4259344.64	0.004	0.049	0.094	0.006	0.15305
524321.31	4259344.64	0.003	0.040	0.077	0.005	0.12505

MIR Cancer Risk
1.4

BAAQMD thresholds of significance
10

Exceed threshold?
No

Round Barn Village Project

Tier IV Mitigation

Cancer Risk Impacts from Construction at the Maximum Impacted Sensitive Receptor - Child
UTM: (565046,4185977)

Cancer Potency Factor:	1.1	$(mg/kg\text{-}day)^{-1}$
Exposure Frequency	350	days/year
Averaging Period	25550	days

Year	DPM Concentration (ug/m3)	Age Sensitivty Factor	Daily Breathing Rate (L/kg-day)	Time At Home Factor	Exposure Duration (years)	Unit Risk Factor $(ug/m3)^{-1}$
1	1	3	572	0.72	1	18.6
2	1	3	572	0.72	1	18.6
3	1	3	572	0.72	1	18.6

BAAQMD 2016. Air Toxics NSR Program Health Risk Assessment (HRA) Guidelines

Round Barn Village Project **Tier IV Mitigation** **at Sensitive Receptors**

Estimated Cancer Risks from Construction DPM

X (m)	Y (m)	Child Cancer Risk (year 1) 2018 (/million)	Child Cancer Risk (year 2) 2019 (/million)	Child Cancer Risk (year 3) 2020 (/million)	Total Cancer Risk (/million)
523481.7	4258499.71	0.001	0.003	0.001	0.00533
523525.89	4258499.71	0.001	0.005	0.002	0.00807
523570.08	4258499.71	0.002	0.008	0.003	0.01270
523614.27	4258499.71	0.002	0.012	0.005	0.01891
523658.46	4258499.71	0.003	0.018	0.007	0.02850
523702.65	4258499.71	0.003	0.017	0.007	0.02736
523746.84	4258499.71	0.004	0.015	0.006	0.02495
523791.03	4258499.71	0.004	0.014	0.006	0.02455
523835.22	4258499.71	0.005	0.015	0.006	0.02611
523879.41	4258499.71	0.006	0.016	0.007	0.02884
523923.6	4258499.71	0.007	0.017	0.008	0.03248
523967.79	4258499.71	0.008	0.018	0.008	0.03465
524011.98	4258499.71	0.010	0.020	0.009	0.03904
524056.17	4258499.71	0.011	0.022	0.010	0.04392
524100.36	4258499.71	0.013	0.025	0.012	0.04870
524144.55	4258499.71	0.014	0.027	0.013	0.05354
524188.74	4258499.71	0.015	0.028	0.013	0.05587
524232.93	4258499.71	0.014	0.027	0.013	0.05485
523481.7	4258544.18	0.001	0.003	0.001	0.00589
523525.89	4258544.18	0.002	0.007	0.003	0.01197
523570.08	4258544.18	0.003	0.017	0.006	0.02567
523614.27	4258544.18	0.003	0.015	0.006	0.02294
523658.46	4258544.18	0.004	0.033	0.012	0.04886
523702.65	4258544.18	0.004	0.015	0.006	0.02510
523746.84	4258544.18	0.004	0.016	0.007	0.02673
523791.03	4258544.18	0.005	0.023	0.009	0.03757
523835.22	4258544.18	0.006	0.020	0.008	0.03380
523879.41	4258544.18	0.007	0.020	0.009	0.03609
523923.6	4258544.18	0.008	0.020	0.009	0.03769
523967.79	4258544.18	0.010	0.020	0.009	0.03943
524011.98	4258544.18	0.011	0.023	0.011	0.04436
524056.17	4258544.18	0.013	0.025	0.012	0.05029
524100.36	4258544.18	0.015	0.029	0.014	0.05779
524144.55	4258544.18	0.017	0.033	0.015	0.06496
524188.74	4258544.18	0.018	0.035	0.017	0.07019
524232.93	4258544.18	0.017	0.033	0.015	0.06509
523481.7	4258588.65	0.001	0.004	0.002	0.00688
523525.89	4258588.65	0.002	0.008	0.003	0.01300
523570.08	4258588.65	0.003	0.020	0.007	0.02990
523614.27	4258588.65	0.003	0.019	0.007	0.02935
523658.46	4258588.65	0.003	0.016	0.006	0.02482
523702.65	4258588.65	0.004	0.017	0.007	0.02798
523746.84	4258588.65	0.005	0.024	0.009	0.03784
523791.03	4258588.65	0.006	0.032	0.012	0.05031
523835.22	4258588.65	0.007	0.022	0.009	0.03745
523879.41	4258588.65	0.009	0.032	0.013	0.05367
523923.6	4258588.65	0.009	0.024	0.011	0.04465
523967.79	4258588.65	0.011	0.023	0.011	0.04448
524011.98	4258588.65	0.013	0.026	0.012	0.05010
524056.17	4258588.65	0.015	0.030	0.014	0.05871
524100.36	4258588.65	0.018	0.035	0.016	0.06893
524144.55	4258588.65	0.020	0.039	0.018	0.07776
524188.74	4258588.65	0.021	0.040	0.019	0.08070
524232.93	4258588.65	0.020	0.038	0.018	0.07581
523481.7	4258633.12	0.001	0.005	0.002	0.00831
523525.89	4258633.12	0.002	0.011	0.004	0.01753
523570.08	4258633.12	0.002	0.010	0.004	0.01587
523614.27	4258633.12	0.003	0.010	0.004	0.01646
523658.46	4258633.12	0.003	0.011	0.004	0.01833
523702.65	4258633.12	0.004	0.013	0.005	0.02168
523746.84	4258633.12	0.005	0.015	0.006	0.02676
523791.03	4258633.12	0.006	0.020	0.008	0.03407
523835.22	4258633.12	0.008	0.028	0.012	0.04729
523879.41	4258633.12	0.010	0.040	0.016	0.06578
523923.6	4258633.12	0.011	0.028	0.012	0.05103
523967.79	4258633.12	0.012	0.027	0.012	0.05100
524011.98	4258633.12	0.015	0.030	0.014	0.05850
524056.17	4258633.12	0.018	0.035	0.017	0.06991
524100.36	4258633.12	0.022	0.042	0.020	0.08275
524144.55	4258633.12	0.024	0.046	0.022	0.09254
524188.74	4258633.12	0.025	0.048	0.023	0.09575
524232.93	4258633.12	0.023	0.044	0.021	0.08831
523481.7	4258677.59	0.001	0.004	0.002	0.00682
523525.89	4258677.59	0.001	0.006	0.002	0.00927
523570.08	4258677.59	0.002	0.006	0.003	0.01100
523614.27	4258677.59	0.002	0.008	0.003	0.01374
523658.46	4258677.59	0.003	0.009	0.004	0.01615
523702.65	4258677.59	0.004	0.011	0.005	0.02014
523746.84	4258677.59	0.005	0.014	0.006	0.02585
523791.03	4258677.59	0.007	0.020	0.008	0.03486
523835.22	4258677.59	0.009	0.035	0.014	0.05839
523879.41	4258677.59	0.011	0.040	0.016	0.06705
523923.6	4258677.59	0.012	0.029	0.013	0.05428
523967.79	4258677.59	0.015	0.030	0.014	0.05904
524011.98	4258677.59	0.018	0.036	0.017	0.07164
524056.17	4258677.59	0.023	0.045	0.021	0.09001
524100.36	4258677.59	0.029	0.055	0.026	0.10983
524144.55	4258677.59	0.032	0.061	0.029	0.12241
523481.7	4258722.06	0.001	0.003	0.001	0.00569
523525.89	4258722.06	0.001	0.004	0.002	0.00764
523570.08	4258722.06	0.002	0.006	0.002	0.00996
523614.27	4258722.06	0.003	0.007	0.003	0.01269
523658.46	4258722.06	0.003	0.009	0.004	0.01605
523702.65	4258722.06	0.005	0.011	0.005	0.02110
523746.84	4258722.06	0.006	0.016	0.007	0.02895
523791.03	4258722.06	0.008	0.025	0.011	0.04384
523481.7	4258766.53	0.001	0.003	0.001	0.00547
523525.89	4258766.53	0.001	0.004	0.002	0.00721
523570.08	4258766.53	0.002	0.005	0.002	0.00931
523614.27	4258766.53	0.003	0.007	0.003	0.01237
523658.46	4258766.53	0.004	0.009	0.004	0.01715
523702.65	4258766.53	0.005	0.013	0.006	0.02383
523746.84	4258766.53	0.007	0.019	0.008	0.03479
523791.03	4258766.53	0.011	0.037	0.015	0.06315
523481.7	4258811	0.001	0.003	0.001	0.00550
523525.89	4258811	0.001	0.004	0.002	0.00714
523570.08	4258811	0.002	0.005	0.002	0.00933
523614.27	4258811	0.003	0.007	0.003	0.01279
523658.46	4258811	0.004	0.010	0.004	0.01835
523702.65	4258811	0.006	0.015	0.007	0.02796
523746.84	4258811	0.009	0.025	0.011	0.04561
523791.03	4258811	0.014	0.045	0.019	0.07731
523481.7	4258855.47	0.001	0.003	0.001	0.00542
523525.89	4258855.47	0.002	0.004	0.002	0.00719
523570.08	4258855.47	0.002	0.005	0.002	0.00954
523614.27	4258855.47	0.003	0.007	0.003	0.01336
523658.46	4258855.47	0.005	0.011	0.005	0.02070
523702.65	4258855.47	0.008	0.019	0.008	0.03526
523746.84	4258855.47	0.013	0.038	0.016	0.06708
523791.03	4258855.47	0.018	0.051	0.022	0.09122
523481.7	4258899.94	0.001	0.003	0.001	0.00541
523525.89	4258899.94	0.002	0.004	0.002	0.00694
523570.08	4258899.94	0.002	0.005	0.002	0.00949
523614.27	4258899.94	0.003	0.007	0.003	0.01389
523658.46	4258899.94	0.005	0.013	0.006	0.02336
523702.65	4258899.94	0.010	0.029	0.012	0.05139
523746.84	4258899.94	0.018	0.051	0.022	0.09170
523481.7	4258944.41	0.001	0.003	0.001	0.00553
523525.89	4258944.41	0.002	0.004	0.002	0.00699
523570.08	4258944.41	0.002	0.005	0.002	0.00953
523614.27	4258944.41	0.003	0.008	0.003	0.01409
523702.65	4258944.41	0.012	0.032	0.014	0.05892
523746.84	4258944.41	0.030	0.074	0.033	0.13742
523481.7	4258988.88	0.001	0.003	0.001	0.00585
523525.89	4258988.88	0.002	0.004	0.002	0.00733
523570.08	4258988.88	0.002	0.005	0.002	0.00988
523614.27	4258988.88	0.003	0.008	0.004	0.01502
523702.65	4258988.88	0.017	0.048	0.021	0.08647
523481.7	4259033.35	0.002	0.003	0.002	0.00658
523525.89	4259033.35	0.002	0.004	0.002	0.00829
523570.08	4259033.35	0.003	0.006	0.003	0.01145
523614.27	4259033.35	0.004	0.009	0.004	0.01747
523481.7	4259077.82	0.002	0.004	0.002	0.00728
523525.89	4259077.82	0.002	0.005	0.002	0.00956
523570.08	4259077.82	0.003	0.007	0.003	0.01367
523614.27	4259077.82	0.005	0.012	0.005	0.02289
523481.7	4259122.29	0.002	0.004	0.002	0.00804
523525.89	4259122.29	0.003	0.006	0.003	0.01122
523570.08	4259122.29	0.004	0.009	0.004	0.01740
523614.27	4259122.29	0.008	0.016	0.008	0.03208
523481.7	4259166.76	0.002	0.005	0.002	0.00907
523525.89	4259166.76	0.003	0.007	0.003	0.01357
523570.08	4259166.76	0.006	0.011	0.005	0.02242
523614.27	4259166.76	0.011	0.022	0.010	0.04240
524232.93	4259166.76	0.018	0.035	0.017	0.07001
524277.12	4259166.76	0.013	0.025	0.012	0.05067
524321.31	4259166.76	0.009	0.018	0.008	0.03496
523481.7	4259211.23	0.003	0.006	0.003	0.01105
523525.89	4259211.23	0.004	0.009	0.004	0.01694
523570.08	4259211.23	0.007	0.014	0.007	0.02803
523614.27	4259211.23	0.012	0.024	0.011	0.04821
523658.46	4259211.23	0.020	0.040	0.019	0.07856
523702.65	4259211.23	0.032	0.063	0.030	0.12497
523746.84	4259211.23	0.048	0.092	0.044	0.18416
523791.03	4259211.23	0.058	0.112	0.053	0.22401
523835.22	4259211.23	0.057	0.109	0.052	0.21688
524144.55	4259211.23	0.022	0.043	0.020	0.08562
524188.74	4259211.23	0.020	0.037	0.018	0.07487
524232.93	4259211.23	0.015	0.029	0.014	0.05697
524277.12	4259211.23	0.011	0.021	0.010	0.04172
524321.31	4259211.23	0.008	0.016	0.008	0.03158
523481.7	4259255.7	0.003	0.007	0.003	0.01350
523525.89	4259255.7	0.005	0.010	0.005	0.02001
523570.08	4259255.7	0.008	0.016	0.007	0.03081
523614.27	4259255.7	0.012	0.023	0.011	0.04591
523658.46	4259255.7	0.017	0.033	0.016	0.06594
523702.65	4259255.7	0.024	0.047	0.022	0.09275
523746.84	4259255.7	0.032	0.063	0.030	0.12462
523791.03	4259255.7	0.038	0.074	0.035	0.14771
523835.22	4259255.7	0.040	0.077	0.036	0.15332
523879.41	4259255.7	0.040	0.076	0.036	0.15168
523923.6	4259255.7	0.038	0.073	0.035	0.14663
523967.79	4259255.7	0.036	0.068	0.032	0.13619
524011.98	4259255.7	0.031	0.059	0.028	0.11701
524056.17	4259255.7	0.026	0.050	0.024	0.10025
524100.36	4259255.7	0.022	0.042	0.020	0.08337
524144.55	4259255.7	0.019	0.036	0.017	0.07092
524188.74	4259255.7	0.016	0.030	0.014	0.05923
524232.93	4259255.7	0.012	0.022	0.011	0.04484
524277.12	4259255.7	0.009	0.017	0.008	0.03310
524321.31	4259255.7	0.007	0.013	0.006	0.02646
523481.7	4259300.17	0.004	0.008	0.004	0.01514
523525.89	4259300.17	0.005	0.011	0.005	0.02124
523570.08	4259300.17	0.008	0.015	0.007	0.02965
523614.27	4259300.17	0.011	0.021	0.010	0.04101
523658.46	4259300.17	0.014	0.028	0.013	0.05470
523702.65	4259300.17	0.019	0.037	0.017	0.07291
523746.84	4259300.17	0.024	0.047	0.022	0.09424
523791.03	4259300.17	0.029	0.055	0.026	0.11041
523835.22	4259300.17	0.031	0.059	0.028	0.11784
523879.41	4259300.17	0.032	0.061	0.029	0.12140
523923.6	4259300.17	0.030	0.058	0.027	0.11557
523967.79	4259300.17	0.028	0.054	0.025	0.10713
524011.98	4259300.17	0.024	0.045	0.022	0.09063
524056.17	4259300.17	0.021	0.040	0.019	0.07969
524100.36	4259300.17	0.018	0.034	0.016	0.06883
524144.55	4259300.17	0.015	0.030	0.014	0.05914
524188.74	4259300.17	0.013	0.024	0.011	0.04816
524232.93	4259300.17	0.010	0.019	0.009	0.03701
524277.12	4259300.17	0.007	0.014	0.007	0.02852
524321.31	4259300.17	0.006	0.011	0.005	0.02286
523481.7	4259344.64	0.004	0.008	0.004	0.01597
523525.89	4259344.64	0.005	0.011	0.005	0.02091
523570.08	4259344.64	0.007	0.014	0.007	0.02767
523614.27	4259344.64	0.009	0.018	0.009	0.03627
523658.46	4259344.64	0.012	0.024	0.011	0.04730
523702.65	4259344.64	0.015	0.030	0.014	0.05981
523746.84	4259344.64	0.019	0.037	0.018	0.07454
523791.03	4259344.64	0.023	0.044	0.021	0.08737
523835.22	4259344.64	0.024	0.047	0.022	0.09390
523879.41	4259344.64	0.025	0.048	0.023	0.09588
523923.6	4259344.64	0.024	0.046	0.022	0.09146
523967.79	4259344.64	0.023	0.043	0.021	0.08628
524011.98	4259344.64	0.021	0.040	0.019	0.07966
524056.17	4259344.64	0.019	0.037	0.017	0.07300
524100.36	4259344.64	0.016	0.032	0.015	0.06306
524144.55	4259344.64	0.013	0.025	0.012	0.05092
524188.74	4259344.64	0.010	0.020	0.010	0.03998
524232.93	4259344.64	0.008	0.016	0.008	0.03183
524277.12	4259344.64	0.007	0.013	0.006	0.02502
524321.31	4259344.64	0.005	0.010	0.005	0.02045

MIR Cancer Risk
0.2

BAAQMD thresholds of significance
10

Exceed threshold?
No

Round Barn Village Project

Tier IV Mitigation

Cancer Risk Impacts from Construction at the Maximum Impacted Sensitive Receptor - Adult

Cancer Potency Factor:	1.1	$(mg/kg\text{-}day)^{-1}$
Exposure Frequency	350	days/year
Averaging Period	25550	days

Year	DPM Concentration (ug/m3)	Age Sensitivty Factor	Daily Breathing Rate (L/kg-day)	Time At Home Factor	Exposure Duration (years)	Unit Risk Factor $(ug/m3)^{-1}$
1	1	1	261	0.73	1	2.9
2	1	1	261	0.73	1	2.9
3	1	1	261	0.73	1	2.9

BAAQMD 2016. Air Toxics NSR Program Health Risk Assessment (HRA) Guidelines

Round Barn Village Project **Tier IV Mitigation** **at Sensitive Receptors**

Estimated Cancer Risks from Construction DPM

X (m)	Y (m)	Adult Cancer Risk (year 1) 2018 (/million)	Adult Cancer Risk (year 2) 2019 (/million)	Adult Cancer Risk (year 3) 2020 (/million)	Total Cancer Risk (/million)
523481.7	4258499.71	0.000	0.000	0.000	0.00082
523525.89	4258499.71	0.000	0.001	0.000	0.00124
523570.08	4258499.71	0.000	0.001	0.000	0.00196
523614.27	4258499.71	0.000	0.002	0.001	0.00292
523658.46	4258499.71	0.000	0.003	0.001	0.00440
523702.65	4258499.71	0.001	0.003	0.001	0.00422
523746.84	4258499.71	0.001	0.002	0.001	0.00385
523791.03	4258499.71	0.001	0.002	0.001	0.00379
523835.22	4258499.71	0.001	0.002	0.001	0.00403
523879.41	4258499.71	0.001	0.002	0.001	0.00445
523923.6	4258499.71	0.001	0.003	0.001	0.00501
523967.79	4258499.71	0.001	0.003	0.001	0.00534
524011.98	4258499.71	0.002	0.003	0.001	0.00602
524056.17	4258499.71	0.002	0.003	0.002	0.00677
524100.36	4258499.71	0.002	0.004	0.002	0.00751
524144.55	4258499.71	0.002	0.004	0.002	0.00826
524188.74	4258499.71	0.002	0.004	0.002	0.00862
524232.93	4258499.71	0.002	0.004	0.002	0.00846
523481.7	4258544.18	0.000	0.001	0.000	0.00091
523525.89	4258544.18	0.000	0.001	0.000	0.00185
523570.08	4258544.18	0.000	0.003	0.001	0.00396
523614.27	4258544.18	0.000	0.002	0.001	0.00354
523658.46	4258544.18	0.001	0.005	0.002	0.00753
523702.65	4258544.18	0.001	0.002	0.001	0.00387
523746.84	4258544.18	0.001	0.002	0.001	0.00412
523791.03	4258544.18	0.001	0.004	0.001	0.00579
523835.22	4258544.18	0.001	0.003	0.001	0.00521
523879.41	4258544.18	0.001	0.003	0.001	0.00557
523923.6	4258544.18	0.001	0.003	0.001	0.00581
523967.79	4258544.18	0.001	0.003	0.001	0.00608
524011.98	4258544.18	0.002	0.003	0.002	0.00684
524056.17	4258544.18	0.002	0.004	0.002	0.00776
524100.36	4258544.18	0.002	0.004	0.002	0.00891
524144.55	4258544.18	0.003	0.005	0.002	0.01002
524188.74	4258544.18	0.003	0.005	0.003	0.01082
524232.93	4258544.18	0.003	0.005	0.002	0.01004
523481.7	4258588.65	0.000	0.001	0.000	0.00106
523525.89	4258588.65	0.000	0.001	0.000	0.00200
523570.08	4258588.65	0.000	0.003	0.001	0.00461
523614.27	4258588.65	0.000	0.003	0.001	0.00453
523658.46	4258588.65	0.000	0.002	0.001	0.00383
523702.65	4258588.65	0.001	0.003	0.001	0.00431
523746.84	4258588.65	0.001	0.004	0.001	0.00584
523791.03	4258588.65	0.001	0.005	0.002	0.00776
523835.22	4258588.65	0.001	0.003	0.001	0.00577
523879.41	4258588.65	0.001	0.005	0.002	0.00828
523923.6	4258588.65	0.001	0.004	0.002	0.00688
523967.79	4258588.65	0.002	0.004	0.002	0.00686
524011.98	4258588.65	0.002	0.004	0.002	0.00773
524056.17	4258588.65	0.002	0.005	0.002	0.00905
524100.36	4258588.65	0.003	0.005	0.003	0.01063
524144.55	4258588.65	0.003	0.006	0.003	0.01199
524188.74	4258588.65	0.003	0.006	0.003	0.01244
524232.93	4258588.65	0.003	0.006	0.003	0.01169
523481.7	4258633.12	0.000	0.001	0.000	0.00128
523525.89	4258633.12	0.000	0.002	0.001	0.00270
523570.08	4258633.12	0.000	0.002	0.001	0.00245
523614.27	4258633.12	0.000	0.002	0.001	0.00254
523658.46	4258633.12	0.000	0.002	0.001	0.00283
523702.65	4258633.12	0.001	0.002	0.001	0.00334
523746.84	4258633.12	0.001	0.002	0.001	0.00413
523791.03	4258633.12	0.001	0.003	0.001	0.00525
523835.22	4258633.12	0.001	0.004	0.002	0.00729
523879.41	4258633.12	0.002	0.006	0.002	0.01014
523923.6	4258633.12	0.002	0.004	0.002	0.00787
523967.79	4258633.12	0.002	0.004	0.002	0.00786
524011.98	4258633.12	0.002	0.005	0.002	0.00902
524056.17	4258633.12	0.003	0.005	0.003	0.01078
524100.36	4258633.12	0.003	0.006	0.003	0.01276
524144.55	4258633.12	0.004	0.007	0.003	0.01427
524188.74	4258633.12	0.004	0.007	0.004	0.01477
524232.93	4258633.12	0.004	0.007	0.003	0.01362
523481.7	4258677.59	0.000	0.001	0.000	0.00105
523525.89	4258677.59	0.000	0.001	0.000	0.00143
523570.08	4258677.59	0.000	0.001	0.000	0.00170
523614.27	4258677.59	0.000	0.001	0.001	0.00212
523658.46	4258677.59	0.000	0.001	0.001	0.00249
523702.65	4258677.59	0.001	0.002	0.001	0.00311
523746.84	4258677.59	0.001	0.002	0.001	0.00399
523791.03	4258677.59	0.001	0.003	0.001	0.00538
523835.22	4258677.59	0.001	0.005	0.002	0.00900
523879.41	4258677.59	0.002	0.006	0.003	0.01034
523923.6	4258677.59	0.002	0.004	0.002	0.00837
523967.79	4258677.59	0.002	0.005	0.002	0.00910
524011.98	4258677.59	0.003	0.006	0.003	0.01105
524056.17	4258677.59	0.004	0.007	0.003	0.01388
524100.36	4258677.59	0.004	0.008	0.004	0.01694
524144.55	4258677.59	0.005	0.009	0.004	0.01888
523481.7	4258722.06	0.000	0.000	0.000	0.00088
523525.89	4258722.06	0.000	0.001	0.000	0.00118
523570.08	4258722.06	0.000	0.001	0.000	0.00154
523614.27	4258722.06	0.000	0.001	0.000	0.00196
523658.46	4258722.06	0.001	0.001	0.001	0.00248
523702.65	4258722.06	0.001	0.002	0.001	0.00325
523746.84	4258722.06	0.001	0.002	0.001	0.00446
523791.03	4258722.06	0.001	0.004	0.002	0.00676
523481.7	4258766.53	0.000	0.000	0.000	0.00084
523525.89	4258766.53	0.000	0.001	0.000	0.00111
523570.08	4258766.53	0.000	0.001	0.000	0.00144
523614.27	4258766.53	0.000	0.001	0.000	0.00191
523658.46	4258766.53	0.001	0.001	0.001	0.00264
523702.65	4258766.53	0.001	0.002	0.001	0.00368
523746.84	4258766.53	0.001	0.003	0.001	0.00536
523791.03	4258766.53	0.002	0.006	0.002	0.00974
523481.7	4258811	0.000	0.000	0.000	0.00085
523525.89	4258811	0.000	0.001	0.000	0.00110
523570.08	4258811	0.000	0.001	0.000	0.00144
523614.27	4258811	0.000	0.001	0.000	0.00197
523658.46	4258811	0.001	0.002	0.001	0.00283
523702.65	4258811	0.001	0.002	0.001	0.00431
523746.84	4258811	0.001	0.004	0.002	0.00703
523791.03	4258811	0.002	0.007	0.003	0.01192
523481.7	4258855.47	0.000	0.000	0.000	0.00084
523525.89	4258855.47	0.000	0.001	0.000	0.00111
523570.08	4258855.47	0.000	0.001	0.000	0.00147
523614.27	4258855.47	0.000	0.001	0.000	0.00206
523658.46	4258855.47	0.001	0.002	0.001	0.00319
523702.65	4258855.47	0.001	0.003	0.001	0.00544
523746.84	4258855.47	0.002	0.006	0.003	0.01034
523791.03	4258855.47	0.003	0.008	0.003	0.01407
523481.7	4258899.94	0.000	0.000	0.000	0.00083
523525.89	4258899.94	0.000	0.001	0.000	0.00107
523570.08	4258899.94	0.000	0.001	0.000	0.00146
523614.27	4258899.94	0.000	0.001	0.001	0.00214
523658.46	4258899.94	0.001	0.002	0.001	0.00360
523702.65	4258899.94	0.002	0.004	0.002	0.00793
523746.84	4258899.94	0.003	0.008	0.003	0.01414
523481.7	4258944.41	0.000	0.000	0.000	0.00085
523525.89	4258944.41	0.000	0.001	0.000	0.00108
523570.08	4258944.41	0.000	0.001	0.000	0.00147
523614.27	4258944.41	0.000	0.001	0.001	0.00217
523702.65	4258944.41	0.002	0.005	0.002	0.00909
523746.84	4258944.41	0.005	0.011	0.005	0.02119
523481.7	4258988.88	0.000	0.000	0.000	0.00090
523525.89	4258988.88	0.000	0.001	0.000	0.00113
523570.08	4258988.88	0.000	0.001	0.000	0.00152
523614.27	4258988.88	0.001	0.001	0.001	0.00232
523702.65	4258988.88	0.003	0.007	0.003	0.01333
523481.7	4259033.35	0.000	0.001	0.000	0.00102
523525.89	4259033.35	0.000	0.001	0.000	0.00128
523570.08	4259033.35	0.000	0.001	0.000	0.00177
523614.27	4259033.35	0.001	0.001	0.001	0.00269
523481.7	4259077.82	0.000	0.001	0.000	0.00112
523525.89	4259077.82	0.000	0.001	0.000	0.00147
523570.08	4259077.82	0.001	0.001	0.001	0.00211
523614.27	4259077.82	0.001	0.002	0.001	0.00353
523481.7	4259122.29	0.000	0.001	0.000	0.00124
523525.89	4259122.29	0.000	0.001	0.000	0.00173
523570.08	4259122.29	0.001	0.001	0.001	0.00268
523614.27	4259122.29	0.001	0.003	0.001	0.00495
523481.7	4259166.76	0.000	0.001	0.000	0.00140
523525.89	4259166.76	0.001	0.001	0.000	0.00209
523570.08	4259166.76	0.001	0.002	0.001	0.00346
523614.27	4259166.76	0.002	0.003	0.002	0.00654
524232.93	4259166.76	0.003	0.005	0.003	0.01080
524277.12	4259166.76	0.002	0.004	0.002	0.00781
524321.31	4259166.76	0.001	0.003	0.001	0.00539
523481.7	4259211.23	0.000	0.001	0.000	0.00170
523525.89	4259211.23	0.001	0.001	0.001	0.00261
523570.08	4259211.23	0.001	0.002	0.001	0.00432
523614.27	4259211.23	0.002	0.004	0.002	0.00743
523658.46	4259211.23	0.003	0.006	0.003	0.01211
523702.65	4259211.23	0.005	0.010	0.005	0.01927
523746.84	4259211.23	0.007	0.014	0.007	0.02840
523791.03	4259211.23	0.009	0.017	0.008	0.03454
523835.22	4259211.23	0.009	0.017	0.008	0.03345
524144.55	4259211.23	0.003	0.007	0.003	0.01320
524188.74	4259211.23	0.003	0.006	0.003	0.01155
524232.93	4259211.23	0.002	0.004	0.002	0.00879
524277.12	4259211.23	0.002	0.003	0.002	0.00643
524321.31	4259211.23	0.001	0.002	0.001	0.00487
523481.7	4259255.7	0.001	0.001	0.000	0.00208
523525.89	4259255.7	0.001	0.002	0.001	0.00309
523570.08	4259255.7	0.001	0.002	0.001	0.00475
523614.27	4259255.7	0.002	0.004	0.002	0.00708
523658.46	4259255.7	0.003	0.005	0.002	0.01017
523702.65	4259255.7	0.004	0.007	0.003	0.01430
523746.84	4259255.7	0.005	0.010	0.005	0.01922
523791.03	4259255.7	0.006	0.011	0.005	0.02278
523835.22	4259255.7	0.006	0.012	0.006	0.02364
523879.41	4259255.7	0.006	0.012	0.006	0.02339
523923.6	4259255.7	0.006	0.011	0.005	0.02261
523967.79	4259255.7	0.005	0.011	0.005	0.02100
524011.98	4259255.7	0.005	0.009	0.004	0.01804
524056.17	4259255.7	0.004	0.008	0.004	0.01546
524100.36	4259255.7	0.003	0.006	0.003	0.01286
524144.55	4259255.7	0.003	0.005	0.003	0.01094
524188.74	4259255.7	0.002	0.005	0.002	0.00913
524232.93	4259255.7	0.002	0.003	0.002	0.00691
524277.12	4259255.7	0.001	0.003	0.001	0.00510
524321.31	4259255.7	0.001	0.002	0.001	0.00408
523481.7	4259300.17	0.001	0.001	0.001	0.00233
523525.89	4259300.17	0.001	0.002	0.001	0.00328
523570.08	4259300.17	0.001	0.002	0.001	0.00457
523614.27	4259300.17	0.002	0.003	0.002	0.00632
523658.46	4259300.17	0.002	0.004	0.002	0.00844
523702.65	4259300.17	0.003	0.006	0.003	0.01124
523746.84	4259300.17	0.004	0.007	0.003	0.01453
523791.03	4259300.17	0.004	0.009	0.004	0.01703
523835.22	4259300.17	0.005	0.009	0.004	0.01817
523879.41	4259300.17	0.005	0.009	0.004	0.01872
523923.6	4259300.17	0.005	0.009	0.004	0.01782
523967.79	4259300.17	0.004	0.008	0.004	0.01652
524011.98	4259300.17	0.004	0.007	0.003	0.01398
524056.17	4259300.17	0.003	0.006	0.003	0.01229
524100.36	4259300.17	0.003	0.005	0.003	0.01061
524144.55	4259300.17	0.002	0.005	0.002	0.00912
524188.74	4259300.17	0.002	0.004	0.002	0.00743
524232.93	4259300.17	0.001	0.003	0.001	0.00571
524277.12	4259300.17	0.001	0.002	0.001	0.00440
524321.31	4259300.17	0.001	0.002	0.001	0.00353
523481.7	4259344.64	0.001	0.001	0.001	0.00246
523525.89	4259344.64	0.001	0.002	0.001	0.00323
523570.08	4259344.64	0.001	0.002	0.001	0.00427
523614.27	4259344.64	0.001	0.003	0.001	0.00559
523658.46	4259344.64	0.002	0.004	0.002	0.00729
523702.65	4259344.64	0.002	0.005	0.002	0.00922
523746.84	4259344.64	0.003	0.006	0.003	0.01149
523791.03	4259344.64	0.004	0.007	0.003	0.01347
523835.22	4259344.64	0.004	0.007	0.003	0.01448
523879.41	4259344.64	0.004	0.007	0.004	0.01479
523923.6	4259344.64	0.004	0.007	0.003	0.01410
523967.79	4259344.64	0.003	0.007	0.003	0.01331
524011.98	4259344.64	0.003	0.006	0.003	0.01228
524056.17	4259344.64	0.003	0.006	0.003	0.01126
524100.36	4259344.64	0.003	0.005	0.002	0.00972
524144.55	4259344.64	0.002	0.004	0.002	0.00785
524188.74	4259344.64	0.002	0.003	0.001	0.00617
524232.93	4259344.64	0.001	0.002	0.001	0.00491
524277.12	4259344.64	0.001	0.002	0.001	0.00386
524321.31	4259344.64	0.001	0.002	0.001	0.00315

MIR Cancer Risk
0.0

BAAQMD thresholds of significance
10

Exceed threshold?
No

Round Barn Village Project

Tier IV Mitigation at Sensitive Receptors

Chronic Non-Cancer Hazard Index

Reference Exposure Level (REL) for DPM: 5 ug/m3

CNCHI = DPM/REL

X	Y	2018 DPM	2019 DPM	2020 DPM	Max DPM	
(m)	(m)	(ug/m3)	(ug/m3)	(ug/m3)	(ug/m3)	CNCHI
523481.7	4258499.71	5.75E-05	0.00016	6.91E-05	0.00016	0.00003
523525.89	4258499.71	7.58E-05	0.000252	0.000105	0.000252	0.00005
523570.08	4258499.71	0.000101	0.000415	0.000167	0.000415	0.00008
523614.27	4258499.71	0.00013	0.000636	0.00025	0.000636	0.00013
523658.46	4258499.71	0.000169	0.000984	0.000378	0.000984	0.00020
523702.65	4258499.71	0.000186	0.000922	0.000361	0.000922	0.00018
523746.84	4258499.71	0.000205	0.000808	0.000327	0.000808	0.00016
523791.03	4258499.71	0.000235	0.000763	0.00032	0.000763	0.00015
523835.22	4258499.71	0.000277	0.000786	0.000339	0.000786	0.00016
523879.41	4258499.71	0.000331	0.000845	0.000373	0.000845	0.00017
523923.6	4258499.71	0.00039	0.000936	0.000419	0.000936	0.00019
523967.79	4258499.71	0.000451	0.000965	0.000444	0.000965	0.00019
524011.98	4258499.71	0.000526	0.00107	0.0005	0.001072	0.00021
524056.17	4258499.71	0.000602	0.001195	0.000562	0.001195	0.00024
524100.36	4258499.71	0.000675	0.001319	0.000622	0.001319	0.00026
524144.55	4258499.71	0.000748	0.001444	0.000684	0.001444	0.00029
524188.74	4258499.71	0.000783	0.001504	0.000713	0.001504	0.00030
524232.93	4258499.71	0.000769	0.001477	0.0007	0.001477	0.00030
523481.7	4258544.18	5.78E-05	0.000182	7.67E-05	0.000182	0.00004
523525.89	4258544.18	8.53E-05	0.0004	0.000158	0.0004	0.00008
523570.08	4258544.18	0.000134	0.000903	0.000341	0.000903	0.00018
523614.27	4258544.18	0.000144	0.000785	0.000304	0.000785	0.00016
523658.46	4258544.18	0.000226	0.001747	0.000652	0.001747	0.00035
523702.65	4258544.18	0.00019	0.000828	0.00033	0.000828	0.00017
523746.84	4258544.18	0.000223	0.000862	0.00035	0.000862	0.00017
523791.03	4258544.18	0.000285	0.001239	0.000494	0.001239	0.00025
523835.22	4258544.18	0.00032	0.001055	0.000441	0.001055	0.00021
523879.41	4258544.18	0.00038	0.00109	0.000468	0.00109	0.00022
523923.6	4258544.18	0.000443	0.001095	0.000486	0.001095	0.00022
523967.79	4258544.18	0.000513	0.001099	0.000506	0.001099	0.00022
524011.98	4258544.18	0.000601	0.001214	0.000568	0.001214	0.00024
524056.17	4258544.18	0.000695	0.001364	0.000643	0.001364	0.00027
524100.36	4258544.18	0.000806	0.001561	0.000738	0.001561	0.00031
524144.55	4258544.18	0.000909	0.001751	0.000829	0.001751	0.00035
524188.74	4258544.18	0.000986	0.001889	0.000896	0.001889	0.00038
524232.93	4258544.18	0.000914	0.001751	0.000831	0.001751	0.00035
523481.7	4258588.65	5.91E-05	0.00022	9.01E-05	0.00022	0.00004
523525.89	4258588.65	8.73E-05	0.000439	0.000172	0.000439	0.00009
523570.08	4258588.65	0.000146	0.001062	0.000398	0.001062	0.00021
523614.27	4258588.65	0.000164	0.00103	0.00039	0.001023	0.00020
523658.46	4258588.65	0.000173	0.000833	0.000328	0.000833	0.00017
523702.65	4258588.65	0.000207	0.000927	0.000368	0.000927	0.00019
523746.84	4258588.65	0.000266	0.001268	0.000499	0.001268	0.00025
523791.03	4258588.65	0.000338	0.0017	0.000665	0.0017	0.00034
523835.22	4258588.65	0.000356	0.001167	0.000488	0.001167	0.00023
523879.41	4258588.65	0.000459	0.001721	0.000703	0.001721	0.00034
523923.6	4258588.65	0.000506	0.001315	0.000577	0.001315	0.00026
523967.79	4258588.65	0.000577	0.001241	0.000571	0.001241	0.00025
524011.98	4258588.65	0.000679	0.001371	0.000641	0.001371	0.00027
524056.17	4258588.65	0.000811	0.001592	0.00075	0.001592	0.00032
524100.36	4258588.65	0.000963	0.001859	0.00088	0.001859	0.00037
524144.55	4258588.65	0.00109	0.002094	0.000993	0.002094	0.00042
524188.74	4258588.65	0.001134	0.002171	0.00103	0.002171	0.00043
524232.93	4258588.65	0.001065	0.002039	0.000968	0.002039	0.00041
523481.7	4258633.12	6.16E-05	0.000275	0.000109	0.000275	0.00006
523525.89	4258633.12	9.8E-05	0.000611	0.000233	0.000611	0.00012
523570.08	4258633.12	0.000112	0.00053	0.000209	0.00053	0.00011
523614.27	4258633.12	0.000136	0.000532	0.000216	0.000532	0.00011
523658.46	4258633.12	0.000165	0.00058	0.00024	0.00058	0.00012
523702.65	4258633.12	0.000205	0.000677	0.000283	0.000677	0.00014
523746.84	4258633.12	0.000259	0.00083	0.000349	0.00083	0.00017
523791.03	4258633.12	0.000326	0.001059	0.000444	0.001059	0.00021
523835.22	4258633.12	0.000419	0.001502	0.000618	0.001502	0.00030
523879.41	4258633.12	0.000536	0.002134	0.000863	0.002134	0.00043
523923.6	4258633.12	0.000576	0.001505	0.00066	0.001505	0.00030
523967.79	4258633.12	0.000662	0.001423	0.000654	0.001423	0.00028
524011.98	4258633.12	0.000795	0.001598	0.000748	0.001598	0.00032
524056.17	4258633.12	0.000969	0.001893	0.000893	0.001893	0.00038
524100.36	4258633.12	0.001155	0.002233	0.001057	0.002233	0.00045
524144.55	4258633.12	0.001296	0.002493	0.001182	0.002493	0.00050
524188.74	4258633.12	0.001344	0.002577	0.001222	0.002577	0.00052
524232.93	4258633.12	0.001241	0.002375	0.001127	0.002375	0.00047
523481.7	4258677.59	5.83E-05	0.000219	8.94E-05	0.000219	0.00004
523525.89	4258677.59	7.77E-05	0.000299	0.000122	0.000299	0.00006
523570.08	4258677.59	0.000102	0.000345	0.000144	0.000345	0.00007
523614.27	4258677.59	0.000133	0.000426	0.000179	0.000426	0.00009
523658.46	4258677.59	0.00017	0.000488	0.00021	0.000488	0.00010
523702.65	4258677.59	0.000218	0.000602	0.000261	0.000602	0.00012
523746.84	4258677.59	0.000284	0.00077	0.000335	0.00077	0.00015
523791.03	4258677.59	0.000368	0.001052	0.000452	0.001052	0.00021
523835.22	4258677.59	0.000497	0.001874	0.000765	0.001874	0.00037
523879.41	4258677.59	0.000599	0.002126	0.000877	0.002126	0.00043
523923.6	4258677.59	0.000657	0.001559	0.000699	0.001559	0.00031
523967.79	4258677.59	0.000785	0.00163	0.000756	0.00163	0.00033
524011.98	4258677.59	0.000983	0.001949	0.000916	0.001949	0.00039
524056.17	4258677.59	0.001253	0.002432	0.00115	0.002432	0.00049
524100.36	4258677.59	0.001538	0.002959	0.001402	0.002959	0.00059
524144.55	4258677.59	0.001718	0.003295	0.001563	0.003295	0.00066
523481.7	4258722.06	5.75E-05	0.000174	7.4E-05	0.000174	0.00003
523525.89	4258722.06	7.49E-05	0.000236	9.95E-05	0.000236	0.00005
523570.08	4258722.06	0.0001	0.000305	0.00013	0.000305	0.00006
523614.27	4258722.06	0.000136	0.000381	0.000165	0.000381	0.00008
523658.46	4258722.06	0.000183	0.000471	0.000207	0.000471	0.00009
523702.65	4258722.06	0.000247	0.000614	0.000272	0.000614	0.00012
523746.84	4258722.06	0.000333	0.000848	0.000374	0.000848	0.00017
523791.03	4258722.06	0.000449	0.001336	0.00057	0.001336	0.00027
523481.7	4258766.53	5.95E-05	0.000163	7.09E-05	0.000163	0.00003
523525.89	4258766.53	7.64E-05	0.000217	9.35E-05	0.000217	0.00004
523570.08	4258766.53	0.000101	0.000279	0.000121	0.000279	0.00006
523614.27	4258766.53	0.000142	0.000363	0.00016	0.000363	0.00007
523658.46	4258766.53	0.000202	0.000498	0.000221	0.000498	0.00010
523702.65	4258766.53	0.000283	0.00069	0.000307	0.00069	0.00014
523746.84	4258766.53	0.0004	0.001019	0.000449	0.001019	0.00020
523791.03	4258766.53	0.000577	0.00199	0.000825	0.00199	0.00040
523481.7	4258811	6.24E-05	0.000162	7.11E-05	0.000162	0.00003
523525.89	4258811	8.05E-05	0.000211	9.23E-05	0.000211	0.00004
523570.08	4258811	0.000106	0.000274	0.000121	0.000274	0.00005
523614.27	4258811	0.00015	0.000372	0.000165	0.000372	0.00007
523658.46	4258811	0.000221	0.000528	0.000236	0.000528	0.00011
523702.65	4258811	0.000331	0.00081	0.000361	0.00081	0.00016
523746.84	4258811	0.000507	0.001353	0.00059	0.001353	0.00027
523791.03	4258811	0.000742	0.002403	0.001008	0.002403	0.00048
523481.7	4258855.47	6.39E-05	0.000157	7E-05	0.000157	0.00003
523525.89	4258855.47	8.37E-05	0.000209	9.28E-05	0.000209	0.00004
523570.08	4258855.47	0.000112	0.000277	0.000123	0.000277	0.00006
523614.27	4258855.47	0.000161	0.000385	0.000172	0.000385	0.00008
523658.46	4258855.47	0.000249	0.000596	0.000267	0.000596	0.00012
523702.65	4258855.47	0.000409	0.00103	0.000455	0.00103	0.00021
523746.84	4258855.47	0.000689	0.002043	0.000872	0.002043	0.00041
523791.03	4258855.47	0.000989	0.002729	0.001182	0.002729	0.00055
523481.7	4258899.94	6.37E-05	0.000157	6.99E-05	0.000157	0.00003
523525.89	4258899.94	8.27E-05	0.0002	8.94E-05	0.0002	0.00004
523570.08	4258899.94	0.000114	0.000274	0.000122	0.000274	0.00005
523614.27	4258899.94	0.000168	0.000399	0.000179	0.000399	0.00008
523658.46	4258899.94	0.000279	0.000674	0.000301	0.000674	0.00013
523702.65	4258899.94	0.000528	0.001565	0.000668	0.001565	0.00031
523746.84	4258899.94	0.00098	0.002756	0.001189	0.002756	0.00055
523481.7	4258944.41	6.54E-05	0.00016	7.13E-05	0.00016	0.00003
523525.89	4258944.41	8.35E-05	0.000202	9.02E-05	0.000202	0.00004
523570.08	4258944.41	0.000114	0.000275	0.000123	0.000275	0.00005
523614.27	4258944.41	0.000171	0.000404	0.000182	0.000404	0.00008
523702.65	4258944.41	0.000662	0.001741	0.000762	0.001741	0.00035
523746.84	4258944.41	0.001638	0.003971	0.001772	0.003971	0.00079
523481.7	4258988.88	7.24E-05	0.000166	7.53E-05	0.000166	0.00003
523525.89	4258988.88	9.08E-05	0.00209	9.43E-05	0.00209	0.00004
523570.08	4258988.88	0.000122	0.000282	0.000127	0.000282	0.00006
523614.27	4258988.88	0.000182	0.00042	0.000194	0.00042	0.00009
523702.65	4258988.88	0.000922	0.002601	0.001122	0.002601	0.00052
523481.7	4259033.35	8.28E-05	0.000186	8.46E-05	0.000186	0.00004
523525.89	4259033.35	0.000104	0.000235	0.000107	0.000235	0.00005
523570.08	4259033.35	0.000141	0.000326	0.000147	0.000326	0.00007
523614.27	4259033.35	0.000214	0.0005	0.000225	0.0005	0.00010
523481.7	4259077.82	9.27E-05	0.000205	9.35E-05	0.000205	0.00004
523525.89	4259077.82	0.000122	0.000268	0.000123	0.000268	0.00005
523570.08	4259077.82	0.000175	0.000384	0.000176	0.000384	0.00008
523614.27	4259077.82	0.000295	0.000641	0.000294	0.000641	0.00013
523481.7	4259122.29	0.000103	0.000225	0.000103	0.000225	0.00005
523525.89	4259122.29	0.000146	0.000313	0.000144	0.000313	0.00006
523570.08	4259122.29	0.000228	0.000484	0.000223	0.000484	0.00010
523614.27	4259122.29	0.00043	0.000882	0.000411	0.000882	0.00018
523481.7	4259166.76	0.000118	0.000253	0.000116	0.000253	0.00005
523525.89	4259166.76	0.000179	0.000376	0.000174	0.000376	0.00008
523570.08	4259166.76	0.000301	0.000616	0.000287	0.000616	0.00012
523614.27	4259166.76	0.000578	0.001157	0.000542	0.001157	0.00023
524232.93	4259166.76	0.000983	0.001884	0.000894	0.001884	0.00038
524277.12	4259166.76	0.000713	0.001362	0.000647	0.001362	0.00027
524321.31	4259166.76	0.000491	0.000941	0.000446	0.000941	0.00019
523481.7	4259211.23	0.000148	0.000304	0.000142	0.000304	0.00006
523525.89	4259211.23	0.000229	0.000464	0.000217	0.000464	0.00009
523570.08	4259211.23	0.000383	0.000764	0.000358	0.000764	0.00015
523614.27	4259211.23	0.000665	0.001308	0.000616	0.001308	0.00026
523658.46	4259211.23	0.001091	0.002125	0.001004	0.002125	0.00042
523702.65	4259211.23	0.001744	0.003373	0.001596	0.003373	0.00067
523746.84	4259211.23	0.002577	0.004964	0.002352	0.004964	0.00099
523791.03	4259211.23	0.003142	0.006031	0.00286	0.006031	0.00121
523835.22	4259211.23	0.003043	0.005837	0.002769	0.005837	0.00117
524144.55	4259211.23	0.001203	0.002302	0.001093	0.002302	0.00046
524188.74	4259211.23	0.001052	0.002014	0.000956	0.002014	0.00040
524232.93	4259211.23	0.000802	0.001531	0.000727	0.001531	0.00031
524277.12	4259211.23	0.000586	0.001122	0.000533	0.001122	0.00022
524321.31	4259211.23	0.000443	0.00085	0.000403	0.00085	0.00017
523481.7	4259255.7	0.000183	0.000369	0.000173	0.000369	0.00007
523525.89	4259255.7	0.000272	0.000547	0.000256	0.000547	0.00011
523570.08	4259255.7	0.000422	0.000839	0.000394	0.000839	0.00017
523614.27	4259255.7	0.000635	0.001244	0.000587	0.001244	0.00025
523658.46	4259255.7	0.000915	0.001784	0.000842	0.001784	0.00036
523702.65	4259255.7	0.001291	0.002506	0.001185	0.002506	0.00050
523746.84	4259255.7	0.001741	0.003361	0.001591	0.003361	0.00067
523791.03	4259255.7	0.002067	0.003981	0.001886	0.003981	0.00080
523835.22	4259255.7	0.002149	0.004129	0.001957	0.004129	0.00083
523879.41	4259255.7	0.002128	0.004083	0.001936	0.004083	0.00082
523923.6	4259255.7	0.002059	0.003945	0.001872	0.003945	0.00079
523967.79	4259255.7	0.001915	0.003662	0.001738	0.003662	0.00073
524011.98	4259255.7	0.001644	0.003147	0.001494	0.003147	0.00063
524056.17	4259255.7	0.00141	0.002695	0.00128	0.002695	0.00054
524100.36	4259255.7	0.001172	0.002242	0.001064	0.002242	0.00045
524144.55	4259255.7	0.000996	0.001908	0.000905	0.001908	0.00038
524188.74	4259255.7	0.000833	0.001592	0.000756	0.001592	0.00032
524232.93	4259255.7	0.00063	0.001206	0.000572	0.001206	0.00024
524277.12	4259255.7	0.000465	0.000891	0.000422	0.000891	0.00018
524321.31	4259255.7	0.000371	0.000713	0.000338	0.000713	0.00014
523481.7	4259300.17	0.000206	0.000413	0.000194	0.000413	0.00008
523525.89	4259300.17	0.00029	0.000579	0.000272	0.000579	0.00012
523570.08	4259300.17	0.000408	0.000805	0.000379	0.000805	0.00016
523614.27	4259300.17	0.000566	0.001112	0.000524	0.001112	0.00022
523658.46	4259300.17	0.000759	0.00148	0.000699	0.00148	0.00030
523702.65	4259300.17	0.001014	0.001971	0.000931	0.001971	0.00039
523746.84	4259300.17	0.001315	0.002543	0.001204	0.002543	0.00051
523791.03	4259300.17	0.001543	0.002977	0.00141	0.002977	0.00060
523835.22	4259300.17	0.001651	0.003174	0.001505	0.003174	0.00063
523879.41	4259300.17	0.001703	0.003268	0.00155	0.003268	0.00065
523923.6	4259300.17	0.001621	0.003111	0.001475	0.003111	0.00062
523967.79	4259300.17	0.001504	0.002882	0.001368	0.002882	0.00058
524011.98	4259300.17	0.001274	0.002437	0.001157	0.002437	0.00049
524056.17	4259300.17	0.00112	0.002143	0.001017	0.002143	0.00043
524100.36	4259300.17	0.000966	0.001852	0.000879	0.001852	0.00037
524144.55	4259300.17	0.00083	0.001592	0.000755	0.001592	0.00032
524188.74	4259300.17	0.000677	0.001295	0.000615	0.001295	0.00026
524232.93	4259300.17	0.00052	0.000996	0.000472	0.000996	0.00020
524277.12	4259300.17	0.0004	0.000768	0.000364	0.000768	0.00015
524321.31	4259300.17	0.00032	0.000616	0.000292	0.000616	0.00012
523481.7	4259344.64	0.000218	0.000436	0.000204	0.000436	0.00009
523525.89	4259344.64	0.000288	0.000568	0.000267	0.000568	0.00011
523570.08	4259344.64	0.00038	0.000752	0.000354	0.000752	0.00015
523614.27	4259344.64	0.000502	0.000983	0.000463	0.000983	0.00020
523658.46	4259344.64	0.000657	0.001279	0.000604	0.001279	0.00026
523702.65	4259344.64	0.000832	0.001617	0.000764	0.001617	0.00032
523746.84	4259344.64	0.001039	0.002012	0.000952	0.002012	0.00040
523791.03	4259344.64	0.001221	0.002357	0.001116	0.002357	0.00047
523835.22	4259344.64	0.001315	0.00253	0.001199	0.00253	0.00051
523879.41	4259344.64	0.001343	0.002583	0.001224	0.002583	0.00052
523923.6	4259344.64	0.001283	0.002462	0.001168	0.002462	0.00049
523967.79	4259344.64	0.00121	0.002323	0.001102	0.002323	0.00046
524011.98	4259344.64	0.001119	0.002143	0.001017	0.002143	0.00043
524056.17	4259344.64	0.001025	0.001964	0.000932	0.001964	0.00039
524100.36	4259344.64	0.000885	0.001697	0.000805	0.001697	0.00034
524144.55	4259344.64	0.000716	0.001369	0.00065	0.001369	0.00027
524188.74	4259344.64	0.000562	0.001075	0.00051	0.001075	0.00022
524232.93	4259344.64	0.000447	0.000857	0.000406	0.000857	0.00017
524277.12	4259344.64	0.000351	0.000674	0.000319	0.000674	0.00013
524321.31	4259344.64	0.000286	0.000551	0.000261	0.000551	0.00011

Maximum 0.00

BAAQMD thresholds of significance 1

Exceed thresholds? No

Round Barn Village Project

Tier IV Mitigation at Sensitive Receptors

Annual Average PM2.5 (Exhaust + Fugitive Dust)

X (m)	Y (m)	2018 DPM (ug/m3)	2019 DPM (ug/m3)	2020 DPM (ug/m3)	Max PM2.5 (ug/m3)
523481.7	4258499.71	6.08E-04	0.00048	0.000136	0.00061
523525.89	4258499.71	7.93E-04	0.000938	0.000249	0.00094
523570.08	4258499.71	1.04E-03	0.001833	0.000463	0.00183
523614.27	4258499.71	1.32E-03	0.003107	0.000766	0.00311
523658.46	4258499.71	1.68E-03	0.005193	0.001257	0.00519
523702.65	4258499.71	1.88E-03	0.004537	0.001116	0.00454
523746.84	4258499.71	2.12E-03	0.003461	0.000882	0.00346
523791.03	4258499.71	2.46E-03	0.002777	0.00074	0.00278
523835.22	4258499.71	2.93E-03	0.002433	0.000683	0.00293
523879.41	4258499.71	3.51E-03	0.002218	0.000659	0.00351
523923.6	4258499.71	4.15E-03	0.002171	0.000677	0.00415
523967.79	4258499.71	4.82E-03	0.001652	0.000588	0.00482
524011.98	4258499.71	5.63E-03	0.001529	0.000595	0.00563
524056.17	4258499.71	6.46E-03	0.001516	0.000628	0.00646
524100.36	4258499.71	7.24E-03	0.001548	0.00067	0.00724
524144.55	4258499.71	8.03E-03	0.001581	0.000712	0.00803
524188.74	4258499.71	8.41E-03	0.001596	0.000732	0.00841
524232.93	4258499.71	8.26E-03	0.001568	0.000719	0.00826
523481.7	4258454.18	6.07E-04	0.000639	0.000172	0.00064
523525.89	4258454.18	8.69E-04	0.00191	0.000473	0.00191
523570.08	4258454.18	1.31E-03	0.005021	0.001201	0.00502
523614.27	4258454.18	1.44E-03	0.004033	0.000982	0.00403
523658.46	4258454.18	2.16E-03	0.01012	0.0024	0.01012
523702.65	4258454.18	1.94E-03	0.003802	0.000951	0.00380
523746.84	4258454.18	2.30E-03	0.003653	0.000933	0.00365
523791.03	4258454.18	2.92E-03	0.005677	0.001421	0.00568
523835.22	4258454.18	3.35E-03	0.003891	0.001033	0.00389
523879.41	4258454.18	4.01E-03	0.003423	0.000956	0.00401
523923.6	4258454.18	4.71E-03	0.002696	0.000821	0.00471
523967.79	4258454.18	5.49E-03	0.001876	0.000668	0.00549
524011.98	4258454.18	6.44E-03	0.001672	0.000663	0.00644
524056.17	4258454.18	7.45E-03	0.001638	0.0007	0.00745
524100.36	4258454.18	8.65E-03	0.001744	0.000776	0.00865
524144.55	4258454.18	9.76E-03	0.001888	0.000858	0.00976
524188.74	4258454.18	1.06E-02	0.00198	0.000915	0.01059
524232.93	4258454.18	9.81E-03	0.001843	0.00085	0.00981
523481.7	4258588.65	6.13E-04	0.000907	0.000233	0.00091
523525.89	4258588.65	8.82E-04	0.002178	0.000535	0.00218
523570.08	4258588.65	1.41E-03	0.006049	0.00144	0.00605
523614.27	4258588.65	1.61E-03	0.005553	0.001336	0.00555
523658.46	4258588.65	1.76E-03	0.004035	0.000996	0.00404
523702.65	4258588.65	2.12E-03	0.004313	0.001076	0.00431
523746.84	4258588.65	2.70E-03	0.006118	0.001512	0.00612
523791.03	4258588.65	3.42E-03	0.008426	0.002069	0.00843
523835.22	4258588.65	3.73E-03	0.004278	0.001138	0.00428
523879.41	4258588.65	4.76E-03	0.00712	0.001831	0.00712
523923.6	4258588.65	5.37E-03	0.003557	0.001046	0.00537
523967.79	4258588.65	6.17E-03	0.002156	0.000762	0.00617
524011.98	4258588.65	7.28E-03	0.001874	0.000746	0.00728
524056.17	4258588.65	8.70E-03	0.001913	0.000817	0.00870
524100.36	4258588.65	1.03E-02	0.002042	0.000918	0.01034
524144.55	4258588.65	1.17E-02	0.002231	0.001022	0.01171
524188.74	4258588.65	1.22E-02	0.002262	0.001049	0.01218
524232.93	4258588.65	1.14E-02	0.002131	0.000987	0.01144
523481.7	4258633.12	6.30E-04	0.001282	0.00032	0.00128
523525.89	4258633.12	9.67E-04	0.00331	0.000797	0.00331
523570.08	4258633.12	1.14E-03	0.002544	0.00063	0.00254
523614.27	4258633.12	1.41E-03	0.002271	0.000579	0.00227
523658.46	4258633.12	1.72E-03	0.002273	0.000593	0.00227
523702.65	4258633.12	2.14E-03	0.002507	0.000665	0.00251
523746.84	4258633.12	2.71E-03	0.00298	0.000798	0.00298
523791.03	4258633.12	3.42E-03	0.00385	0.001027	0.00385
523835.22	4258633.12	4.36E-03	0.005986	0.001555	0.00599
523879.41	4258633.12	5.53E-03	0.009226	0.002344	0.00923
523923.6	4258633.12	6.10E-03	0.004113	0.001205	0.00610
523967.79	4258633.12	7.07E-03	0.002476	0.000874	0.00707
524011.98	4258633.12	8.53E-03	0.002148	0.000863	0.00853
524056.17	4258633.12	1.04E-02	0.002213	0.00096	0.01040
524100.36	4258633.12	1.24E-02	0.002461	0.001105	0.01240
524144.55	4258633.12	1.39E-02	0.002676	0.00122	0.01392
524188.74	4258633.12	1.44E-02	0.002714	0.001251	0.01443
524232.93	4258633.12	1.33E-02	0.002466	0.001146	0.01333
523481.7	4258677.59	6.05E-04	0.000905	0.000233	0.00091
523525.89	4258677.59	8.04E-04	0.00126	0.000322	0.00126
523570.08	4258677.59	1.07E-03	0.001306	0.000344	0.00131
523614.27	4258677.59	1.40E-03	0.001524	0.000408	0.00152
523658.46	4258677.59	1.79E-03	0.001541	0.000429	0.00179
523702.65	4258677.59	2.31E-03	0.001792	0.000509	0.00231
523746.84	4258677.59	3.00E-03	0.002234	0.000641	0.00300
523791.03	4258677.59	3.88E-03	0.003294	0.000921	0.00388
523835.22	4258677.59	5.16E-03	0.007776	0.001998	0.00778
523879.41	4258677.59	6.24E-03	0.008394	0.002186	0.00839
523923.6	4258677.59	7.00E-03	0.003527	0.00111	0.00700
523967.79	4258677.59	8.41E-03	0.002499	0.000938	0.00841
524011.98	4258677.59	1.05E-02	0.002452	0.001021	0.01055
524056.17	4258677.59	1.34E-02	0.002753	0.001217	0.01345
524100.36	4258677.59	1.65E-02	0.003188	0.00145	0.01651
524144.55	4258677.59	1.84E-02	0.003478	0.001601	0.01845
523481.7	4258722.06	6.05E-04	0.000586	0.00016	0.00060
523525.89	4258722.06	7.86E-04	0.000831	0.000224	0.00083
523570.08	4258722.06	1.05E-03	0.001038	0.000283	0.00105
523614.27	4258722.06	1.44E-03	0.001159	0.000327	0.00144
523658.46	4258722.06	1.95E-03	0.001249	0.00037	0.00195
523702.65	4258722.06	2.63E-03	0.001529	0.000463	0.00263
523746.84	4258722.06	3.53E-03	0.002221	0.000661	0.00353
523791.03	4258722.06	4.73E-03	0.004401	0.00121	0.00473
523481.7	4258766.53	6.29E-04	0.000484	0.000138	0.00063
523525.89	4258766.53	8.07E-04	0.000675	0.000189	0.00081
523570.08	4258766.53	1.07E-03	0.000828	0.000235	0.00107
523614.27	4258766.53	1.50E-03	0.000958	0.000284	0.00150
523658.46	4258766.53	2.14E-03	0.00123	0.000374	0.00214
523702.65	4258766.53	3.01E-03	0.00165	0.000508	0.00301
523746.84	4258766.53	4.24E-03	0.002666	0.000793	0.00424
523791.03	4258766.53	6.02E-03	0.007663	0.00201	0.00766
523481.7	4258811	6.62E-04	0.000436	0.000128	0.00066
523525.89	4258811	8.53E-04	0.000577	0.000169	0.00085
523570.08	4258811	1.13E-03	0.000732	0.000216	0.00113
523614.27	4258811	1.59E-03	0.000921	0.00028	0.00159
523658.46	4258811	2.35E-03	0.001214	0.00038	0.00235
523702.65	4258811	3.52E-03	0.001954	0.0006	0.00352
523746.84	4258811	5.37E-03	0.003823	0.001106	0.00537
523791.03	4258811	7.77E-03	0.008717	0.002327	0.00872
523481.7	4258855.47	6.79E-04	0.000386	0.000118	0.00068
523525.89	4258855.47	8.89E-04	0.00053	0.00016	0.00089
523570.08	4258855.47	1.19E-03	0.000689	0.000209	0.00119
523614.27	4258855.47	1.71E-03	0.000888	0.000277	0.00171
523658.46	4258855.47	2.65E-03	0.001374	0.000429	0.00265
523702.65	4258855.47	4.34E-03	0.002631	0.00079	0.00434
523746.84	4258855.47	7.25E-03	0.00671	0.001846	0.00725
523791.03	4258855.47	1.05E-02	0.008128	0.00231	0.01045
523481.7	4258899.94	6.78E-04	0.000386	0.000118	0.00068
523525.89	4258899.94	8.80E-04	0.000475	0.000147	0.00088
523570.08	4258899.94	1.21E-03	0.00064	0.000199	0.00121
523614.27	4258899.94	1.79E-03	0.000902	0.000284	0.00179
523658.46	4258899.94	2.97E-03	0.001589	0.000492	0.00297
523702.65	4258899.94	5.56E-03	0.005134	0.001413	0.00556
523746.84	4258899.94	1.04E-02	0.008429	0.002374	0.01035
523481.7	4258944.41	6.95E-04	0.000389	0.000119	0.00069
523525.89	4258944.41	8.89E-04	0.000476	0.000148	0.00089
523570.08	4258944.41	1.22E-03	0.000641	0.000199	0.00122
523614.27	4258944.41	1.82E-03	0.000908	0.000287	0.00182
523702.65	4258944.41	7.01E-03	0.004806	0.001402	0.00701
523746.84	4258944.41	1.74E-02	0.009416	0.002909	0.01743
523481.7	4258988.88	7.72E-04	0.00035	0.000113	0.00077
523525.89	4258988.88	9.68E-04	0.000437	0.000142	0.00097
523570.08	4258988.88	1.30E-03	0.000602	0.000194	0.00130
523614.27	4258988.88	1.91E-03	0.000981	0.000308	0.00193
523702.65	4258988.88	9.73E-03	0.008	0.002249	0.00973
523481.7	4259033.35	8.84E-04	0.000369	0.000123	0.00088
523525.89	4259033.35	1.11E-03	0.000463	0.000154	0.00111
523570.08	4259033.35	1.51E-03	0.000692	0.000224	0.00151
523614.27	4259033.35	2.28E-03	0.001095	0.000349	0.00228
523481.7	4259077.82	9.90E-04	0.000388	0.000132	0.00099
523525.89	4259077.82	1.31E-03	0.000497	0.000171	0.00131
523570.08	4259077.82	1.87E-03	0.000704	0.000242	0.00187
523614.27	4259077.82	3.16E-03	0.001144	0.000399	0.00316
523481.7	4259122.29	1.10E-03	0.000408	0.000141	0.00110
523525.89	4259122.29	1.56E-03	0.000542	0.000192	0.00156
523570.08	4259122.29	2.44E-03	0.000804	0.00029	0.00244
523614.27	4259122.29	4.61E-03	0.001294	0.000497	0.00461
523481.7	4259166.76	1.26E-03	0.000436	0.000155	0.00126
523525.89	4259166.76	1.91E-03	0.000605	0.000222	0.00191
523570.08	4259166.76	3.23E-03	0.00089	0.000344	0.00323
523614.27	4259166.76	6.20E-03	0.001523	0.000619	0.00620
524232.93	4259166.76	1.06E-02	0.001975	0.000913	0.01056
524277.12	4259166.76	7.65E-03	0.001408	0.000656	0.00765
524321.31	4259166.76	5.27E-03	0.000986	0.000456	0.00527
523481.7	4259211.23	1.59E-03	0.000441	0.00017	0.00159
523525.89	4259211.23	2.45E-03	0.000647	0.000255	0.00245
523570.08	4259211.23	4.11E-03	0.000993	0.000406	0.00411
523614.27	4259211.23	7.14E-03	0.001583	0.000674	0.00714
523658.46	4259211.23	1.17E-02	0.002445	0.00107	0.01171
523702.65	4259211.23	1.87E-02	0.003739	0.001673	0.01872
523746.84	4259211.23	2.77E-02	0.005376	0.002438	0.02767
523791.03	4259211.23	3.37E-02	0.006397	0.002936	0.03374
523835.22	4259211.23	3.27E-02	0.006157	0.002836	0.03268
524144.55	4259211.23	1.29E-02	0.002394	0.001112	0.01292
524188.74	4259211.23	1.13E-02	0.002106	0.000975	0.01130
524232.93	4259211.23	8.61E-03	0.001577	0.000737	0.00861
524277.12	4259211.23	6.30E-03	0.001168	0.000542	0.00630
524321.31	4259211.23	4.76E-03	0.000896	0.000413	0.00476
523481.7	4259255.7	1.96E-03	0.000507	0.000201	0.00196
523525.89	4259255.7	2.92E-03	0.00073	0.000294	0.00292
523570.08	4259255.7	4.53E-03	0.001067	0.000442	0.00453
523614.27	4259255.7	6.82E-03	0.001473	0.000634	0.00682
523658.46	4259255.7	9.83E-03	0.002058	0.0009	0.00983
523702.65	4259255.7	1.39E-02	0.002826	0.001252	0.01386
523746.84	4259255.7	1.87E-02	0.003681	0.001658	0.01869
523791.03	4259255.7	2.22E-02	0.004301	0.001953	0.02220
523835.22	4259255.7	2.31E-02	0.004403	0.002015	0.02308
523879.41	4259255.7	2.29E-02	0.004311	0.001984	0.02286
523923.6	4259255.7	2.21E-02	0.004128	0.00191	0.02212
523967.79	4259255.7	2.06E-02	0.003799	0.001767	0.02056
524011.98	4259255.7	1.77E-02	0.003285	0.001522	0.01766
524056.17	4259255.7	1.51E-02	0.002787	0.001299	0.01514
524100.36	4259255.7	1.26E-02	0.002334	0.001083	0.01258
524144.55	4259255.7	1.07E-02	0.002	0.000924	0.01070
524188.74	4259255.7	8.95E-03	0.001638	0.000766	0.00895
524232.93	4259255.7	6.77E-03	0.001252	0.000582	0.00677
524277.12	4259255.7	4.99E-03	0.000936	0.000432	0.00499
524321.31	4259255.7	3.98E-03	0.000758	0.000347	0.00398
523481.7	4259300.17	2.21E-03	0.000551	0.000222	0.00221
523525.89	4259300.17	3.11E-03	0.000762	0.00031	0.00311
523570.08	4259300.17	4.38E-03	0.000988	0.000417	0.00438
523614.27	4259300.17	6.07E-03	0.001341	0.000572	0.00607
523658.46	4259300.17	8.15E-03	0.001709	0.000747	0.00815
523702.65	4259300.17	1.09E-02	0.002245	0.000989	0.01088
523746.84	4259300.17	1.41E-02	0.002818	0.001261	0.01412
523791.03	4259300.17	1.66E-02	0.003252	0.001467	0.01657
523835.22	4259300.17	1.77E-02	0.003403	0.001552	0.01772
523879.41	4259300.17	1.83E-02	0.003451	0.001588	0.01829
523923.6	4259300.17	1.74E-02	0.003294	0.001514	0.01741
523967.79	4259300.17	1.62E-02	0.00302	0.001396	0.01616
524011.98	4259300.17	1.37E-02	0.002529	0.001176	0.01369
524056.17	4259300.17	1.20E-02	0.002235	0.001036	0.01203
524100.36	4259300.17	1.04E-02	0.001944	0.000898	0.01038
524144.55	4259300.17	8.91E-03	0.001683	0.000774	0.00891
524188.74	4259300.17	7.27E-03	0.001341	0.000624	0.00727
524232.93	4259300.17	5.58E-03	0.001041	0.000482	0.00558
524277.12	4259300.17	4.30E-03	0.000814	0.000374	0.00430
524321.31	4259300.17	3.44E-03	0.000662	0.000301	0.00344
523481.7	4259344.64	2.34E-03	0.000573	0.000233	0.00234
523525.89	4259344.64	3.09E-03	0.000706	0.000296	0.00309
523570.08	4259344.64	4.08E-03	0.000935	0.000392	0.00408
523614.27	4259344.64	5.38E-03	0.001166	0.000502	0.00538
523658.46	4259344.64	7.06E-03	0.001462	0.000642	0.00706
523702.65	4259344.64	8.93E-03	0.001846	0.000812	0.00893
523746.84	4259344.64	1.12E-02	0.002241	0.001	0.01116
523791.03	4259344.64	1.31E-02	0.002585	0.001164	0.01310
523835.22	4259344.64	1.41E-02	0.002713	0.001237	0.01412
523879.41	4259344.64	1.44E-02	0.002766	0.001262	0.01442
523923.6	4259344.64	1.38E-02	0.002599	0.001196	0.01378
523967.79	4259344.64	1.30E-02	0.00246	0.00113	0.01300
524011.98	4259344.64	1.20E-02	0.002234	0.001036	0.01202
524056.17	4259344.64	1.10E-02	0.002055	0.000951	0.01101
524100.36	4259344.64	9.50E-03	0.001789	0.000824	0.00950
524144.55	4259344.64	7.69E-03	0.001415	0.000659	0.00769
524188.74	4259344.64	6.03E-03	0.001121	0.00052	0.00603
524232.93	4259344.64	4.80E-03	0.000902	0.000416	0.00480
524277.12	4259344.64	3.77E-03	0.00072	0.000329	0.00377
524321.31	4259344.64	3.07E-03	0.000597	0.000271	0.00307

Maximum
0.03
BAAQMD thresholds of significance
0.3
Exceed threaholds?
No

```
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 9.4.0
** Lakes Environmental Software Inc.
** Date: 8/7/2017
** File: C:\Users\xli\Desktop\Round Barn construction HRA\Round Barn
construction HRA\Round Barn construction HRA.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Users\xli\Desktop\Round Barn construction HRA\Round
Barn construc
   MODELOPT DFAULT CONC
   AVERTIME ANNUAL
   POLLUTID DPM
   FLAGPOLE 2.00
   RUNORNOT RUN
   ERRORFIL "Round Barn construction HRA.err"
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION PAREA1       AREAPOLY   524228.219  4258866.583
95.160
** DESCRSRC area
** ------------------------------------------------------------------
--
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE1
** DESCRSRC
** PREFIX
** Length of Side = 18.00
** Configuration = Adjacent
** Emission Rate = 0.0001
** Elevated
** Vertical Dimension = 6.22
** SZINIT = 1.45
```

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** Nodes = 9
** 523727.308, 4258971.154, 81.99, 1.00, 8.37
** 523693.522, 4258946.108, 79.83, 1.00, 8.37
** 523781.295, 4258860.052, 84.60, 1.00, 8.37
** 523792.859, 4258826.516, 80.92, 1.00, 8.37
** 523806.736, 4258749.035, 74.59, 1.00, 8.37
** 523864.558, 4258671.554, 60.55, 1.00, 8.37
** 523888.843, 4258606.795, 55.22, 1.00, 8.37
** 523664.669, 4258520.568, 45.05, 1.00, 8.37
** 523502.946, 4258606.968, 43.37, 1.00, 8.37
** ------------------------------------------------------------------
--
   LOCATION L0000001     VOLUME   523720.078 4258965.794 81.53
   LOCATION L0000002     VOLUME   523705.618 4258955.075 80.71
   LOCATION L0000003     VOLUME   523695.624 4258944.047 79.98
   LOCATION L0000004     VOLUME   523708.477 4258931.446 80.15
   LOCATION L0000005     VOLUME   523721.330 4258918.844 80.59
   LOCATION L0000006     VOLUME   523734.183 4258906.243 81.05
   LOCATION L0000007     VOLUME   523747.036 4258893.641 82.14
   LOCATION L0000008     VOLUME   523759.889 4258881.039 82.88
   LOCATION L0000009     VOLUME   523772.742 4258868.438 83.33
   LOCATION L0000010     VOLUME   523783.258 4258854.359 83.56
   LOCATION L0000011     VOLUME   523789.126 4258837.342 82.82
   LOCATION L0000012     VOLUME   523794.014 4258820.070 81.37
   LOCATION L0000013     VOLUME   523797.187 4258802.352 79.75
   LOCATION L0000014     VOLUME   523800.360 4258784.634 78.05
   LOCATION L0000015     VOLUME   523803.534 4258766.916 76.37
   LOCATION L0000016     VOLUME   523806.707 4258749.198 74.53
   LOCATION L0000017     VOLUME   523817.403 4258734.742 72.38
   LOCATION L0000018     VOLUME   523828.168 4258720.316 70.01
   LOCATION L0000019     VOLUME   523838.934 4258705.890 67.73
   LOCATION L0000020     VOLUME   523849.699 4258691.465 65.15
   LOCATION L0000021     VOLUME   523860.465 4258677.039 62.54
   LOCATION L0000022     VOLUME   523868.475 4258661.108 60.62
   LOCATION L0000023     VOLUME   523874.795 4258644.254 59.61
   LOCATION L0000024     VOLUME   523881.116 4258627.400 57.80
   LOCATION L0000025     VOLUME   523887.436 4258610.546 55.98
   LOCATION L0000026     VOLUME   523875.782 4258601.771 55.30
   LOCATION L0000027     VOLUME   523858.982 4258595.309 55.27
   LOCATION L0000028     VOLUME   523842.182 4258588.847 54.97
   LOCATION L0000029     VOLUME   523825.382 4258582.385 54.57
   LOCATION L0000030     VOLUME   523808.582 4258575.923 52.98
   LOCATION L0000031     VOLUME   523791.782 4258569.461 51.54
   LOCATION L0000032     VOLUME   523774.982 4258562.999 49.62
   LOCATION L0000033     VOLUME   523758.182 4258556.537 48.55
   LOCATION L0000034     VOLUME   523741.382 4258550.075 48.23
   LOCATION L0000035     VOLUME   523724.582 4258543.613 47.26
   LOCATION L0000036     VOLUME   523707.782 4258537.151 46.19
   LOCATION L0000037     VOLUME   523690.982 4258530.689 45.78
   LOCATION L0000038     VOLUME   523674.181 4258524.227 45.27
   LOCATION L0000039     VOLUME   523657.782 4258524.248 45.12
   LOCATION L0000040     VOLUME   523641.906 4258532.729 44.97
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   LOCATION L0000041     VOLUME   523626.029 4258541.211 44.89
   LOCATION L0000042     VOLUME   523610.153 4258549.693 44.89
   LOCATION L0000043     VOLUME   523594.277 4258558.175 44.60
   LOCATION L0000044     VOLUME   523578.400 4258566.657 44.49
   LOCATION L0000045     VOLUME   523562.524 4258575.139 44.25
   LOCATION L0000046     VOLUME   523546.648 4258583.621 44.05
   LOCATION L0000047     VOLUME   523530.771 4258592.103 44.15
   LOCATION L0000048     VOLUME   523514.895 4258600.584 44.13
** End of LINE VOLUME Source ID = SLINE1
** Source Parameters **
   SRCPARAM PAREA1          0.0001     5.000        20
   AREAVERT PAREA1       524228.219 4258866.583 524156.113 4258795.837
   AREAVERT PAREA1       524134.345 4258782.232 524079.925 4258806.721
   AREAVERT PAREA1       524030.947 4258813.523 523981.969 4258858.420
   AREAVERT PAREA1       523980.609 4258923.724 523988.772 4258957.736
   AREAVERT PAREA1       523953.399 4258989.027 523912.584 4259008.074
   AREAVERT PAREA1       523801.023 4259013.516 523757.487 4258991.748
   AREAVERT PAREA1       523735.719 4258961.817 523688.102 4259077.460
   AREAVERT PAREA1       523762.929 4259133.240 523803.744 4259141.403
   AREAVERT PAREA1       523908.502 4259074.739 523986.051 4259029.842
   AREAVERT PAREA1       524009.179 4259032.563 524063.599 4259006.714
** LINE VOLUME Source ID = SLINE1
   SRCPARAM L0000001     0.000002083      1.00      8.37      1.45
   SRCPARAM L0000002     0.000002083      1.00      8.37      1.45
   SRCPARAM L0000003     0.000002083      1.00      8.37      1.45
   SRCPARAM L0000004     0.000002083      1.00      8.37      1.45
   SRCPARAM L0000005     0.000002083      1.00      8.37      1.45
   SRCPARAM L0000006     0.000002083      1.00      8.37      1.45
   SRCPARAM L0000007     0.000002083      1.00      8.37      1.45
   SRCPARAM L0000008     0.000002083      1.00      8.37      1.45
   SRCPARAM L0000009     0.000002083      1.00      8.37      1.45
   SRCPARAM L0000010     0.000002083      1.00      8.37      1.45
   SRCPARAM L0000011     0.000002083      1.00      8.37      1.45
   SRCPARAM L0000012     0.000002083      1.00      8.37      1.45
   SRCPARAM L0000013     0.000002083      1.00      8.37      1.45
   SRCPARAM L0000014     0.000002083      1.00      8.37      1.45
   SRCPARAM L0000015     0.000002083      1.00      8.37      1.45
   SRCPARAM L0000016     0.000002083      1.00      8.37      1.45
   SRCPARAM L0000017     0.000002083      1.00      8.37      1.45
   SRCPARAM L0000018     0.000002083      1.00      8.37      1.45
   SRCPARAM L0000019     0.000002083      1.00      8.37      1.45
   SRCPARAM L0000020     0.000002083      1.00      8.37      1.45
   SRCPARAM L0000021     0.000002083      1.00      8.37      1.45
   SRCPARAM L0000022     0.000002083      1.00      8.37      1.45
   SRCPARAM L0000023     0.000002083      1.00      8.37      1.45
   SRCPARAM L0000024     0.000002083      1.00      8.37      1.45
   SRCPARAM L0000025     0.000002083      1.00      8.37      1.45
   SRCPARAM L0000026     0.000002083      1.00      8.37      1.45
   SRCPARAM L0000027     0.000002083      1.00      8.37      1.45
   SRCPARAM L0000028     0.000002083      1.00      8.37      1.45
   SRCPARAM L0000029     0.000002083      1.00      8.37      1.45
   SRCPARAM L0000030     0.000002083      1.00      8.37      1.45
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   SRCPARAM L0000031     0.000002083      1.00      8.37      1.45
   SRCPARAM L0000032     0.000002083      1.00      8.37      1.45
   SRCPARAM L0000033     0.000002083      1.00      8.37      1.45
   SRCPARAM L0000034     0.000002083      1.00      8.37      1.45
   SRCPARAM L0000035     0.000002083      1.00      8.37      1.45
   SRCPARAM L0000036     0.000002083      1.00      8.37      1.45
   SRCPARAM L0000037     0.000002083      1.00      8.37      1.45
   SRCPARAM L0000038     0.000002083      1.00      8.37      1.45
   SRCPARAM L0000039     0.000002083      1.00      8.37      1.45
   SRCPARAM L0000040     0.000002083      1.00      8.37      1.45
   SRCPARAM L0000041     0.000002083      1.00      8.37      1.45
   SRCPARAM L0000042     0.000002083      1.00      8.37      1.45
   SRCPARAM L0000043     0.000002083      1.00      8.37      1.45
   SRCPARAM L0000044     0.000002083      1.00      8.37      1.45
   SRCPARAM L0000045     0.000002083      1.00      8.37      1.45
   SRCPARAM L0000046     0.000002083      1.00      8.37      1.45
   SRCPARAM L0000047     0.000002083      1.00      8.37      1.45
   SRCPARAM L0000048     0.000002083      1.00      8.37      1.45
** ------------------------------------------------------------------
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** Variable Emissions Type: "By Hour / Day (HRDOW)"
** Variable Emission Scenario: "Scenario 2"
** WeekDays:
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA1       HRDOW 0.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT PAREA1       HRDOW 1.0 1.0 1.0 0.0 0.0 0.0
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT PAREA1       HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** WeekDays:
   EMISFACT L0000001     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000001     HRDOW 0.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT L0000001     HRDOW 1.0 1.0 1.0 0.0 0.0 0.0
   EMISFACT L0000001     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000002     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000002     HRDOW 0.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT L0000002     HRDOW 1.0 1.0 1.0 0.0 0.0 0.0
   EMISFACT L0000002     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000003     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000003     HRDOW 0.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT L0000003     HRDOW 1.0 1.0 1.0 0.0 0.0 0.0
   EMISFACT L0000003     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000004     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
```

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EMISFACT L0000004     HRDOW 0.0 1.0 1.0 1.0 1.0 1.0
EMISFACT L0000004     HRDOW 1.0 1.0 1.0 0.0 0.0 0.0
EMISFACT L0000004     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000005     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000005     HRDOW 0.0 1.0 1.0 1.0 1.0 1.0
EMISFACT L0000005     HRDOW 1.0 1.0 1.0 0.0 0.0 0.0
EMISFACT L0000005     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000006     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000006     HRDOW 0.0 1.0 1.0 1.0 1.0 1.0
EMISFACT L0000006     HRDOW 1.0 1.0 1.0 0.0 0.0 0.0
EMISFACT L0000006     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000007     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000007     HRDOW 0.0 1.0 1.0 1.0 1.0 1.0
EMISFACT L0000007     HRDOW 1.0 1.0 1.0 0.0 0.0 0.0
EMISFACT L0000007     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000008     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000008     HRDOW 0.0 1.0 1.0 1.0 1.0 1.0
EMISFACT L0000008     HRDOW 1.0 1.0 1.0 0.0 0.0 0.0
EMISFACT L0000008     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000009     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000009     HRDOW 0.0 1.0 1.0 1.0 1.0 1.0
EMISFACT L0000009     HRDOW 1.0 1.0 1.0 0.0 0.0 0.0
EMISFACT L0000009     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000010     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000010     HRDOW 0.0 1.0 1.0 1.0 1.0 1.0
EMISFACT L0000010     HRDOW 1.0 1.0 1.0 0.0 0.0 0.0
EMISFACT L0000010     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000011     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000011     HRDOW 0.0 1.0 1.0 1.0 1.0 1.0
EMISFACT L0000011     HRDOW 1.0 1.0 1.0 0.0 0.0 0.0
EMISFACT L0000011     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000012     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
EMISFACT L0000012     HRDOW 0.0 1.0 1.0 1.0 1.0 1.0
EMISFACT L0000012     HRDOW 1.0 1.0 1.0 0.0 0.0 0.0
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EMISFACT L0000017     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT L0000030     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT L0000020     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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EMISFACT L0000032     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
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   EMISFACT L0000045     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000045     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000046     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000046     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000046     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000046     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000047     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000047     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000047     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000047     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000048     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000048     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000048     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT L0000048     HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   SRCGROUP AREA     PAREA1
   SRCGROUP Line     L0000001 L0000002 L0000003 L0000004 L0000005
L0000006
   SRCGROUP Line     L0000007 L0000008 L0000009 L0000010 L0000011
L0000012
   SRCGROUP Line     L0000013 L0000014 L0000015 L0000016 L0000017
L0000018
```

```
   SRCGROUP Line     L0000019 L0000020 L0000021 L0000022 L0000023
L0000024
   SRCGROUP Line     L0000025 L0000026 L0000027 L0000028 L0000029
L0000030
   SRCGROUP Line     L0000031 L0000032 L0000033 L0000034 L0000035
L0000036
   SRCGROUP Line     L0000037 L0000038 L0000039 L0000040 L0000041
L0000042
   SRCGROUP Line     L0000043 L0000044 L0000045 L0000046 L0000047
L0000048
   SRCGROUP ALL
SO FINISHED
**
**********************************
** AERMOD Receptor Pathway
**********************************
**
**
RE STARTING
   INCLUDED "Round Barn construction HRA.rou"
RE FINISHED
**
**********************************
** AERMOD Meteorology Pathway
**********************************
**
**
ME STARTING
   SURFFILE 724957\724957.SFC
   PROFFILE 724957\724957.PFL
   SURFDATA 23213 2009
   UAIRDATA 23230 2009 OAKLAND/WSO_AP
   PROFBASE 34.8 METERS
ME FINISHED
**
**********************************
** AERMOD Output Pathway
**********************************
**
**
OU STARTING
** Auto-Generated Plotfiles
   PLOTFILE ANNUAL ALL "Round Barn construction HRA.AD\AN00GALL.PLT"
31
   PLOTFILE ANNUAL AREA "Round Barn construction HRA.AD\AN00G001.PLT"
32
   PLOTFILE ANNUAL Line "Round Barn construction HRA.AD\AN00G002.PLT"
33
   SUMMFILE "Round Barn construction HRA.sum"
OU FINISHED

 **********************************
```

```
 *** SETUP Finishes Successfully ***
 ************************************


 *** AERMOD - VERSION  15181 ***   *** C:\Users\xli\Desktop\Round Barn
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PAGE   1
 **MODELOPTs:   RegDFAULT CONC      ELEV      FLGPOL    RURAL

                                              ***     MODEL SETUP
OPTIONS SUMMARY       ***
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

 **Model Is Setup For Calculation of Average CONCentration Values.

   --  DEPOSITION LOGIC  --
 **NO GAS DEPOSITION Data Provided.
 **NO PARTICLE DEPOSITION Data Provided.
 **Model Uses NO DRY DEPLETION.  DRYDPLT  =  F
 **Model Uses NO WET DEPLETION.  WETDPLT  =  F

 **Model Uses RURAL Dispersion Only.

 **Model Uses Regulatory DEFAULT Options:
        1. Stack-tip Downwash.
        2. Model Accounts for ELEVated Terrain Effects.
        3. Use Calms Processing Routine.
        4. Use Missing Data Processing Routine.
        5. No Exponential Decay.

 **Other Options Specified:
        CCVR_Sub - Meteorological data includes CCVR substitutions
        TEMP_Sub - Meteorological data includes TEMP substitutions

 **Model Accepts FLAGPOLE Receptor Heights.

 **The User Specified a Pollutant Type of:  DPM

 **Model Calculates ANNUAL Averages Only

 **This Run Includes:     49 Source(s);       3 Source Group(s); and
231 Receptor(s)

               with:      0 POINT(s), including
                          0 POINTCAP(s) and      0 POINTHOR(s)
                and:     48 VOLUME source(s)
                and:      1 AREA type source(s)
                and:      0 LINE source(s)
```

```
                and:      0 OPENPIT source(s)


 **Model Set To Continue RUNning After the Setup Testing.

 **The AERMET Input Meteorological Data Version Date:  14134

 **Output Options Selected:
          Model Outputs Tables of ANNUAL Averages by Receptor
          Model Outputs External File(s) of High Values for Plotting
(PLOTFILE Keyword)
          Model Outputs Separate Summary File of High Ranked Values
(SUMMFILE Keyword)

 **NOTE:  The Following Flags May Appear Following CONC Values:  c for
Calm Hours
                                                                 m for
Missing Hours
                                                                 b for
Both Calm and Missing Hours

 **Misc. Inputs:  Base Elev. for Pot. Temp. Profile (m MSL) =
34.80 ;  Decay Coef. =    0.000     ;  Rot. Angle =     0.0
                 Emission Units =
GRAMS/SEC                                ;  Emission Rate Unit Factor
=   0.10000E+07
                 Output Units   = MICROGRAMS/M**3

 **Approximate Storage Requirements of Model =      3.6 MB of RAM.

 **Detailed Error/Message File:   Round Barn construction HRA.err
 **File for Summary of Results:   Round Barn construction HRA.sum

 *** AERMOD - VERSION  15181 ***   *** C:\Users\xli\Desktop\Round Barn
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 **MODELOPTs:   RegDFAULT CONC      ELEV      FLGPOL    RURAL


                                                      *** VOLUME SOURCE
DATA ***

               NUMBER EMISSION RATE                     BASE    RELEASE
INIT.    INIT.   URBAN  EMISSION RATE
   SOURCE       PART.  (GRAMS/SEC)     X        Y      ELEV.   HEIGHT
SY       SZ     SOURCE  SCALAR VARY
     ID          CATS.                (METERS) (METERS) (METERS) (METERS)
(METERS) (METERS)             BY
```

L0000001	0	0.20830E-05	523720.1	4258965.8	81.5	1.00	8.37	1.45	NO	HRDOW
L0000002	0	0.20830E-05	523705.6	4258955.1	80.7	1.00	8.37	1.45	NO	HRDOW
L0000003	0	0.20830E-05	523695.6	4258944.0	80.0	1.00	8.37	1.45	NO	HRDOW
L0000004	0	0.20830E-05	523708.5	4258931.4	80.1	1.00	8.37	1.45	NO	HRDOW
L0000005	0	0.20830E-05	523721.3	4258918.8	80.6	1.00	8.37	1.45	NO	HRDOW
L0000006	0	0.20830E-05	523734.2	4258906.2	81.0	1.00	8.37	1.45	NO	HRDOW
L0000007	0	0.20830E-05	523747.0	4258893.6	82.1	1.00	8.37	1.45	NO	HRDOW
L0000008	0	0.20830E-05	523759.9	4258881.0	82.9	1.00	8.37	1.45	NO	HRDOW
L0000009	0	0.20830E-05	523772.7	4258868.4	83.3	1.00	8.37	1.45	NO	HRDOW
L0000010	0	0.20830E-05	523783.3	4258854.4	83.6	1.00	8.37	1.45	NO	HRDOW
L0000011	0	0.20830E-05	523789.1	4258837.3	82.8	1.00	8.37	1.45	NO	HRDOW
L0000012	0	0.20830E-05	523794.0	4258820.1	81.4	1.00	8.37	1.45	NO	HRDOW
L0000013	0	0.20830E-05	523797.2	4258802.4	79.8	1.00	8.37	1.45	NO	HRDOW
L0000014	0	0.20830E-05	523800.4	4258784.6	78.0	1.00	8.37	1.45	NO	HRDOW
L0000015	0	0.20830E-05	523803.5	4258766.9	76.4	1.00	8.37	1.45	NO	HRDOW
L0000016	0	0.20830E-05	523806.7	4258749.2	74.5	1.00	8.37	1.45	NO	HRDOW
L0000017	0	0.20830E-05	523817.4	4258734.7	72.4	1.00	8.37	1.45	NO	HRDOW
L0000018	0	0.20830E-05	523828.2	4258720.3	70.0	1.00	8.37	1.45	NO	HRDOW
L0000019	0	0.20830E-05	523838.9	4258705.9	67.7	1.00	8.37	1.45	NO	HRDOW
L0000020	0	0.20830E-05	523849.7	4258691.5	65.1	1.00	8.37	1.45	NO	HRDOW
L0000021	0	0.20830E-05	523860.5	4258677.0	62.5	1.00	8.37	1.45	NO	HRDOW
L0000022	0	0.20830E-05	523868.5	4258661.1	60.6	1.00	8.37	1.45	NO	HRDOW
L0000023	0	0.20830E-05	523874.8	4258644.3	59.6	1.00	8.37	1.45	NO	HRDOW
L0000024	0	0.20830E-05	523881.1	4258627.4	57.8	1.00	8.37	1.45	NO	HRDOW

```
 L0000025         0   0.20830E-05  523887.4 4258610.5    56.0     1.00
8.37     1.45     NO    HRDOW
 L0000026         0   0.20830E-05  523875.8 4258601.8    55.3     1.00
8.37     1.45     NO    HRDOW
 L0000027         0   0.20830E-05  523859.0 4258595.3    55.3     1.00
8.37     1.45     NO    HRDOW
 L0000028         0   0.20830E-05  523842.2 4258588.8    55.0     1.00
8.37     1.45     NO    HRDOW
 L0000029         0   0.20830E-05  523825.4 4258582.4    54.6     1.00
8.37     1.45     NO    HRDOW
 L0000030         0   0.20830E-05  523808.6 4258575.9    53.0     1.00
8.37     1.45     NO    HRDOW
 L0000031         0   0.20830E-05  523791.8 4258569.5    51.5     1.00
8.37     1.45     NO    HRDOW
 L0000032         0   0.20830E-05  523775.0 4258563.0    49.6     1.00
8.37     1.45     NO    HRDOW
 L0000033         0   0.20830E-05  523758.2 4258556.5    48.5     1.00
8.37     1.45     NO    HRDOW
 L0000034         0   0.20830E-05  523741.4 4258550.1    48.2     1.00
8.37     1.45     NO    HRDOW
 L0000035         0   0.20830E-05  523724.6 4258543.6    47.3     1.00
8.37     1.45     NO    HRDOW
 L0000036         0   0.20830E-05  523707.8 4258537.2    46.2     1.00
8.37     1.45     NO    HRDOW
 L0000037         0   0.20830E-05  523691.0 4258530.7    45.8     1.00
8.37     1.45     NO    HRDOW
 L0000038         0   0.20830E-05  523674.2 4258524.2    45.3     1.00
8.37     1.45     NO    HRDOW
 L0000039         0   0.20830E-05  523657.8 4258524.2    45.1     1.00
8.37     1.45     NO    HRDOW
 L0000040         0   0.20830E-05  523641.9 4258532.7    45.0     1.00
8.37     1.45     NO    HRDOW

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 **MODELOPTs:   RegDFAULT CONC      ELEV      FLGPOL    RURAL


                                                      *** VOLUME SOURCE
DATA ***

               NUMBER EMISSION RATE                     BASE    RELEASE
INIT.    INIT.   URBAN  EMISSION RATE
   SOURCE       PART.  (GRAMS/SEC)     X         Y      ELEV.   HEIGHT
SY       SZ     SOURCE  SCALAR VARY
     ID          CATS.                (METERS) (METERS) (METERS) (METERS)
(METERS) (METERS)             BY
```

```
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - -

 L0000041         0   0.20830E-05  523626.0 4258541.2    44.9     1.00
8.37     1.45     NO    HRDOW
 L0000042         0   0.20830E-05  523610.2 4258549.7    44.9     1.00
8.37     1.45     NO    HRDOW
 L0000043         0   0.20830E-05  523594.3 4258558.2    44.6     1.00
8.37     1.45     NO    HRDOW
 L0000044         0   0.20830E-05  523578.4 4258566.7    44.5     1.00
8.37     1.45     NO    HRDOW
 L0000045         0   0.20830E-05  523562.5 4258575.1    44.2     1.00
8.37     1.45     NO    HRDOW
 L0000046         0   0.20830E-05  523546.6 4258583.6    44.0     1.00
8.37     1.45     NO    HRDOW
 L0000047         0   0.20830E-05  523530.8 4258592.1    44.1     1.00
8.37     1.45     NO    HRDOW
 L0000048         0   0.20830E-05  523514.9 4258600.6    44.1     1.00
8.37     1.45     NO    HRDOW

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 **MODELOPTs:   RegDFAULT CONC      ELEV      FLGPOL    RURAL


                                                  *** AREAPOLY SOURCE
DATA ***

               NUMBER EMISSION RATE   LOCATION OF AREA  BASE
RELEASE  NUMBER      INIT.   URBAN  EMISSION RATE
   SOURCE       PART.  (GRAMS/SEC       X        Y      ELEV.
HEIGHT  OF VERTS.     SZ     SOURCE  SCALAR VARY
     ID         CATS.   /METER**2)   (METERS) (METERS) (METERS)
(METERS)            (METERS)              BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - -

 PAREA1           0   0.10000E-03  524228.2 4258866.6    95.2     5.00
20         0.00     NO    HRDOW

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 **MODELOPTs:   RegDFAULT CONC      ELEV      FLGPOL    RURAL
```

```
                                                *** SOURCE IDs DEFINING
SOURCE GROUPS ***

 SRCGROUP ID                                                    SOURCE IDs
 -----------                                                    ----------


  AREA       PAREA1      ,

  LINE       L0000001    , L0000002    , L0000003    , L0000004    ,
L0000005    , L0000006    , L0000007    , L0000008    ,

             L0000009    , L0000010    , L0000011    , L0000012    ,
L0000013    , L0000014    , L0000015    , L0000016    ,

             L0000017    , L0000018    , L0000019    , L0000020    ,
L0000021    , L0000022    , L0000023    , L0000024    ,

             L0000025    , L0000026    , L0000027    , L0000028    ,
L0000029    , L0000030    , L0000031    , L0000032    ,

             L0000033    , L0000034    , L0000035    , L0000036    ,
L0000037    , L0000038    , L0000039    , L0000040    ,

             L0000041    , L0000042    , L0000043    , L0000044    ,
L0000045    , L0000046    , L0000047    , L0000048    ,

  ALL        PAREA1      , L0000001    , L0000002    , L0000003    ,
L0000004    , L0000005    , L0000006    , L0000007    ,

             L0000008    , L0000009    , L0000010    , L0000011    ,
L0000012    , L0000013    , L0000014    , L0000015    ,

             L0000016    , L0000017    , L0000018    , L0000019    ,
L0000020    , L0000021    , L0000022    , L0000023    ,

             L0000024    , L0000025    , L0000026    , L0000027    ,
L0000028    , L0000029    , L0000030    , L0000031    ,

             L0000032    , L0000033    , L0000034    , L0000035    ,
L0000036    , L0000037    , L0000038    , L0000039    ,

             L0000040    , L0000041    , L0000042    , L0000043    ,
L0000044    , L0000045    , L0000046    , L0000047    ,

             L0000048    ,

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```

**MODELOPTs: RegDFAULT CONC ELEV FLGPOL RURAL

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = PAREA1 ; SOURCE TYPE = AREAPOLY :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00
5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.1000E+01
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01
13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.0000E+00
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00
21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00
5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00
13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00
21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00
5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00
13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00
21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00

*** AERMOD - VERSION 15181 *** *** C:\Users\xli\Desktop\Round Barn construction HRA\Round Barn construc *** 08/07/17
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**MODELOPTs: RegDFAULT CONC ELEV FLGPOL RURAL

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000001 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

```
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .1000E+01
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00

 *** AERMOD - VERSION  15181 ***   *** C:\Users\xli\Desktop\Round Barn
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 **MODELOPTs:   RegDFAULT CONC      ELEV      FLGPOL    RURAL

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY
AND BY DAY OF WEEK (HRDOW) *

 SOURCE ID = L0000002     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .1000E+01
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
```

```
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00

 *** AERMOD - VERSION  15181 ***   *** C:\Users\xli\Desktop\Round Barn
construction HRA\Round Barn construc ***        08/07/17
 *** AERMET - VERSION  14134 ***   ***
***        16:05:55

PAGE   9
 **MODELOPTs:   RegDFAULT CONC      ELEV      FLGPOL    RURAL

                    * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY
AND BY DAY OF WEEK (HRDOW) *

 SOURCE ID = L0000003     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                                    DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .1000E+01
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                    DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                    DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00

 *** AERMOD - VERSION  15181 ***   *** C:\Users\xli\Desktop\Round Barn
construction HRA\Round Barn construc ***        08/07/17
 *** AERMET - VERSION  14134 ***   ***
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PAGE  10
 **MODELOPTs:   RegDFAULT CONC      ELEV      FLGPOL    RURAL
```

```
                    * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY
AND BY DAY OF WEEK (HRDOW) *

 SOURCE ID = L0000004     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                                    DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .1000E+01
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                    DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                    DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00

 *** AERMOD - VERSION  15181 ***   *** C:\Users\xli\Desktop\Round Barn
construction HRA\Round Barn construc ***        08/07/17
 *** AERMET - VERSION  14134 ***   ***
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 **MODELOPTs:   RegDFAULT CONC      ELEV      FLGPOL    RURAL

                    * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY
AND BY DAY OF WEEK (HRDOW) *

 SOURCE ID = L0000005     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                                    DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .1000E+01
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .0000E+00
```

```
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                 DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                 DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00

 *** AERMOD - VERSION  15181 ***   *** C:\Users\xli\Desktop\Round Barn
construction HRA\Round Barn construc ***        08/07/17
 *** AERMET - VERSION  14134 ***   ***
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 **MODELOPTs:   RegDFAULT CONC      ELEV      FLGPOL    RURAL

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY
AND BY DAY OF WEEK (HRDOW) *

 SOURCE ID = L0000006     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                                 DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .1000E+01
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                 DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                 DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
```

```
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00

 *** AERMOD - VERSION  15181 ***   *** C:\Users\xli\Desktop\Round Barn
construction HRA\Round Barn construc ***        08/07/17
 *** AERMET - VERSION  14134 ***   ***
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 **MODELOPTs:   RegDFAULT CONC      ELEV      FLGPOL    RURAL

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY
AND BY DAY OF WEEK (HRDOW) *

 SOURCE ID = L0000007     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                                 DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .1000E+01
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                 DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                 DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00

 *** AERMOD - VERSION  15181 ***   *** C:\Users\xli\Desktop\Round Barn
construction HRA\Round Barn construc ***        08/07/17
 *** AERMET - VERSION  14134 ***   ***
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 **MODELOPTs:   RegDFAULT CONC      ELEV      FLGPOL    RURAL

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY
AND BY DAY OF WEEK (HRDOW) *
```

```
 SOURCE ID = L0000008     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                                  DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .1000E+01
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                  DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                  DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00

 *** AERMOD - VERSION  15181 ***   *** C:\Users\xli\Desktop\Round Barn
construction HRA\Round Barn construc ***        08/07/17
 *** AERMET - VERSION  14134 ***   ***
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PAGE  15
 **MODELOPTs:   RegDFAULT CONC      ELEV      FLGPOL    RURAL

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY
AND BY DAY OF WEEK (HRDOW) *

 SOURCE ID = L0000009     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                                  DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .1000E+01
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                  DAY OF WEEK = SATURDAY
```

```
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                 DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00

 *** AERMOD - VERSION  15181 ***   *** C:\Users\xli\Desktop\Round Barn
construction HRA\Round Barn construc ***        08/07/17
 *** AERMET - VERSION  14134 ***   ***
***        16:05:55

PAGE  16
 **MODELOPTs:   RegDFAULT CONC      ELEV      FLGPOL    RURAL

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY
AND BY DAY OF WEEK (HRDOW) *

 SOURCE ID = L0000010     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                                 DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .1000E+01
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                 DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                 DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
```

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000011 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.1000E+01
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.0000E+00
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000012 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

```
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                                    DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .1000E+01
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                    DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                    DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00

 *** AERMOD - VERSION  15181 ***   *** C:\Users\xli\Desktop\Round Barn
construction HRA\Round Barn construc ***        08/07/17
 *** AERMET - VERSION  14134 ***   ***
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 **MODELOPTs:   RegDFAULT CONC      ELEV      FLGPOL    RURAL

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY
AND BY DAY OF WEEK (HRDOW) *

 SOURCE ID = L0000013     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                                    DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .1000E+01
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                    DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
```

```
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                 DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00

 *** AERMOD - VERSION  15181 ***   *** C:\Users\xli\Desktop\Round Barn
construction HRA\Round Barn construc ***        08/07/17
 *** AERMET - VERSION  14134 ***   ***
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 **MODELOPTs:   RegDFAULT CONC      ELEV      FLGPOL    RURAL

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY
AND BY DAY OF WEEK (HRDOW) *

 SOURCE ID = L0000014     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                                 DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .1000E+01
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                 DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                 DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00

 *** AERMOD - VERSION  15181 ***   *** C:\Users\xli\Desktop\Round Barn
construction HRA\Round Barn construc ***        08/07/17
 *** AERMET - VERSION  14134 ***   ***
***        16:05:55
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                    * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY
AND BY DAY OF WEEK (HRDOW) *

 SOURCE ID = L0000015   ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 -
- -
                                                    DAY OF WEEK = WEEKDAY
    1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00
5 .0000E+00   6 .0000E+00   7 .0000E+00   8 .1000E+01
    9 .1000E+01   10 .1000E+01   11 .1000E+01   12 .1000E+01
13 .1000E+01   14 .1000E+01   15 .1000E+01   16 .0000E+00
   17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00
21 .0000E+00   22 .0000E+00   23 .0000E+00   24 .0000E+00
                                                    DAY OF WEEK = SATURDAY
    1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00
5 .0000E+00   6 .0000E+00   7 .0000E+00   8 .0000E+00
    9 .0000E+00   10 .0000E+00   11 .0000E+00   12 .0000E+00
13 .0000E+00   14 .0000E+00   15 .0000E+00   16 .0000E+00
   17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00
21 .0000E+00   22 .0000E+00   23 .0000E+00   24 .0000E+00
                                                    DAY OF WEEK = SUNDAY
    1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00
5 .0000E+00   6 .0000E+00   7 .0000E+00   8 .0000E+00
    9 .0000E+00   10 .0000E+00   11 .0000E+00   12 .0000E+00
13 .0000E+00   14 .0000E+00   15 .0000E+00   16 .0000E+00
   17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00
21 .0000E+00   22 .0000E+00   23 .0000E+00   24 .0000E+00

 *** AERMOD - VERSION 15181 ***   *** C:\Users\xli\Desktop\Round Barn
construction HRA\Round Barn construc ***   08/07/17
 *** AERMET - VERSION 14134 ***   ***
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                    * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY
AND BY DAY OF WEEK (HRDOW) *

 SOURCE ID = L0000016   ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 -
- -
                                                    DAY OF WEEK = WEEKDAY

```
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .1000E+01
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00

 *** AERMOD - VERSION  15181 ***   *** C:\Users\xli\Desktop\Round Barn
construction HRA\Round Barn construc ***        08/07/17
 *** AERMET - VERSION  14134 ***   ***
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 **MODELOPTs:   RegDFAULT CONC      ELEV      FLGPOL    RURAL

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY
AND BY DAY OF WEEK (HRDOW) *

 SOURCE ID = L0000017     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .1000E+01
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
```

```
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00

 *** AERMOD - VERSION  15181 ***   *** C:\Users\xli\Desktop\Round Barn
construction HRA\Round Barn construc ***        08/07/17
 *** AERMET - VERSION  14134 ***   ***
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 **MODELOPTs:   RegDFAULT CONC      ELEV      FLGPOL    RURAL

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY
AND BY DAY OF WEEK (HRDOW) *

 SOURCE ID = L0000018     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                                    DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .1000E+01
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                    DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                    DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00

 *** AERMOD - VERSION  15181 ***   *** C:\Users\xli\Desktop\Round Barn
construction HRA\Round Barn construc ***        08/07/17
 *** AERMET - VERSION  14134 ***   ***
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 **MODELOPTs:   RegDFAULT CONC      ELEV      FLGPOL    RURAL
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```
                    * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY
AND BY DAY OF WEEK (HRDOW) *

 SOURCE ID = L0000019     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                                    DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .1000E+01
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                    DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                    DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00

 *** AERMOD - VERSION  15181 ***   *** C:\Users\xli\Desktop\Round Barn
construction HRA\Round Barn construc ***        08/07/17
 *** AERMET - VERSION  14134 ***   ***
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 **MODELOPTs:   RegDFAULT CONC      ELEV      FLGPOL    RURAL

                    * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY
AND BY DAY OF WEEK (HRDOW) *

 SOURCE ID = L0000020     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                                    DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .1000E+01
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .0000E+00
```

```
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                 DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                 DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00

 *** AERMOD - VERSION  15181 ***   *** C:\Users\xli\Desktop\Round Barn
construction HRA\Round Barn construc ***        08/07/17
 *** AERMET - VERSION  14134 ***   ***
***        16:05:55

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 **MODELOPTs:   RegDFAULT CONC      ELEV      FLGPOL    RURAL

                    * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY
AND BY DAY OF WEEK (HRDOW) *

 SOURCE ID = L0000021     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                                 DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .1000E+01
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                 DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                 DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
```

```
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00

 *** AERMOD - VERSION  15181 ***   *** C:\Users\xli\Desktop\Round Barn
construction HRA\Round Barn construc ***        08/07/17
 *** AERMET - VERSION  14134 ***   ***
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 **MODELOPTs:   RegDFAULT CONC      ELEV      FLGPOL    RURAL

                    * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY
AND BY DAY OF WEEK (HRDOW) *

 SOURCE ID = L0000022     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                                 DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .1000E+01
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                 DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                 DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00

 *** AERMOD - VERSION  15181 ***   *** C:\Users\xli\Desktop\Round Barn
construction HRA\Round Barn construc ***        08/07/17
 *** AERMET - VERSION  14134 ***   ***
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 **MODELOPTs:   RegDFAULT CONC      ELEV      FLGPOL    RURAL

                    * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY
AND BY DAY OF WEEK (HRDOW) *
```

```
 SOURCE ID = L0000023     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                                  DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .1000E+01
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                  DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                  DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00

 *** AERMOD - VERSION  15181 ***   *** C:\Users\xli\Desktop\Round Barn
construction HRA\Round Barn construc ***        08/07/17
 *** AERMET - VERSION  14134 ***   ***
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 **MODELOPTs:   RegDFAULT CONC      ELEV      FLGPOL    RURAL

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY
AND BY DAY OF WEEK (HRDOW) *

 SOURCE ID = L0000024     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                                  DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .1000E+01
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                  DAY OF WEEK = SATURDAY
```

```
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                 DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00

 *** AERMOD - VERSION  15181 ***   *** C:\Users\xli\Desktop\Round Barn
construction HRA\Round Barn construc ***        08/07/17
 *** AERMET - VERSION  14134 ***   ***
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 **MODELOPTs:   RegDFAULT CONC      ELEV      FLGPOL    RURAL

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY
AND BY DAY OF WEEK (HRDOW) *

 SOURCE ID = L0000025     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                                 DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .1000E+01
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                 DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                 DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
```

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000026 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY											
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00
7	.0000E+00	8	.1000E+01	9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01
13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.0000E+00	17	.0000E+00	18	.0000E+00
19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = SATURDAY											
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00
7	.0000E+00	8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00
13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00
19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = SUNDAY											
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00
7	.0000E+00	8	.0000E+00	9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00
13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00	17	.0000E+00	18	.0000E+00
19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000027 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

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 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                                    DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .1000E+01
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                    DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                    DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00

 *** AERMOD - VERSION  15181 ***   *** C:\Users\xli\Desktop\Round Barn
construction HRA\Round Barn construc ***        08/07/17
 *** AERMET - VERSION  14134 ***   ***
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 **MODELOPTs:   RegDFAULT CONC      ELEV      FLGPOL    RURAL

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY
AND BY DAY OF WEEK (HRDOW) *

 SOURCE ID = L0000028     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                                    DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .1000E+01
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                    DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
```

```
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00

 *** AERMOD - VERSION  15181 ***   *** C:\Users\xli\Desktop\Round Barn
construction HRA\Round Barn construc ***        08/07/17
 *** AERMET - VERSION  14134 ***   ***
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 **MODELOPTs:   RegDFAULT CONC      ELEV      FLGPOL    RURAL

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY
AND BY DAY OF WEEK (HRDOW) *

 SOURCE ID = L0000029     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .1000E+01
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00

 *** AERMOD - VERSION  15181 ***   *** C:\Users\xli\Desktop\Round Barn
construction HRA\Round Barn construc ***        08/07/17
 *** AERMET - VERSION  14134 ***   ***
***        16:05:55
```

                    * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY
AND BY DAY OF WEEK (HRDOW) *

 SOURCE ID = L0000030   ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 -
- -
                                                    DAY OF WEEK = WEEKDAY
    1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00
5 .0000E+00   6 .0000E+00   7 .0000E+00   8 .1000E+01
    9 .1000E+01   10 .1000E+01   11 .1000E+01   12 .1000E+01
13 .1000E+01   14 .1000E+01   15 .1000E+01   16 .0000E+00
   17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00
21 .0000E+00   22 .0000E+00   23 .0000E+00   24 .0000E+00
                                                    DAY OF WEEK = SATURDAY
    1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00
5 .0000E+00   6 .0000E+00   7 .0000E+00   8 .0000E+00
    9 .0000E+00   10 .0000E+00   11 .0000E+00   12 .0000E+00
13 .0000E+00   14 .0000E+00   15 .0000E+00   16 .0000E+00
   17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00
21 .0000E+00   22 .0000E+00   23 .0000E+00   24 .0000E+00
                                                    DAY OF WEEK = SUNDAY
    1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00
5 .0000E+00   6 .0000E+00   7 .0000E+00   8 .0000E+00
    9 .0000E+00   10 .0000E+00   11 .0000E+00   12 .0000E+00
13 .0000E+00   14 .0000E+00   15 .0000E+00   16 .0000E+00
   17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00
21 .0000E+00   22 .0000E+00   23 .0000E+00   24 .0000E+00

 *** AERMOD - VERSION 15181 ***   *** C:\Users\xli\Desktop\Round Barn
construction HRA\Round Barn construc ***   08/07/17
 *** AERMET - VERSION 14134 ***   ***
***   16:05:55

                    * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY
AND BY DAY OF WEEK (HRDOW) *

 SOURCE ID = L0000031   ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 -
- -
                                                    DAY OF WEEK = WEEKDAY

```
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .1000E+01
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00

 *** AERMOD - VERSION  15181 ***   *** C:\Users\xli\Desktop\Round Barn
construction HRA\Round Barn construc ***        08/07/17
 *** AERMET - VERSION  14134 ***   ***
***        16:05:55

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 **MODELOPTs:   RegDFAULT CONC      ELEV      FLGPOL    RURAL

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY
AND BY DAY OF WEEK (HRDOW) *

 SOURCE ID = L0000032     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .1000E+01
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
```

```
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00

 *** AERMOD - VERSION  15181 ***   *** C:\Users\xli\Desktop\Round Barn
construction HRA\Round Barn construc ***        08/07/17
 *** AERMET - VERSION  14134 ***   ***
***        16:05:55

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 **MODELOPTs:   RegDFAULT CONC      ELEV      FLGPOL    RURAL

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY
AND BY DAY OF WEEK (HRDOW) *

 SOURCE ID = L0000033     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                                    DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .1000E+01
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                    DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                    DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00

 *** AERMOD - VERSION  15181 ***   *** C:\Users\xli\Desktop\Round Barn
construction HRA\Round Barn construc ***        08/07/17
 *** AERMET - VERSION  14134 ***   ***
***        16:05:55

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 **MODELOPTs:   RegDFAULT CONC      ELEV      FLGPOL    RURAL
```

                                                    DAY OF WEEK = WEEKDAY
    1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00
5 .0000E+00   6 .0000E+00   7 .0000E+00   8 .1000E+01
    9 .1000E+01   10 .1000E+01   11 .1000E+01   12 .1000E+01
13 .1000E+01   14 .1000E+01   15 .1000E+01   16 .0000E+00
   17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00
21 .0000E+00   22 .0000E+00   23 .0000E+00   24 .0000E+00
                                                    DAY OF WEEK = SATURDAY
    1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00
5 .0000E+00   6 .0000E+00   7 .0000E+00   8 .0000E+00
    9 .0000E+00   10 .0000E+00   11 .0000E+00   12 .0000E+00
13 .0000E+00   14 .0000E+00   15 .0000E+00   16 .0000E+00
   17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00
21 .0000E+00   22 .0000E+00   23 .0000E+00   24 .0000E+00
                                                    DAY OF WEEK = SUNDAY
    1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00
5 .0000E+00   6 .0000E+00   7 .0000E+00   8 .0000E+00
    9 .0000E+00   10 .0000E+00   11 .0000E+00   12 .0000E+00
13 .0000E+00   14 .0000E+00   15 .0000E+00   16 .0000E+00
   17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00
21 .0000E+00   22 .0000E+00   23 .0000E+00   24 .0000E+00

                                                    DAY OF WEEK = WEEKDAY
    1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00
5 .0000E+00   6 .0000E+00   7 .0000E+00   8 .1000E+01
    9 .1000E+01   10 .1000E+01   11 .1000E+01   12 .1000E+01
13 .1000E+01   14 .1000E+01   15 .1000E+01   16 .0000E+00

```
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                 DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                 DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00

 *** AERMOD - VERSION  15181 ***   *** C:\Users\xli\Desktop\Round Barn
construction HRA\Round Barn construc ***        08/07/17
 *** AERMET - VERSION  14134 ***   ***
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 **MODELOPTs:   RegDFAULT CONC      ELEV      FLGPOL    RURAL

                    * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY
AND BY DAY OF WEEK (HRDOW) *

 SOURCE ID = L0000036     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                                 DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .1000E+01
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                 DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                 DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
```

```
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00

 *** AERMOD - VERSION  15181 ***   *** C:\Users\xli\Desktop\Round Barn
construction HRA\Round Barn construc ***        08/07/17
 *** AERMET - VERSION  14134 ***   ***
***        16:05:55

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 **MODELOPTs:   RegDFAULT CONC      ELEV      FLGPOL    RURAL

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY
AND BY DAY OF WEEK (HRDOW) *

 SOURCE ID = L0000037     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                                 DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .1000E+01
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                 DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                 DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00

 *** AERMOD - VERSION  15181 ***   *** C:\Users\xli\Desktop\Round Barn
construction HRA\Round Barn construc ***        08/07/17
 *** AERMET - VERSION  14134 ***   ***
***        16:05:55

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 **MODELOPTs:   RegDFAULT CONC      ELEV      FLGPOL    RURAL

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY
AND BY DAY OF WEEK (HRDOW) *
```

```
 SOURCE ID = L0000038     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                                 DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .1000E+01
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                 DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                 DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00

 *** AERMOD - VERSION  15181 ***   *** C:\Users\xli\Desktop\Round Barn
construction HRA\Round Barn construc ***        08/07/17
 *** AERMET - VERSION  14134 ***   ***
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 **MODELOPTs:   RegDFAULT CONC      ELEV      FLGPOL    RURAL

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY
AND BY DAY OF WEEK (HRDOW) *

 SOURCE ID = L0000039     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                                 DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .1000E+01
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                 DAY OF WEEK = SATURDAY
```

```
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                 DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00

 *** AERMOD - VERSION  15181 ***   *** C:\Users\xli\Desktop\Round Barn
construction HRA\Round Barn construc ***        08/07/17
 *** AERMET - VERSION  14134 ***   ***
***        16:05:55

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 **MODELOPTs:   RegDFAULT CONC      ELEV      FLGPOL    RURAL

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY
AND BY DAY OF WEEK (HRDOW) *

 SOURCE ID = L0000040     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                                 DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .1000E+01
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                 DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                 DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
```

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000041 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

DAY OF WEEK = WEEKDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.1000E+01
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.0000E+00
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00

DAY OF WEEK = SATURDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00

DAY OF WEEK = SUNDAY

1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = L0000042 ; SOURCE TYPE = VOLUME :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR

```
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                                    DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .1000E+01
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                    DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                    DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00

 *** AERMOD - VERSION  15181 ***   *** C:\Users\xli\Desktop\Round Barn
construction HRA\Round Barn construc ***        08/07/17
 *** AERMET - VERSION  14134 ***   ***
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 **MODELOPTs:   RegDFAULT CONC      ELEV      FLGPOL    RURAL

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY
AND BY DAY OF WEEK (HRDOW) *

 SOURCE ID = L0000043     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                                    DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .1000E+01
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                    DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
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```
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                 DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00

 *** AERMOD - VERSION  15181 ***   *** C:\Users\xli\Desktop\Round Barn
construction HRA\Round Barn construc ***        08/07/17
 *** AERMET - VERSION  14134 ***   ***
***        16:05:55

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 **MODELOPTs:   RegDFAULT CONC      ELEV      FLGPOL    RURAL

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY
AND BY DAY OF WEEK (HRDOW) *

 SOURCE ID = L0000044     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                                 DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .1000E+01
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                 DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                 DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00

 *** AERMOD - VERSION  15181 ***   *** C:\Users\xli\Desktop\Round Barn
construction HRA\Round Barn construc ***        08/07/17
 *** AERMET - VERSION  14134 ***   ***
***        16:05:55
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 **MODELOPTs: RegDFAULT CONC   ELEV   FLGPOL   RURAL

                    * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY
AND BY DAY OF WEEK (HRDOW) *

 SOURCE ID = L0000045   ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 -
- -
                                                    DAY OF WEEK = WEEKDAY
    1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00
5 .0000E+00   6 .0000E+00   7 .0000E+00   8 .1000E+01
    9 .1000E+01   10 .1000E+01   11 .1000E+01   12 .1000E+01
13 .1000E+01   14 .1000E+01   15 .1000E+01   16 .0000E+00
   17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00
21 .0000E+00   22 .0000E+00   23 .0000E+00   24 .0000E+00
                                                    DAY OF WEEK = SATURDAY
    1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00
5 .0000E+00   6 .0000E+00   7 .0000E+00   8 .0000E+00
    9 .0000E+00   10 .0000E+00   11 .0000E+00   12 .0000E+00
13 .0000E+00   14 .0000E+00   15 .0000E+00   16 .0000E+00
   17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00
21 .0000E+00   22 .0000E+00   23 .0000E+00   24 .0000E+00
                                                    DAY OF WEEK = SUNDAY
    1 .0000E+00   2 .0000E+00   3 .0000E+00   4 .0000E+00
5 .0000E+00   6 .0000E+00   7 .0000E+00   8 .0000E+00
    9 .0000E+00   10 .0000E+00   11 .0000E+00   12 .0000E+00
13 .0000E+00   14 .0000E+00   15 .0000E+00   16 .0000E+00
   17 .0000E+00   18 .0000E+00   19 .0000E+00   20 .0000E+00
21 .0000E+00   22 .0000E+00   23 .0000E+00   24 .0000E+00

 *** AERMOD - VERSION 15181 ***   *** C:\Users\xli\Desktop\Round Barn
construction HRA\Round Barn construc ***   08/07/17
 *** AERMET - VERSION 14134 ***   ***
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 **MODELOPTs: RegDFAULT CONC   ELEV   FLGPOL   RURAL

                    * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY
AND BY DAY OF WEEK (HRDOW) *

 SOURCE ID = L0000046   ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 -
- -
                                                    DAY OF WEEK = WEEKDAY

```
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .1000E+01
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00

 *** AERMOD - VERSION  15181 ***   *** C:\Users\xli\Desktop\Round Barn
construction HRA\Round Barn construc ***        08/07/17
 *** AERMET - VERSION  14134 ***   ***
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 **MODELOPTs:   RegDFAULT CONC      ELEV      FLGPOL    RURAL

                  * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY
AND BY DAY OF WEEK (HRDOW) *

 SOURCE ID = L0000047     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                                DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .1000E+01
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                DAY OF WEEK = SUNDAY
```

```
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00

 *** AERMOD - VERSION  15181 ***   *** C:\Users\xli\Desktop\Round Barn
construction HRA\Round Barn construc ***        08/07/17
 *** AERMET - VERSION  14134 ***   ***
***        16:05:55

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 **MODELOPTs:   RegDFAULT CONC      ELEV      FLGPOL    RURAL

                   * SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY
AND BY DAY OF WEEK (HRDOW) *

 SOURCE ID = L0000048     ; SOURCE TYPE = VOLUME   :
  HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR
SCALAR   HOUR   SCALAR   HOUR   SCALAR   HOUR   SCALAR
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                                    DAY OF WEEK = WEEKDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .1000E+01
    9  .1000E+01   10  .1000E+01   11  .1000E+01   12  .1000E+01
13  .1000E+01   14  .1000E+01   15  .1000E+01   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                    DAY OF WEEK = SATURDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00
                                                    DAY OF WEEK = SUNDAY
    1  .0000E+00    2  .0000E+00    3  .0000E+00    4  .0000E+00
5  .0000E+00    6  .0000E+00    7  .0000E+00    8  .0000E+00
    9  .0000E+00   10  .0000E+00   11  .0000E+00   12  .0000E+00
13  .0000E+00   14  .0000E+00   15  .0000E+00   16  .0000E+00
   17  .0000E+00   18  .0000E+00   19  .0000E+00   20  .0000E+00
21  .0000E+00   22  .0000E+00   23  .0000E+00   24  .0000E+00

 *** AERMOD - VERSION  15181 ***   *** C:\Users\xli\Desktop\Round Barn
construction HRA\Round Barn construc ***        08/07/17
 *** AERMET - VERSION  14134 ***   ***
***        16:05:55

PAGE  55
 **MODELOPTs:   RegDFAULT CONC      ELEV      FLGPOL    RURAL
```

*** DISCRETE CARTESIAN RECEPTORS ***

(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)

(METERS)

(523481.7, 4258499.7, 42.8, 106.0, 2.0);
(523525.9, 4258499.7, 42.6, 106.0, 2.0);
(523570.1, 4258499.7, 43.0, 106.0, 2.0);
(523614.3, 4258499.7, 43.5, 106.0, 2.0);
(523658.5, 4258499.7, 44.7, 106.0, 2.0);
(523702.6, 4258499.7, 45.4, 111.0, 2.0);
(523746.8, 4258499.7, 46.1, 177.0, 2.0);
(523791.0, 4258499.7, 48.7, 177.0, 2.0);
(523835.2, 4258499.7, 53.8, 177.0, 2.0);
(523879.4, 4258499.7, 58.5, 177.0, 2.0);
(523923.6, 4258499.7, 59.1, 177.0, 2.0);
(523967.8, 4258499.7, 63.5, 177.0, 2.0);
(524012.0, 4258499.7, 72.7, 91.0, 2.0);
(524056.2, 4258499.7, 79.6, 79.6, 2.0);
(524100.4, 4258499.7, 82.0, 82.0, 2.0);
(524144.5, 4258499.7, 84.1, 91.0, 2.0);
(524188.7, 4258499.7, 83.6, 91.0, 2.0);
(524232.9, 4258499.7, 82.3, 186.0, 2.0);
(523481.7, 4258544.2, 42.0, 106.0, 2.0);
(523525.9, 4258544.2, 42.9, 106.0, 2.0);
(523570.1, 4258544.2, 43.5, 106.0, 2.0);
(523614.3, 4258544.2, 44.9, 106.0, 2.0);
(523658.5, 4258544.2, 45.4, 109.0, 2.0);
(523702.6, 4258544.2, 46.0, 177.0, 2.0);
(523746.8, 4258544.2, 48.3, 177.0, 2.0);
(523791.0, 4258544.2, 50.7, 177.0, 2.0);
(523835.2, 4258544.2, 56.0, 177.0, 2.0);
(523879.4, 4258544.2, 58.4, 177.0, 2.0);
(523923.6, 4258544.2, 60.0, 183.0, 2.0);
(523967.8, 4258544.2, 65.9, 177.0, 2.0);
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(524056.2, 4258544.2, 75.5, 177.0, 2.0);
(524100.4, 4258544.2, 81.7, 91.0, 2.0);
(524144.5, 4258544.2, 86.0, 91.0, 2.0);
(524188.7, 4258544.2, 90.0, 91.0, 2.0);
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(523481.7, 4258588.6, 42.8, 106.0, 2.0);
(523525.9, 4258588.6, 43.8, 106.0, 2.0);
(523570.1, 4258588.6, 45.2, 106.0, 2.0);
(523614.3, 4258588.6, 46.2, 106.0, 2.0);
(523658.5, 4258588.6, 47.1, 109.0, 2.0);
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(523746.8, 4258588.6, 49.3, 177.0, 2.0);
(523791.0, 4258588.6, 53.3, 177.0, 2.0);

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( 523879.4, 4258588.6,      55.5,     185.0,       2.0);
     ( 523923.6, 4258588.6,      59.2,     185.0,       2.0);
( 523967.8, 4258588.6,      61.4,     186.0,       2.0);
     ( 524012.0, 4258588.6,      64.9,     186.0,       2.0);
( 524056.2, 4258588.6,      70.8,     186.0,       2.0);
     ( 524100.4, 4258588.6,      77.3,     185.0,       2.0);
( 524144.5, 4258588.6,      82.6,     177.0,       2.0);
     ( 524188.7, 4258588.6,      85.7,     183.0,       2.0);
( 524232.9, 4258588.6,      85.0,     186.0,       2.0);
     ( 523481.7, 4258633.1,      42.6,     106.0,       2.0);
( 523525.9, 4258633.1,      48.7,     106.0,       2.0);
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( 523614.3, 4258633.1,      53.2,     106.0,       2.0);
     ( 523658.5, 4258633.1,      51.5,     106.0,       2.0);
( 523702.6, 4258633.1,      52.5,     109.0,       2.0);
     ( 523746.8, 4258633.1,      55.3,     111.0,       2.0);
( 523791.0, 4258633.1,      58.5,     177.0,       2.0);
     ( 523835.2, 4258633.1,      59.3,     177.0,       2.0);
( 523879.4, 4258633.1,      58.5,     183.0,       2.0);
     ( 523923.6, 4258633.1,      59.9,     186.0,       2.0);
( 523967.8, 4258633.1,      60.7,     186.0,       2.0);
     ( 524012.0, 4258633.1,      63.6,     186.0,       2.0);
( 524056.2, 4258633.1,      66.9,     186.0,       2.0);
     ( 524100.4, 4258633.1,      69.6,     186.0,       2.0);
( 524144.5, 4258633.1,      74.7,     186.0,       2.0);
     ( 524188.7, 4258633.1,      80.0,     186.0,       2.0);
( 524232.9, 4258633.1,      83.0,     186.0,       2.0);
     ( 523481.7, 4258677.6,      49.5,     106.0,       2.0);
( 523525.9, 4258677.6,      56.7,     106.0,       2.0);
     ( 523570.1, 4258677.6,      60.8,     106.0,       2.0);
( 523614.3, 4258677.6,      55.4,     106.0,       2.0);
     ( 523658.5, 4258677.6,      58.3,     106.0,       2.0);
( 523702.6, 4258677.6,      60.5,     106.0,       2.0);
     ( 523746.8, 4258677.6,      62.8,     106.0,       2.0);
( 523791.0, 4258677.6,      65.1,     106.0,       2.0);
     ( 523835.2, 4258677.6,      63.6,     177.0,       2.0);
( 523879.4, 4258677.6,      63.9,     177.0,       2.0);
     ( 523923.6, 4258677.6,      66.1,     177.0,       2.0);
( 523967.8, 4258677.6,      69.0,     177.0,       2.0);
     ( 524012.0, 4258677.6,      71.8,     185.0,       2.0);
( 524056.2, 4258677.6,      74.3,     186.0,       2.0);
     ( 524100.4, 4258677.6,      77.1,     186.0,       2.0);
( 524144.5, 4258677.6,      79.3,     186.0,       2.0);
     ( 523481.7, 4258722.1,      58.5,     106.0,       2.0);
( 523525.9, 4258722.1,      61.6,     106.0,       2.0);

 *** AERMOD - VERSION  15181 ***   *** C:\Users\xli\Desktop\Round Barn
construction HRA\Round Barn construc ***        08/07/17
 *** AERMET - VERSION  14134 ***   ***
***        16:05:55
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**MODELOPTs: RegDFAULT CONC ELEV FLGPOL RURAL

*** DISCRETE CARTESIAN RECEPTORS ***

(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)

(METERS)

(523570.1, 4258722.1, 60.6, 106.0, 2.0);
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(523658.5, 4258722.1, 67.0, 106.0, 2.0);
(523702.6, 4258722.1, 71.7, 106.0, 2.0);
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(523791.0, 4258722.1, 73.2, 106.0, 2.0);
(523481.7, 4258766.5, 61.3, 106.0, 2.0);
(523525.9, 4258766.5, 63.2, 106.0, 2.0);
(523570.1, 4258766.5, 61.7, 106.0, 2.0);
(523614.3, 4258766.5, 64.7, 106.0, 2.0);
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(523702.6, 4258766.5, 73.6, 106.0, 2.0);
(523746.8, 4258766.5, 75.9, 106.0, 2.0);
(523791.0, 4258766.5, 76.7, 106.0, 2.0);
(523481.7, 4258811.0, 63.0, 105.0, 2.0);
(523525.9, 4258811.0, 66.4, 106.0, 2.0);
(523570.1, 4258811.0, 64.8, 106.0, 2.0);
(523614.3, 4258811.0, 65.6, 106.0, 2.0);
(523658.5, 4258811.0, 68.1, 106.0, 2.0);
(523702.6, 4258811.0, 72.9, 106.0, 2.0);
(523746.8, 4258811.0, 78.5, 106.0, 2.0);
(523791.0, 4258811.0, 80.4, 106.0, 2.0);
(523481.7, 4258855.5, 64.7, 105.0, 2.0);
(523525.9, 4258855.5, 68.3, 105.0, 2.0);
(523570.1, 4258855.5, 68.1, 106.0, 2.0);
(523614.3, 4258855.5, 69.5, 106.0, 2.0);
(523658.5, 4258855.5, 72.2, 106.0, 2.0);
(523702.6, 4258855.5, 77.0, 106.0, 2.0);
(523746.8, 4258855.5, 80.8, 106.0, 2.0);
(523791.0, 4258855.5, 84.1, 106.0, 2.0);
(523481.7, 4258899.9, 64.6, 105.0, 2.0);
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(523658.5, 4258899.9, 75.8, 106.0, 2.0);
(523702.6, 4258899.9, 79.1, 106.0, 2.0);
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( 523481.7, 4258988.9,      66.1,      74.0,       2.0);
     ( 523525.9, 4258988.9,      70.3,      74.0,       2.0);
( 523570.1, 4258988.9,      74.3,      74.3,       2.0);
     ( 523614.3, 4258988.9,      76.0,     102.0,       2.0);
( 523702.6, 4258988.9,      80.2,     106.0,       2.0);
     ( 523481.7, 4259033.3,      64.4,     277.0,       2.0);
( 523525.9, 4259033.3,      69.0,     275.0,       2.0);
     ( 523570.1, 4259033.3,      73.5,      73.5,       2.0);
( 523614.3, 4259033.3,      76.0,      76.0,       2.0);
     ( 523481.7, 4259077.8,      68.7,     277.0,       2.0);
( 523525.9, 4259077.8,      72.5,     276.0,       2.0);
     ( 523570.1, 4259077.8,      74.2,     276.0,       2.0);
( 523614.3, 4259077.8,      74.6,     277.0,       2.0);
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( 523525.9, 4259122.3,      73.0,     278.0,       2.0);
     ( 523570.1, 4259122.3,      72.5,     278.0,       2.0);
( 523614.3, 4259122.3,      73.8,     278.0,       2.0);
     ( 523481.7, 4259166.8,      63.1,     278.0,       2.0);
( 523525.9, 4259166.8,      67.2,     278.0,       2.0);
     ( 523570.1, 4259166.8,      72.8,     278.0,       2.0);
( 523614.3, 4259166.8,      79.0,     278.0,       2.0);
     ( 524232.9, 4259166.8,     101.3,     177.0,       2.0);
( 524277.1, 4259166.8,     103.6,     183.0,       2.0);
     ( 524321.3, 4259166.8,     112.4,     177.0,       2.0);
( 523481.7, 4259211.2,      64.6,     278.0,       2.0);
     ( 523525.9, 4259211.2,      69.7,     278.0,       2.0);
( 523570.1, 4259211.2,      77.6,     278.0,       2.0);
     ( 523614.3, 4259211.2,      81.5,     278.0,       2.0);
( 523658.5, 4259211.2,      77.7,     278.0,       2.0);
     ( 523702.6, 4259211.2,      73.2,     278.0,       2.0);
( 523746.8, 4259211.2,      67.8,     278.0,       2.0);
     ( 523791.0, 4259211.2,      66.3,     278.0,       2.0);
( 523835.2, 4259211.2,      69.2,     278.0,       2.0);
     ( 524144.5, 4259211.2,     107.6,     142.0,       2.0);
( 524188.7, 4259211.2,     102.4,     177.0,       2.0);
     ( 524232.9, 4259211.2,     104.5,     177.0,       2.0);
( 524277.1, 4259211.2,     109.7,     177.0,       2.0);
     ( 524321.3, 4259211.2,     114.0,     177.0,       2.0);
( 523481.7, 4259255.7,      64.8,     278.0,       2.0);
     ( 523525.9, 4259255.7,      70.1,     278.0,       2.0);
( 523570.1, 4259255.7,      76.1,     278.0,       2.0);
     ( 523614.3, 4259255.7,      75.1,     278.0,       2.0);
( 523658.5, 4259255.7,      69.8,     278.0,       2.0);
     ( 523702.6, 4259255.7,      64.3,     278.0,       2.0);
( 523746.8, 4259255.7,      64.0,     278.0,       2.0);
     ( 523791.0, 4259255.7,      68.4,     278.0,       2.0);
( 523835.2, 4259255.7,      73.8,     278.0,       2.0);

 *** AERMOD - VERSION  15181 ***   *** C:\Users\xli\Desktop\Round Barn
construction HRA\Round Barn construc ***        08/07/17
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**MODELOPTs: RegDFAULT CONC ELEV FLGPOL RURAL

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(523879.4, 4259255.7, 80.2, 278.0, 2.0);
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(524056.2, 4259255.7, 103.0, 269.0, 2.0);
(524100.4, 4259255.7, 107.4, 142.0, 2.0);
(524144.5, 4259255.7, 107.5, 142.0, 2.0);
(524188.7, 4259255.7, 106.6, 177.0, 2.0);
(524232.9, 4259255.7, 113.0, 177.0, 2.0);
(524277.1, 4259255.7, 122.2, 142.0, 2.0);
(524321.3, 4259255.7, 123.9, 177.0, 2.0);
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(523570.1, 4259300.2, 67.0, 278.0, 2.0);
(523614.3, 4259300.2, 66.0, 278.0, 2.0);
(523658.5, 4259300.2, 61.3, 278.0, 2.0);
(523702.6, 4259300.2, 61.1, 278.0, 2.0);
(523746.8, 4259300.2, 66.5, 278.0, 2.0);
(523791.0, 4259300.2, 70.9, 278.0, 2.0);
(523835.2, 4259300.2, 76.0, 278.0, 2.0);
(523879.4, 4259300.2, 84.2, 278.0, 2.0);
(523923.6, 4259300.2, 88.4, 278.0, 2.0);
(523967.8, 4259300.2, 94.1, 278.0, 2.0);
(524012.0, 4259300.2, 101.0, 278.0, 2.0);
(524056.2, 4259300.2, 104.3, 277.0, 2.0);
(524100.4, 4259300.2, 107.2, 276.0, 2.0);
(524144.5, 4259300.2, 107.9, 276.0, 2.0);
(524188.7, 4259300.2, 111.1, 142.0, 2.0);
(524232.9, 4259300.2, 119.6, 142.0, 2.0);
(524277.1, 4259300.2, 127.7, 142.0, 2.0);
(524321.3, 4259300.2, 131.9, 142.0, 2.0);
(523481.7, 4259344.6, 56.6, 278.0, 2.0);
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(523570.1, 4259344.6, 58.6, 278.0, 2.0);
(523614.3, 4259344.6, 59.0, 278.0, 2.0);
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(523702.6, 4259344.6, 60.8, 278.0, 2.0);
(523746.8, 4259344.6, 66.3, 278.0, 2.0);
(523791.0, 4259344.6, 72.2, 278.0, 2.0);
(523835.2, 4259344.6, 77.5, 278.0, 2.0);

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     ( 523879.4, 4259344.6,      84.9,     278.0,       2.0);
( 523923.6, 4259344.6,      87.7,     278.0,       2.0);
     ( 523967.8, 4259344.6,      90.0,     278.0,       2.0);
( 524012.0, 4259344.6,      95.4,     278.0,       2.0);
     ( 524056.2, 4259344.6,      96.6,     278.0,       2.0);
( 524100.4, 4259344.6,      99.9,     278.0,       2.0);
     ( 524144.5, 4259344.6,     106.3,     278.0,       2.0);
( 524188.7, 4259344.6,     115.7,     142.0,       2.0);
     ( 524232.9, 4259344.6,     122.7,     142.0,       2.0);
( 524277.1, 4259344.6,     131.4,     142.0,       2.0);
     ( 524321.3, 4259344.6,     135.8,     142.0,       2.0);

 *** AERMOD - VERSION  15181 ***   *** C:\Users\xli\Desktop\Round Barn
construction HRA\Round Barn construc ***        08/07/17
 *** AERMET - VERSION  14134 ***   ***
***        16:05:55

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 **MODELOPTs:   RegDFAULT CONC      ELEV      FLGPOL    RURAL

                      * SOURCE-RECEPTOR COMBINATIONS FOR WHICH
CALCULATIONS MAY NOT BE PERFORMED *
                        LESS THAN 1.0 METER; WITHIN OPENPIT; OR BEYOND
80KM FOR FASTAREA/FASTALL


                             SOURCE          - - RECEPTOR LOCATION -
-         DISTANCE
                               ID             XR (METERS)   YR (METERS)
(METERS)
                            - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - -

                            L0000002            523702.6
4258944.4            -6.93
                            L0000003            523702.6
4258944.4           -10.96
                            L0000004            523702.6
4258944.4            -3.78
                            L0000006            523746.8
4258899.9            -3.86
                            L0000007            523746.8
4258899.9           -11.69
                            L0000010            523791.0
4258855.5           -10.14
                            L0000011            523791.0
4258855.5             0.23
                            L0000012            523791.0
4258811.0            -8.45
                            L0000013            523791.0
4258811.0            -7.38
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                          L0000015           523791.0
4258766.5           -5.49
                          L0000021           523879.4
4258677.6            0.96
                          L0000023           523879.4
4258633.1           -5.94
                          L0000024           523879.4
4258633.1          -12.03
                          L0000026           523879.4
4258588.6           -4.38
                          L0000028           523835.2
4258588.6          -11.03
                          L0000029           523835.2
4258588.6           -6.33
                          L0000033           523746.8
4258544.2           -1.22
                          L0000034           523746.8
4258544.2           -9.96
                          L0000036           523702.6
4258544.2           -9.29
                          L0000037           523702.6
4258544.2           -0.16
                          L0000041           523614.3
4258544.2           -5.87
                          L0000042           523614.3
4258544.2          -11.11
                          L0000045           523570.1
4258588.6           -2.52
                          L0000047           523525.9
4258588.6          -12.02
                          L0000048           523525.9
4258588.6           -1.77

 *** AERMOD - VERSION  15181 ***   *** C:\Users\xli\Desktop\Round Barn
construction HRA\Round Barn construc ***        08/07/17
 *** AERMET - VERSION  14134 ***   ***
***        16:05:55

PAGE  59
 **MODELOPTs:   RegDFAULT CONC      ELEV      FLGPOL    RURAL

                                          *** METEOROLOGICAL DAYS
SELECTED FOR PROCESSING ***
                                                              (1=YES;
0=NO)

            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1
1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1
1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1
1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
```

```
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1
1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1
1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1
1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1
1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
```

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***

(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

**MODELOPTs: RegDFAULT CONC ELEV FLGPOL RURAL

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file: 724957\724957.SFC
Met Version: 14134
Profile file: 724957\724957.PFL
Surface format: FREE
Profile format: FREE
Surface station no.: 23213 Upper air station no.: 23230
Name: UNKNOWN Name: OAKLAND/WSO_AP
Year: 2009 Year: 2009

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

```
 09 01 01   1 01 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0
0.03   0.74   1.00    0.00    0.   10.0  279.9    2.0
 09 01 01   1 02 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0
0.03   0.74   1.00    0.00    0.   10.0  279.2    2.0
 09 01 01   1 03 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0
0.03   0.74   1.00    0.00    0.   10.0  279.9    2.0
 09 01 01   1 04 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0
0.03   0.74   1.00    0.00    0.   10.0  280.4    2.0
 09 01 01   1 05 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0
0.03   0.74   1.00    0.00    0.   10.0  280.4    2.0
 09 01 01   1 06 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0
0.03   0.74   1.00    0.00    0.   10.0  280.4    2.0
 09 01 01   1 07 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0
0.03   0.74   1.00    0.00    0.   10.0  280.4    2.0
 09 01 01   1 08 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0
0.03   0.74   1.00    0.00    0.   10.0  280.4    2.0
 09 01 01   1 09 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0
0.03   0.74   0.42    0.00    0.   10.0  280.9    2.0
 09 01 01   1 10   17.5 -9.000 -9.000 -9.000  157. -999. -99999.0
0.03   0.74   0.29    0.00    0.   10.0  282.0    2.0
 09 01 01   1 11   32.5 -9.000 -9.000 -9.000  263. -999. -99999.0
0.03   0.74   0.24    0.00    0.   10.0  283.1    2.0
 09 01 01   1 12   82.0 -9.000 -9.000 -9.000  426. -999. -99999.0
0.03   0.74   0.22    0.00    0.   10.0  284.9    2.0
 09 01 01   1 13   87.8  0.208  1.039  0.016  462.  228.     -9.3
0.03   0.74   0.22    2.36  999.   10.0  285.9    2.0
 09 01 01   1 14   74.7  0.288  1.001  0.015  485.  371.    -28.9
0.05   0.74   0.23    3.36  159.   10.0  285.4    2.0
 09 01 01   1 15   49.4  0.351  0.880  0.015  499.  499.    -79.2
0.05   0.74   0.26    4.36  162.   10.0  283.8    2.0
 09 01 01   1 16   12.7  0.265  0.561  0.015  502.  331.   -132.2
0.05   0.74   0.34    3.36  164.   10.0  282.5    2.0
 09 01 01   1 17   -7.2  0.089 -9.000 -9.000 -999.  102.      8.8
0.05   0.74   0.57    2.36  171.   10.0  281.4    2.0
 09 01 01   1 18   -8.3  0.089 -9.000 -9.000 -999.   64.      7.7
0.05   0.74   1.00    2.36  177.   10.0  279.9    2.0
 09 01 01   1 19   -4.3  0.066 -9.000 -9.000 -999.   41.      6.1
0.05   0.74   1.00    1.76  164.   10.0  278.8    2.0
 09 01 01   1 20  -10.5  0.183 -9.000 -9.000 -999.  188.     52.9
0.05   0.74   1.00    2.86  127.   10.0  278.8    2.0
 09 01 01   1 21   -7.6  0.133 -9.000 -9.000 -999.  117.     27.9
0.05   0.74   1.00    2.36  120.   10.0  278.8    2.0
 09 01 01   1 22 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0
0.03   0.74   1.00    0.00    0.   10.0  278.8    2.0
 09 01 01   1 23 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0
0.03   0.74   1.00    0.00    0.   10.0  279.2    2.0
 09 01 01   1 24 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0
0.03   0.74   1.00    0.00    0.   10.0  279.2    2.0


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
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*** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5 YEARS FOR SOURCE GROUP: AREA   ***
INCLUDING SOURCE(S):
PAREA1   ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF DPM   IN MICROGRAMS/M**3   **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
523481.70	4258499.71	0.31936	523525.89	4258499.71	0.40238
523570.08	4258499.71	0.49882	523614.27	4258499.71	0.59895
523658.46	4258499.71	0.70947	523702.65	4258499.71	0.85151
523746.84	4258499.71	1.03260	523791.03	4258499.71	1.25476
523835.22	4258499.71	1.53204	523879.41	4258499.71	1.87051
523923.60	4258499.71	2.23062	523967.79	4258499.71	2.63167
524011.98	4258499.71	3.09199	524056.17	4258499.71	3.55567
524100.36	4258499.71	3.99326	524144.55	4258499.71	4.43525
524188.74	4258499.71	4.64905	524232.93	4258499.71	4.56394
523481.70	4258544.18	0.31138	523525.89	4258544.18	0.40069
523570.08	4258544.18	0.50845	523614.27	4258544.18	0.62648
523658.46	4258544.18	0.75436	523702.65	4258544.18	0.91727

```
         523746.84    4258544.18        1.12700
523791.03    4258544.18        1.37854
         523835.22    4258544.18        1.70215
523879.41    4258544.18        2.09515
         523923.60    4258544.18        2.52187
523967.79    4258544.18        2.99640
         524011.98    4258544.18        3.53801
524056.17    4258544.18        4.10825
         524100.36    4258544.18        4.77426
524144.55    4258544.18        5.39352
         524188.74    4258544.18        5.85066
524232.93    4258544.18        5.42228
         523481.70    4258588.65        0.30273
523525.89    4258588.65        0.39610
         523570.08    4258588.65        0.51594
523614.27    4258588.65        0.65266
         523658.46    4258588.65        0.80298
523702.65    4258588.65        0.99451
         523746.84    4258588.65        1.23722
523791.03    4258588.65        1.53399
         523835.22    4258588.65        1.89810
523879.41    4258588.65        2.34565
         523923.60    4258588.65        2.84915
523967.79    4258588.65        3.36493
         524011.98    4258588.65        4.00087
524056.17    4258588.65        4.79642
         524100.36    4258588.65        5.70791
524144.55    4258588.65        6.46743
         524188.74    4258588.65        6.73179
524232.93    4258588.65        6.32139
         523481.70    4258633.12        0.29526
523525.89    4258633.12        0.39229
         523570.08    4258633.12        0.52667
523614.27    4258633.12        0.68604
         523658.46    4258633.12        0.86102
523702.65    4258633.12        1.08740
         523746.84    4258633.12        1.38583
523791.03    4258633.12        1.74281
         523835.22    4258633.12        2.17542
523879.41    4258633.12        2.68508
         523923.60    4258633.12        3.23859
523967.79    4258633.12        3.85720
         524011.98    4258633.12        4.68702
524056.17    4258633.12        5.73551
         524100.36    4258633.12        6.84881
524144.55    4258633.12        7.68848
         524188.74    4258633.12        7.97573
524232.93    4258633.12        7.37004
         523481.70    4258677.59        0.29831
523525.89    4258677.59        0.39417
         523570.08    4258677.59        0.53876
523614.27    4258677.59        0.71400
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         523481.70    4258811.00        0.35153
523525.89    4258811.00        0.45261
         523570.08    4258811.00        0.59948
523614.27    4258811.00        0.85320
         523658.46    4258811.00        1.26489
523702.65    4258811.00        1.88815
         523746.84    4258811.00        2.83881
523791.03    4258811.00        3.96259
         523481.70    4258855.47        0.36344
523525.89    4258855.47        0.47473
         523570.08    4258855.47        0.63538
523614.27    4258855.47        0.91924
         523658.46    4258855.47        1.42539
523702.65    4258855.47        2.31758
         523746.84    4258855.47        3.76265
523791.03    4258855.47        5.49492
         523481.70    4258899.94        0.36269
523525.89    4258899.94        0.47205
         523570.08    4258899.94        0.64955
523614.27    4258899.94        0.96410
         523658.46    4258899.94        1.59355
523702.65    4258899.94        2.88514
         523746.84    4258899.94        5.42529
523481.70    4258944.41        0.37233
         523525.89    4258944.41        0.47695
523570.08    4258944.41        0.65339
         523614.27    4258944.41        0.98092
523702.65    4258944.41        3.71775
         523746.84    4258944.41        9.35123
523481.70    4258988.88        0.41749
         523525.89    4258988.88        0.52332
523570.08    4258988.88        0.70048
         523614.27    4258988.88        1.04089
523702.65    4258988.88        5.09636
         523481.70    4259033.35        0.47905
523525.89    4259033.35        0.60432
         523570.08    4259033.35        0.81377
523614.27    4259033.35        1.22782
         523481.70    4259077.82        0.53770
523525.89    4259077.82        0.71023
         523570.08    4259077.82        1.01873
523614.27    4259077.82        1.71891
         523481.70    4259122.29        0.60096
523525.89    4259122.29        0.84970
         523570.08    4259122.29        1.33141
523614.27    4259122.29        2.52575
         523481.70    4259166.76        0.68755
523525.89    4259166.76        1.04676
         523570.08    4259166.76        1.77061
523614.27    4259166.76        3.41015
         524232.93    4259166.76        5.83500
524277.12    4259166.76        4.23132
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**MODELOPTs: RegDFAULT CONC ELEV FLGPOL RURAL

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 5 YEARS FOR SOURCE GROUP: AREA ***
INCLUDING SOURCE(S):
PAREA1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF DPM IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
523614.27	4259211.23	3.93409	523658.46	4259211.23	6.46095
523702.65	4259211.23	10.33553	523746.84	4259211.23	15.28164
523791.03	4259211.23	18.64200	523835.22	4259211.23	18.06213
524144.55	4259211.23	7.14419	524188.74	4259211.23	6.24329
524232.93	4259211.23	4.76011	524277.12	4259211.23	3.48118
524321.31	4259211.23	2.63009	523481.70	4259255.70	1.07706
523525.89	4259255.70	1.60532	523570.08	4259255.70	2.49252
523614.27	4259255.70	3.75891	523658.46	4259255.70	5.42052
523702.65	4259255.70	7.65091	523746.84	4259255.70	10.32378
523791.03	4259255.70	12.26052	523835.22	4259255.70	12.74914
523879.41	4259255.70	12.63056	523923.60	4259255.70	12.22517
523967.79	4259255.70	11.36764	524011.98	4259255.70	9.75888

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         524056.17    4259255.70        8.37124
524100.36    4259255.70        6.95563
         524144.55    4259255.70        5.91155
524188.74    4259255.70        4.94910
         524232.93    4259255.70        3.74249
524277.12    4259255.70        2.75749
         524321.31    4259255.70        2.20105
523481.70    4259300.17        1.21499
         523525.89    4259300.17        1.70813
523570.08    4259300.17        2.41406
         523614.27    4259300.17        3.34814
523658.46    4259300.17        4.49649
         523702.65    4259300.17        6.00509
523746.84    4259300.17        7.79460
         523791.03    4259300.17        9.15058
523835.22    4259300.17        9.79213
         523879.41    4259300.17       10.10890
523923.60    4259300.17        9.61961
         523967.79    4259300.17        8.93048
524011.98    4259300.17        7.56498
         524056.17    4259300.17        6.64698
524100.36    4259300.17        5.73651
         524144.55    4259300.17        4.92379
524188.74    4259300.17        4.02069
         524232.93    4259300.17        3.08605
524277.12    4259300.17        2.37375
         524321.31    4259300.17        1.89921
523481.70    4259344.64        1.28503
         523525.89    4259344.64        1.69930
523570.08    4259344.64        2.24770
         523614.27    4259344.64        2.96888
523658.46    4259344.64        3.89409
         523702.65    4259344.64        4.92530
523746.84    4259344.64        6.16030
         523791.03    4259344.64        7.23646
523835.22    4259344.64        7.80256
         523879.41    4259344.64        7.96877
523923.60    4259344.64        7.61647
         523967.79    4259344.64        7.18158
524011.98    4259344.64        6.64443
         524056.17    4259344.64        6.08613
524100.36    4259344.64        5.25219
         524144.55    4259344.64        4.25216
524188.74    4259344.64        3.33524
         524232.93    4259344.64        2.65176
524277.12    4259344.64        2.08054
         524321.31    4259344.64        1.69669

 *** AERMOD - VERSION  15181 ***   *** C:\Users\xli\Desktop\Round Barn
construction HRA\Round Barn construc ***        08/07/17
 *** AERMET - VERSION  14134 ***   ***
***        16:05:55
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**MODELOPTs: RegDFAULT CONC ELEV FLGPOL RURAL

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 5 YEARS FOR SOURCE GROUP: LINE ***
INCLUDING SOURCE(S):
L0000001 , L0000002 , L0000003 , L0000004 , L0000005 , L0000006 , L0000007 , L0000008 ,
L0000009 , L0000010 , L0000011 , L0000012 , L0000013 , L0000014 , L0000015 , L0000016 ,
L0000017 , L0000018 , L0000019 , L0000020 , L0000021 , L0000022 , L0000023 , L0000024 ,
L0000025 , L0000026 , L0000027 , L0000028 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF DPM IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
523481.70	4258499.71	0.00007	523525.89	4258499.71	0.00015
523570.08	4258499.71	0.00031	523614.27	4258499.71	0.00054
523658.46	4258499.71	0.00092	523702.65	4258499.71	0.00079
523746.84	4258499.71	0.00058	523791.03	4258499.71	0.00044
523835.22	4258499.71	0.00036	523879.41	4258499.71	0.00030
523923.60	4258499.71	0.00027	523967.79	4258499.71	0.00015
524011.98	4258499.71	0.00010	524056.17	4258499.71	0.00007
524100.36	4258499.71	0.00005	524144.55	4258499.71	0.00003
524188.74	4258499.71	0.00002	524232.93	4258499.71	0.00002
523481.70	4258544.18	0.00010	523525.89	4258544.18	0.00033
523570.08	4258544.18	0.00090	523614.27	4258544.18	0.00071
523658.46	4258544.18	0.00183	523702.65	4258544.18	0.00065
523746.84	4258544.18	0.00061	523791.03	4258544.18	0.00097

```
         523835.22    4258544.18        0.00062
523879.41    4258544.18        0.00051
         523923.60    4258544.18        0.00035
523967.79    4258544.18        0.00017
         524011.98    4258544.18        0.00010
524056.17    4258544.18        0.00006
         524100.36    4258544.18        0.00004
524144.55    4258544.18        0.00003
         524188.74    4258544.18        0.00002
524232.93    4258544.18        0.00002
         523481.70    4258588.65        0.00015
523525.89    4258588.65        0.00038
         523570.08    4258588.65        0.00109
523614.27    4258588.65        0.00099
         523658.46    4258588.65        0.00070
523702.65    4258588.65        0.00074
         523746.84    4258588.65        0.00106
523791.03    4258588.65        0.00147
         523835.22    4258588.65        0.00068
523879.41    4258588.65        0.00118
         523923.60    4258588.65        0.00049
523967.79    4258588.65        0.00020
         524011.98    4258588.65        0.00011
524056.17    4258588.65        0.00007
         524100.36    4258588.65        0.00004
524144.55    4258588.65        0.00003
         524188.74    4258588.65        0.00002
524232.93    4258588.65        0.00002
         523481.70    4258633.12        0.00022
523525.89    4258633.12        0.00059
         523570.08    4258633.12        0.00044
523614.27    4258633.12        0.00038
         523658.46    4258633.12        0.00037
523702.65    4258633.12        0.00040
         523746.84    4258633.12        0.00047
523791.03    4258633.12        0.00061
         523835.22    4258633.12        0.00098
523879.41    4258633.12        0.00155
         523923.60    4258633.12        0.00057
523967.79    4258633.12        0.00023
         524011.98    4258633.12        0.00012
524056.17    4258633.12        0.00007
         524100.36    4258633.12        0.00005
524144.55    4258633.12        0.00004
         524188.74    4258633.12        0.00003
524232.93    4258633.12        0.00002
         523481.70    4258677.59        0.00015
523525.89    4258677.59        0.00021
         523570.08    4258677.59        0.00021
523614.27    4258677.59        0.00024
         523658.46    4258677.59        0.00023
523702.65    4258677.59        0.00026
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         523746.84    4258677.59        0.00032
523791.03    4258677.59        0.00049

 *** AERMOD - VERSION  15181 ***   *** C:\Users\xli\Desktop\Round Barn
construction HRA\Round Barn construc ***        08/07/17
 *** AERMET - VERSION  14134 ***   ***
***        16:05:55

PAGE  65
 **MODELOPTs:   RegDFAULT CONC      ELEV      FLGPOL    RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES
AVERAGED OVER   5 YEARS FOR SOURCE GROUP: LINE     ***
                                 INCLUDING SOURCE(S):
L0000001    , L0000002    , L0000003    , L0000004    , L0000005    ,
               L0000006    , L0000007    , L0000008    ,
L0000009    , L0000010    , L0000011    , L0000012    , L0000013    ,
               L0000014    , L0000015    , L0000016    ,
L0000017    , L0000018    , L0000019    , L0000020    , L0000021    ,
               L0000022    , L0000023    , L0000024    ,
L0000025    , L0000026    , L0000027    , L0000028    ,  . . .      ,

                                          *** DISCRETE CARTESIAN
RECEPTOR POINTS ***

                                         ** CONC OF DPM      IN
MICROGRAMS/M**3                           **

       X-COORD (M)   Y-COORD (M)        CONC                        X-
COORD (M)   Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
         523835.22    4258677.59        0.00129
523879.41    4258677.59        0.00137
         523923.60    4258677.59        0.00043
523967.79    4258677.59        0.00019
         524011.98    4258677.59        0.00011
524056.17    4258677.59        0.00007
         524100.36    4258677.59        0.00005
524144.55    4258677.59        0.00004
         523481.70    4258722.06        0.00009
523525.89    4258722.06        0.00013
         523570.08    4258722.06        0.00016
523614.27    4258722.06        0.00017
         523658.46    4258722.06        0.00017
523702.65    4258722.06        0.00020
         523746.84    4258722.06        0.00030
523791.03    4258722.06        0.00067
         523481.70    4258766.53        0.00007
523525.89    4258766.53        0.00010
         523570.08    4258766.53        0.00012
523614.27    4258766.53        0.00013
```

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         523658.46    4258766.53        0.00016
523702.65    4258766.53        0.00021
         523746.84    4258766.53        0.00036
523791.03    4258766.53        0.00124
         523481.70    4258811.00        0.00006
523525.89    4258811.00        0.00008
         523570.08    4258811.00        0.00010
523614.27    4258811.00        0.00012
         523658.46    4258811.00        0.00015
523702.65    4258811.00        0.00025
         523746.84    4258811.00        0.00054
523791.03    4258811.00        0.00138
         523481.70    4258855.47        0.00005
523525.89    4258855.47        0.00007
         523570.08    4258855.47        0.00009
523614.27    4258855.47        0.00011
         523658.46    4258855.47        0.00017
523702.65    4258855.47        0.00035
         523746.84    4258855.47        0.00102
523791.03    4258855.47        0.00118
         523481.70    4258899.94        0.00005
523525.89    4258899.94        0.00006
         523570.08    4258899.94        0.00008
523614.27    4258899.94        0.00011
         523658.46    4258899.94        0.00020
523702.65    4258899.94        0.00078
         523746.84    4258899.94        0.00124
523481.70    4258944.41        0.00005
         523525.89    4258944.41        0.00006
523570.08    4258944.41        0.00008
         523614.27    4258944.41        0.00011
523702.65    4258944.41        0.00067
         523746.84    4258944.41        0.00119
523481.70    4258988.88        0.00004
         523525.89    4258988.88        0.00005
523570.08    4258988.88        0.00007
         523614.27    4258988.88        0.00012
523702.65    4258988.88        0.00118
         523481.70    4259033.35        0.00004
523525.89    4259033.35        0.00005
         523570.08    4259033.35        0.00008
523614.27    4259033.35        0.00013
         523481.70    4259077.82        0.00004
523525.89    4259077.82        0.00005
         523570.08    4259077.82        0.00007
523614.27    4259077.82        0.00011
         523481.70    4259122.29        0.00004
523525.89    4259122.29        0.00005
         523570.08    4259122.29        0.00007
523614.27    4259122.29        0.00009
         523481.70    4259166.76        0.00004
523525.89    4259166.76        0.00005
```

```
         523570.08    4259166.76        0.00006
523614.27    4259166.76        0.00008
         524232.93    4259166.76        0.00002
524277.12    4259166.76        0.00001
         524321.31    4259166.76        0.00001
523481.70    4259211.23        0.00003
         523525.89    4259211.23        0.00004
523570.08    4259211.23        0.00005

 *** AERMOD - VERSION  15181 ***   *** C:\Users\xli\Desktop\Round Barn
construction HRA\Round Barn construc ***        08/07/17
 *** AERMET - VERSION  14134 ***   ***
***        16:05:55

PAGE  66
 **MODELOPTs:   RegDFAULT CONC      ELEV      FLGPOL    RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES
AVERAGED OVER   5 YEARS FOR SOURCE GROUP: LINE     ***
                                 INCLUDING SOURCE(S):
L0000001    , L0000002    , L0000003    , L0000004    , L0000005    ,
                L0000006    , L0000007    , L0000008    ,
L0000009    , L0000010    , L0000011    , L0000012    , L0000013    ,
                L0000014    , L0000015    , L0000016    ,
L0000017    , L0000018    , L0000019    , L0000020    , L0000021    ,
                L0000022    , L0000023    , L0000024    ,
L0000025    , L0000026    , L0000027    , L0000028    ,  . . .      ,

                                          *** DISCRETE CARTESIAN
RECEPTOR POINTS ***

                                         ** CONC OF DPM      IN
MICROGRAMS/M**3                           **

       X-COORD (M)   Y-COORD (M)        CONC                        X-
COORD (M)   Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
         523614.27    4259211.23        0.00006
523658.46    4259211.23        0.00007
         523702.65    4259211.23        0.00008
523746.84    4259211.23        0.00009
         523791.03    4259211.23        0.00008
523835.22    4259211.23        0.00007
         524144.55    4259211.23        0.00002
524188.74    4259211.23        0.00002
         524232.93    4259211.23        0.00001
524277.12    4259211.23        0.00001
         524321.31    4259211.23        0.00001
523481.70    4259255.70        0.00003
         523525.89    4259255.70        0.00004
523570.08    4259255.70        0.00005
```

```
         523614.27    4259255.70        0.00005
523658.46    4259255.70        0.00006
         523702.65    4259255.70        0.00007
523746.84    4259255.70        0.00007
         523791.03    4259255.70        0.00007
523835.22    4259255.70        0.00006
         523879.41    4259255.70        0.00005
523923.60    4259255.70        0.00004
         523967.79    4259255.70        0.00003
524011.98    4259255.70        0.00003
         524056.17    4259255.70        0.00002
524100.36    4259255.70        0.00002
         524144.55    4259255.70        0.00002
524188.74    4259255.70        0.00001
         524232.93    4259255.70        0.00001
524277.12    4259255.70        0.00001
         524321.31    4259255.70        0.00001
523481.70    4259300.17        0.00003
         523525.89    4259300.17        0.00004
523570.08    4259300.17        0.00004
         523614.27    4259300.17        0.00005
523658.46    4259300.17        0.00005
         523702.65    4259300.17        0.00006
523746.84    4259300.17        0.00006
         523791.03    4259300.17        0.00006
523835.22    4259300.17        0.00005
         523879.41    4259300.17        0.00004
523923.60    4259300.17        0.00004
         523967.79    4259300.17        0.00003
524011.98    4259300.17        0.00002
         524056.17    4259300.17        0.00002
524100.36    4259300.17        0.00002
         524144.55    4259300.17        0.00002
524188.74    4259300.17        0.00001
         524232.93    4259300.17        0.00001
524277.12    4259300.17        0.00001
         524321.31    4259300.17        0.00001
523481.70    4259344.64        0.00003
         523525.89    4259344.64        0.00003
523570.08    4259344.64        0.00004
         523614.27    4259344.64        0.00004
523658.46    4259344.64        0.00004
         523702.65    4259344.64        0.00005
523746.84    4259344.64        0.00005
         523791.03    4259344.64        0.00005
523835.22    4259344.64        0.00004
         523879.41    4259344.64        0.00004
523923.60    4259344.64        0.00003
         523967.79    4259344.64        0.00003
524011.98    4259344.64        0.00002
         524056.17    4259344.64        0.00002
524100.36    4259344.64        0.00002
```

```
         524144.55    4259344.64        0.00001
524188.74    4259344.64        0.00001
         524232.93    4259344.64        0.00001
524277.12    4259344.64        0.00001
         524321.31    4259344.64        0.00001

 *** AERMOD - VERSION  15181 ***   *** C:\Users\xli\Desktop\Round Barn
construction HRA\Round Barn construc ***        08/07/17
 *** AERMET - VERSION  14134 ***   ***
***        16:05:55

PAGE  67
 **MODELOPTs:   RegDFAULT CONC      ELEV      FLGPOL    RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES
AVERAGED OVER   5 YEARS FOR SOURCE GROUP: ALL      ***
                                 INCLUDING SOURCE(S):
PAREA1      , L0000001    , L0000002    , L0000003    , L0000004    ,
                L0000005    , L0000006    , L0000007    ,
L0000008    , L0000009    , L0000010    , L0000011    , L0000012    ,
                L0000013    , L0000014    , L0000015    ,
L0000016    , L0000017    , L0000018    , L0000019    , L0000020    ,
                L0000021    , L0000022    , L0000023    ,
L0000024    , L0000025    , L0000026    , L0000027    ,  . . .      ,

                                          *** DISCRETE CARTESIAN
RECEPTOR POINTS ***

                                         ** CONC OF DPM      IN
MICROGRAMS/M**3                           **

       X-COORD (M)   Y-COORD (M)        CONC                        X-
COORD (M)   Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
         523481.70    4258499.71        0.31942
523525.89    4258499.71        0.40252
         523570.08    4258499.71        0.49913
523614.27    4258499.71        0.59950
         523658.46    4258499.71        0.71039
523702.65    4258499.71        0.85230
         523746.84    4258499.71        1.03318
523791.03    4258499.71        1.25520
         523835.22    4258499.71        1.53239
523879.41    4258499.71        1.87081
         523923.60    4258499.71        2.23088
523967.79    4258499.71        2.63183
         524011.98    4258499.71        3.09208
524056.17    4258499.71        3.55574
         524100.36    4258499.71        3.99330
524144.55    4258499.71        4.43528
```

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         524188.74    4258499.71        4.64908
524232.93    4258499.71        4.56396
         523481.70    4258544.18        0.31148
523525.89    4258544.18        0.40101
         523570.08    4258544.18        0.50935
523614.27    4258544.18        0.62719
         523658.46    4258544.18        0.75618
523702.65    4258544.18        0.91792
         523746.84    4258544.18        1.12761
523791.03    4258544.18        1.37951
         523835.22    4258544.18        1.70277
523879.41    4258544.18        2.09567
         523923.60    4258544.18        2.52222
523967.79    4258544.18        2.99657
         524011.98    4258544.18        3.53811
524056.17    4258544.18        4.10832
         524100.36    4258544.18        4.77430
524144.55    4258544.18        5.39355
         524188.74    4258544.18        5.85068
524232.93    4258544.18        5.42230
         523481.70    4258588.65        0.30288
523525.89    4258588.65        0.39648
         523570.08    4258588.65        0.51703
523614.27    4258588.65        0.65365
         523658.46    4258588.65        0.80368
523702.65    4258588.65        0.99525
         523746.84    4258588.65        1.23828
523791.03    4258588.65        1.53545
         523835.22    4258588.65        1.89878
523879.41    4258588.65        2.34683
         523923.60    4258588.65        2.84964
523967.79    4258588.65        3.36513
         524011.98    4258588.65        4.00098
524056.17    4258588.65        4.79649
         524100.36    4258588.65        5.70795
524144.55    4258588.65        6.46746
         524188.74    4258588.65        6.73181
524232.93    4258588.65        6.32141
         523481.70    4258633.12        0.29548
523525.89    4258633.12        0.39288
         523570.08    4258633.12        0.52711
523614.27    4258633.12        0.68642
         523658.46    4258633.12        0.86139
523702.65    4258633.12        1.08780
         523746.84    4258633.12        1.38631
523791.03    4258633.12        1.74342
         523835.22    4258633.12        2.17640
523879.41    4258633.12        2.68662
         523923.60    4258633.12        3.23916
523967.79    4258633.12        3.85743
         524011.98    4258633.12        4.68714
524056.17    4258633.12        5.73559
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         524100.36    4258633.12        6.84886
524144.55    4258633.12        7.68851
         524188.74    4258633.12        7.97576
524232.93    4258633.12        7.37006
         523481.70    4258677.59        0.29845
523525.89    4258677.59        0.39439
         523570.08    4258677.59        0.53897
523614.27    4258677.59        0.71425
         523658.46    4258677.59        0.93470
523702.65    4258677.59        1.21409
         523746.84    4258677.59        1.58384
523791.03    4258677.59        2.02909

 *** AERMOD - VERSION  15181 ***   *** C:\Users\xli\Desktop\Round Barn
construction HRA\Round Barn construc ***        08/07/17
 *** AERMET - VERSION  14134 ***   ***
***        16:05:55

PAGE  68
 **MODELOPTs:   RegDFAULT CONC      ELEV      FLGPOL    RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES
AVERAGED OVER   5 YEARS FOR SOURCE GROUP: ALL      ***
                                  INCLUDING SOURCE(S):
PAREA1      , L0000001    , L0000002    , L0000003    , L0000004    ,
                L0000005    , L0000006    , L0000007    ,
L0000008    , L0000009    , L0000010    , L0000011    , L0000012    ,
                L0000013    , L0000014    , L0000015    ,
L0000016    , L0000017    , L0000018    , L0000019    , L0000020    ,
                L0000021    , L0000022    , L0000023    ,
L0000024    , L0000025    , L0000026    , L0000027    ,  . . .      ,

                                       *** DISCRETE CARTESIAN
RECEPTOR POINTS ***

                                      ** CONC OF DPM      IN
MICROGRAMS/M**3                        **

       X-COORD (M)   Y-COORD (M)        CONC                      X-
COORD (M)   Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
         523835.22    4258677.59        2.54133
523879.41    4258677.59        3.12212
         523923.60    4258677.59        3.76752
523967.79    4258677.59        4.60472
         524011.98    4258677.59        5.80790
524056.17    4258677.59        7.42166
         524100.36    4258677.59        9.12037
524144.55    4258677.59       10.19375
         523481.70    4258722.06        0.31288
523525.89    4258722.06        0.40321
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         523570.08    4258722.06        0.54349
523614.27    4258722.06        0.75390
         523658.46    4258722.06        1.03569
523702.65    4258722.06        1.40431
         523746.84    4258722.06        1.88017
523791.03    4258722.06        2.45329
         523481.70    4258766.53        0.33093
523525.89    4258766.53        0.42212
         523570.08    4258766.53        0.56204
523614.27    4258766.53        0.80031
         523658.46    4258766.53        1.14607
523702.65    4258766.53        1.61550
         523746.84    4258766.53        2.26011
523791.03    4258766.53        3.03237
         523481.70    4258811.00        0.35159
523525.89    4258811.00        0.45269
         523570.08    4258811.00        0.59957
523614.27    4258811.00        0.85332
         523658.46    4258811.00        1.26505
523702.65    4258811.00        1.88840
         523746.84    4258811.00        2.83935
523791.03    4258811.00        3.96396
         523481.70    4258855.47        0.36350
523525.89    4258855.47        0.47479
         523570.08    4258855.47        0.63546
523614.27    4258855.47        0.91935
         523658.46    4258855.47        1.42556
523702.65    4258855.47        2.31793
         523746.84    4258855.47        3.76366
523791.03    4258855.47        5.49610
         523481.70    4258899.94        0.36274
523525.89    4258899.94        0.47211
         523570.08    4258899.94        0.64963
523614.27    4258899.94        0.96421
         523658.46    4258899.94        1.59375
523702.65    4258899.94        2.88592
         523746.84    4258899.94        5.42653
523481.70    4258944.41        0.37238
         523525.89    4258944.41        0.47701
523570.08    4258944.41        0.65347
         523614.27    4258944.41        0.98103
523702.65    4258944.41        3.71842
         523746.84    4258944.41        9.35241
523481.70    4258988.88        0.41754
         523525.89    4258988.88        0.52338
523570.08    4258988.88        0.70056
         523614.27    4258988.88        1.04101
523702.65    4258988.88        5.09754
         523481.70    4259033.35        0.47909
523525.89    4259033.35        0.60438
         523570.08    4259033.35        0.81384
523614.27    4259033.35        1.22794
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         523481.70    4259077.82        0.53774
523525.89    4259077.82        0.71029
         523570.08    4259077.82        1.01881
523614.27    4259077.82        1.71903
         523481.70    4259122.29        0.60100
523525.89    4259122.29        0.84976
         523570.08    4259122.29        1.33148
523614.27    4259122.29        2.52585
         523481.70    4259166.76        0.68759
523525.89    4259166.76        1.04681
         523570.08    4259166.76        1.77067
523614.27    4259166.76        3.41023
         524232.93    4259166.76        5.83502
524277.12    4259166.76        4.23133
         524321.31    4259166.76        2.91400
523481.70    4259211.23        0.87228
         523525.89    4259211.23        1.34800
523570.08    4259211.23        2.25968

 *** AERMOD - VERSION  15181 ***   *** C:\Users\xli\Desktop\Round Barn
construction HRA\Round Barn construc ***        08/07/17
 *** AERMET - VERSION  14134 ***   ***
***        16:05:55

PAGE  69
 **MODELOPTs:   RegDFAULT CONC      ELEV      FLGPOL    RURAL

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES
AVERAGED OVER   5 YEARS FOR SOURCE GROUP: ALL      ***
                                 INCLUDING SOURCE(S):
PAREA1      , L0000001    , L0000002    , L0000003    , L0000004    ,
               L0000005    , L0000006    , L0000007    ,
L0000008    , L0000009    , L0000010    , L0000011    , L0000012    ,
               L0000013    , L0000014    , L0000015    ,
L0000016    , L0000017    , L0000018    , L0000019    , L0000020    ,
               L0000021    , L0000022    , L0000023    ,
L0000024    , L0000025    , L0000026    , L0000027    ,  . . .      ,

                                          *** DISCRETE CARTESIAN
RECEPTOR POINTS ***

                                         ** CONC OF DPM      IN
MICROGRAMS/M**3                           **

       X-COORD (M)   Y-COORD (M)        CONC                        X-
COORD (M)   Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
         523614.27    4259211.23        3.93415
523658.46    4259211.23        6.46102
         523702.65    4259211.23       10.33561
523746.84    4259211.23       15.28173
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         523791.03    4259211.23       18.64208
523835.22    4259211.23       18.06221
         524144.55    4259211.23        7.14421
524188.74    4259211.23        6.24330
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PAGE  70
 **MODELOPTs:   RegDFAULT CONC      ELEV      FLGPOL    RURAL

                                   *** THE SUMMARY OF MAXIMUM ANNUAL
RESULTS AVERAGED OVER   5 YEARS ***


                                    ** CONC OF DPM      IN
MICROGRAMS/M**3                          **


NETWORK
GROUP ID                        AVERAGE CONC                RECEPTOR
(XR, YR, ZELEV, ZHILL, ZFLAG)  OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - -

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          7TH HIGHEST VALUE IS      12.22517 AT (  523923.60,
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                      GP = GRIDPOLR
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                      DC = DISCCART
                      DP = DISCPOLR

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PAGE  71
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 A Total of            1 Warning Message(s)
 A Total of        18866 Informational Message(s)

 A Total of        43872 Hours Were Processed

 A Total of        16971 Calm Hours Identified

 A Total of         1895 Missing Hours Identified (  4.32 Percent)


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               ***  NONE  ***


    ********   WARNING MESSAGES   ********
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Number of Hours=           48

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Appendix B:
Biological Resources Supporting Information

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B.1 - Preliminary Biological Assessment

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59 Jewell Street, San Rafael, CA 94901
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PRELIMINARY BIOLOGICAL ASSESSMENT
ROUND BARN VILLAGE SITE
SANTA ROSA, CALIFORNIA

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January 20, 2015

PRELIMINARY BIOLOGICAL ASSESSMENT
ROUND BARN VILLAGE SITE
SANTA ROSA, CALIFORNIA

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APPENDIX C. SPECIAL-STATUS WILDLIFE SPECIES WITH THE POTENTIAL TO OCCUR IN THE VICINITY OF THE ROUND BARN VILLAGE SITE, SANTA ROSA, CALIFORNIA

PRELIMINARY BIOLOGICAL ASSESSMENT
ROUND BARN VILLAGE SITE
SANTA ROSA, CALIFORNIA

1.0. INTRODUCTION

This report presents the results of a preliminary biological assessment of the potential presence of wetlands, endangered and other special-status plant species, and other natural resources that would require consideration in development of the Round Barn Village site, approximately 123-acres enclosed by Round Barn Blvd. and Fountaingrove Parkway in northeast Santa Rosa (Figures 1 and 2)(all figures are provided at the rear of the report). The site is designated as "Business Park" on the Land Use Diagram on the 2035 Santa Rosa General Plan.

The Round Barn Village site is located outside the limits of the Santa Rosa Plain as defined by the Corps of Engineers and the Santa Rosa Plain Conservation Plan Study Area (Figures 3 and 4).

This report is based on a site visit made on November 13, 2014, and record searches from standard special-status data bases. No attempt was made to enter the area that is surrounded by fence in the north-central part of the site and contains the abandoned structures. Because of the timing of the assessment and its preliminary nature, protocol-level surveys for endangered and other special-status animal species were not part of the scope of work and were not undertaken for any of the special-status species. Although data were collected at three sites to determine the width of Nagasawa Creek and to whether or not seasonal wetland habitat may be present on the site, no formal pre-jurisdictional determination was conducted as part of this assessment. The diameters of many of the larger trees in the oak woodland were measured with a diameter tape to document the range in size of the trees on the site but no attempt was made to measure all tree diameters. Finally, because of the time of the field visit, it was not possible to produce a complete plant species list.

2.0. PHYSICAL SITE CONDITIONS

2.1. Topography and Drainage

The primary topographic features on the site are a pair of hills in the south and the west. The ground slopes from the pair of hilltops toward the northern and northwestern part of the site and toward Round Barn Blvd., Fountaingrove Parkway and developed land to the south. The highest elevations on the site are at the tops of the two large hills and are approximately 350 ft to 360 ft. The lowest elevations are in the northern part of the site along Nagasawa Creek, which parallels Round Barn Road. The elevation in the upland area on both sides of the creek are and the elevation in the channel bottom ranges from 244 ft near the upper end to approximately 220 ft. where it exits the site at Round Barn Road.

The site is located at the headwaters of Nagasawa Creek and Nagasawa Creek is the sole natural drainage on the site. . Shallow ditches have been excavated at the margins of the parking area that centered on Centrum Plaza and at locations along the slops of the hills to control runoff from graded surfaces.

2.2. Soils

The soils on the Round Barn Village site are primarily Spreckles loams, Goulding cobbly clay loams, and Raynor clays. The Spreckles soils are well-drained loam soils that occur on slopes between two and 50 percent. They nine inches of surface loam soils and a clay subsoil at a depth of 19 to 37 inches. The soils between the upper nine inches of loam are clay loam. The Spreckles soils occur in a band in the northern half of the site. The Goulding series soils are shallow, somewhat excessively drained soils formed in material weathered from metavolcanic or metasedimentary rocks and typically are mapped as occurring in areas where the slopes range from five to 75 percent. The upper four inches are loamy with up to 25 percent gravel and the soils above the fractured rock regolith are very gravelly, dark brown loam. The Goulding series soils occur on the north-facing slopes of the hills and in the area in which the parking lot has been constructed. Raynor clay soils are very deep, moderately well and well drained clay soils that have formed in volcanic rock and in the derived alluvium. The soils are slowly permeable. The Raynor clay soils occur in the northern part of the site.

None of the soils are listed as hydric soils by the National Resource Conservation Service. Whether or not a series is listed as a hydric soil, in depressional locations, areas where the water table may be high, or areas that receive surface water from the surrounding land, the soils may exhibit hydric soil properties.

3.0. BIOLOGICAL RESOURCES

The vegetation on the site is a mosaic of several vegetation types. These types are shown on the map in Figure 5 and include ruderal annual grassland, mixed oak woodland, and riparian woodland. The boundaries of these types are not based on rigorous boundary conventions based on cover and./or tree spacing. Many trees and clusters of trees, particularly eucalyptus, occur within the limits of what has been mapped as ruderal annual grassland. Likewise, no brush habitat type is mapped although individual shrubs and clusters of shrubs, primarily coyote brush, are scattered throughout the annual grassland and at the margins of the oak woodland.

A partial list of the species on the site is contained in Appendix A to this report. Many of the identifications are based on dead material from the previous growing season, others on seedling and immature plants. The partial list should, therefore, be considered preliminary.

3.1. Ruderal Annual Grassland

One of the primary vegetation types on the Round Barn Village site is a ruderal annual grassland dominated by non-native grasses and forbs. This vegetation type is typical of the type both on the Santa Rosa Plain and in the lower slopes of the Mayacamas Mountains, which border the Santa Rosa Plain and are part of the Inner Coast Range. Although few species were mature and many species were not identifiable or present at the time ofthe survey, the dominant non-native grasses include ryegrass, Harding grass (*Phalaris aquatica*), slender wild oat (*Avena barbata*), soft chess (*Bromus hordeaceus*), ripgut brome (*Bromus diandrus*), and brome fescue *(Vulpia bromoides).* Nowhere are broad-leaved species the dominant plant species in the ruderal annual grassland but many broad-leaved species are common to abundant. These species include pair of filarees (*Erodium botrys* and *E. cicutarium*), fennel (*Foeniculum vulgare*), mustards (*Brassica rapa, B. Nigra, Hirschfeldia incana*), plantain (*Plantago lanceolata*), perennial ryegrass (*Festuca perennis*), roundleaf cancerwort

(*Kickxia spuria*), cut-leaved geranium (*Geranium dissectum*), vetch (*Vicia sativa*), wild radish (*Raphanus sativus*), clovers (*Trifolium repens, T. subterraneum*), dogtail grass (*Cynosurus echinatus*), sheep sorrel (*Rumex acetosella*), rough cat's ears (*Hypochaeris radicata*), prickly lettuce (*Lactuca serriola*) and English plantain (*Plantago lanceolata*). Although native forbs are considerably less abundant, evidence of sun cups (*Camissonia ovata*), brodiaea (*Brodiaea sp.*), lupine (*Lupinus* spp.), tarweeds (*Madia* sp., *Centromadia* sp.), and California poppy (*Eschscholzia californica*) was present at the time of the survey in the form of seedlings and standing dead plant material from the previous growth season.

Harding grass produced over 90 percent of the total cover in the large grassland area north of the abandoned structures. Subdominant species include vetch, cutleaf geranium, dogtail grass and a few coyote brush.

Shrub species in the annual grassland include coyote brush, Himalaya berry (*Rubus discolor*), and broom (*Genista monspessulana, Cytissus scoparius*), and poison oak (*Toxicodendron diversiloba*).

3.2. Mixed Oak Woodland

The mixed oak woodland is dominated by coast live oak (*Quercus agrifolia*), black oak *(Quercus kelloggii*), valley oak (*Quercus lobata*), and blue oak (*Quercus douglasii*). Other tree species include madrone (*Arbutus menzesii*), California bay (*Umbellularia californica*), Douglas-fir (*Pseudotsuga menziesii*). Many of the trees would be considered large and heritage trees. Most of the trees have diameters of between six and 27 inches dbh (measured at breast height or approximately 4.5 feet above the ground surface) but the oak woodland contains a 63-inch coast live oak that is forked at about neck level, a 48-inch valley oak forked at about seven feet, and a 42-inch valley oak. Bay and madrone trees are mostly multi-stemmed.

Uncommon trees in the oak woodland include blackwood acacia (*Acacia melanoxylon*), and coast redwood (*Sequoia sempervirens*), California buckeye (*Aesculus californicus*), and ornamentals including cedars, palms, and fruit trees (*Prunus* spp.). The greatest number of introduced and exotic trees occurs in the west ern part of the site.

Although tree reproduction is not universally abundant, coast live oak, California bay, and madrone are reproducing in some areas of the woodland understory. Although the area is not mapped as part of the oak woodland vegetation type, the large gap in the oak woodland habitat south of the abandoned structures contains a very large number of coast live oak seedlings and saplings, the saplings ranging in height from three to 10 feet. This area may have the most abundant tree reproduction on the site.

In addition to the native tree species saplings, woody species in the understory and at the margins of the oak woodland include the ornamental tree species, eucalpytus saplings, a small number of toyon (*Heteromeles arbutifolia*), brooms, and coyote brush. The ground layer in the oak woodland is quite variable. In the southeastern part of the site, the total cover at the ground level is less than one percent but elsewhere it appears that it might approach 10 percent during the growing season. Although many species were immature and many species not present at the time of the survey will be present later in the growing season, the ground layer species include periwinkle (*Vinca major*), ivy (*Hedera helix*), snowberry (*Symphoricarpos* sp.), soap plant, (*Chlorogalum pomeridianum*), miner's lettuce (*Claytonia perfoliata*), and milk thistle (*Silybum marianum*).

3.3. Riparian Woodland

Riparian woodland habitat, measured as the width of the canopy, ranges in width from approximately 80 to 110 feet. The tree species present in the oak woodland are present in the riparian woodland habitat. Coast live oak is the most abundant species. Willow species (*Salix laevigata, Salix lasiolepis*) are uncommon. Coast redwood have been planted at the margins of the walking trail between the creek and Round Barn Road. The understory is dominated by periwinkle, poison oak, Himalaya berry, the latter forming dense thickets, although a few toyon and ornamental trees are present.

3.4. Jurisdictional Habitats

3.4.1. Nagasawa Creek. Nagasawa Creek is an incised channel. The width of the channel measured at the ordinary high water marks ranged in width from four to six feet at the upper end of the channel and eight to 12 feet at the lower end. Although the channel is incised between relatively steep banks, small areas of seasonal wetland habitat may be present above the ordinary high water mark along Nagasawa Creek. Although at several locations the soils exhibited no visible evidence that they were hydric, no attempt was made to locate these potential areas of adjacent seasonal wetland.

The bottom of Nagasawa Creek is virtually unvegetated. In the absence of adjacent wetlands (adjacent to the ordinary high water mark, the jurisdiction of the Corps of Engineers are coincident with the ordinary high water marks.

3.4.2. Seasonal Wetlands. No seasonal wetlands are present in the oak woodland or in the ruderal annual grassland habitat on the Round Barn Village site. Under normal circumstances, i.e., where the vegetation has not been removed, wetlands are characterized by hydric soils, hydrophytic vegetation, and wetland hydrologic function. Evidence of all three characteristics must be present for a point in the landscape to be considered to be within the limits of a wetland. If evidence of one of the three characteristics is not present, the point is not in a wetland.

The small ditches were checked to determine whether or not they contained seasonal wetland habitat. The ditch along the northeast margin of the parking area and the ditch between parking areas near the end of Centrum Plaza both support hydrophytic vegetation dominated by perennial ryegrass but the soils (matrix chroma: 10YR3/3 gravelly loam, 7.5YR4/4 loam) are not hydric because the matrix chroma is too high and they possess display no evidence of reduction of iron that indicate hydric soil conditions. A ditch excavated into the north-facing slope southeast of the parking area is not characterized by hydrophytic vegetation or hydric soils. The soils are similar to those in the above pair of ditches but species dominance in the ditch is split between Harding grass, a non-wetland species, and the perennial ryegrass, a facultative wetland species.

3.5. Heritage Trees

Heritage trees are native trees (or groups or groves of trees) designated by the Planning Commission as having a special significance requiring review before removal may be permitted.

Heritage trees include valley oak, live oak, black oak, Oregon or white oak (*Quercus garryanna*), canyon live oak, blue oak, interior live oak, coast redwood, California bay, madrone, California

buckeye, Douglas-fir, red and white alder (*Alnus oregona*, *Alnus rhombifolia*), and big-leaf maple (*Acer macrophyllum*) if the tree has a diameter or a circumference equal to or greater than that listed in the table. A permit is required to remove or modify heritage trees exceeding four inches in diameter measured at breast height in all zoning districts except R-1, R-1-6, R-1-7.5, R-1-9, PRD, and R-1-PD.

Several coast live oak, valley oak, and black oak trees on the site are of sufficient size to be considered heritage trees as defined by the City of Santa Rosa. The tree sizes for heritage trees are shown in Table 1.

Table 1. Heritage Tree Sizes in the City of Santa Rosa

Common Name	Scientific Name	Diameter (in)	Circumference (in)
Valley oak	*Quercus lobata*	6	19
Coast live oak	*Quercus agrifolia*	18	57
Black oak	*Quercus kelloggii*	18	57
Oregon white oak	*Quercus garryanna*	18	57
Canyon live oak	*Quercus chrysolepis*	18	57
Blue oak	*Quercus douglasii*	6	19
Interior live oak	*Quercus wislizenii*	18	57
Coast redwood	*Sequoia sempervirens*	24	75
California bay	*Umbellularia californica*	24	75
Madrone	*Arbutus menziesii*	12	38
Buckeye	*Aesculus californicus*	6	19
Douglas-fir	*Pseudotsuga menziesii*	24	75
Red alder	*Alnus oregona*	18	57
White alder	*Alnus rhombifolia*	18	57
Big-leaf maple	*Acer macrophyllum*	24	75

Many of the trees on the site are also multi-stemmed. The City defines trees as having "a single trunk circumference of twelve and one-half inches or more, or a diameter of four inches or more or a combination of multiple trunks having a total circumference of 25¼ inches or more, or a total diameter of eight inches or more." The combined diameters of many of the oak trees exceed eight inches.

A permit is required to remove of alter heritage trees in any zoning districts. On undeveloped property, a permit is also required to remove, alter, or relocate trees that are greater than four inches regardless of the zoning district. Applicants are required to plant replacement trees are required for those removed by new development.

Acacias, silver maple, poplars, ailanthus, hawthorn, fruitless mulberry, ligustrums, pyracantha, Monterey pine, Monterey cypress, and fruit and nut trees (except walnuts) are exempt from permit requirements in all zoning districts.

The City of Santa Rosa has established a Tree Replacement Program that requires an applicant to replace trees and heritage trees to be removed. The ordinance requires that for each six inches or fraction thereof of the diameter of a tree, a pair of trees of the same species as the removed tree must be replanted. The Director can approve use of another species. Each planted tree must be minimum 15-gallon container size and generally must be planted on the project site. For tree removal that was not approved, the number of trees that must be planted is increased. For six inches or fraction thereof of the diameter of a tree which was not approved for removal, four 15-gallon-size trees of the same species as the removed tree must be planted. The Director, again can approve alternative species.

If a site is too small to accommodate the replacement trees, the trees shall be planted on public property with the approval of the Director of the City's Recreation and Parks Department. Upon the request of the developer and the approval of the Director, the City may accept an in-lieu payment of $100.00 per 15-gallon replacement tree on condition that all such payments shall be used for tree-related educational projects and/or planting programs of the City.

4.0. SPECIAL-STATUS PLANT SPECIES

Target special-status species that the resource agencies consider as having the potential to occur on sites on the Santa Rosa Plain include those listed in the draft Santa Rosa Plain Vernal Pool Ecosystem Preservation Plan in preparation for the Santa Rosa Plain Vernal Pool Task Force (CH2M Hill 1996) and identified in CNDDB records. As it has been defined by the Corps of Engineers and as it is used in regulatory processes, the Santa Rosa Plain is bounded on the east by Calistoga Road (Figure 2). The site, is therefore, borders but is just outside the Santa Rosa Plain. Nevertheless, the species listed in the Preservation Plan can be expected to occur on nearby properties if the habitat conditions are suitable. The list in Appendix A contains all species that have the potential to occur in the region.

The three species of greatest interest or those that can occur in seasonal wetland habitat. They are Sonoma sunshine (*Blennosperma bakeri*), Sebastopol meadowfoam (*Limnanthes vinculans*), and Burke's goldfields (*Lasthenia burkei*), all three species listed as endangered by both the state and federal government. These species cannot occur on the site because wetland habitat of the type in which they occur is not present. Likewise, the other species associated with wetland habitat cannot occur on the site because no wetland habitat is present.

The list in Appendix B also includes several species that occur in or are limited to upland habitat types (i.e., coniferous forest, coastal bluff habitat, chaparral) that do not occur on the site and these species cannot, therefore, be expected to be present.

Although the site visit was made at a time of the year when all species of plants could not be identified and the visit was made outside the "windows" for which surveys should be conducted for the species, the probability that any endangered, threatened, or other special-status plant species can occur on the site is extremely low because of the habitats present.

5.0. SPECIAL-STATUS WILDLIFE SPECIES

A number of special-status wildlife species or are known to occur in the vicinity of the Round Barn Village site. Special-status species include those species listed as threatened or *endangered*,

proposed for listing as threatened or *endangered*, or candidates for listing as *threatened* or *endangered* under the Federal Endangered Species Act (FESA) or the California Endangered Species Act; or identified as fully protected species or species of special concern by the California Department of Fish and Wildlife (CDFW).

The search of background information focused on reported occurrences of special-status species provided in the California Natural Diversity Data Base (CNDDB), which is maintained by CDFG. The CNDDB is a repository of information on sightings and collections of rare, threatened, or endangered plant and animal species within California and considered the most comprehensive source of information on special-status species for a given area. The search focused on reported occurrences for the USGS 7.5-minute topographic quadrangle where the property is located and the four quadrangles (CNDDB 2014). Searched: the Healdsburg, Mark West Springs, Sebastopol, and Santa Rosa quadrangles. Additionally, a list of speciesthat could occur in the reqion surrounding the Bound Barn site was obtained from the U.S. Fish and Wildlife Service website (http://www.fws.gov/sacramento/es/spp_list.htm) maintained by the Sacramento Fish and Wildlife Office for the same quadrangles.

The CNDDB list identifies particular locations where special-status species have been found within the selected quadrangles, or in nearby locations in quadrangles other than those selected. The USFWS list is not an occurrence list, but a more general list intended to identify all the FESA- or CESA-listed, proposed, or candidate species that could potentially be affected by a project, including those which may occur many miles away in a watershed or the Pacific Ocean. Additional information sources include unpublished CDFW reports, scientific literature, field guides and general references for birds, mammals, reptiles, amphibians, fish, and invertebrates.

In addition to regulations protecting these special-status species, most birds in the United States, including non-status species, are protected by the Migratory Bird Treaty Act of 1918. Under this legislation, it is unlawful to destroy active nests, eggs, and young. Furthermore, California Fish and Game Code Section 3503.5 makes it unlawful to take, possess, or destroy birds in the Falconiformes (birds of prey, vultures, eagles, falcons) and Strigiformes (owls) families. Unlawful acts are considered to include nest disturbance from construction and other activities.

The database search identified the presence of a number of special-status animals within the region that, because of their habitat requirements, have no chance of occurring in or near the site and no reasonable possibility of being affected by any development of the site. After screening the lists to remove aquatic species which are either highly unlikely to be found in the vicinity of the site, or which are not identified by CDFW as California species of special concern, the remaining aquatic species are listed in Table 1, below.

5.1. Invertebrates

One invertebrate species, the California freshwater shrimp (*Syncaris pacifica*), listed by the state and federal governments, is reported from several permanent watercourses in the region. It may or may not be present in Nagasawa Creek.

The California linderiella (*Linderiella occidentalis*) and the vernal pool andrenid bee (*Andrena blennospermatis*) are associated with vernal pool habitat. This habitat does not occur on the Round Barn Village site and the species is extremely unlikely to be present.

5.2. Reptiles and Amphibians

5.2.1. Western Pond Turtle. The western pond turtle (*Emys marmota*), a California Species of Concern, has been observed at a number of locations in the surrounding region, including at the Brush Creek Reservoir, in a farm pond on Fountaingrove Creek near Old Redwood Highway, and on the Pepperwood Preserve to the northeast.

The western pond turtle prefers habitat consisting of calm waters, such as streams or pools, and vegetated banks and log or rock basking sites. Although their preference would be habitat nearby streams, they have been observed to use upland habitat extending as far as 1,500 ft away from water. Stream-dwelling turtles will occasionally move away from flood-prone creeks during the rainy season. Nests may be located near water or at a considerable distance, in upland habitat. Upland habitat is important both as nesting site and a location in which to seek wet-season refuge. Nagasawa Creek and the surrounding upland habitat may provide potentially suitable habitat for the western pond turtle.

5.2.2. California Tiger Salamander. The Round Barn Village site is outside the range of the California tiger salamander (*Ambystoma californiense*) and outside the critical habitat established for the species (Figure 6). The nearest CTS locations are clustered at the Alton Mitigation Site and the Alton North Conservation Bank more than two and three-quarters miles (approximately 14,800 ft) to the west-southwest of the site.

5.2.3. Foothill Yellow-legged Frog. The foothill yellow-legged frog (*Rana boylii*), listed by the State of California as a Species of Special Concern, inhabits rocky streams and rivers with rocky substrate and open, sunny banks, in forests, chaparral, and woodlands. Sometimes found in isolated pools, vegetated backwaters, and deep, shaded, spring-fed pools. Foothill-yellow-legged frogs have been found in habitat without the larger-sized in-creek substrate fur no information is available indicating that such habitat is preferred. The species has been observed in Mark West Creek, Franz Creek, and Porter Creek. Nagasawa Creek may provide marginal habitat for the foothill yellow-legged frog.

5.3. Birds

Two species of special-status bird species were identified as either in the region surrounding the Round Barn Village site. These include the great blue heron (*Ardea herodias*), an unlisted species, and the white-tailed kite (*Elanus leucurus*), listed by the State of California as a fully protected species.

The great blue heron is a colonial nester in tall trees and occupies habitats near marsh. The nearest observation is along the Russian River north of Healdsburg. The Round Barn Village sites provides no suitable habitat for the species. The white-tailed kite inhabits rolling terrain of the type that occurs at the Round Barn Village site but it also occupies flatter terrain and has been observed on the Santa Rosa Plain near Hearn Avenue within one-half mile of U.S. Highway 101, a relatively urbanized area. The species requires trees for nesting and open ground with small mammal populations as a source of food. Tall trees and open grassland are both present on the Round Barn Village site and it provides potentially suitable habitat.

5.4. Mammals

Three species of special-status mammal species were identified as occurring within the area surrounding the Round Barn Village site. These species are the pallid bat (*Antrozous pallida*), listed by the State of California as a Species of Special Concern; the hoary bat (*Lasiurus cinereus*), an unlisted species; and the American badger (*Taxidea taxus*),listed by the State of California as a Species of Special Concern.

The pallid bat occurs in annual grasslands, and dry brushy and woodland habitats. The Round Barn Village site provides woodland habitat and will use open habitat such as the ruderal annual grassland to forage. The outcrops and cliffs that are considered the preferred roosting and foraging habitats are absent but pallid bats have been known to roost in deep fissures in large trees. Because of the large trees, marginally suitable habitat is present. The hoary bat prefers open habitats or habitat such as the ruderal annual grassland with access to trees for cover, such as those in the oak woodland and riparian woodland habitat provide, and it requires access to water. Although water is present for at least part of the year in Nagasawa Creek, only a single hoary bat observation has been made in the surrounding region and the species is very unlikely to occur on the Round Barn Village site.

The American badger inhabits a relatively wide range of habitat and has been observed on the Santa Rosa Plain (the Hall Road Unit of the Santa Rosa Ecological Reserve, the Carinalli-Todd Road Mitigation Bank, near South Wright and Ludwig Roads) it also occurs in the Mayacamas Mountains and has been observed along Franz Creek west of Calistoga. The badger is not compatible with heavily developed areas, as is the area surrounding the Round Barn Village site. The entrances to its underground dens are large and easily identifiable. No such large entryway was observed on the site and the species is extremely unlikely to be present.

6.0. PERMITS AND PROCESSING

6.1. Corps of Engineers

For projects that require the discharge of fill into wetlands and drainages that are subject to the jurisdictional authority of the Corps of Engineers (Corps) a permit is required to discharge the fill. The permit can be a nationwide permit or an individual permit. For projects with impacts of less than 0.5 acre of wetland, which is not likely to be an issue on the Round Barn Village site, or less than 300 linear feet of stream bed (a drainage feature such as Nagasawa Creek that contains a defined bed and defined banks), developers can apply for authorization under one of several nationwide permits (NWPs). NWPs are permits for which the impacts of the permitting actions have been considered on a nationwide basis and no the applicant need not consider alternatives to the proposed project. Elsewhere, projects that affect less than 0.1 acre can take place without notifying the Corps, although the Regional Water Quality Control Board (RWQCB) would have to be notified.

NWP 29 is issued for discharges of dredged or fill material into non-tidal waters of the United States for single residences, multi-unit residential development, or a residential subdivision, authorizing impacts in the construction of building foundations and building pads and attendant features (roads, parking lots, garages, yards, utility lines, storm water management facilities, septic fields, and recreation facilities such as playgrounds, playing fields, and golf courses (provided the golf course is an integral part of the residential development). NWP 39 is issued for commercial, industrial, and institutional developments. Examples include retail stores, industrial facilities, restaurants, business

parks, shopping centers, schools, etc. New golf course construction would not be covered.

If the impacts exceed 0.5 acres or more than 300 linear feet an individual permit is required. A waiver can be obtained under some circumstances, i.e, is the drainage is ephemeral or intermittent, but it is unlikely that such a waiver would be possible for Nagasawa Creek were fill proposed.

6.2. Regional Water Quality Control Board

In accordance with section 404(b)(1) of the federal Clean Water Act and the California Environmental Quality Act (CEQA), and the California Water Code, any applicant for a Corps permit to discharge fill into waters of the United States (including seasonal wetlands) must obtain and provide to the Corps certification that the discharge will comply with applicable provisions of the Clean Water Act. The discharge of fill (or dredged) materials requires that impacts on aquatic resources and the environment be avoided and minimized and that unavoidable impacts be mitigated through compensation. Pursuant to the Clean Water Act, the RWQCB regulates discharges through issuance of water quality certification and, pursuant to the state's Porter-Cologne Water Quality Control Act, through the issuance of waste discharge requirements. If a proposed project requires a Corps permit and would affect Waters of the State, the RWQCB regulates the project and associated activities through a Water Quality Certification determination (Section 401). The applicant must, therefore, obtain a 404 permit from the RWQCB. If the wetlands on a site are isolated and the Corps has no jurisdiction, the RWQCB issues waste discharge requirements because federal Clean Water Act requirements are not applicable.

If in the process of clearing, grading and disturbances to the ground such as stockpiling or excavation as part of construction, a project will disturb one or more acres or are part of a larger development project that would disturb one or more acres, an applicant must obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity Construction General Permit Order 2009-0009-DWQ (CGP). The CGP requires that the applicant implement a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP must contain maps that show the project location, the construction site perimeter, existing and proposed buildings, lots, roadways, storm water collection and discharge points, general topography both before and after construction, and drainage patterns across the project. The SWPPP must list Best Management Practices (BMPs) that would be employed to prevent sediment and other waste products from leaving the site during construction. The SWPPP must contain a visual monitoring program; a chemical monitoring program for "non-visible" pollutants if any of the BMPS fail, and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment. Sediment control is important and required in several Russian River hydrologic units, including the Laguna de Santa Rosa.

The Basin Plan is used as a regulatory tool by the RWQCB to ensure reasonable protection on and minimize the impacts of individual projects on the identified beneficial uses.

6.3. California Department of Fish and Wildlife

Pursuant to Section 1602 of the State Fish and Game code, the CDFW requires an entity to notify CDFW of any proposed activity that may substantially modify a river, stream, or lake. Notification is required for any activity that will:

1. substantially divert or obstruct the natural flow of any river, stream or lake;

2. substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake; or

3. deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.

The notification requirement applies to any work undertaken in or near a river, stream, or lake that flows at least intermittently through a bed or channel of any such features, including ephemeral streams and even watercourses with subsurface flow only. The requirement may also apply to work undertaken within the flood plain of a body of water and can be required for projects that involve impacts in the riparian corridor (tree removal). In addition to outright filling of evan a small section of a channel – which may be unlikely but could be necessary at the Round Barn Village site – streambed alternation agreements are used for the installation or removal of stormwater outfalls, bridge construction, etc. CDFW has recently required agreements for modifications to the vegetation in the riparian corridor even if no work is proposed between the tops of bank.

Notification takes place via application for a streambed alteration *agreement*. The standard agreement has a three-year term although five-year terms can be requested. CDFW may place restrictions on the timing of the work, requiring that no work take place during the rainy season, during wildlife nesting and breeding seasons (applied to bats and birds), etc.

7.0. PRE-CONSTRUCTION WILDLIFE SURVEYS

CDFW can require surveys to protect nesting birds. Project work between February 15 and August 31 (much of the construction season) would have to be preceded by nesting bird surveys of the site and a 500-foot surrounding area. Buffers to be maintained until the young have fledged.

Bat surveys can also be required. Several bat species can roost in attics and abandoned buildings. Townsend's big-eared bat is a special-status species that can roost in such habitat. Other smaller bats such as the pallid bat can roost in tree crevises and deep bark fissures. If the surveys reveal that suitable habitat is present and trees are to be removed between April 16 and August 30 or between October 16 and February 28, then presence/absence surveys are necessary protective measures are necessary during construction. Tree removal to remove pallid bats may have to be staged with small limbs removed first to trigger abandonment.

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APPENDIX A.
PLANT SPECIES OBSERVED AT THE
ROUND BARN VILLAGE SITE, SANTA ROSA, CALIFORNIA

CLASS **Family** ***Scientific name***	**Common name**
FERNS AND FERN ALLIES	
Blechnaceae	
Woodwardia fimbrata	western chain fern
Dennstaedtiaceae	
Pteridium aquilinum	bracken fern
Equisetaceae	
Equisetum arvense	horsetail
GYMNOSPERMS	
Cupressaceae	
Cupressus sp.	unidentified cypress
Pinaceae	
Pseudotsuga menziesii	Douglas-fir
Taxodiaceae	
Sequoia sempervirens	coast redwood
DICOTYLEDONAE	
Aceraceae	
Acer macrophyllum	big-leaf maple
Apiaceae	
Conium maculatum	poison hemlock
Foeniculum vulgare	fennel
Torilis arvensis	hedge parsley
Torilis arvensis	hedge parsley

Apocynaceae	
Vinca major	periwinkle
Asteraceae	
Anaphalis margaritacea	pearly everlasting
Anthemis cotula	mayweed
Baccharis pilularis var. *consanguinea*	coyote brush
Blennosperma bakeri	Sonoma sunshine
Carduus pycnocephalus	Italian thistle
Centromadia sp.	spikewed
Chamomilla suaveolens	pineapple weed
Cichorium intybus	chicory
Cirsium vulgare	bull thistle
Helminthotheca echioides	bristly ox-tongue
Hypochaeris radicata	rough cat's-ear
Madia sp.	Tarweed
Senecio vulgaris	common groundsel
Soliva sessilis	soliva
Silybum marianum	milk thistle
Tragopogon porrifolius	salsify
Brassicaceae	
Brassica nigra	black mustard
Raphanus sativus	wild radish
Caprifoliaceae	
Symphoricarpos sp.	snowberry
Fabaceae	
Acacia melanoxylon	blackwood acacia
Cytissus scoparius	Scotch broom
Genista monspessulana	French broom
Lupinus sp.	miniature or sky lupine
Medicago polymorpha	bur clover
Vicia sativa	common vetch
Fagaceae	
Quercus agrifolia	coast live oak
Quercus douglasii	blue oak
Quercus kelloggii	black oak
Quercus lobata	valley oak
Geraniaceae	
Erodium botrys	broad-leaf filaree

Erodium cicutarium	red-stem filaree
Geranium dissectum	cut-leaf geranium
Hippocastanaceae	
Aesculus californica	California buckeye
Lauraceae	
Umbellularia californica	California bay
Malvaceae	
Malva nicaeensis	bull mallow
Montiaceae	
Claytonia perfoliata	miner's lettuce
Myrtaceae	
Eucalyptus sp.	Eucalyptus
Onagraceae	
Camissonia ovata	sun cups
Plantaginaceae	
Kickxia spuria	cancerwort
Plantago lanceolata	English plantain
Polygonaceae	
Polygonum arenastrum	knotweed
Rosaceae	
Heteromeles arbutifolia	toyon
Holodiscus discolor	cream bush
Prunus spp.	ornamental fruit trees
Rubus ursinus	California blackberry
Rubus discolor	Himalaya berry
Salicaceae	
Salix lasiolepis	arroyo willow
MONOCOTYLEDONAE	
Iridaceae	
Iris sp.	iris

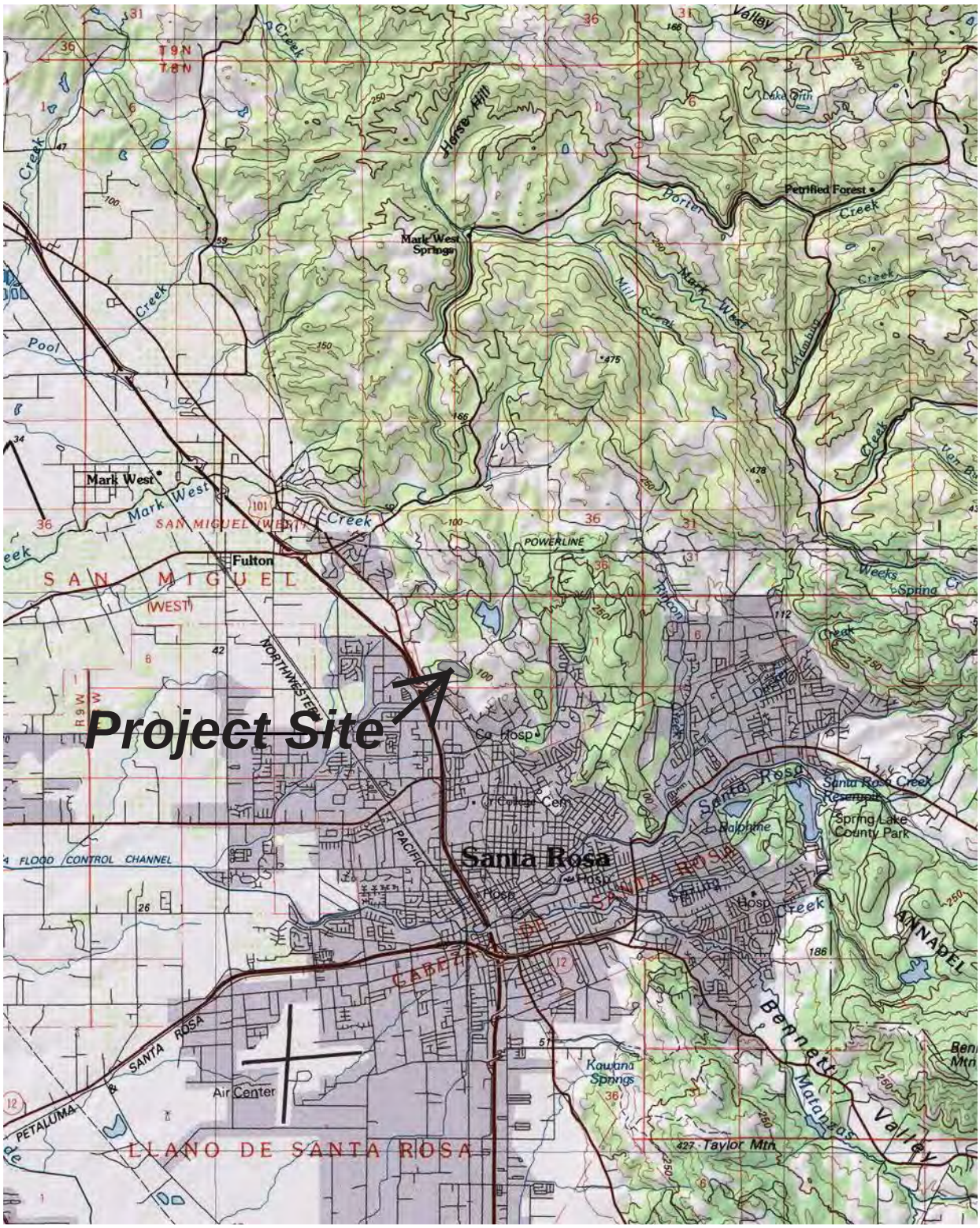
Liliaceae

Chlorogalum pomeridianum	soap plant

Poaceae

Avena barbata	slender oats
Avena fatua	wild oats
Bromus carinatus	California bromegrass
Bromus diandrus	ripgut brome
Bromus hordeaceus	soft chess
Festuca bromoides	brome fescue
Festuca myuros	six-weeks descur
Festuca perennis	ryegrass
Hordeum brachyantherum	meadow barley
Hordeum murinum var. *leporinum*	hare barley
Phalaris aquatica	Harding grass

FIGURES



Nominal Scale: 1:105,000

Figure 1. Regional Location Map

Figure 2. Project Site Location Map

Nominal Scale:
1:60,000

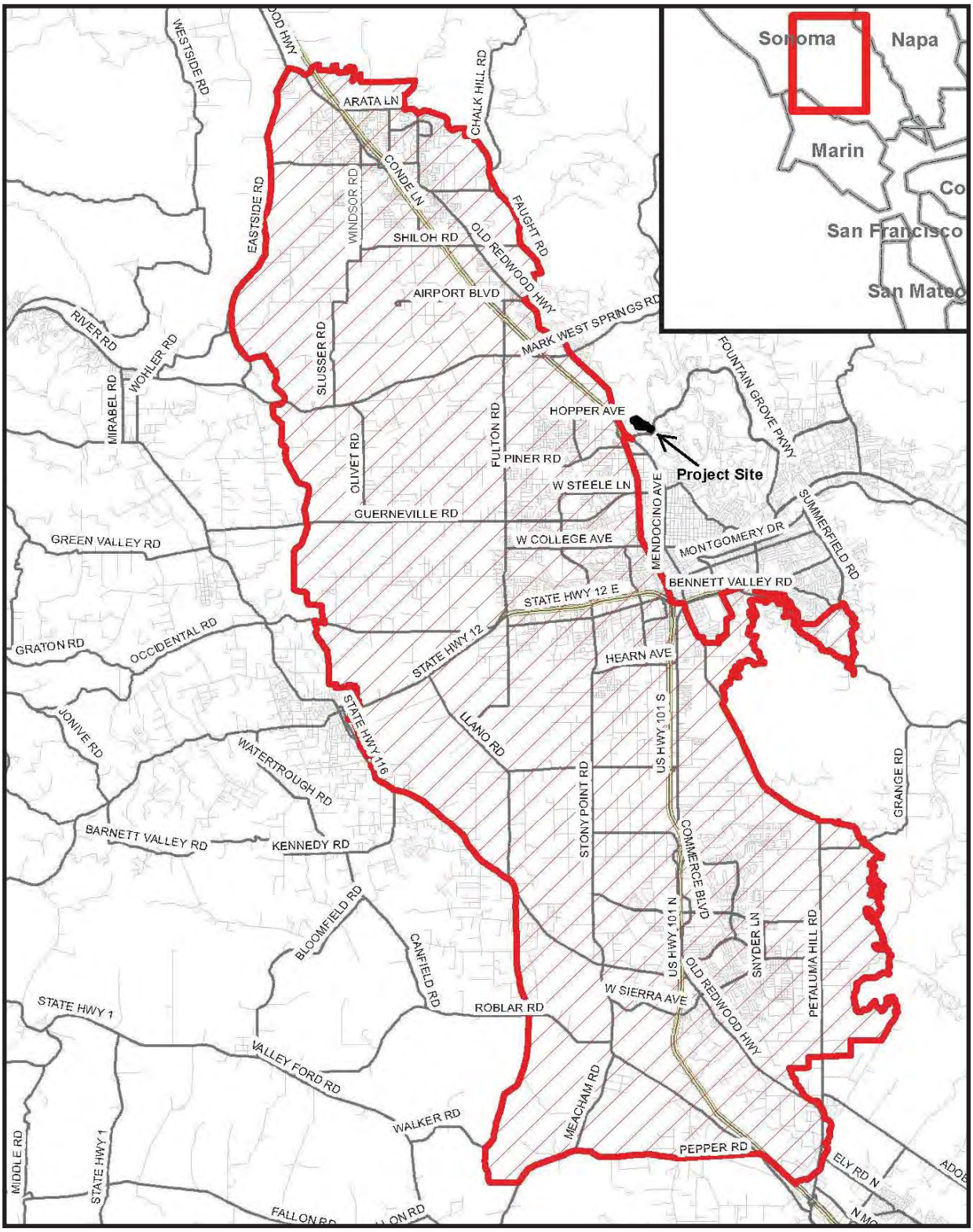


Figure 3. Relationship of the Round Barn Village Site to the Limits of the Santa Rosa Plain

NO SCALE

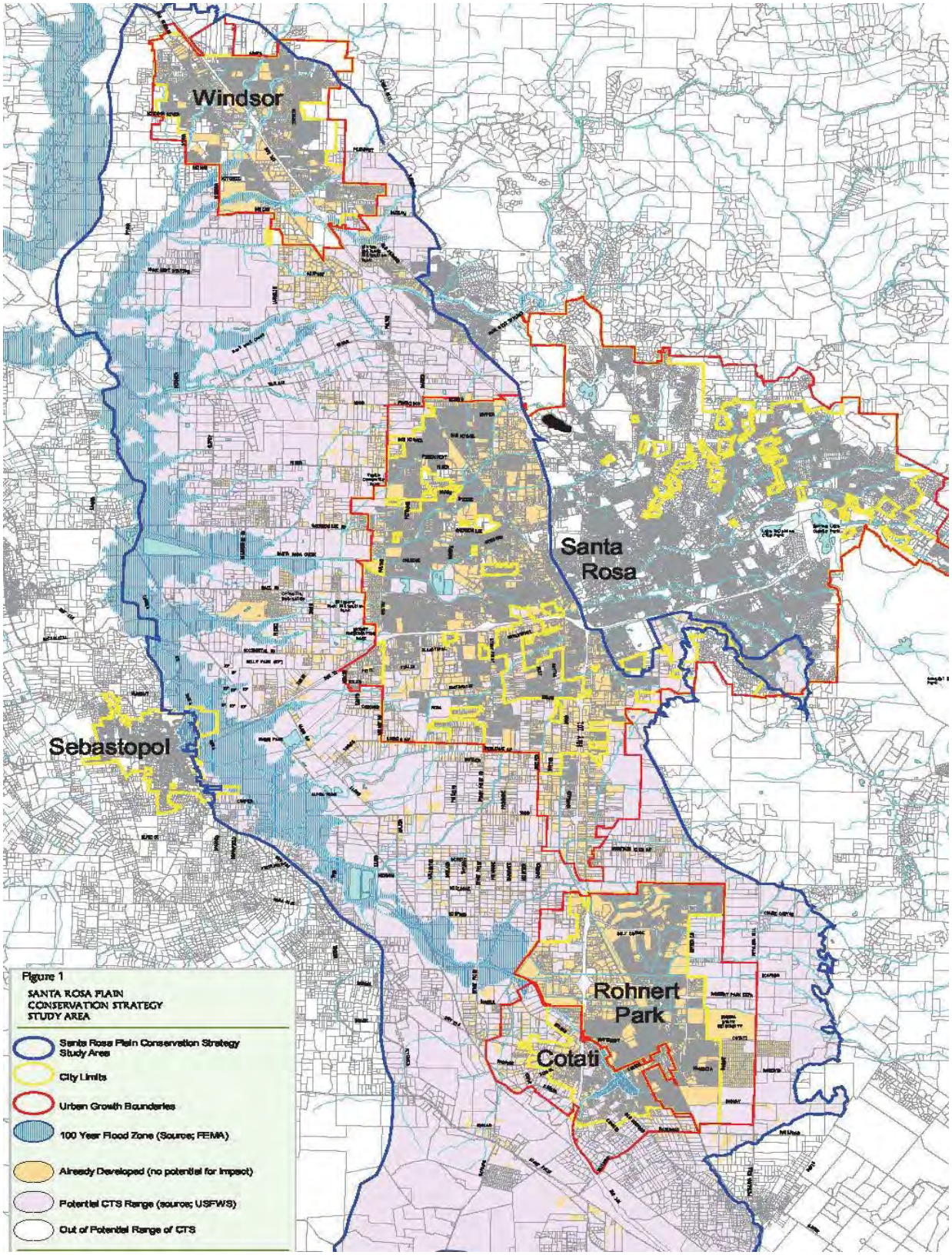


Figure 4. Relationship of the Round Barn Village Site to the Limits of the Santa Rosa Plain Conservation Plain Study Area

NO SCALE

Figure 5. Vegetation Type Map of the Round Barn Village Site

Nominal Scale: 1:4,000

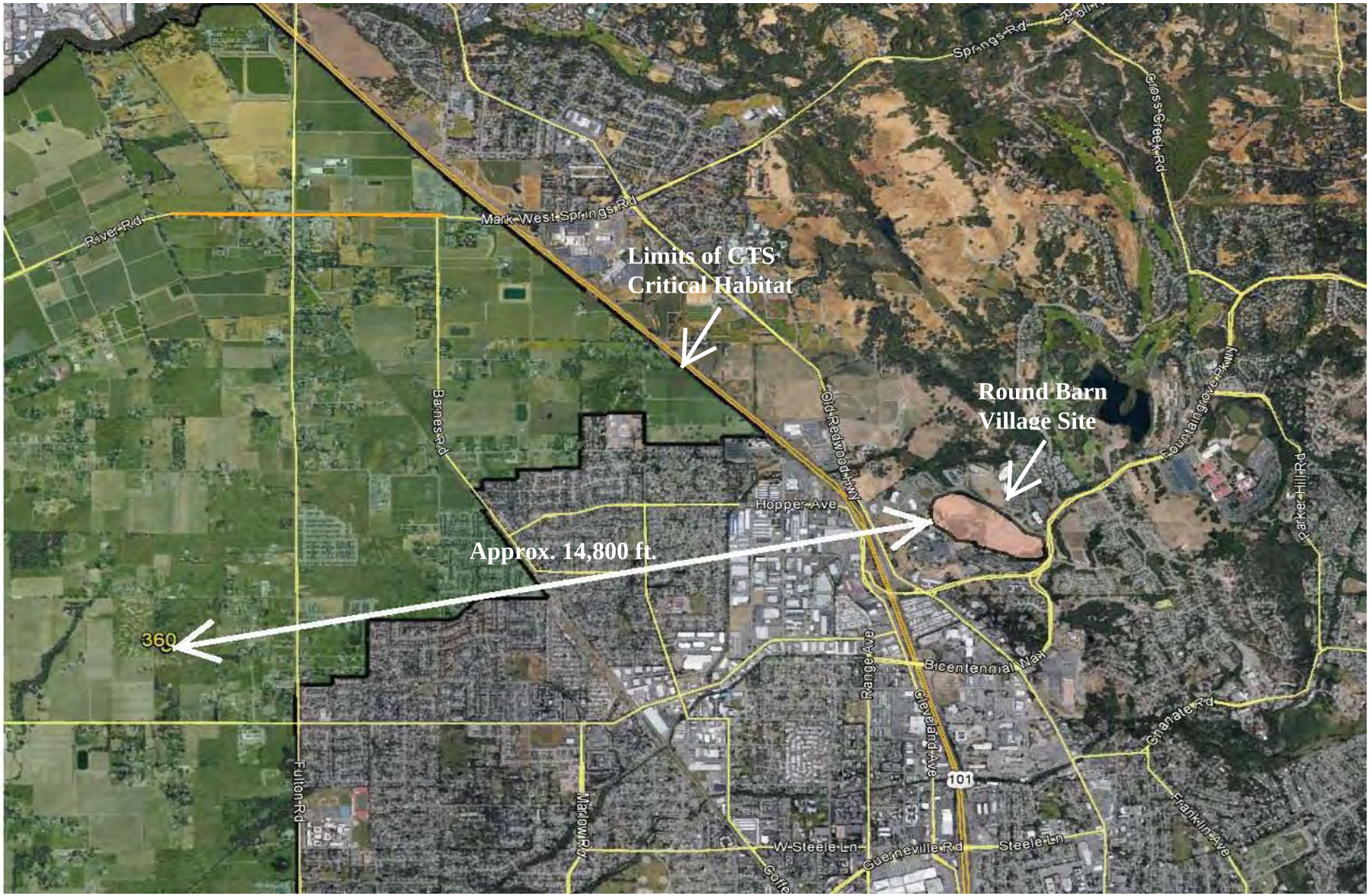


Figure 6. Location of the Round Barn Village Site Relative to the Nearest CTS Observations and CTS Critical Habitat

Nominal Scale: 1:35,000

APPENDIX B.
SPECIAL-STATUS PLANT SPECIES WITH THE POTENTIAL TO OCCUR IN THE VICINITY OF THE THE ROUND BARN VILLAGE SITE, SANTA ROSA, CALIFORNIA

Scientific Name	**Common Name**	**Status Federal/State/ CNPS**	**Flowering Period**	**Habitat**	**Potential for Occurrence on the Site**
Alopecurus aequalis var. *sonomensis*	Sonoma alopecurus	FE/-/1B.1	May-July	Marshes, swamps, and riparian scrub.	Extremely unlikely. Suitable habitat is not present on the site.
Amorpha californica var. napensis	Napa false indigo	-/-/1B.2	Apr-July	Broadleafed forest openings, chaparral.	Extremely unlikely. No chaprarral habitat is present but openings are present in the woodland habitat. Species not observed.
Amsinckia lunaris	bent-flowered fiddleneck	-/-/1B.2	Mar-June	Coastal bluff scrub, woodland, valley and foothill grassland.	Unlikely. Very marginally suitable habitat present on the site.
Arctostaphylos canescens ssp. sonomensis	Sonoma canescent manzanita	-/-/1B.2	Jan-June	Chaparral, lower montane coniferous forest, sometimes serpentinite.	Suitable habitat not present on the site and no manzanita observed.
Arctostaphylos stanfordiana ssp. decumbens	Rincon Ridge manzanita	-/-/1B.1	Feb-May	Chaparral (rhyolitic soils), cismontane woodland.	Marginally suitable habitat may be present on the site. No manzanita observed.
Astragalus claranus	Clara Hunt's milk-vetch	FE/ST/1B.1	Mar-May	Chaparral openings, cismontane woodland, valley and foothill grassland.	Marginally suitable habitat is present on the site.
Balsamorhiza macrolepis	big-scale balsamroot	-/-/1B.2	Mar-June	Chaparral, cismontane wood-land, valley and foothill grassland (serpentinite).	Marginally suitable habitat is present on the site.
Blennosperma bakeri	Sonoma sunshine	FE/CE/1B.1	Mar-May	Valley and foothill grassland Vernal pools and associated swale habitat.	Extremely unlikely. No suitable habitat not present on the site.
Brodiaea leptandra	narrow-anthered brodiaea	-/-/1B.2	May-July	Broadleafed upland forest, chaparral, cismontanewood-land and lower montane conif-ferous forest.	Suitable habitat is present on the site.
Calystegia collina ssp. oxyphylla	Mt. Saint Helena morning-glory	-/-/4.2	Apr-June	Serpentinite, chaparral, lower montaine coniferous forest, valley and foothill grassland on volcanics.	Unlikely but suitable habitat is present on the site

Carex albida	Sonoma white sedge	FE/CE/1B.1	May-July	Bogs and fens, freshwater marshes and swamps.	Suitable habitat not present on the site.
Ceanothus confusus	Rincon Ridge ceanothus	-/-/1B.1	Feb-June	Closed-cone coniferous forest, chaparral, cismontane wood-land/volcanic or serpentinite.	Suitable habitat not present on the site. No ceanothus observed on the site.
Ceanothus divergens	Calistoga ceanothus	-/-/1B.2	Feb-Apr	chaparral (serpentinite or volcanic, rocky).	Suitable habitat present on the site.
Ceanothus purpureus	holly-leaved ceanothus	-/-/1B.2	Feb-June	chaparral, cismontane wood-land (volcanic, rocky).	Suitable habitat is present on the site.
Ceanothus sonomensis	Sonoma ceanothus	-/-/1B.2	Feb-Apr	Chaparral (sandy, serpentinite or volcanic).	Suitable habitat not present on the site.
Centromadia parryi ssp. parryi	pappose tarplant	-/-/1B.2	May-Nov	Chaparral, coastal prairie, meadows, seeps, marshes and swamps (coastal salt), valley and foothill grassland (vernally mesic)/often alkaline.	Extremely unlikely. Suitable habitat is present on the site.
Chorizanthe valida	Sonoma spineflower	FE/CE/1B.1	June-Aug	Coastal prairie (sandy).	Extremely unlikely. Suitable habitat is not present on the site.
Downingia pusilla	dwarf downingia	-/-/2.2	Mar-May	Vernal pools.	Extremely unlikely. Suitable habitat is not present on the site.
Erigeron greenei	Greene's narrow-leaved daisy	-/-/1B.2	May-Sept	Chaparral (serpentinite or volcanic).	Extremely unlikely. Suitable habitat is not present on the site.
Fritillaria liliacea	fragrant fritillary	-/-/1B.2	Feb-Apr	Cismontane woodland, coastal prairie and scrub, valley and foothill grassland.	Marginally suitable habitat present but occurrence is extremely unlikely.
Gratiola heterosepala	Boggs Lake hedge hyssop	-/SE/1B.2	Apr-Aug	Vernal pools, marshes, swamps and lake margins.	Extremely unlikely. Suitable habitat is not present on the site.
Hemizonia congesta ssp. *congesta*	white seaside tarplant	-/-/1B.2	Apr-Nov	Valley and foothill grassland.	Unlikely. Suitable habitat is present on the site.
Hesperolinon bicarpellatum	two-carpellate western flax	-/-/1B.2	May-June	Chaparral (serpentinite).	Extremely unlikely. Suitable habitat is not present on the site.

Hesperolinon sharsmithiae	Sharsmith's western flax	-/-/1B.2	May-July	Chaparral (serpentinite).	Extremely unlikely. Suitable habitat not present on the site.
Horkelia tenuiloba	thin-lobed horkelia	-/-/1B.2	May-Aug	Mesic openings, sandy broadleafed upland fores and chaparral, valley and foothill grassland.	Unlikely. Very marginally suitable habitat is present on the site.
Lasthenia burkei	Burke's goldfields	FE/CE/1B.1	Apr-June	Vernal pools, meadows and seeps.	Extremely unlikely. Suitable habitat is not present on the site.
Layia septentrionalis	Colusa layia	-/-/1B.2	Apr-May	Chaparral, cismontane woodland, valley and foothill grassland on sandy and serpentine-derived soils.	Extremely unlikely. Suitable habitat is not present on the site.
Legenere limosa	legenere	-/-/1B.1	Apr-June	Vernal pools.	Extremely unlikely. Suitable habitat is not present on the site.
Leptosiphon jepsonii	Jepson's leptosiphon	-/-/1B.2	Mar-May	Chaparral, cismontane woodland (usually volcanic soils).	Extremely unlikely. Marginally suitable habitat is present on the site.
Limnanthes vinculans	Sebastopol meadowfoam	FE/CE/1B.1	Apr-May	Vernal pools.	Extremely unlikely. Suitable habitat is not present on the site.
Microseris paludosa	marsh microseris	-/-/1B.2	Apr-Jun(Jul)	Closed-cone coniferous forest, cismontane woodland, coastal scrub, valley and foothill grassland.	Extremely unlikely. Suitable habitat is not present on the site.
Navarretia leucocephala ssp. *bakeri*	Baker's navarretia	-/-/1B.1	Apr-July	Cismontane woodland, lower montane coniferous forest, meadows and seeps, valley and foothill grassland, vernal pools.	Extremely unlikely. Suitable habitat is not present on the site.
Navarretia leucocephala ssp. *plieantha*	many-flowered navarretia	FE/CE/1B.2	May-June	Vernal pools.	Extremely unlikely. Suitable habitat is not present on the site.
Penstemon newberryi var. sonomensis	Sonoma beardtongue	-/-/1B.3	Apr-Aug	Chaparral (rocky).	Extremely unlikely. Suitable habitat is not present on the site.
Plagiobothrys strictus	Calistoga popcorn-flower	FE/CT/1B.1	Mar-June	Meadows and seeps, valley and foothill grassland, vernal pools, alkaline areas near thermal springs.	Extremely unlikely. Suitable habitat not present on the site.

Pleuropogon hooverianus	North Coast semaphore grass	-/CT/1B.1	Apr-June	Open areas, mesic broadleaf upland forest, meadows and seeps, north coast coniferous forest.	Extremely unlikely. Suitable habitat not present on the site.
Rhynchospora globularis	round-headed beaked-rush	-/-/2.1	July-Aug	Freshwater marshes and swamps.	Extremely unlikely. Suitable habitat not present on the site.
Sidalcea hickmanii ssp. *napensis*	Napa checkerbloom	-/-/1B.1	Apr-June	Chaparral (rhyolitic rock and soil).	Extremely unlikely. Suitable habitat is not present on the site.
Sidalcea oregana ssp. *hydrophila*	marsh checkerbloom	-/-/1B.2	July-Aug	Meadows and seeps, riparian forest.	Extremely unlikely. Marginally suitable may be present along Nagasawa Creek
Sidalcea oregana ssp. valida	Kenwood Marsh checkerbloom	FE/CE/1B.1	June-Sept	Freshwater marshes and swamps.	Extremely unlikely. Known occurrence is restricted to Kenwood Marsh
Streptanthus hesperidis	green jewel-flower	-/-/1B.2	May-July	Serpentinite, chaparral (opn-ings), cismontane woodland.	Extremely unlikely. Suitable habitat is not present on the site.
Trichostema ruygtii	Napa bluecurls	-/-/1B.2	June-Oct	Chaparral, cismontane wood-land, lower montane coniferous forest, valley and foothill grassland, vernal pools.	Extremely unlikely. Very marginally suitable habitat present on the site.
Trifolium amoenum	two-fork clover	FE/-/1B.1	Apr-July	Coastal bluff scrub, valley and foothill grassland (sometimes serpentinite).	Unlikely. Very marginally suitable habitat present on the site.
Trifolium hydrophilum	saline clover	-/-/1B.2	Apr-June	Marshes and swamps, valley foothill grassland (mesic, alka-line), vernal pools .	Extremely unlikely. Suitable habitat is not present on the site.
Viburnum ellipticum	oval-leaved viburnum	-/-/2.3	May-June	Chaparral, cismontane wood-land, lower montane coniferous forest.	Unlikely. Suitable habitat is present in the woodland habitat on the site.

Notes: Agencies - USFWS = U.S. Fish and Wildlife Service, CDFG = California Department of Fish and Game, CNPS = California Native Plant Society.
Federal Designations – E = Listed as Endangered by the Federal Government. T = Listed as Threatened by the Federal Government. C1 = Category 1 Candidate. C1* = Sufficient data are on file to support listing but taxon presumed extinct. C2 = Category 2 Candidate. C2* = Sufficient data to support federal listing lacking, taxon presumed extinct. **State Designations** – E = Listed as Endangered. R = Listed as Rare. **CNPS Designations** – List 1A = Species presumed extinct in California. List 1B = Species rare and endangered in California and elsewhere. List 2 = Species rare and endangered in California but more common elsewhere. List 3 = Species about which additional data are needed. List 4 = Species of limited distribution.

APPENDIX C.
SPECIAL-STATUS WILDLIFE SPECIES WITH THE POTENTIAL TO OCCUR IN THE VICINITY OF THE ROUND BARN VILLAGE SITE, SANTA ROSA, CALIFORNIA

Common Name	*Scientific Name*	Federal/State/ CDFG STATUS**	Habitat	Potential for Occurrence on the Site
INVERTEBRATES				
Vernal pool andrenid bee	*Andrena blennospermatis*	-/-/*	Upland habitat around vernal pools and seasonal wetlands	Extremely unlikely. Vernal pool habitat is not present on the site.
California linderiella	*Linderiella occidentalis*	-/-/*	Ponded areas with low alkalinity, conductivity and TDS.	Extremely unlikely. Vernal pool or other similar ponded habitat is not present on the site.
California freshwater shrimp	*Syncaris pacifica*	E/E/-	Shallow pools away from main streamflow; during winter found in undercut banks with exposed roots; summer found in areas with branches of nearby trees touching water.	Unknown. Nagasawa Creek may provide suitable habitat.
REPTILES AND AMPHIBIANS				
western pond turtle	*Emys marmorata*	-/-/SC	Permanent or nearly permanent aquatic habitat with basking sites and nearby upland habitat nearby for eggs.	Unknown. Nagasawa Creek may provide suitable habitat.
California tiger salamander	*Ambystoma californiense*	E/T/SC	Annual grass habitat, but also occurs in grassy understory of valley-foothill hardwood habitats, and uncommonly along stream courses in valley-foothill riparian habitats.	The site is outside the potential range of the species, provides no breeding habitat and migration from very distant breeding habitat is blocked.
foothill yellow-legged frog	*Rana boylii*	-/-/SC	Shallow, flowing waters in small to moderately-sized stream with some cobble-sized substrate.	Nagasawa Creek is unlikely to provide suitable habitat.
BIRDS				
great blue heron	*Ardea herodias*	-/-/*	Shallow estuaries and fresh and saline emergent wetlands.	No suitable habitat is present on the site or in the surrounding region.
white-tailed kite	*Elanus leucurus*	-/-/FP	Open lowland valleys and low rolling foothill; forage in grasslands, marshes cultivated fields where prey species are abundant; nests in top of trees close to good foraging habitat.	Potentially suitable habitat is present on the site
MAMMALS				

pallid bat	*Antrozous pallidus*	-/-/SC	Grasslands, shrublands, woodlands, and forests; common in open, dry habitats with rocky areas for roosting; prefers rocky outcrops, cliffs, and crevices with access to open habitats for foraging. Will roost in tree crevices and deep bark fissure.	Unknown. Suitable roostinghabitat may be present in the crevices and deep bark fissures in the larger trees.
hoary bat	*Lasiurus cinereus*	-/-/*	Prefers open habitats or habitat mosaics with access to trees for cover and open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees, requires access to water.	Very unlikely. Could roost in the oak trees present the site but open water areas are lacking in the immediate surrounding area.
American badger	*Taxidea taxus*	-/-/SC	Uncommon, permanent resident found throughout most of the state, except in the northern North Coast area. Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils.	Extremely unlikely. Suitable upland habitat is present but no evidence of the any burrows or openings for underground mammals were observed on the site. The species is not compatible with heavily developed areas such as the site and its surroundings.

*** These species do not have a specific state or federal status but are of concern due to limited habitat requirements, threatened habitat, limited numbers or a combination of factors**

**** Status: Federal - E = Endangered, T = Threatened, C = Candidate for listing; State - E = Endangered; CDFG Status - FP = Fully Protected**

B.2 - CNDDB, CNPS, and USFWS Database Search Results

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CALIFORNIA DEPARTMENT OF FISH and WILDLIFE **RareFind**

Query Summary:
Quad IS (Santa Rosa (3812246))
AND County IS (Sonoma)

Print Close

CNDDB Element Query Results

Scientific Name	Common Name	Taxonomic Group	Element Code	Total Occs	Returned Occs	Federal Status	State Status	Global Rank	State Rank	CA Rare Plant Rank	Other Status	Habitats
Ambystoma californiense	California tiger salamander	Amphibians	AAAAA01180	1150	28	Threatened	Threatened	G2G3	S2S3	null	CDFW_WL-Watch List, IUCN_VU-Vulnerable	Cismontane woodland, Meadow & seep, Riparian woodland, Valley & foothill grassland, Vernal pool, Wetland
Amorpha californica var. napensis	Napa false indigo	Dicots	PDFAB08012	69	1	None	None	G4T2	S2	1B.2	SB_RSABG-Rancho Santa Ana Botanic Garden	Broadleaved upland forest, Chaparral, Cismontane woodland
Amsinckia lunaris	bent-flowered fiddleneck	Dicots	PDBOR01070	64	1	None	None	G2G3	S2S3	1B.2	BLM_S-Sensitive	Cismontane woodland, Coastal bluff scrub, Valley & foothill grassland
Andrena blennospermatis	Blennosperma vernal pool andrenid bee	Insects	IIHYM35030	15	1	None	None	G2	S2	null	null	Vernal pool
Arctostaphylos stanfordiana ssp. decumbens	Rincon Ridge manzanita	Dicots	PDERI041G4	12	4	None	None	G3T1	S1	1B.1	null	Chaparral, Cismontane woodland
Astragalus claranus	Clara Hunt's milk-vetch	Dicots	PDFAB0F240	6	1	Endangered	Threatened	G1	S1	1B.1	SB_RSABG-Rancho Santa Ana Botanic Garden	Chaparral, Cismontane woodland, Valley & foothill grassland
Balsamorhiza macrolepis	big-scale balsamroot	Dicots	PDAST11061	43	2	None	None	G2	S2	1B.2	BLM_S-Sensitive, USFS_S-Sensitive	Chaparral, Cismontane woodland, Ultramafic, Valley & foothill grassland
Blennosperma bakeri	Sonoma sunshine	Dicots	PDAST1A010	25	6	Endangered	Endangered	G1	S1	1B.1	SB_RSABG-Rancho Santa Ana Botanic Garden	Valley & foothill grassland, Vernal pool, Wetland
Bombus caliginosus	obscure bumble bee	Insects	IIHYM24380	181	1	None	None	G4?	S1S2	null	IUCN_VU-Vulnerable	null
Bombus occidentalis	western bumble bee	Insects	IIHYM24250	282	1	None	None	G2G3	S1	null	USFS_S-Sensitive, XERCES_IM-Imperiled	null
Brodiaea leptandra	narrow-anthered brodiaea	Monocots	PMLIL0C022	39	2	None	None	G3?	S3?	1B.2	null	Broadleaved upland forest, Chaparral, Cismontane woodland, Lower montane coniferous forest, Valley & foothill grassland
Ceanothus confusus	Rincon Ridge ceanothus	Dicots	PDRHA04220	33	2	None	None	G1	S1	1B.1	BLM_S-Sensitive	Chaparral, Cismontane woodland, Closed-cone coniferous forest, Ultramafic
Ceanothus divergens	Calistoga ceanothus	Dicots	PDRHA04240	23	1	None	None	G2	S2	1B.2	BLM_S-Sensitive	Chaparral, Cismontane woodland, Ultramafic
Ceanothus purpureus	holly-leaved ceanothus	Dicots	PDRHA04160	43	1	None	None	G2	S2	1B.2	null	Chaparral, Cismontane woodland
Ceanothus sonomensis	Sonoma ceanothus	Dicots	PDRHA04420	30	1	None	None	G2	S2	1B.2	null	Chaparral, Ultramafic
Dicamptodon ensatus	California giant	Amphibians	AAAAH01020	229	1	None	None	G3	S2S3	null	CDFW_SSC-Species of Special Concern,	Aquatic, Meadow & seep, North coast coniferous forest,

	salamander										IUCN_NT-Near Threatened	Riparian forest
Elanus leucurus	white-tailed kite	Birds	ABNKC06010	164	1	None	None	G5	S3S4	null	BLM_S-Sensitive, CDFW_FP-Fully Protected, IUCN_LC-Least Concern	Cismontane woodland, Marsh & swamp, Riparian woodland, Valley & foothill grassland, Wetland
Emys marmorata	western pond turtle	Reptiles	ARAAD02030	1236	9	None	None	G3G4	S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_VU-Vulnerable, USFS_S-Sensitive	Aquatic, Artificial flowing waters, Klamath/North coast flowing waters, Klamath/North coast standing waters, Marsh & swamp, Sacramento/San Joaquin flowing waters, Sacramento/San Joaquin standing waters, South coast flowing waters, South coast standing waters, Wetland
Fritillaria liliacea	fragrant fritillary	Monocots	PMLIL0V0C0	81	6	None	None	G2	S2	1B.2	USFS_S-Sensitive	Cismontane woodland, Coastal prairie, Coastal scrub, Ultramafic, Valley & foothill grassland
Hemizonia congesta ssp. congesta	congested-headed hayfield tarplant	Dicots	PDAST4R065	33	1	None	None	G5T1T2	S1S2	1B.2	null	Valley & foothill grassland
Lasthenia burkei	Burke's goldfields	Dicots	PDAST5L010	34	4	Endangered	Endangered	G1	S1	1B.1	SB_RSABG-Rancho Santa Ana Botanic Garden	Meadow & seep, Vernal pool, Wetland
Layia septentrionalis	Colusa layia	Dicots	PDAST5N0F0	57	1	None	None	G2	S2	1B.2	BLM_S-Sensitive	Chaparral, Cismontane woodland, Ultramafic, Valley & foothill grassland
Leptosiphon jepsonii	Jepson's leptosiphon	Dicots	PDPLM09140	39	2	None	None	G3	S3	1B.2	SB_RSABG-Rancho Santa Ana Botanic Garden, SB_USDA-US Dept of Agriculture	Chaparral, Cismontane woodland, Ultramafic
Limnanthes vinculans	Sebastopol meadowfoam	Dicots	PDLIM02090	45	8	Endangered	Endangered	G1	S1	1B.1	SB_RSABG-Rancho Santa Ana Botanic Garden	Meadow & seep, Valley & foothill grassland, Vernal pool, Wetland
Linderiella occidentalis	California linderiella	Crustaceans	ICBRA06010	433	3	None	None	G2G3	S2S3	null	IUCN_NT-Near Threatened	Vernal pool
Navarretia leucocephala ssp. bakeri	Baker's navarretia	Dicots	PDPLM0C0E1	58	1	None	None	G4T2	S2	1B.1	BLM_S-Sensitive	Cismontane woodland, Lower montane coniferous forest, Meadow & seep, Valley & foothill grassland, Vernal pool, Wetland
Rana boylii	foothill yellow-legged frog	Amphibians	AAABH01050	888	1	None	None	G3	S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_NT-Near Threatened, USFS_S-Sensitive	Aquatic, Chaparral, Cismontane woodland, Coastal scrub, Klamath/North coast flowing waters, Lower montane coniferous forest, Meadow & seep, Riparian forest, Riparian woodland, Sacramento/San Joaquin flowing waters
Trifolium amoenum	two-fork clover	Dicots	PDFAB40040	26	1	Endangered	None	G1	S1	1B.1	SB_RSABG-Rancho Santa Ana Botanic Garden, SB_USDA-US Dept of Agriculture	Coastal bluff scrub, Ultramafic, Valley & foothill grassland
Trifolium												Marsh & swamp, Valley

hydrophilum	saline clover	Dicots	PDFAB400R5	49	2	None	None	G2	S2	1B.2	null	& foothill grassland, Vernal pool, Wetland
Triquetrella californica	coastal triquetrella	Bryophytes	NBMUS7S010	13	1	None	None	G2	S2	1B.2	USFS_S-Sensitive	Coastal bluff scrub, Coastal scrub
Valley Needlegrass Grassland	Valley Needlegrass Grassland	Herbaceous	CTT42110CA	45	1	None	None	G3	S3.1	null	null	Valley & foothill grassland

CNPS California Native Plant Society

Inventory of Rare and Endangered Plants

Plant List

22 matches found. *Click on scientific name for details*

Search Criteria

Found in **Sonoma County**, Found in Quad **3812246**

Modify Search Criteria | Export to Excel | Modify Columns | Modify Sort | Display Photos

Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank
Amorpha californica var. napensis	Napa false indigo	Fabaceae	perennial deciduous shrub	Apr-Jul	1B.2	S2	G4T2
Amsinckia lunaris	bent-flowered fiddleneck	Boraginaceae	annual herb	Mar-Jun	1B.2	S2S3	G2G3
Arctostaphylos stanfordiana ssp. decumbens	Rincon Ridge manzanita	Ericaceae	perennial evergreen shrub	Feb-Apr(May)	1B.1	S1	G3T1
Astragalus claranus	Clara Hunt's milk-vetch	Fabaceae	annual herb	Mar-May	1B.1	S1	G1
Balsamorhiza macrolepis	big-scale balsamroot	Asteraceae	perennial herb	Mar-Jun	1B.2	S2	G2
Blennosperma bakeri	Sonoma sunshine	Asteraceae	annual herb	Mar-May	1B.1	S1	G1
Brodiaea leptandra	narrow-anthered brodiaea	Themidaceae	perennial bulbiferous herb	May-Jul	1B.2	S3?	G3?
Calochortus uniflorus	pink star-tulip	Liliaceae	perennial bulbiferous herb	Apr-Jun	4.2	S4	G4
Ceanothus confusus	Rincon Ridge ceanothus	Rhamnaceae	perennial evergreen shrub	Feb-Jun	1B.1	S1	G1
Ceanothus divergens	Calistoga ceanothus	Rhamnaceae	perennial evergreen shrub	Feb-Apr	1B.2	S2	G2

Fritillaria liliacea	fragrant fritillary	Liliaceae	perennial bulbiferous herb	Feb-Apr	1B.2	S2	G2
Hemizonia congesta ssp. congesta	congested-headed hayfield tarplant	Asteraceae	annual herb	Apr-Nov	1B.2	S1S2	G5T1T2
Lasthenia burkei	Burke's goldfields	Asteraceae	annual herb	Apr-Jun	1B.1	S1	G1
Layia septentrionalis	Colusa layia	Asteraceae	annual herb	Apr-May	1B.2	S2	G2
Leptosiphon jepsonii	Jepson's leptosiphon	Polemoniaceae	annual herb	Mar-May	1B.2	S3	G3
Limnanthes vinculans	Sebastopol meadowfoam	Limnanthaceae	annual herb	Apr-May	1B.1	S1	G1
Navarretia leucocephala ssp. bakeri	Baker's navarretia	Polemoniaceae	annual herb	Apr-Jul	1B.1	S2	G4T2
Navarretia leucocephala ssp. plieantha	many-flowered navarretia	Polemoniaceae	annual herb	May-Jun	1B.2	S1	G4T1
Ranunculus lobbii	Lobb's aquatic buttercup	Ranunculaceae	annual herb (aquatic)	Feb-May	4.2	S3	G4
Trifolium amoenum	two-fork clover	Fabaceae	annual herb	Apr-Jun	1B.1	S1	G1
Trifolium hydrophilum	saline clover	Fabaceae	annual herb	Apr-Jun	1B.2	S2	G2
Triquetrella californica	coastal triquetrella	Pottiaceae	moss		1B.2	S2	G2

Suggested Citation

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IPaC **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

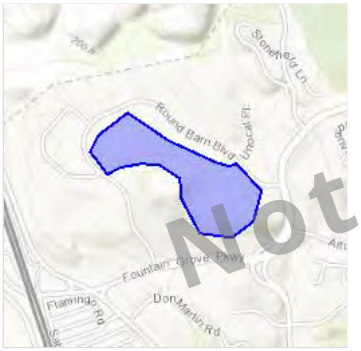
Project information

NAME

Round Barn

LOCATION

Sonoma County, California



Not for consultation

Local office

Sacramento Fish And Wildlife Office

(916) 414-6600
(916) 414-6713

Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Log in to IPaC.

2. Go to your My Projects list.
3. Click PROJECT HOME for this project.
4. Click REQUEST SPECIES LIST.

Listed species[1] are managed by the Endangered Species Program of the U.S. Fish and Wildlife Service.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information.

The following species are potentially affected by activities in this location:

Not for consultation

Amphibians

NAME	STATUS
California Red-legged Frog Rana draytonii There is a **final** critical habitat designated for this species. Your location is outside the designated critical habitat. https://ecos.fws.gov/ecp/species/2891	Threatened
California Tiger Salamander Ambystoma californiense There is a **final** critical habitat designated for this species. Your location is outside the designated critical habitat. https://ecos.fws.gov/ecp/species/2076	Endangered

Birds

NAME	STATUS
Northern Spotted Owl Strix occidentalis caurina There is a **final** critical habitat designated for this species. Your location is outside the designated critical habitat. https://ecos.fws.gov/ecp/species/1123	Threatened

Crustaceans

NAME	STATUS
California Freshwater Shrimp Syncaris pacifica No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/7903	Endangered

Fishes

NAME	STATUS
Steelhead Oncorhynchus (=Salmo) mykiss There is a **final** critical habitat designated for this species. Your location is outside the designated critical habitat. https://ecos.fws.gov/ecp/species/1007	Threatened

Flowering Plants

NAME	STATUS
Burke's Goldfields Lasthenia burkei No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4338	Endangered
Clara Hunt's Milk-vetch Astragalus clarianus No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/3300	Endangered
Sebastopol Meadowfoam Limnanthes vinculans No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/404	Endangered
Showy Indian Clover Trifolium amoenum No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/6459	Endangered

Sonoma Sunshine Blennosperma bakeri No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/1260	Endangered
White Sedge Carex albida No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/3063	Endangered

Insects

NAME	STATUS
San Bruno Elfin Butterfly Callophrys mossii bayensis No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/3394	Endangered

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Not for consultation

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any activity that results in the take (to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct) of migratory birds or eagles is prohibited unless authorized by the U.S. Fish and Wildlife Service[3]. There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured.

Any person or organization who plans or conducts activities that may result in the take of migratory birds is responsible for complying with the appropriate regulations and implementing appropriate conservation measures.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Conservation measures for birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Year-round bird occurrence data http://www.birdscanada.org/birdmon/default/datasummaries.jsp

The migratory birds species listed below are species of particular conservation concern (e.g. Birds of Conservation Concern) that may be potentially affected by activities in this location. It is not a list of every bird species you may find in this location, nor a guarantee that all of the bird species on this list will be found on or near this location. Although it is important to try to avoid and minimize impacts to all birds, special attention should be made to avoid and minimize impacts to birds of priority concern. To view available data on other bird species that may occur in your project area, please visit the AKN Histogram Tools and Other Bird Data Resources. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

NAME	SEASON(S)
Allen's Hummingbird Selasphorus sasin https://ecos.fws.gov/ecp/species/9637	Migrating
Bald Eagle Haliaeetus leucocephalus https://ecos.fws.gov/ecp/species/1626	Year-round
Bell's Sparrow Amphispiza belli https://ecos.fws.gov/ecp/species/9303	Year-round
Burrowing Owl Athene cunicularia https://ecos.fws.gov/ecp/species/9737	Year-round

Fox Sparrow Passerella iliaca	Wintering
Least Bittern Ixobrychus exilis https://ecos.fws.gov/ecp/species/6175	Breeding
Lesser Yellowlegs Tringa flavipes https://ecos.fws.gov/ecp/species/9679	Wintering
Lewis's Woodpecker Melanerpes lewis https://ecos.fws.gov/ecp/species/9408	Wintering
Long-billed Curlew Numenius americanus https://ecos.fws.gov/ecp/species/5511	Wintering
Nuttall's Woodpecker Picoides nuttallii https://ecos.fws.gov/ecp/species/9410	Year-round
Oak Titmouse Baeolophus inornatus https://ecos.fws.gov/ecp/species/9656	Year-round
Olive-sided Flycatcher Contopus cooperi https://ecos.fws.gov/ecp/species/3914	Breeding
Peregrine Falcon Falco peregrinus https://ecos.fws.gov/ecp/species/8831	Year-round
Rufous Hummingbird selasphorus rufus https://ecos.fws.gov/ecp/species/8002	Migrating
Rufous-crowned Sparrow Aimophila ruficeps https://ecos.fws.gov/ecp/species/9718	Year-round
Short-eared Owl Asio flammeus https://ecos.fws.gov/ecp/species/9295	Wintering
Western Grebe aechmophorus occidentalis https://ecos.fws.gov/ecp/species/6743	Year-round

Not for consultation

What does IPaC use to generate the list of migratory bird species potentially occurring in my specified location?

Landbirds:

Migratory birds that are displayed on the IPaC species list are based on ranges in the latest edition of the National Geographic Guide, Birds of North America (6th Edition, 2011 by Jon L. Dunn, and Jonathan Alderfer). Although these ranges are coarse in nature, a number of U.S. Fish and Wildlife Service migratory bird biologists agree that these maps are some of the best range maps to date. These ranges were clipped to a specific Bird Conservation Region (BCR) or USFWS Region/Regions, if it was indicated in the 2008 list of Birds of Conservation Concern (BCC) that a species was a BCC species only in a particular Region/Regions. Additional modifications have been made to some ranges based on more local or refined range information and/or information provided by U.S. Fish and Wildlife Service biologists with species expertise. All migratory birds that show in areas on land in IPaC are those that appear in the 2008 Birds of Conservation Concern report.

Atlantic Seabirds:

Ranges in IPaC for birds off the Atlantic coast are derived from species distribution models developed by the National Oceanic and Atmospheric Association (NOAA) National Centers for Coastal Ocean Science (NCCOS) using the best available seabird survey data for the offshore Atlantic Coastal region to date. NOAANCCOS assisted USFWS in developing seasonal species ranges from their models for specific use in IPaC. Some of these birds are not BCC species but were of interest for inclusion because they may occur in high abundance off the coast at different times throughout the year, which potentially makes them more susceptible to certain types of development and activities taking place in that area. For more refined details about the abundance and richness of bird species within your project area off the Atlantic Coast, see the Northeast Ocean Data Portal. The Portal also offers data and information about other types of taxa that may be helpful in your project review.

About the NOAANCCOS models: the models were developed as part of the NOAANCCOS project: Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf. The models resulting from this project are being used in a number of decision-support/mapping products in order to help guide decision-making on activities off the Atlantic Coast with the goal of reducing impacts to migratory birds. One such product is the Northeast Ocean Data Portal, which can be used to explore details about the relative occurrence and abundance of bird species in a particular area off the Atlantic Coast.

All migratory bird range maps within IPaC are continuously being updated as new and better information becomes available.

Can I get additional information about the levels of occurrence in my project area of specific birds or groups of birds listed in IPaC?

Landbirds:

The Avian Knowledge Network (AKN) provides a tool currently called the "Histogram Tool", which draws from the data within the AKN (latest,survey, point count, citizen science datasets) to create a view of relative abundance of species within a particular location over the course of the year. The results of the tool depict the frequency of detection of a species in survey events, averaged between multiple datasets within AKN in a particular week of the year. You may access the histogram tools through the Migratory Bird Programs AKN Histogram Tools webpage.

The tool is currently available for 4 regions (California, Northeast U.S., Southeast U.S. and Midwest), which encompasses the following 32 states: Alabama, Arkansas, California, Connecticut, Delaware, Florida, Georgia, Illinois, Indiana, Iowa, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, New Hampshire, New Jersey, New York, North, Carolina, Ohio, Pennsylvania, Rhode Island, South Carolina, Tennessee, Vermont, Virginia, West Virginia, and Wisconsin.

In the near future, there are plans to expand this tool nationwide within the AKN, and allow the graphs produced to appear with the list of trust resources generated by IPaC, providing you with an additional level of detail about the level of occurrence of the species of particular concern potentially occurring in your project area throughout the course of the year.

Atlantic Seabirds:

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAANCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Facilities

Wildlife refuges

Any activity proposed on National Wildlife Refuge lands must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGES AT THIS LOCATION.

Not for consultation

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

THERE ARE NO KNOWN WETLANDS AT THIS LOCATION.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Not for consultation

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Appendix C:
Cultural Resources Supporting Information

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C.1 - NWIC Records Search Results

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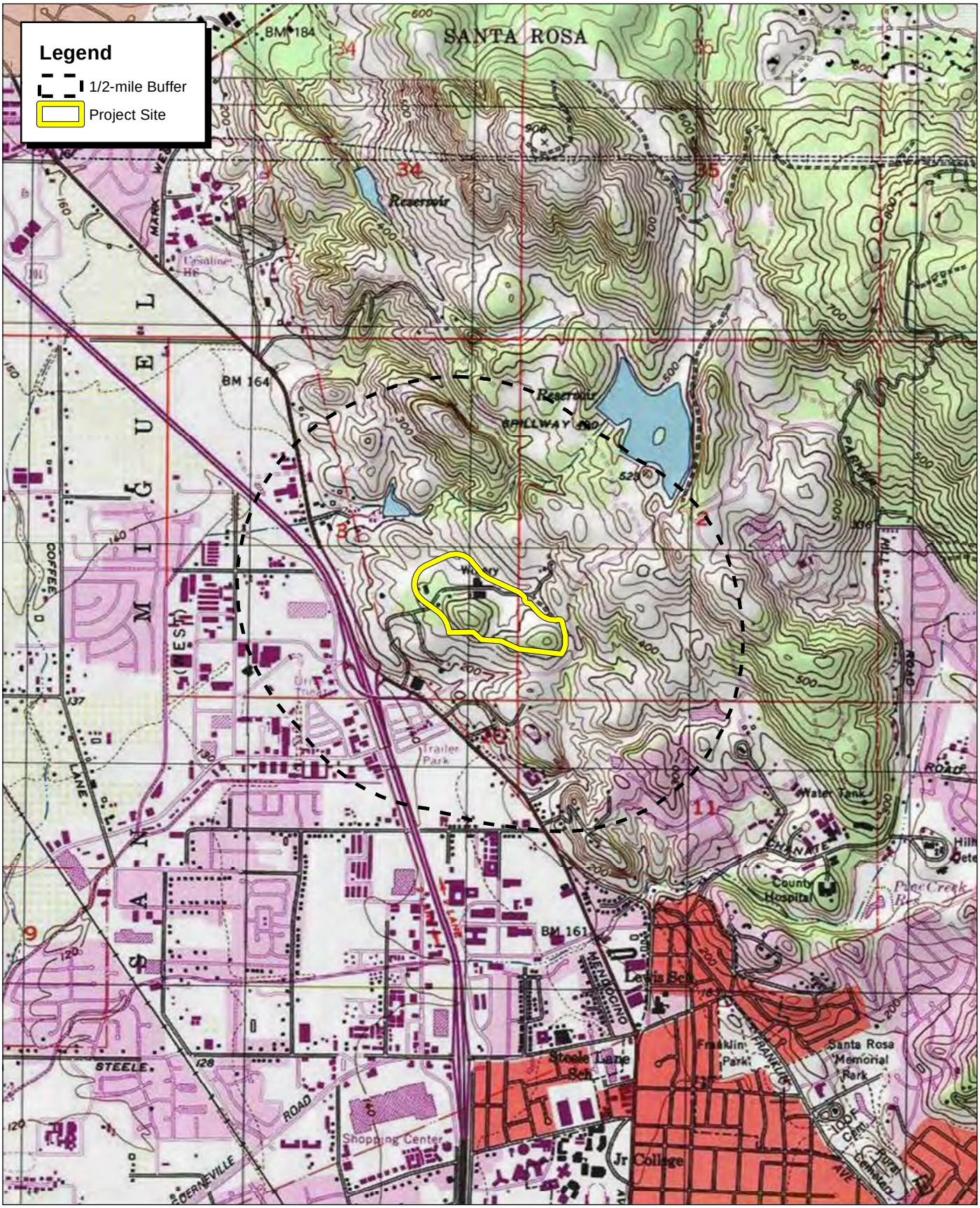

Source: USGS Santa Rosa (1980) 7.5' Quadrangle T7N R8W Secs 2&3

FIRSTCARBON SOLUTIONS™

2,000 1,000 0 2,000
Feet

Exhibit 1
Records Search Map

Resource List

Primary No.	Trinomial	Other IDs	Type	Age	Attribute codes	Recorded by	Reports
P-49-000480	CA-SON-000515	Resource Name - #1 CLOVERLEAF RANCH	Site	Prehistoric	AP15 (Habitation debris)	1973 (MICHAEL J. MORATTO)	S-013497
P-49-000481	CA-SON-000516	Resource Name - #2 CLOVERLEAF RANCH	Site	Prehistoric	AP02 (Lithic scatter)	1973 (MICHAEL J. MORATTO)	
P-49-001035	CA-SON-001107	Resource Name - Hopper Lane	Site	Prehistoric	AP02 (Lithic scatter)	1978 (DESGRANDCHAMP)	S-001516, S-002215
P-49-001144	CA-SON-001220H	Resource Name - Fountain Grove Ranch	Building, Structure, Site, District	Historic	AH04 (Privies/dumps/trash scatters); HP02 (Single family property); HP04 (Ancillary building); HP06 (1-3 story commercial building); HP40 (Cemetery)	1979 (Neysa Carpenter, Sonoma State College)	S-001778, S-016455
P-49-001145	CA-SON-001221	Resource Name - [none]	Site	Prehistoric	AP02 (Lithic scatter); AP04 (Bedrock milling feature); AP15 (Habitation debris)	1979 (MCNABB); 1985 (C. SLAYMAKER)	S-001778, S-009162
P-49-001146	CA-SON-001222	Resource Name - [none]	Site	Prehistoric	AP02 (Lithic scatter)	1979 (BALDRICA / MCNABB, [none])	S-001778, S-013497, S-024982
P-49-001147	CA-SON-001223	Resource Name - [none]	Site	Prehistoric	AP02 (Lithic scatter); AP15 (Habitation debris)	1979 (BALDRICA / MCNABB, [none])	S-001778, S-005912
P-49-001752	CA-SON-002173H	Resource Name - Applied Vascular - 1	Site	Historic	AH02 (Foundations/structure pads); AH11 (Walls/fences)	1996 (T. Mears, Anthropological Studies Center)	S-018216
P-49-002737	CA-SON-002302/H	Resource Name - ARS 98-51-01	Site	Prehistoric, Historic	AH04 (Privies/dumps/trash scatters); AP02 (Lithic scatter)	1999 (E. Strother, Archaeological Resource Service)	S-022905
P-49-003243		Resource Name - 3270 Mendocino Avenue	Building	Historic	HP06 (1-3 story commercial building)	2005 (Dana E. Supernowicz)	S-029762, S-030210
P-49-004841		Resource Name - Fountaingrove Winery; OHP Property Number - 002309; OHP PRN - 5402-0249-9999	Building, Structure, District, Element of district	Historic	HP02 (Single family property); HP04 (Ancillary building); HP06 (1-3 story commercial building)	([none], [none]); 1989 (Anne Bloomfield, Anne Bloomfield Architectural); 1993 (Gaye LeBaron, Press Democrat)	S-016455

Resource List

Primary No.	Trinomial	Other IDs	Type	Age	Attribute codes	Recorded by	Reports
P-49-004842		Resource Name - Round Red Barn; Other - Fountain Grove; Other - 3610 Mendocino Avenue; Other - Fountaingrove; Other - 3535 Round Barn Blvd; OHP Property Number - 152965; OHP PRN - Tax. Cert. 537.9-49-0047; OHP Property Number - 002262; OHP PRN - 5402-0231-0000	Building, Element of district	Historic	HP04 (Ancillary building)	1977 (Marilyn Hayden, Bette Patterson, [none]); 1980 (Alex Yamato, Ethnic Cultural Resource Survey)	
P-49-004985		Resource Name - Buzzard's Gultch at Cloverleaf Ranch	Building, Structure, Site	Historic	HP02 (Single family property); HP04 (Ancillary building); HP33 (Farm/ranch); HP41 (Hospital) - pool, pond, tennis court	2016 (William Roop, Archaeological Resource Service (ARP))	S-048317

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
S-000955		1975		Preliminary Archaeological Assessment for the Coddingtown Environmental Impact Report, Santa Rosa, California	Archaeological Consulting and Research Services, Inc.	
S-001778		1979	Thomas M. Origer and Neysa Carpenter	A Cultural Resources Inventory of the Fountain Grove Ranch, Santa Rosa, Sonoma County, California.	Anthropological Studies Center, Sonoma State University	49-001144, 49-001145, 49-001146, 49-001147
S-016455		1994	Susan M. Clark	Historic Structures Report, Fountaingrove Winery Complex, Round Barn Road, Santa Rosa, California, Assessor Parcel #040-050-032		49-001144, 49-004841
S-022736		2000		Final Cultural Resources Inventory Report for Williams Communications, Inc., Fiber Optic Cable System Installation Project, Point Arena to Robbins and Point Arena to Sacramento, California: Volume I	Jones & Stokes Associates, Inc.	06-000203, 06-000283, 06-000284, 06-000586, 23-001012, 23-001031, 23-001791, 23-003125, 23-003463, 23-003663, 28-000028, 28-000175, 28-000463, 28-001186, 28-001187, 28-001188, 28-001189, 28-001190, 48-000072, 48-000199, 48-000211, 48-000441, 48-000541, 48-000546, 48-000548, 48-000549, 49-000195, 49-000334, 49-000423, 49-000867, 49-001196, 49-001225, 49-001232, 49-001352, 49-002134, 49-002291, 49-002834, 49-002896, 49-002897, 57-000143, 57-000198
S-022736a		2000		Volume II Project Maps: Final Cultural Resources Inventory Map Atlas for the Williams Communications, Inc. Fiber Optic Cable System Installation Project, Point Arena to Robbins and Point Arena to Sacramento, California	Jones & Stokes	
S-022736b		2000		Volume III Technical Appendices: Final Cultural Resources Inventory Report for the Williams Communications, Inc. Fiber Optic Cable System Installation Project, Point Arena to Robbins and Point Arena to Sacramento, California	Jones & Stokes	
S-037608	Submitter - File No. 10-62S	2010	Lauren Del Bondio and Thomas M. Origer	A Cultural Resources Survey for the City of Santa Rosa Creek Restoration Project, Sonoma County, California	Tom Origer & Associates	49-000073, 49-000365, 49-000617, 49-000822, 49-001866, 49-002063

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
S-044557	Submitter - Origer file #14-017	2014	Virginia Ton Ton and Thomas M. Origer	A Cultural Resources Study for the Re-Subdivision and Lot Line Adjustment at 3524 Mendocino Avenue, Santa Rosa, Sonoma County, California	Tom Origer & Associates	
S-046053	Submitter - Project NT229-38/14	2014	Kate Erickson Green	A Cultural Resources Study of 4.6 Acres 200 Fountaingrove Parkway Santa Rosa, Sonoma County, California	Anthropological Studies Center; Sonoma State University	
S-048317	Submitter - A. R. S. Project 16-042	2016	William Roop	A Cultural Resources Evaluation of the Proposed Solstice Development at 3890 Old Redwood Highway, Santa Rosa, Sonoma County, California	Archaeological Resource Service	49-004985

P-49-001144

SONOMA STATE COLLEGE Department of Anthropology

HISTORIC ARCHEOLOGICAL SITE/FEATURE SURVEY RECORD

1. Site CA SON 1220 H 2. Feature

3. Map Santa Rosa Quadrangle 7.5 (1968) 4. County Sonoma

5. Twp 7 north Range 8 west 1/4 of 1/4 of SE 1/4 of Sec. 3

ZONE 10

6. UTM Coordinates 523880E/4258680N 7. Elevation 200-300 feet

8. Location (Legal) Fountain Grove Road, Santa Rosa, California

9. Descriptive Location southwestern section of Fountain Grove Ranch, located immediately west of the Mendocino Avenue exit from Highway 101

UTM: (524100E/4258900N, 524100E/4258440N, 523640E/4258440N 523640E/4258900N) Zone 10

10. Description (Size, Configuration, Layout, etc.) Entire site is approximately 1500 feet in diameter. Barn is in SW 1/4 of SE 1/4 of SE 1/4. Hermitage ruin is in NE 1/4 of SE 1/4 of SE 1/4. Mansion and possible gravesite are in SE 1/4 of NW 1/4 of SE 1/4. Familistery and Printing Press House ruin are in SW 1/4 of NE 1/4 of SE 1/4. Winery is in SE 1/4 of NE 1/4 of SE 1/4. Commandery ruin is probably in NW 1/4 of SE 1/4 of SE 1/4. The barn and winery still stand; all other buildings are ~~XX~~ torn down or otherwise destroyed. Locations are known through written/oral sources. The mansion and hermitage ruins are clearly visible because of artifact assemblages and/or changes in soil and vegetation where they once stood.

11. Associated Artifacts Pottery sherds, some lumber that seems to have been used on the outside of a house (Mansion), turn of the century debris, etc.

12. Condition/Recommendations Buildings that are standing need work to limit further deterioration. Restoration and National Register nomination are recommended. Further documentary research and limited fieldwork are recommended for the areas where buildings once stood. Area does not appear to have been "pothunted".

13. Date of Construction 1875-91 (Estimated; X Documented; Unknown)

14. Original Appearance/Modifications Barn and winery appear to only have been modified in that structural supports have in some cases been added. Interiors of the buildings were not inspected, so modification is unknown.

15. Ownership/Use Teachers' Management Investment is the owner. They plan to build on the Ranch.

Attitude towards excavation: not known

S-1778

16. References (Documents/Photos/Oral History) primary and secondary sources/ some early photographs from books/ communication with Mrs. LeBaron, local historian

17. Recorded by Neysa Carpenter Date 10/18/79

S-16455

CA-SON-1220H

P-49-001144

18. Accession No._____ 19. Previous Survey Designation _____

20. Photo Roll No. 1,2 Frame No._____ Film Type BW-Asa 400 color -64 By Carpenter

FEATURE CHECK LIST: (Discuss Significant Elements on Reverse)

21. No. of Buildings Represented: 6

4 Residence	____ Privy	____ Blacksmith
____ Root Cellar/Dug Out	2 Shed/Outbuildings	____ Mill
____ Store	1 Winery	____

22. Surface Modifications:

____ Dam	1 Mound	____ Shaft	1 Well
____ Depression	1 Pit?	____ Terrace	____ Cultivation
____ Ditch	____ Retaining Wall	____ Trench	____
____ Embankment	yes Road	____ Tunnel	____

23. Architectural Elements:

____ Addition	____ Foundation	____ Siding	____ Bridge
____ Cellar	____ Joists	____ Walkway	____
____ Fireplace	____ Patio/Pavement	____ Wall	____
____ Floor	____ Roofing	____ Machine Mounts	____

24. Cellar:

____ Pit Only Pit Lined With: ____ Wood; ____ Stone; ____ Concrete

____ Stairs ____ Ground Level Entrance; From the ____

____ Remains of Doorway Present: ____ Wood; ____ Iron

25. Nails: ____ Hand Forged ____ Cut (square) ____ Wire (round)

Other Hardware ____

26. Lumber Dimensions: ____

27. Brick Dimensions, Brands: ____

28. Foundation:

xx Stone-winery	____ Brick	xx Wood-barn	____ Concrete
____ Mortared	____ Unmortared	____ Post	____ Pier
____ Continuous	____ Sill	____ Skid	____

29. Utilities (Plumbing, Wiring, Utilities Poles, etc.) ____

30. Cemetary Japanese graves reported to exist

31. Introduced (Exotic) Vegetation: eucalyptus trees, fruit trees, palms

32. Natural Vegetation oaks, grasses

33. Soil/Archeological Deposits (Color, Texture, Depth, etc.) not tested

(INCLUDE LOCATION MAP AND PLAN OF FEATURE ON BACK OF SHEET(S))

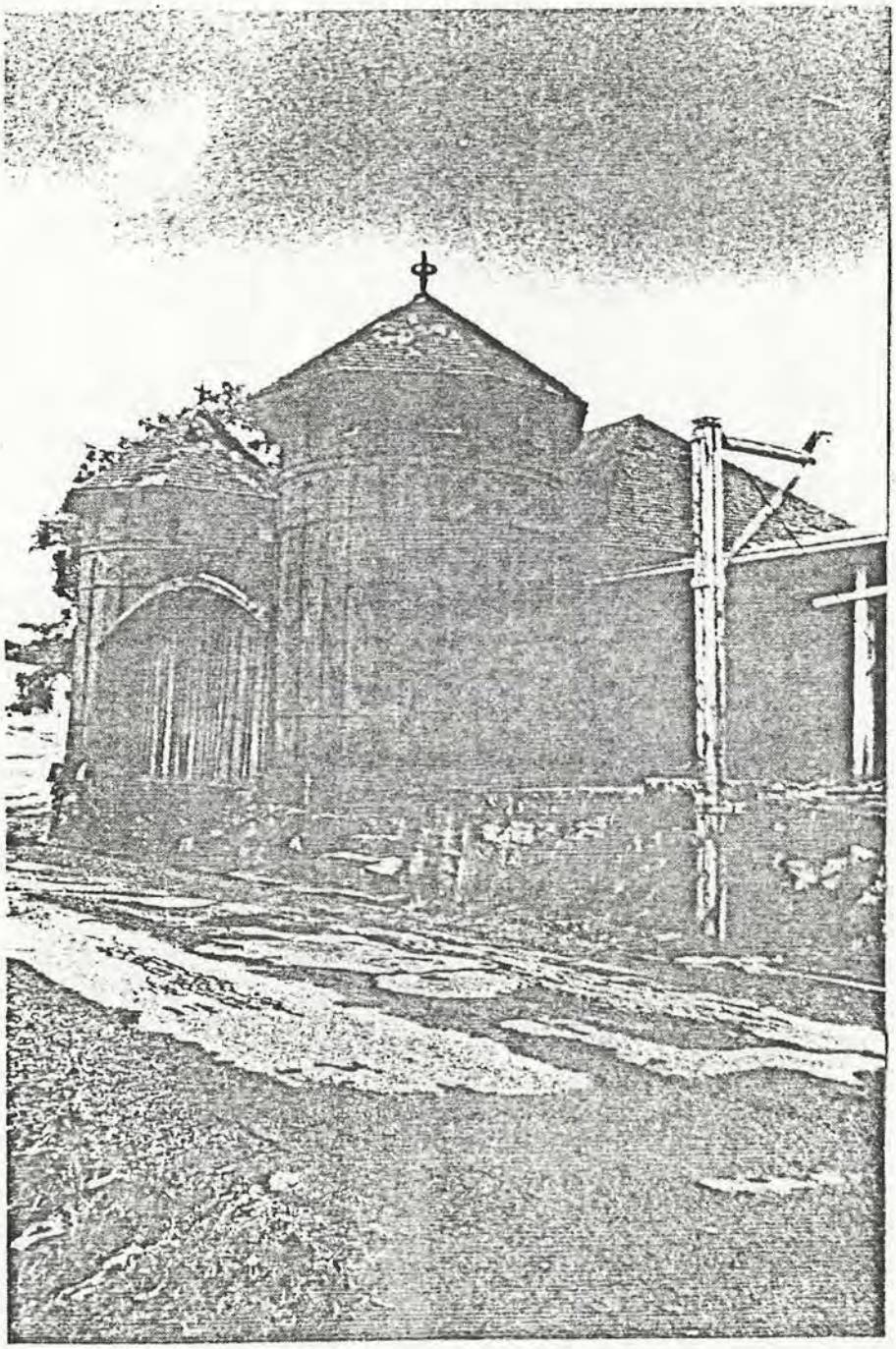

Plate 4. The winery, approached from the east, looking southwest. Hexagonal storage vats make this a unique county landmark.

CA-SSW-1220
P-49-001144

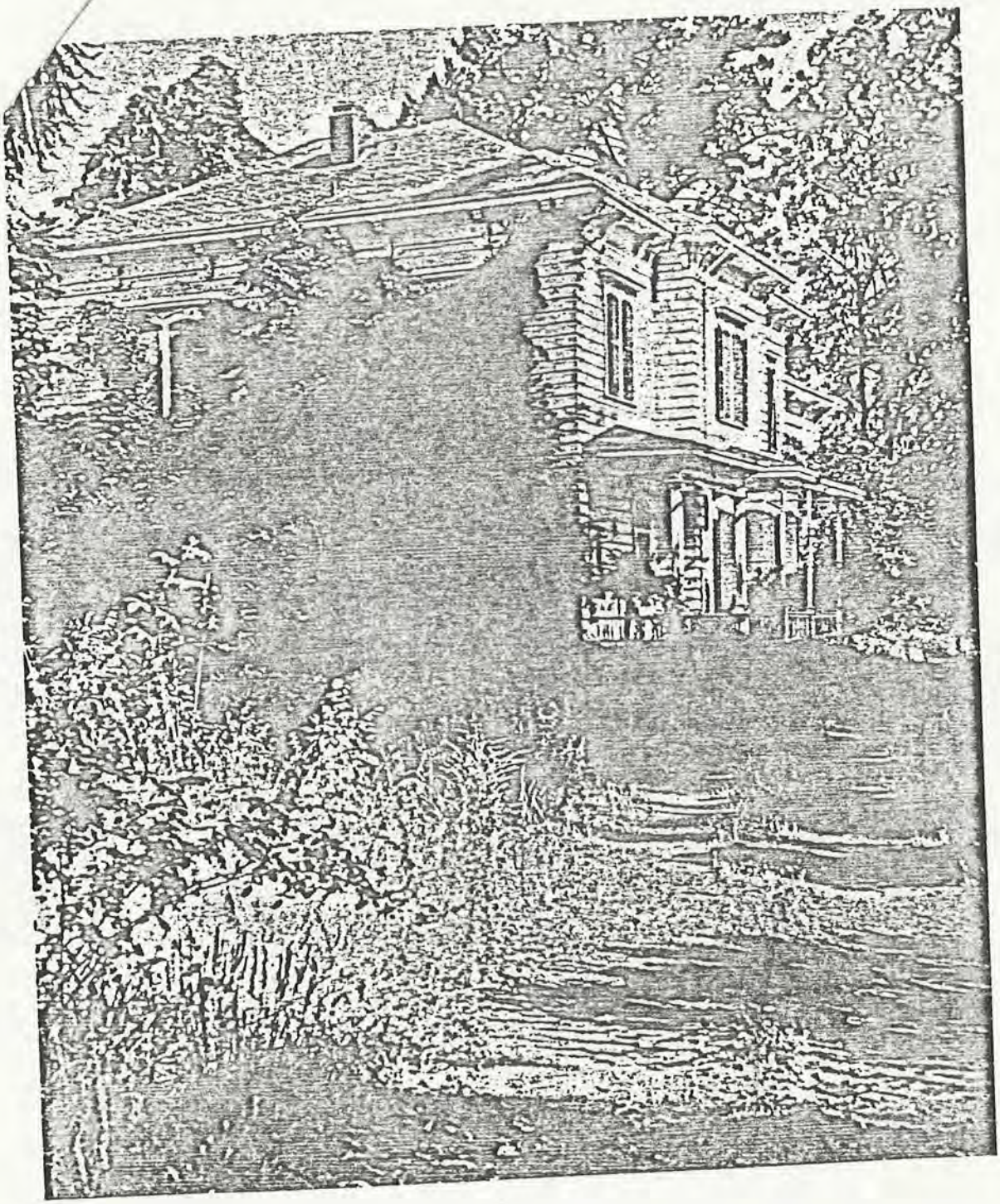

Plate 8. The mansion, before its destruction, facing Southeast. Photograph by Norman Miner, Santa Rosa, from Lewis, Here Lived the Californians, Rinehart & Co., 1957.

CA-SON-1220H
P-49-001144

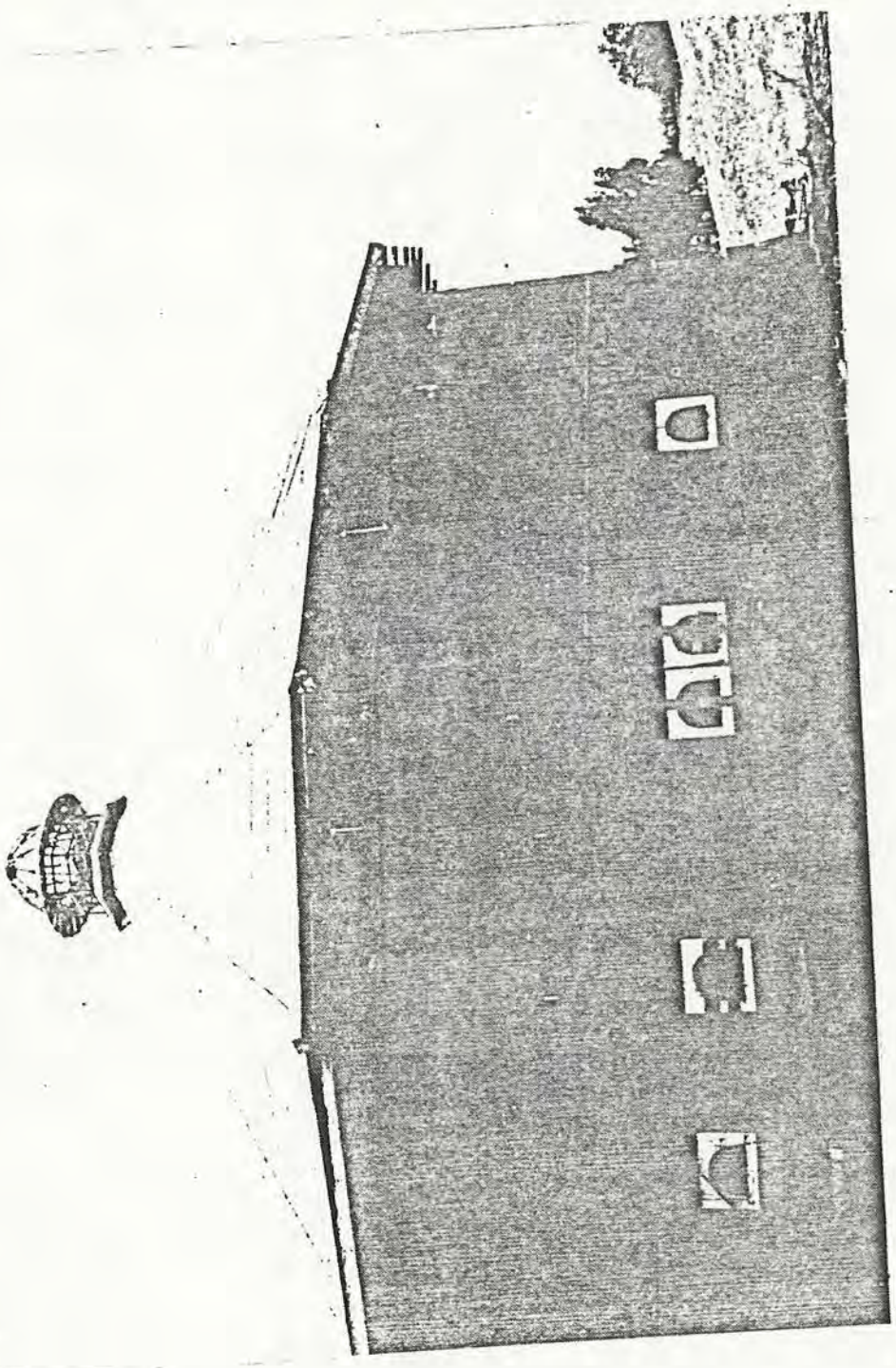

Plate 6. The Round Barn, looking south. Its hexagonal shape is similar in design to the winery's storage vats. The cupola serves as both ornamentation and ventilation.

CA-SON-1220H
P-49-001144

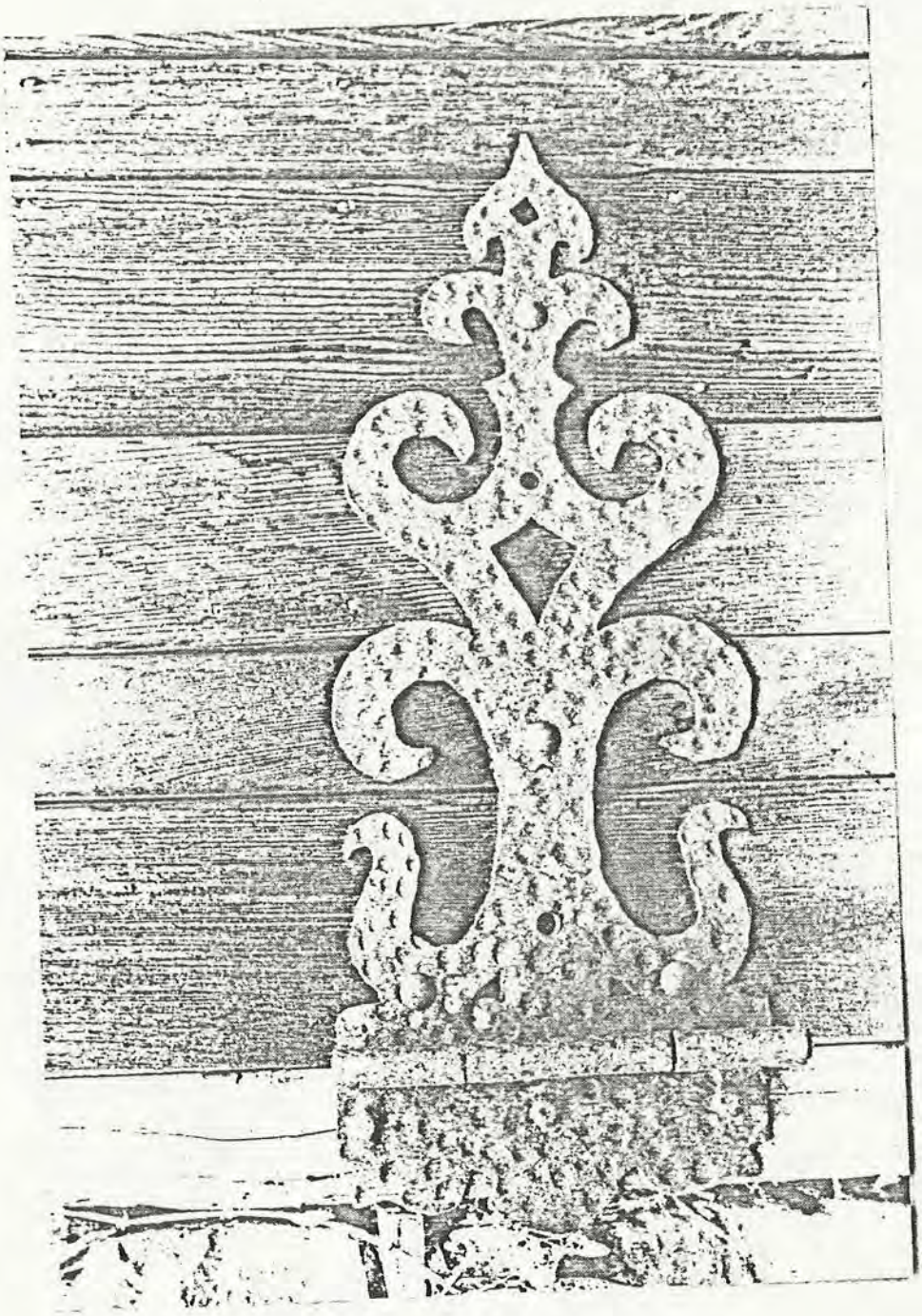

Plate 5. Door hinges on the winery were handcrafted in the 1890's by members of the Brotherhood of New Life.

CA-SON-1220H

P-49-001144

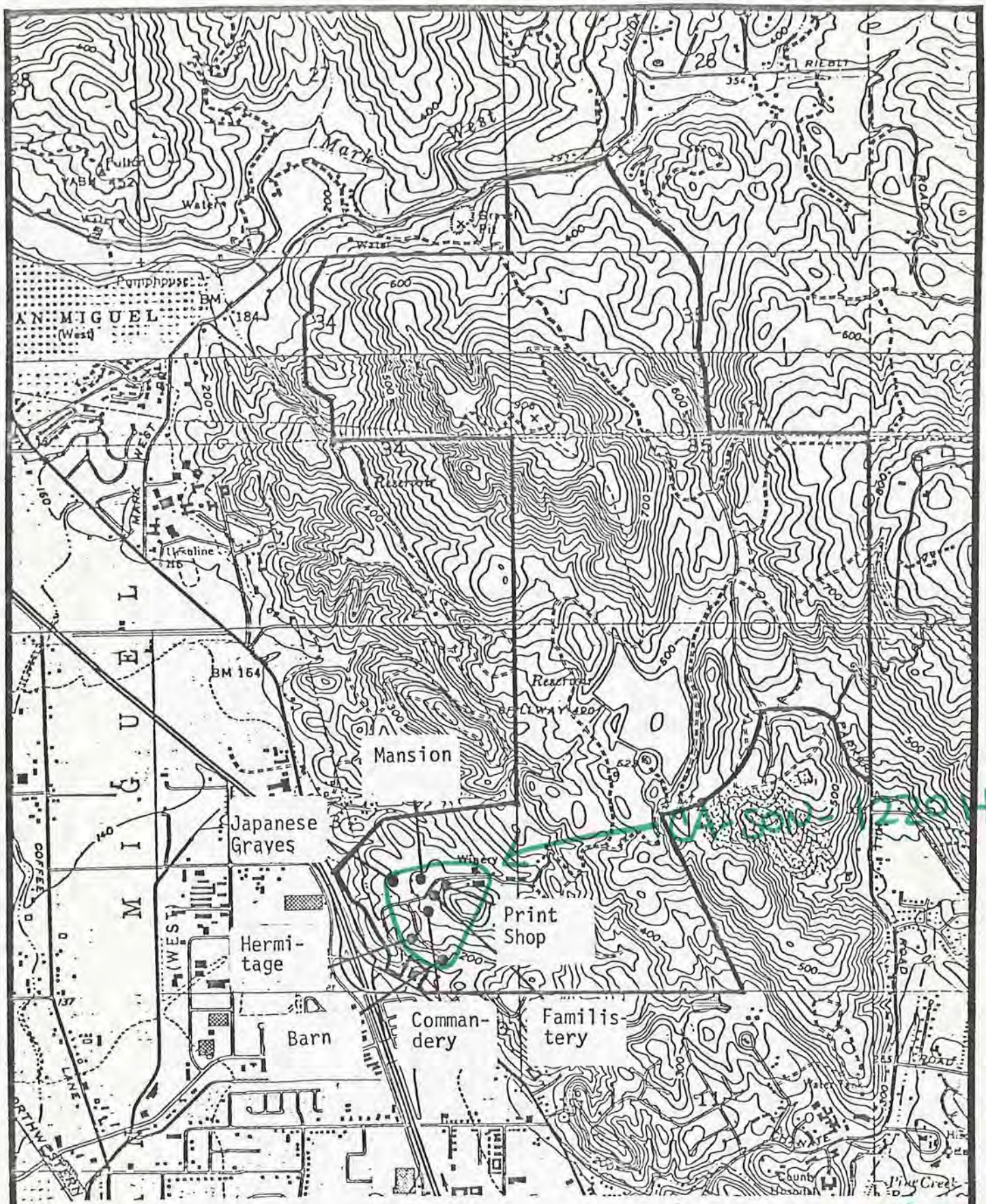

Figure 5. Current property boundaries. Location of mansion, barn, and winery shown. Probable locations of Hermitage, Mansion, Familistery, Commandery, and Press marked on map.

C.2 - NAHC Sacred Lands File Search and Tribal Correspondence

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STATE OF CALIFORNIA Edmund G. Brown, Jr., Governor

NATIVE AMERICAN HERITAGE COMMISSION
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
(916) 373-3710
Fax (916) 373-5471

April 27, 2017

Lisa Baskir
First Carbon Solutions

Sent by Email: lbaskir@fcs-intl.com
Number of Pages: 2

RE: Round Barn Village, Santa Rosa, Sonoma County

Dear Ms. Baskir:

A record search of the Native American Heritage Commission (NAHC) *Sacred Lands File* was completed for the area of potential project effect (APE) referenced above with negative results. **Please note that the absence of specific site information in the *Sacred Lands File* does not indicate the absence of Native American cultural resources in any APE.**

I suggest you contact all of those listed, if they cannot supply information, they might recommend others with specific knowledge. The list should provide a starting place to locate areas of potential adverse impact within the APE. **By contacting all those on the list, your organization will be better able to respond to claims of failure to consult.** If a response has not been received within two weeks of notification, the NAHC requests that you follow-up with a telephone call to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from any of these individuals or groups, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact via email: Sharaya.souza@nahc.ca.gov.

Sincerely,

Sharaya Souza
Staff Services Analyst

Native American Heritage Commission
Native American Contacts
4/27/2017

Federated Indians of Graton Rancheria
Greg Sarris, Chairperson
6400 Redwood Drive, Ste 300 Coast Miwok
Rohnert Park , CA 94928 Southern Pomo
(707) 566-2288 Office
(707) 566-2291 Fax

Federated Indians of Graton Rancheria
Gene Buvelot
6400 Redwood Drive, Ste 300 Coast Miwok
Rohnert Park , CA 94928 Southern Pomo
gbuvelot@gratonrancheria.
(415) 279-4844 Cell
(707) 566-2288 ext 103

Kashia Band of Pomo Indians of the Stewarts Point
Reno Keoni Franklin, Chairperson
1420 Guerneville Rd. Ste 1 Pomo
Santa Rosa , CA 95403
reno@stewartspoint.org
(707) 591-0580 Office

(707) 591-0583 Fax

Lytton Rancheria of California
Marjorie Mejia, Chairperson
437Aviation Blvd Pomo
Santa Rosa , CA 95403
margiemejia@aol.com
(707) 575-5917
(707) 575-6974 - Fax

Mishewal-Wappo Tribe of Alexander Valley
Scott Gabaldon, Chairperson
2275 Silk Road Wappo
Windsor , CA 95492
scottg@mishewalwappotribe.com
(707) 494-9159

This list is current only as of the date of this document and is based on the information available to the Commission on the date it was produced.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code

This list is only applicable for contacting local Native Americans with regard to cultural resources assessments for the updated contact list for Round Barn Village, Santa Rosa, Sonoma County.

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Federated Indians of Graton Rancheria
Gene Buvelot
6400 Redwood Drive, Suite 300
Rohnert Park, CA 94928

May 1, 2017

Subject: Round Barn Village Project, Sonoma County, California

Dear Mr. Buvelot,

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The Project site is characterized by its rolling and steep topography, dense trees, and significant vegetation. One of the primary vegetation types on the Project site is a ruderal annual grassland dominated by non-native grasses and forbs. This vegetation type is typical of the type both on the Santa Rosa Plain and in the lower slopes of the Mayacamas Mountains, which border the Santa Rosa Plain and are part of the Inner Coast Range. The mixed oak woodland within the Project site is dominated by coast live oak (Quercus agrifolia), black oak (Quercus kelloggii), valley oak (Quercus lobata), and blue oak (Quercus douglasii). Trees within the Project site protected under the City's Heritage tree program include coast live oak, valley oak, and black oak.

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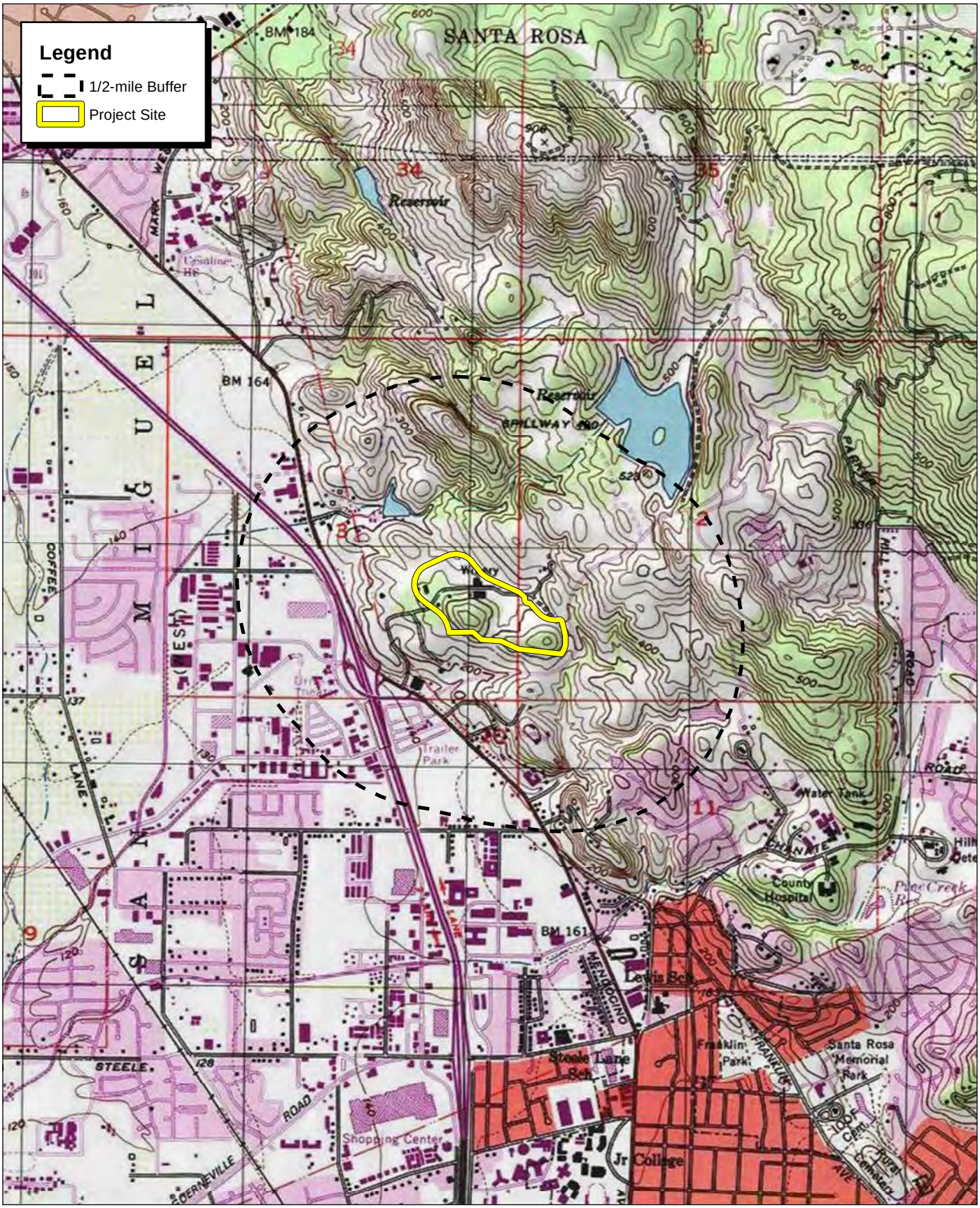
Sincerely,

Dana Douglas DePietro, Ph.D.
Senior Scientist, Archaeology
FirstCarbon Solutions
1350 Treat Boulevard, Ste. 380
Walnut Creek, CA 94597

Enc: Project location map for the proposed development

[1] Assuming an average household size of 2.65. Source: United States Census Bureau. 2014. American FactFinder. Website: https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_14_5YR_B25010&prodType=table. Accessed: April 20, 2017.



Source: USGS Santa Rosa (1980) 7.5' Quadrangle T7N R8W Secs 2&3

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Exhibit 1
Records Search Map

Kashia Band of Pomo of the Indians Stewarts Point
Reno Keoni Franklin, Chairperson
1420 Guerneville Road, Suite 1
Santa Rosa, CA 95403

May 1, 2017

Subject: Round Barn Village Project, Sonoma County, California

Dear Chairperson Franklin,

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Senior Scientist, Archaeology
FirstCarbon Solutions
1350 Treat Boulevard, Ste. 380
Walnut Creek, CA 94597

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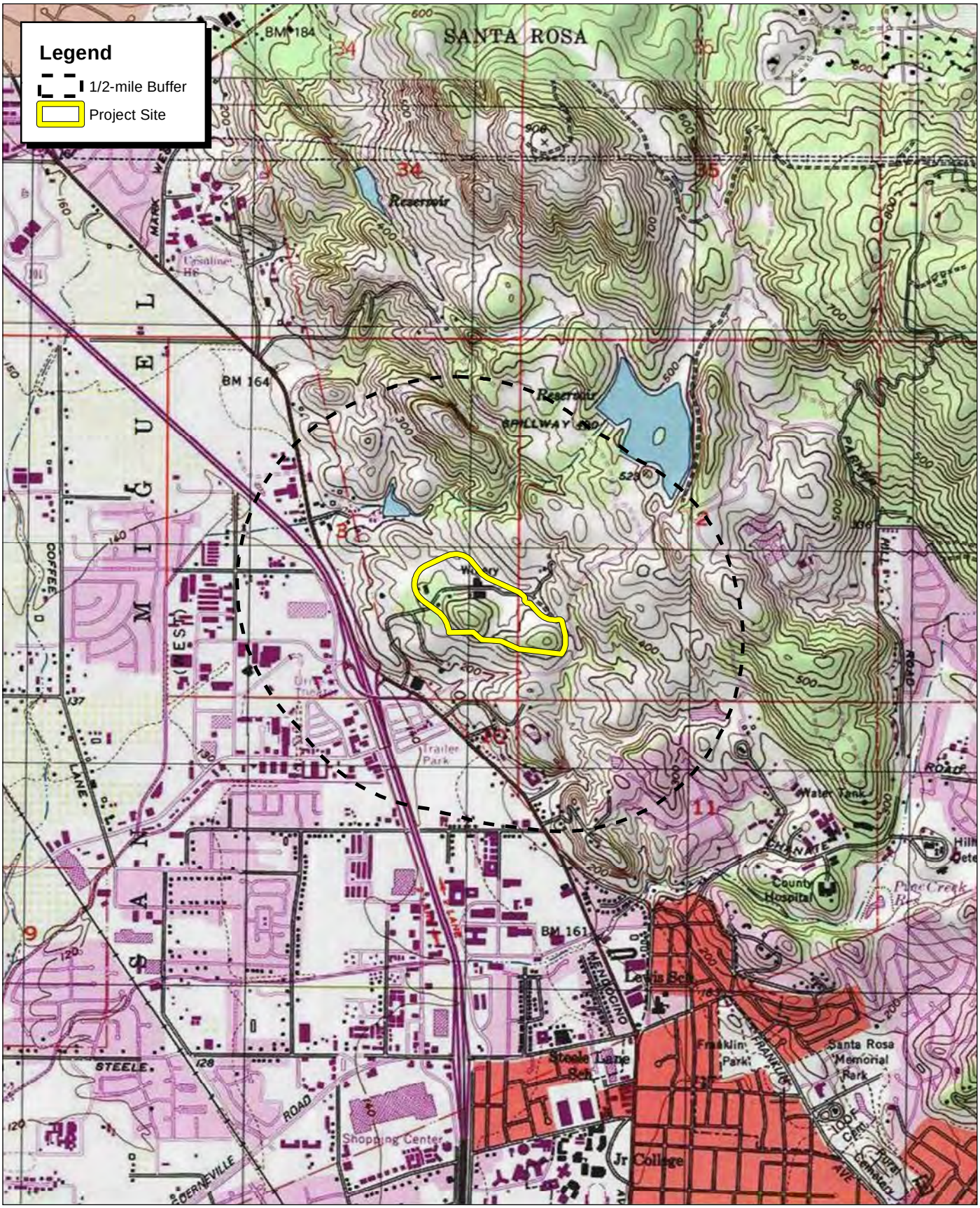

Source: USGS Santa Rosa (1980) 7.5' Quadrangle T7N R8W Secs 2&3

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Exhibit 1
Records Search Map

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Mishewal-Wappo Tribe of Alexander Valley
Scott Gabaldon, Chairperson
2275 Silk Road
Windsor, CA 95492

May 1, 2017

Subject: Round Barn Village Project, Sonoma County, California

Dear Chairperson Gabaldon,

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Senior Scientist, Archaeology
FirstCarbon Solutions
1350 Treat Boulevard, Ste. 380
Walnut Creek, CA 94597

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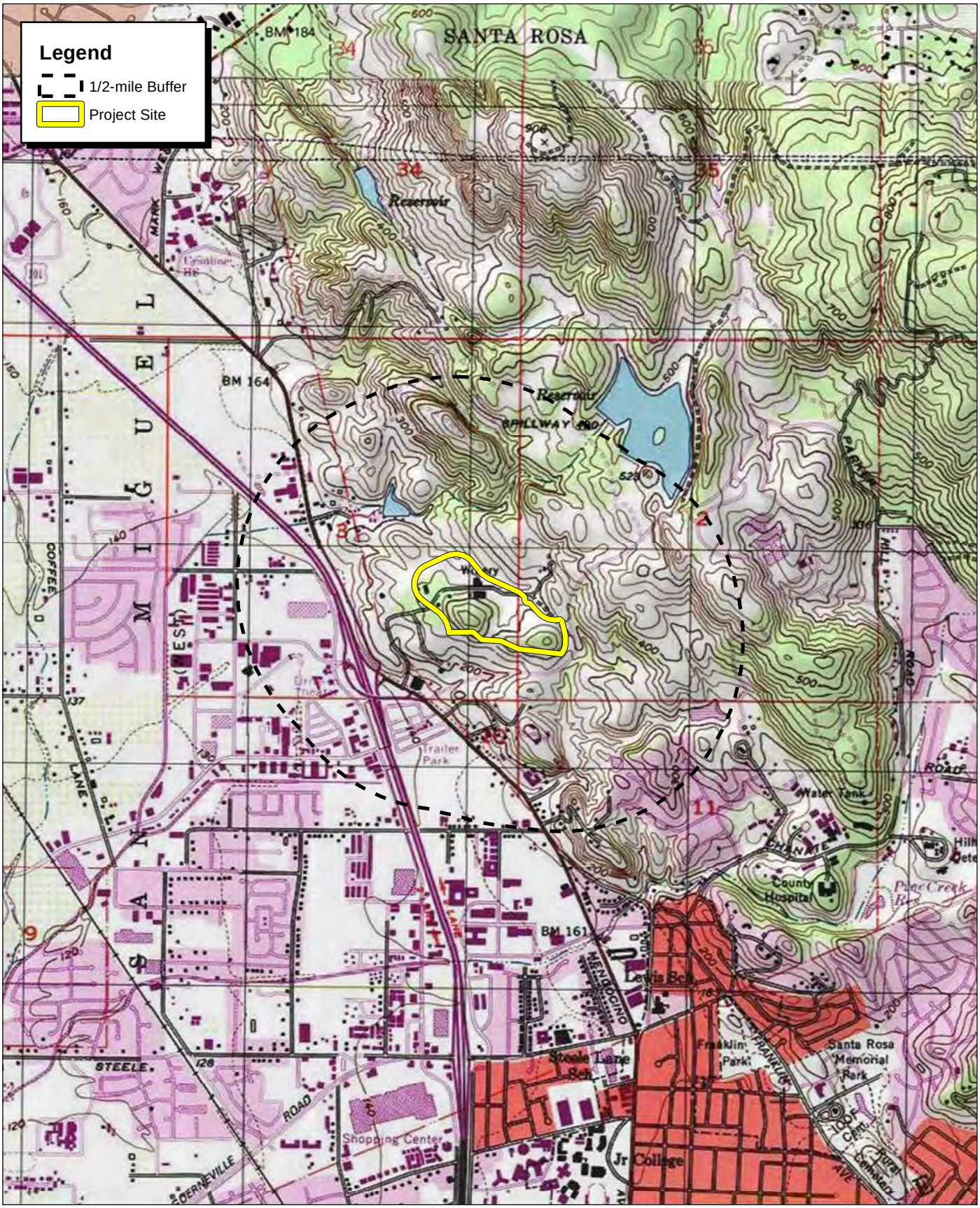

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Records Search Map

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Lytton Rancheria of California
Marjorie Mejia, Chairperson
437 Aviation Road
Santa Rosa, CA 95403

May 1, 2017

Subject: Round Barn Village Project, Sonoma County, California

Dear Chairperson Mejia,

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Senior Scientist, Archaeology
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Walnut Creek, CA 94597

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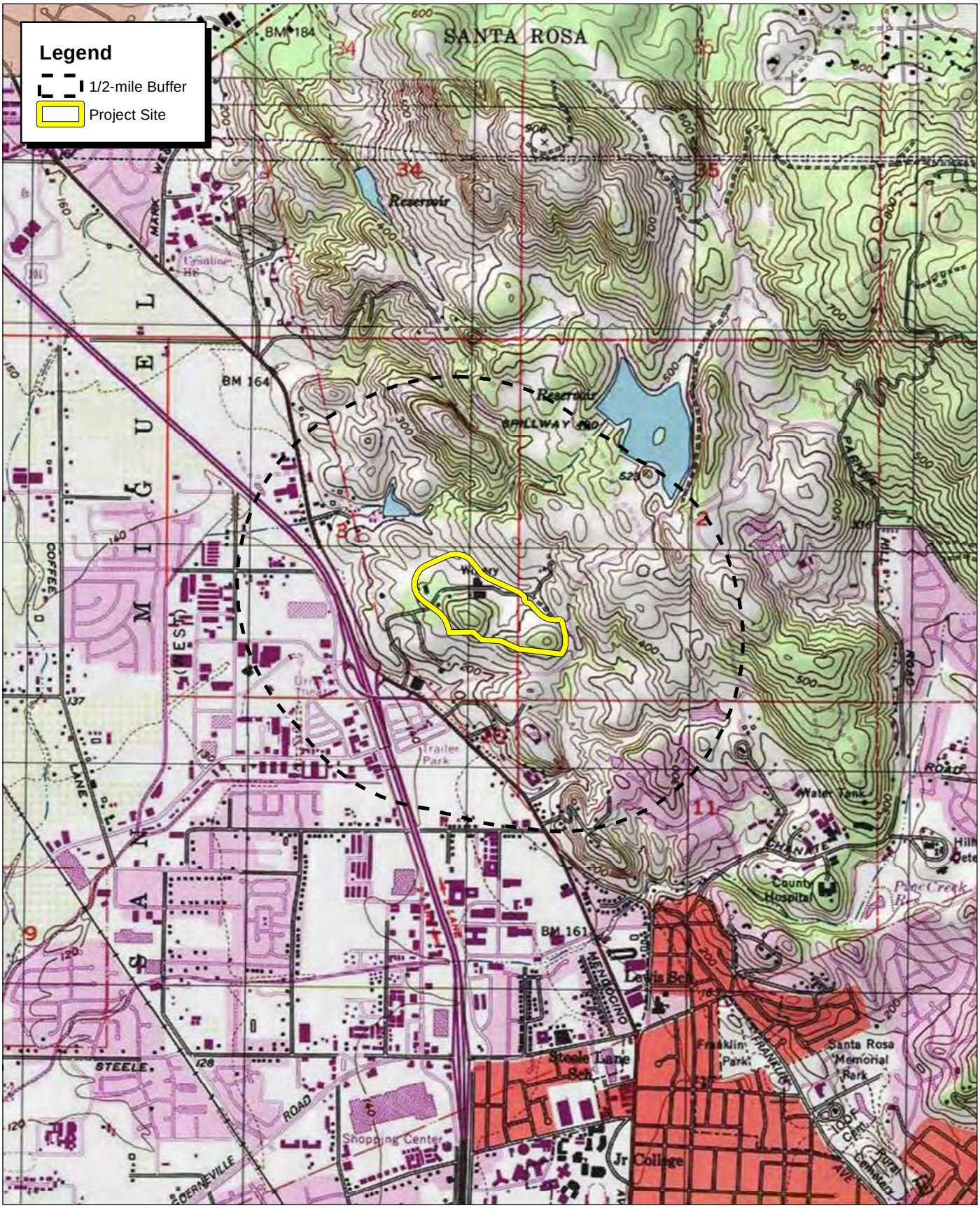

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Federated Indians of Graton Rancheria
Greg Sarris, Chairperson
6400 Redwood Drive, Suite 300
Rohnert Park, CA 94928

May 1, 2017

Subject: Round Barn Village Project, Sonoma County, California

Dear Chairperson Sarris,

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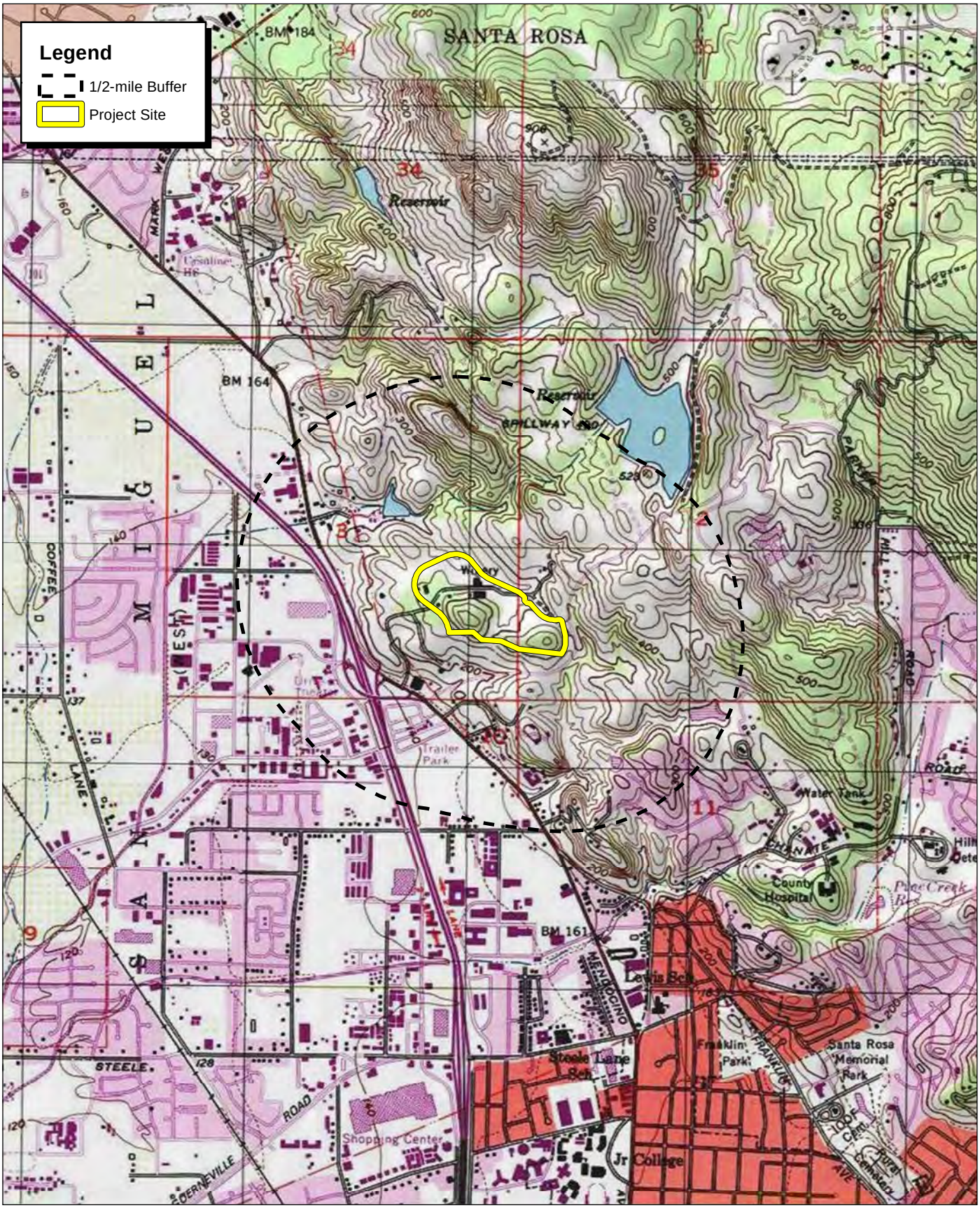

Source: USGS Santa Rosa (1980) 7.5' Quadrangle T7N R8W Secs 2&3

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Exhibit 1
Records Search Map

City of Santa Rosa
PLANNING & ECONOMIC DEVELOPMENT

February 09, 2017

Middletown Rancheria of Pomo Indians of California
Stephanie Reyes, THPO
P. O. Box 1035
Middletown, CA 95461

Re: 0 ROUND BARN BLVD, SANTA ROSA, CA 95407
Amend General Plan Land Use from Business Park to Residential Low Density and amend zoning designation from Planned Development to R1-6 Single-Family Residential.
PRJ17-004

Ms. Reyes:

The subject project is being referred to the Middletown Rancheria of Pomo Indians of California to provide written notification in compliance with AB-52 (Native Americans: California Environmental Quality Act). As such, a request for consultation with the City of Santa Rosa regarding this project and its potential impacts to tribal cultural resources must be made in writing within 30 days of the date of this letter and addressed to the project planner. Within 30 days of the written request, the City will begin the consultation process.

Any exchange of information regarding tribal cultural resources as a result of consultation with the City, will not be included in the environmental review document or otherwise disclosed by the lead agency or any other public agency to the public, without prior consent of the tribe that provided the information.

Please respond in writing no later than Saturday, March 11, 2017 to AGustavson@srcity.org or by mail to:

City of Santa Rosa
Planning and Economic Development
Attention: Andy Gustavson
100 Santa Rosa Avenue, Room 3
Santa Rosa CA 95404

If you have any questions regarding this application, please contact me at (707) 543-3236.

Andy Gustavson
Senior Planner

From: Brenda L. Tomaras
To: Gustavson, Andy
Subject: Lytton Rancheria Response for PRJ17-004
Date: Monday, February 20, 2017 1:40:33 PM

Mr. Gustavson,

This shall serve as the Lytton Rancheria's acknowledgment of receipt of the above-referenced referral for AB52 purposes. Based on the information provided, the Tribe is not requesting further consultation.

Thank you.

Brenda L. Tomaras
Tomaras & Ogas, LLP
10755-F Scripps Poway Parkway #281
San Diego, CA 92131
(858) 554-0550
(858) 777-5765 Facsimile

CONFIDENTIALITY NOTICE: This e-mail transmission, and any documents, files or previous e-mail messages attached to it is confidential and may be legally privileged. If you are not the intended recipient or authorized agent for the intended recipient, you have received this message and attachments in error, and any review, dissemination, or reproduction is strictly prohibited. If you are not the intended recipient, please immediately notify us by reply e-mail or by telephone at (858) 554-0550, and destroy the original transmission and its attachments without reading them or saving them. Failure to follow this process may be unlawful.

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C.3 - Survey Photographs

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Photograph 1: Overview of the project area from the southeast perimeter; facing northwest.

Photograph 2: View of the Fountiangrove winery foundations; facing northwest.

Photograph 3: View of the Fountiangrove Winery foundations; facing south .

Photograph 4: View of Nagasawa Creek; facing west,

Photograph 5: View of the western project area; facing south.

Photograph 6: Overview of the project area from the northwest perimeter; facing southeast.

Photograph 7: Detail of typical soil visibility within the project area.

Photograph 8: View of the western project area; facing north.

Photograph 9: Detail of visible soils in the western project area.

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C.4 - Paleontological Records Search Results

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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

April 27, 2017

Dana DePietro
FirstCarbon Solutions
1350 Treat Boulevard, Suite 380
Walnut Creek, CA 94597

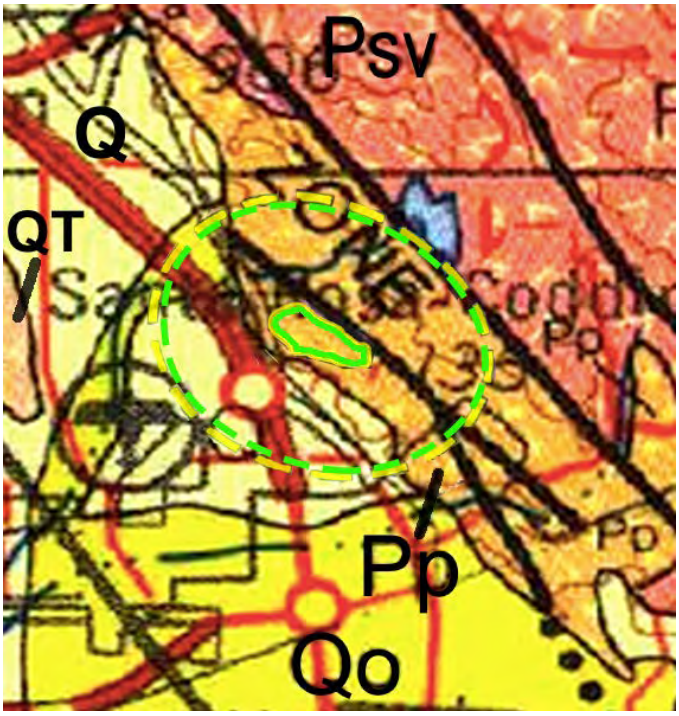
Re: Paleontological Records Search: Round Barn Village Project (4583.0002), Sonoma County

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 Round Barn Village project site in Sonoma County. The project site is located in SW¼ Sec. 2 and SE¼ Sec. 3, T7N, R8W, Santa Rosa quadrangle (1994 USGS 7.5-series topographic map). The most of the site is enveloped by Round Barn Boulevard and it appears to have been previously developed, as it includes a very large parking lot and a few remnant structures.

Geologic Units

According to the geologic map of Wagner and Bortugno (1982) shown here, the entire project site (green central area) is located on the Petaluma Formation (Pe), which is the oldest unit in the area shown here. The surrounding half-mile search area (dashed green circle) includes three other units: Holocene alluvium, older (Pleistocene) alluvium, Huicha and Glen Ellen formations (QT), and Sonoma Volcanics (Psv). Because these four units are all younger than the Petaluma Formation, they would not be in the subsurface of the project site and therefore are of no concern.



Key to mapped units

Q	Alluvium (Holocene)
Qo	Older alluvium (Pleistocene)
QT	Huicha & Glen Ellen formations (Pliocene–Pleistocene)
Psv	Sonoma Volcanics (late Miocene–Pliocene)
Pe	Petaluma Formation (late Miocene–Pliocene)

UCMP Records Search

The UCMP (University of California Museum of Paleontology) database was searched for localities in the Petaluma Formation. There are 13 of those localities listed, all in Sonoma County: 9 have yielded vertebrates and 4 invertebrates. The vertebrate specimens indicate the Blancan North American Land Mammal Stage (Miocene) for 2 localities and the Hemphilian NALMS (Pliocene) for the other 7. The Blancan fauna consists of rhinocerotid and *Equus* (horse), the latter having been included in publications by Stirton (1952) and Woodburne (1966), while the Hemphilian assemblage includes Cryptodira (tortoise or turtle), Leporidae (rabbit or hare), and *Neohipparion gidleyi* (Pliocene horse) documented in publication by Stirton (1939).

Remarks and Recommendations

The disturbed surface of the Round Barn Village site precludes a preconstruction paleontological walkover survey. It is located on the Petaluma Formation, which has a low paleontological potential but high paleontological sensitivity, having yielded vertebrate fossils elsewhere in Sonoma County. It would therefore be prudent to have a paleontological monitor onsite during all project excavations of previously undisturbed sediments. A minimal alternative would be to have a professional paleontologist inspect the site excavations on a weekly basis. Should any significant paleontological resource (i.e., teeth, bones, unsual concentrations of plant or invertebrate fossils) be encountered, the construction crew should not attempt to remove it, which is likely to result in loss of data or damage to the specimen. Instead, construction activities should be diverted from the find until a professional paleontologist has evaluatesd it and, if confirmed as significant, properly recorded and salvaged it. Recovered fossils should then be deposited in an accredited and permanent scientific institution (e.g., UCMP) where they will be properly curated and preserved for the benefit of current and future generations.

Sincerely,

References Cited

Stirton, R.A., 1939, Cenozoic mammal remains from the San Francisco Bay region. University of California Publications, Bulletin of the Department of Geological Sciences, 24(13): 339–410.

Stirton, R.A., 1952, Are Petaluma horse teeth reliable in correlation? American Association of Petroleum Geologist, Bulletin 36(10): 2011–2025.

Wagner, D..L., and Bortugno, E.J., 1982, Geologic map of the Santa Rosa quadrangle, California 1:250,000. California Division of Mines and Geology.

Appendix D:
Phase I Environmental Site Assessment

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PHASE I ENVIRONMENTAL SITE ASSESSMENT

Vacant Land
Santa Rosa 6 - Eight Parcels
Round Barn Boulevard at
Fountain Grove Parkway
Santa Rosa, California
Stantec Project No: 185803380

Prepared for:
City Ventures
444 Spear Street Suite 200
San Francisco, California

Prepared by:
Stantec Consulting Services Inc.
25864-F Business Center Drive
Redlands, California

February 19, 2015

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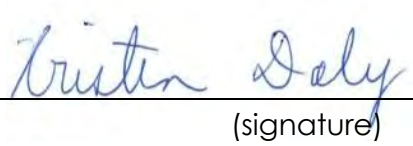
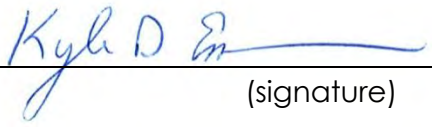
Prepared by  (signature)

Kristen Daly, Project Geologist

Reviewed by (signature)

Dion Monge, Associate Scientist

Approved by  (signature)

Kyle Emerson, Managing Principal Geologist

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Executive Summary

The subject property consists of approximately 40 acres of mostly vacant land with abandoned agricultural structures and a parking area at Round Barn Boulevard and Fountain Grove Parkway, in the City of Santa Rosa, within Sonoma County, California (the "Site"). The Site is a hilly, mostly vacant lot.

This Phase I ESA was performed in conformance with the scope and limitations of ASTM E-1527-13 (and Final Rule 40 CFR Part 312 et seq.) with respect to the Site. Any exceptions to, or deletions from, this practice are described in Section 1.2 of this report. This assessment revealed evidence of the following RECs in connection with the Site:

Review of a regulatory agency database search for the Site performed by Environmental Data Resources (EDR) indicates no current underground storage tanks (USTs) or aboveground storage tanks (ASTs) were reported on the Site. No USTs or ASTs were observed at the Site during the site inspection. However, a listing in the EDR databases for an adjacent property, the Fountaingrove Winery, appears to be for the Site, which is shown as a winery on historical topographic maps. It is listed for a release of gasoline to groundwater beginning in 1989, followed by site assessment, remediation, and groundwater monitoring. The case was closed April 1, 1993. No files were available in the Geotracker database or with the City of Santa Rosa Fire Department, so the location of the UST is unclear. However, given that it was associated with the winery it was likely to have been located in the vicinity of the main buildings in the center of the Site. Due to the lack of records and lack of soil vapor data, Stantec recommends a soil vapor survey in the vicinity of the main buildings at the Site to determine whether any residual impact is present.

In addition, based on a review of historical topographic maps, the Site has always been shown as a winery located in the hills north of Santa Rosa with structures located in the same location as the current abandoned structures, along with a few smaller structures, since 1914. The presence of a winery indicates that pesticides or herbicides may have potentially been used on the Site historically. Therefore, Stantec recommends assessment of soil at the Site for residual pesticides/herbicides.

Additionally, the following non-ASTM issues were identified for the Site:

- **Lead-Based Paint (LBP)**: Given the age of the existing buildings on Site (constructed by the 1920's), the presence of lead-based paint (LBP) is considered likely. Stantec recommends removing LBP from the Site prior to any

activities with the potential to disturb building materials, in accordance with all applicable laws.

- **Asbestos-Containing Material (ACM):** Given the age of the existing buildings on the Site (constructed by the 1920's), the presence of ACM is considered likely. Stantec recommends conducting a comprehensive, pre-demolition ACM survey in accordance with the sampling protocol of the Asbestos Hazard Emergency Response Act (AHERA) prior to any activities with the potential to disturb building materials to determine whether ACM are present. Further, in the event ACM is detected, Stantec recommends proper removal and disposal of the materials identified prior to any activities with the potential to disturb them.

The Federal AAI rule and ASTM E1527-13 require that the Phase I ESA report includes the following declarations by the Environmental Professional who completed the assessment.

1. *I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in 40 CFR §312.10.*

2. *I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the Site. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR §312 (see Appendix H).*

Signature: _____
Name (printed): Kyle Emerson
Title: Managing Principal Geologist
Date: February 19, 2015

1.0 INTRODUCTION

This Phase I Environmental Site Assessment (ESA) was conducted at the request of City Ventures for approximately 40 acres of vacant land, abandoned agricultural structures and a parking area located at Round Barn Boulevard at Fountain Grove Parkway, in the City of Santa Rosa, within Sonoma County, California (the "Site").

1.1 OBJECTIVE

This Phase I ESA was performed in accordance with the practices identified in the ASTM *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*, ASTM Designation E1527-13 and Title 40 of the Code of Federal Regulations (CFR), Part 312, which specifies standards and practices for "all appropriate inquiries" (AAI) required for persons seeking to establish certain defenses to or protections from liability under the Federal Comprehensive Environmental Response, Cleanup and Liability Act (CERCLA). The Federal rule 40 CFR 312.11(a) identifies a Phase I ESA completed in accordance with the E1527-13 practice as one way to achieve compliance with requirements of the AAI rule.

The objective of this Phase I ESA was to identify Recognized Environmental Conditions (RECs), Controlled Recognized Environmental Conditions (CRECs) or Historical Recognized Environmental Conditions (HRECs), as defined under ASTM E-1527-13. As defined in ASTM E1527-13, a REC is:

The presence or likely presence of any hazardous substances or petroleum products in, on or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. De minimis conditions are not recognized environmental conditions.

As defined in ASTM E1527-13, an HREC is:

> A past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted residential use criteria established by a regulatory authority, without subjecting the property to any required controls (e.g., property use restrictions, AULs, institutional controls, or engineering controls). Before calling the past release an HREC, the EP must determine whether the past release is a REC at the time the Phase I ESA is conducted (e.g., if there has been a change in the regulatory criteria).

As defined in ASTM E1527-13, a CREC is:

> A recognized environmental condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (e.g., as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority), with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (e.g., property use restrictions, activity and use limitations, institutional controls, or engineering controls).

1.2 SCOPE OF WORK

This assessment has been performed in a manner which complies with requirements of the Master Services Agreement between City Ventures and Stantec (the "MSA"), All Appropriate Inquiries (AAI) Final Rule 40 CFR Part 312, ASTM Practice E1527-13, and the Statement of Limitations presented in Section 7.0 of this report. In the event of any conflict between the terms and conditions of this report and the terms and conditions of the MSA, the MSA shall control.

The scope of services did not include an assessment of overall environmental regulatory compliance, any subsurface investigation (including soil or groundwater sampling, exploratory boreholes or other investigative techniques to quantify potentially identified hazardous materials), and asbestos, lead-based paint, mold, or radon gas surveys.

1.3 RELIANCE AND CONTACT INFORMATION

This Phase I ESA report has been prepared for the exclusive use of City Ventures, its lender, and equity partners. No other person or entity may rely on the information presented in the report without the expressed written consent of Stantec. Any use of this Phase I ESA report constitutes acceptance of the terms and conditions under which it was prepared. Stantec's responsibility extends only to its client and Stantec is not liable or responsible to any other parties who may obtain the Phase I ESA report.

1.4 SIGNIFICANT DATA GAPS

Significant data gaps as defined in the AAI final rule and ASTM E 1527-13 standard include missing or unattainable information that may impact the identification of releases or contamination on the subject property such as lack of response from agencies or the user of the report failing to provide relevant information. Identified data gaps, if any, are discussed under the appropriate sections of this report. Stantec identified no significant data gaps in connection with its performance of a Phase I Environmental Site Assessment for the Site.

2.0 SITE DESCRIPTION

2.1 SITE NAME AND LOCATION

The subject property consists of approximately 40 acres of mostly vacant land with abandoned agricultural structures and a parking area at Round Barn Boulevard and Fountain Grove Parkway, in the City of Santa Rosa, within Sonoma County, California (the "Site").

According to the Santa Clara County Assessor's Office, the Assessor Parcel Numbers (APNs) for the Site are 173-02-030 through -036.

2.2 SITE VICINITY

The Site is located within a commercial and residential area of the City of Santa Rosa. Surrounding properties to the Site include the following:

North: Round Barn Boulevard followed by a health center and multi-family residential

East: Round Barn Boulevard followed by Medtronics and office buildings

South: Fountain Grove Parkway followed by residential

West: Round Barn Boulevard followed by a Hilton hotel and Kaiser Medical Center

The location of the Site is shown on Figure 1, Site Location Map. Surrounding property usage is shown on Figure 2, Site Map.

2.3 STRUCTURES, ROADS, AND OTHER RELEVANT IMPROVEMENTS TO THE SITE

The Site is currently mostly vacant, with several abandoned structures including a round barn. An area in the east-central portion of the Site along Round Barn Boulevard is used as a parking area.

Further site description is provided in the following Section 3.0. A photographic log of current site conditions is attached in Appendix A and a Site Plan showing the present day configuration is shown on Figure 2 attached.

2.4 ENVIRONMENTAL LIENS

City Ventures provided a preliminary title report for the Site completed by First American Title dated June 5, 2014. Stantec identified no environmental liens or land use limitations associated with the Site.

2.5 CURRENT PROPERTY USE

The Site is currently a mostly vacant lot with a few abandoned agricultural structures and a parking area.

3.0 PROPERTY RECONNAISSANCE

3.1 PROPERTY OBSERVATIONS

Ms. Debbie Lichtenberger, Environmental Technician with Stantec, performed a reconnaissance of the Site on January 13, 2015. Weather conditions during the reconnaissance were clear and no weather related restrictions were encountered. Ms. Samantha Hauser, Development Manager with City Ventures, served as Stantec's contact for Site access. Ms. Hauser was not present during the Site reconnaissance.

The purpose of the reconnaissance was to identify existing conditions and land uses that may suggest potential environmental impacts to the Site. Such conditions, to the extent visible and accessible, include storage, disposal and treatment of solid and/or hazardous waste, storage tanks and other chemical containers, odors, pools of liquid, staining, drains, sumps, pits, ponds, lagoons, septic systems, wells, unusual soil disturbance, stressed vegetation, and electrical transformers.

Field notes of the property reconnaissance are detailed further in the remainder of this report. Photographs taken of the Site are included in Appendix A.

The Site is a hilly, mostly vacant lot. There are several abandoned structures in the central portion of the Site near the topographical high point. There is a cleared parking area along Round Barn Boulevard on the east-central portion of the Site. Evidence of transient camps was observed in some of the higher areas of the Site. An asphalt path runs from the base of the hill on the Site towards the abandoned structures. Most of the Site is covered in native vegetation.

3.1.1 Surface Drainage

The Site is hilly with the highest points along the northwest-southeast midline of the Site. No drainage control is in place, and the regional topographic gradient is to the southwest. Surface runoff is expected to flow downhill in any direction depending on its location on the Site. Stantec observed no improper discharge associated with the Site.

3.1.2 Surface Water and Wetlands

Stantec observed no surface ponds, pits, or lagoons associated with the Site. No wetlands or flood zones are shown on the Site in the EDR Radius Map report.

3.1.3 Hazardous Materials Storage Areas

Hazardous materials are those that are manufactured and could have an adverse effect on human health or the environment. Hazardous materials could include but are

not limited to hazardous substances as defined by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA); hazardous wastes as defined by the Resource Conservation and Recovery Act (RCRA); and petroleum products.

The Site is a mostly vacant lot. Abandoned agricultural structures are present onsite but the interiors could not be inspected due to their condition. No hazardous materials storage areas or hazardous materials were observed on the Site.

3.1.4 Subsurface Structures

Stantec observed two sewer system connections at the Site. They are not considered an environmental concern for the Site but should be taken into account during any development activities to avoid disturbing the sewer line.

3.2 STORAGE TANKS

Review of a regulatory agency database search for the Site performed by Environmental Data Resources (EDR) indicates no current underground storage tanks (USTs) or aboveground storage tanks (ASTs) were reported on the Site. No USTs or ASTs were observed at the Site. However, a listing in the EDR databases for an adjacent property, the Fountaingrove Winery, appears to be for the Site, which is shown as a winery on historical topographic maps. It is listed for a release of gasoline to groundwater beginning in 1989, followed by site assessment, remediation, and groundwater monitoring. The case was closed April 1, 1993.

No files were available in the Geotracker database or with the City of Santa Rosa Fire Department, so the location of the UST is unclear. However, given that it was associated with the winery it was likely to have been located in the vicinity of the main buildings in the center of the Site. Due to the lack of records and lack of soil vapor data, Stantec recommends a soil vapor survey in the vicinity of the main buildings at the Site to determine whether any residual impact is present.

3.3 POLYCHLORINATED BIPHENYLS (PCBS)

Electrical transformers, hydraulic equipment capacitors, fluorescent light fixtures, and similar equipment may contain polychlorinated biphenyls (PCBs) in the hydraulic fluids or dielectric insulating fluids within the units. The federal Toxic Substances Control Act (TSCA) generally prohibited the domestic manufacture of PCBs after 1979. There is, however, the potential that the dielectric fluid in electrical and hydraulic equipment manufactured and constructed prior to that date contains PCBs.

Two pad-mounted transformers were present on the Site on parcels 173-02-030 and -031. They were not labeled as non-PCB units, and whether they contain any PCBs is unknown. Stantec observed no staining or evidence of leaking associated with the

transformers, however. Stantec recommends proper removal of the units during site development unless they will be in use, but concludes that they appear unlikely to represent an environmental concern to the Site.

3.4 LEAD-BASED PAINT (LBP)

Concern for lead-based paint (LBP) is primarily related to residential structures. The EPA's Final Rule on Disclosure of Lead-Based Paint in Housing (40 CFR Part 745) defines LBP as paint or other surface coatings that contain lead equal to or in excess of 1.0 milligram per square centimeter or 0.5 percent by weight.

The risk of lead toxicity in LBP varies based upon the condition of the paint and the year of its application. The U.S. Department of Housing and Urban Development (HUD) has identified the following risk factors:

- The age of the dwelling as follows:
  - The maximum risk is from paint applied before 1950.
  - There is severe risk from paint applied from 1950 to 1960.
  - There is moderate risk from deteriorated paint applied from 1960 to 1970.
  - There is slight risk from the paint that is intact but applied after 1977.
- The condition of the painted surfaces.
- The presence of children and certain types of households in the building.
- Previously reported cases of lead poisoning in the building or area.

Given the age of the existing buildings on Site (constructed by the 1920's), the presence of lead-based paint (LBP) is considered likely. Stantec recommends removing LBP from the Site prior to any activities with the potential to disturb building materials, in accordance with all applicable laws.

3.5 ASBESTOS-CONTAINING MATERIALS (ACMS)

Asbestos can be found in many applications, including sprayed-on or blanket-type insulation, pipe wraps, mastics, floor and ceiling tiles, wallboard, mortar, roofing materials, and a variety of other materials commonly used in construction. The greatest asbestos-related human health risks are associated with friable asbestos, which is ACM that can be reduced to powder by hand pressure. Friable asbestos can become airborne and be inhaled, and has been associated with specific types of respiratory disease. The manufacturing and use of asbestos in most building products was curtailed during the late 1970s.

Given the age of the existing buildings on the Site (constructed by the 1920's), the presence of ACM is considered likely. Stantec recommends conducting a

comprehensive, pre-demolition ACM survey in accordance with the sampling protocol of the Asbestos Hazard Emergency Response Act (AHERA) prior to any activities with the potential to disturb building materials to determine whether ACM are present. Further, in the event ACM is detected, Stantec recommends proper removal and disposal of the materials identified prior to any activities with the potential to disturb them.

3.6 SOLID WASTE DISPOSAL ISSUES

Stantec observed evidence of transient camps in the higher portion of the Site, with assorted minor debris. The debris does not represent an environmental concern to the Site but Stantec recommends removing the debris prior to site development.

3.7 PESTICIDE ISSUES

Based on a review of historical topographic maps, the Site has always been shown as a winery located in the hills north of Santa Rosa with structures located in the same location as the current abandoned structures, along with a few smaller structures, since 1914. The presence of a winery indicates that pesticides or herbicides were potentially used on the Site historically. Therefore, Stantec recommends assessment of soil at the Site for residual pesticides/herbicides.

3.8 RADON GAS

Radon is an odorless, tasteless and invisible gas produced by the decay of naturally occurring uranium in soil and water. Radon is a form of ionizing radiation and an identified carcinogen. Radon in air is ubiquitous. Radon is found in outdoor air and in the indoor air of buildings of all kinds. The U.S. EPA has determined that exposure to 4.0 pCi/L of radon gas on a regular basis increases the risk of lung cancer.

The Site is located in an area designated as Federal EPA Radon Zone Level 3 with a predicted average indoor screening level less than 2 pCi/L. According to the EDR report, none of the four sites tested in the 95403 zip code (area of the Site) exhibited levels above 4 pCi/L. The average first floor radon concentration in the area of the Site is 0.575 pCi/L. The information regarding this determination is contained in the EDR report attached as Appendix B. Based on this data, the Site lies within an area of low radon risk, radon is unlikely to represent an environmental concern to the Site, and no further assessment is recommended.

3.9 OIL WELLS

Stantec reviewed the Well Finder online mapping system (Well Finder) provided on the Department of Oil, Gas, and Geothermal Resources (DOGGR) website in an effort to evaluate if there are any known oil wells in the Site vicinity. According to the Well

Finder, there are no oil wells within a 1 mile radius of the Site. Stantec recommends no further investigation regarding this matter.

3.10 ENVIRONMENTAL SETTING

The Site is located in Sonoma County. The area is located within the Coast Ranges Geomorphic Province, which includes northwest-southeast trending mountain ranges and valleys that have been developed by the San Andreas Fault system (California Geological Survey [CGS], 2002). The stratigraphy underlying the Site consists primarily of recent-age alluvium or terrace deposits overlying Pliocene volcanics (CDMG, 1963).

The Site is at an elevation of approximately 300 feet above mean sea level. The regional topographic gradient is to the southwest (EDR, 2015).

The closest mapped recently active fault is Rodgers Creek Fault, located approximately 1,000 feet to the east (CGS, 2015). According to official maps of California, the Site is not located within an Alquist-Priolo (AP) Earthquake Fault Zone boundary but an AP Zone is located approximately 1,000 feet to the east (CDMG, 2000).

The Site is located within the Santa Rosa Valley Groundwater Basin, Santa Rosa Plain Subbasin. The basin is located within the southern portion of Coast Ranges in a structural depression. The basin is constrained by a mountain range and a river plain to the west and north, hills to the south, and mountain ranges to the east. Several aquifers are present in the basin and water-bearing units range from gravel and sand to silt and clay and gravel with units up to 3,000 feet in thickness (Department of Water Resources [DWR], 2004). Groundwater monitoring at a facility approximately 4,000 feet to the southwest indicated a depth to water of between 2 and 18 feet below ground surface (bgs), with a historical gradient to the south and southwest (Stantec, 2014).

3.11 ADJACENT SITE RECONNAISSANCE

Stantec conducted an area reconnaissance to identify adjacent properties of potential environmental concern. Observations of these properties were restricted to those areas readily observable from the public right-of-way. If deemed appropriate, file reviews for properties considered likely to have impacted the Site were conducted.

Surrounding properties to the Site include commercial and multifamily properties across Round Barn Blvd. to the north, west and east and residential properties to the south across Fountain Grove Parkway. There are office buildings and a parking lot adjacent to the southwest of the Site on the same side of Round Barn Boulevard as the Site. Surrounding property usage is shown on Figure 2, Site Map. None of the adjacent properties were considered a REC to the Site.

3.12 SITE INTERVIEW

Because the property is vacant, no one was available to be interviewed at the time of the site inspection. Although this is considered a data gap under ASTM E1527-13, Stantec considers it unlikely to have an effect on the conclusions of the report based on information available from other sources. The lack of this information does not represent a significant data gap.

3.13 USER PROVIDED INFORMATION

Prior to initiating the Site reconnaissance during the previous Phase I ESA, Stantec requested information relevant to performance of this Phase I ESA with a written questionnaire submitted to the user of this report. Per ASTM E1527-13, the user is responsible for providing known information relevant to the environmental condition of the Site. The questionnaire was completed by Ms. Samantha Hauser, Development Manager at City Ventures and is provided in Appendix D. The significant information provided by the user is summarized below.

1. Information on Environmental Cleanup Liens on Subject Property? **No**
2. Information on Subject property Activity or Use Limitations (including Institutional and Engineering Controls)? **No**
3. Specialized knowledge or experience of the User: **No**
4. Relationship of the purchase price/rent to fair market value of the Subject Property if it were not contaminated? **Purchase price has not been reduced.**
5. Commonly known or reasonably ascertainable information about the Subject Property? **None.**
6. The degree of obviousness or the presence or likely presence of contamination at the property, and the ability to detect the contamination by appropriate investigation? **None.**

3.14 SPECIALIZED KNOWLEDGE OR EXPERIENCE

The Federal AAI rule (40 CFR §312.28) and ASTM E1527-05 require that all appropriate inquiry must take into account relevant and applicable specialized knowledge and experience on the part of the User regarding the Site, the area surrounding the Site, the conditions of adjoining properties, and any other experience relevant to identifying RECs on the Site.

Ms. Hauser is familiar with the Site and is not aware of any RECs associated with the Site.

3.15 PURCHASE PRICE VS. PROPERTY VALUE

The Federal AAI rule (40 CFR §312.29) and ASTM E1527-05 require that persons seeking defense to or protection from liability under CERCLA must take into account the

relationship of the purchase price to the fair market value of the property if it were not contaminated to assess whether or not the differential is due to the presence of releases or threatened releases of hazardous substances. This portion of the inquiry is the responsibility of the User, and the User has the option of sharing or not sharing this information with the Environmental Professional performing the Phase I ESA.

Stantec has not performed an independent evaluation of the purchase price of the property and its relationship to fair market value. Stantec submitted a written questionnaire to the User (identified in Section 3.14) inquiring about the User's knowledge regarding the relationship of the purchase price to the fair market value of the property if it were not contaminated.

Ms. Hauser is not aware of any reduction in purchase price due to environmental concerns.

4.0 PUBLIC RECORD REVIEW SECTION

4.1 FEDERAL, STATE AND TRIBAL ENVIRONMENTAL RECORDS

A regulatory agency database search report was obtained from a third-party environmental database search firm (Environmental Data Resources/EDR). A complete copy of the database search report, including the date the report was prepared, the date the information was last updated, and the definition of databases searched, is provided in Appendix B.

4.1.1 Database Assessment Criteria

Research into environmental regulatory agency database listings was performed by a third-party environmental regulatory agency database search firm. The purpose of the review was to identify reported environmental issues for the Site and other properties in the vicinity. The database search firm utilized the more stringent of the approximate minimum search distances specified in the Scope of Work for each of the referenced Federal and state environmental databases. The definition of the databases searched and the associated search distances from the Site are identified in the regulatory agency database search report.

The regulatory agency database search report lists a number of sites identified as "unmappable." The database search firm was unable to confirm the physical locations of these sites relative to the Site or to assess whether they were located within the designated search radii. Stantec independently reviewed the locations of these "unmappable" sites, to the extent possible, using various maps and our knowledge of the Site area. Any of the "unmappable" sites determined to be within the designated search radii were included in our evaluation of the various listed sites potential to result in a recognized environmental condition relative to the Site.

Stantec reviewed the results of the database search report to note reported release sites in the vicinity of the Site that were considered to have a potential to have adversely impacted the Site (i.e., are known to have or are expected to result in recognized environmental conditions). Reported release sites identified in the regulatory agency database search report were evaluated with respect to the nature and extent of a given release, the distance of the reported release site from the Site, the stratigraphy of soils, the expected soil permeability, and the topographic position of a reported release site with respect to known or expected local and/or regional groundwater flow direction. Per ASTM E1527-13, in circumstances where considered warranted, more extensive file reviews of adjoining properties were conducted to gather additional information regarding their potential to have affected the Site.

Those release sites that were considered likely to have impacted the Site are identified in the report as recognized environmental conditions, as defined in ASTM 1527. Sites that were listed in the database search report, but not identified as a release site (for example, a site listed as a hazardous waste generator but not as having had a release), and sites that were listed as being "closed" were considered unlikely to have impacted the Site or to represent an environmental concern to the Site. The justification for sites being considered unlikely to have affected the subject property (Site) is contained in the appropriate sections below.

4.1.2 Site Listing Review

The Site is not listed in any environmental databases.

Fountaingrove Winery, located at 3590 Round Barn Boulevard, is mapped adjacent to north of the Site across Round Barn Boulevard. However, records indicate that a winery was located onsite, and the location appears to be incorrectly mapped. It is cross-listed in the HIST CORTESE database. It is listed for a release of gasoline to groundwater beginning in 1989, followed by site assessment, remediation, and groundwater monitoring. The case was closed April 1, 1993. No files were available in the Geotracker database or with the City of Santa Rosa Fire Department, so the location of the UST is unclear. However, given that it was associated with the winery it was likely to have been located in the vicinity of the main buildings in the center of the Site. Due to the lack of records and lack of soil vapor data, Stantec recommends a soil vapor survey in the vicinity of the main buildings at the Site to determine whether any residual impact is present.

4.1.3 Area Listing Review

The database evaluations in this section include a consideration of the regional geology and hydrogeology discussed in Section 3.11. According to data available from the State Water Resource Control Board's online database Geotracker, depth to groundwater in the site vicinity is between 2 and 18 feet below ground surface and groundwater flow is primarily to the south/southwest.

Generally, reported release sites located within ¼ mile were considered to have a potential to represent an environmental concern to the Site. Facilities which were listed in the database search report but not identified as a release site, such as a hazardous waste generator or recycling facility, were considered unlikely to represent an environmental concern to the Site.

The complete database listings of records detailed above prepared by EDR and a map showing the location of the search radius relative to the Site is presented in Appendix B.

The result of Stantec's review of area sites identified in the EDR report, by database listing, is discussed below.

LUST

This database contains listings for properties that have had a known release. According to the EDR report, there is one (1) facility within a quarter mile of the Site:

> **K-Mart #4340**, located at 3771 Cleveland Ave, is approximately 1,257 feet to the west of the Site. It is cross-listed in the HIST CORTESE database. It is listed for a release of oil to groundwater, and the case is now closed following remediation and groundwater monitoring. Due to case status, distance from the Site and cross- to down-gradient location from the Site with respect to groundwater flow, this facility is considered unlikely to represent an environmental concern to the Site.

RCRA databases

The RCRA-SQG database identifies facilities that generate, transport, store, treat and/or dispose of hazardous materials between 100 kg and 1,000 kg of hazardous waste per month. The RCRA-LQG database identifies facilities that generate, transport, store, treat and/or dispose of hazardous materials greater than 1,000 kg of hazardous waste per month. The RCRA-NonGen database identifies facilities that do not currently generate hazardous materials. Based on the EDR report, there are four (4) RCRA facilities within a quarter mile radius of the Site.

> **Yardbird 1379** is located at 100 Bicentennial Way, which is approximately 454 feet southeast of the Site. This is an SQG listing as part of a Home Depot.
>
> **Medtronic Cardiovascular** is located at 3576 Unocal Place, which is approximately 462 feet northeast of the Site. This is an LQG listing for batteries and lamps, and various metals, solvents, low pH solutions, reactive materials and hydrocarbons. The facility has a number of violations on file for improper packaging and record-keeping.
>
> **Santa Rosa Imaging Center** is located at 3536 Mendocino Ave., which is approximately 825 feet south southwest of the Site. This is an SQG listing.
>
> **Pacific Bell** is located at 3418-3422 Mendocino Ave., which is approximately 1,034 feet south southwest of the Site. It is cross-listed in the FINDS database and is a NonGen listing.

Due to a lack of any reported releases, distance and/or location from the Site with respect to groundwater flow, these facilities are considered unlikely to represent an environmental concern to the Site. Stantec recommends no further investigation regarding any of these facilities.

UST/AST databases

This includes listings for several databases that report historical and current USTs/ASTs. Based on the EDR report, there is one listed facility within a quarter mile of the Site not discussed under other databases.

> **Medtronic** is located at 3540 Unocal Pl., which is approximately 291 feet northeast of the Site. It is listed for a1,320-gallon AST.

Due to a lack of any reported releases, this facility is considered unlikely to represent an environmental concern to the Site.

EDR US Hist Auto Stat

Based on the EDR report, there are two (2) of these facilities located within a quarter-mile radius of the Site. Due to location of the Site at a higher relative elevation and the lack of reported releases and/or violations, these facilities are considered unlikely to represent an environmental concern to the Site.

"Unmappable" sites

Two (2) "unmappable sites" were listed in the EDR report and their locations were reviewed by Stantec. Due to distance and/or due to distance or location with respect to groundwater flow, the "unmappable sites" are considered unlikely to represent an environmental concern to the Site.

4.2 CITY, COUNTY AND STATE RECORDS REVIEW

4.2.1 City of Santa Rosa Fire Department (SRFD)

Stantec submitted a request to the SRFD regarding files for the Site. According to personnel with the fire department, no records are available for the Site.

4.2.2 Santa Rosa Building Department (SRBD)

Stantec reviewed available documents for the Site at the Santa Rosa Building Department. Documents are on file for a change in development plans from retail and business to industrial, an extension to permit a temporary parking lot, and tree trimming. Stantec identified no records of environmental concern in building department records.

4.2.3 Regional Water Quality Control Board (RWQCB)

Stantec submitted a request to the RWQCB regarding files for the Site. According to the RWQCB's online database Geotracker, the address of 3590 Round Barn Boulevard appears to coincide with the former winery on the Site and had a release of gasoline to groundwater. No documents were available. As described in Section 4.1.2, due to the lack of records and lack of soil vapor data, Stantec recommends a soil vapor survey in the vicinity of the main buildings at the Site to determine whether any residual impact is present.

4.2.4 Sonoma County Fire Department (SCFD)

Stantec submitted a request to the SCFD to research whether any documents were on file for the Site. According to agency correspondence, no records are available for the Site.

4.2.5 Summary of Findings from Environmental Records Review

According to the RWQCB's online database Geotracker, the address of 3590 Round Barn Boulevard appears to coincide with the former winery on the Site and had a release of gasoline to groundwater. No documents were available. As described in Section 4.1.2, due to the lack of records and lack of soil vapor data, Stantec recommends a soil vapor survey in the vicinity of the main buildings at the Site to determine whether any residual impact is present.

5.0 HISTORICAL RECORDS REVIEW

5.1 AERIAL PHOTOGRAPHIC REVIEW

Aerial photographs for the Site and surrounding areas were obtained from EDR to evaluate historical usage of the site and adjacent properties. The photographs were also reviewed to evaluate any discernible evidence of potential sources of negative environmental impact at the site. The general activity on a property and land use changes can often be discerned from the type and layout of structures visible in aerial photographs and maps; however, specific elements of a site operation cannot normally be determined.

The following aerial photographs of the Site and surrounding areas were examined during Stantec's historical investigations.

1. **Year: 1942/1952**
   Several structures are present in the center of the Site in the same location as the current structures, as well as a small structure on the northwestern portion of the property. Orchards are located in the northwestern portion of the Site. The Site and most of the vicinity are agricultural. Mendocino Ave. is in place to the southwest. An AST is present on the property to the southwest, most likely associated with the agricultural activity.

2. **Year: 1965/1968**
   The Site and most adjacent properties remain the similar to the previous aerial photograph. There is a parking area associated with the small structure on the northwestern portion of the property. A long structure is located on the Site to the east of the main structures and barn. A small amount of development has taken place southwest of Mendocino Ave. Route 101 is being developed west of Mendocino Ave.

3. **Year: 1974/1982**
   The Site and adjacent properties remain similar to the previous aerial photograph with the exception of light development approximately 1,000 feet south and southwest of the Site.

4. **Year: 1993**
   The Site is mostly vacant with the centrally-located structures still in place. The ancillary structures are no longer present. Round Barn Boulevard is now in place. Office buildings and a parking lot have been developed adjacent to the Site to

the southwest. Development has also taken place across Round Barn Boulevard to the west and northeast. Other area roads are being developed as well.

5. **Year: 1998**
   The Site appears similar to previous photographs but there is now a cleared area in the east-central portion of the Site along Round Barn Boulevard that is now a parking area.

6. **Year: 2005/2006/2009/2010/2012**
   The northern portion of the Site is now a cleared area. Additional residential and commercial development has taken place surrounding the Site across Round Barn Boulevard.

The Site and adjacent properties were previously used for agricultural purposes, after which the Site has remained mostly vacant except for a few agricultural or residential structures. Due to agricultural use on the Site, Stantec recommends sampling soil for residual pesticides. Copies of the historical aerial photographs are provided in Appendix C.

5.2 FIRE INSURANCE MAPS

No fire insurance maps for the Site were available or provided by EDR. The Sanborn® Map Search Report is presented in Appendix C.

5.3 HISTORICAL TOPOGRAPHIC MAP REVIEW

Available historical topographic maps were requested from Environmental Data Resources for the Site and surrounding properties.

Based on a review of historical topographic maps, the Site has always been shown as a winery located in the hills north of Santa Rosa with structures located in the same location as the current abandoned structures, along with a few smaller structures, since 1914. A small unpaved road is shown going through the center of the Site. Light development is shown west of the Site along Mendocino Ave. and Route 101 beginning in the 1950s. Two main structures in their current locations plus four additional smaller structures are shown on the Site on the 1954 map, and an additional long structure is shown on the 1973 map. Residential and commercial development in the vicinity is shown on the 1973 map. The long structure is no longer present on the 1980 or 1994 maps, but the original structures on the Site are still shown.

The presence of a winery indicates that pesticides or herbicides were potentially used on the Site historically. Therefore, Stantec recommends assessment of the Site for residual pesticides/herbicides (including heavy metals, which often accompany

pesticide application). Copies of the historical topographic maps are provided in Appendix C.

5.4 CITY DIRECTORY

Stantec reviewed the historical city directory abstract provided by EDR for five year intervals between 1930 through 2013 for the intersection of Round Barn Boulevard and Fountain Grove Parkway. There are no listings for that location.

Nearby listings on Round Barn Boulevard were for a roofing company, attorneys, a moving company, financial consultants, a medical center and various consultants. No additional RECs were found for the Site based on City Directory listings. A copy of the complete City Directory Abstract is provided in Appendix C.

5.5 FORMER REPORTS

Stantec was not provided with former reports for the Site.

5.6 OTHER HISTORICAL SOURCES

No additional historical sources were reviewed by Stantec.

5.7 SUMMARY OF FINDINGS FROM HISTORICAL RECORDS REVIEW

Based on a review of historical topographic maps, the Site has always been shown as a winery located in the hills north of Santa Rosa with structures located in the same location as the current abandoned structures, along with a few smaller structures, since 1914. The presence of a winery indicates that pesticides or herbicides were potentially used on the Site historically. Therefore, Stantec recommends assessment of the Site for residual pesticides/herbicides.

6.0 POTENTIAL FOR VAPOR ENCROACHMENT

Additionally, consideration of the migration of hazardous substances and petroleum products in all phases including solid, liquid, or vapor is required by the ASTM E1527-13 standard. As stated in Section 2.1 of ASTM E1527-13:

Vapor migration must be considered no differently than contaminated groundwater migration in the Phase I investigation. While E2600-10 provides an industry consensus methodology to assess vapor migration, use of E2600-10 methodology is not required to achieve compliance with AAI – an EP may use alternative methodology as deemed appropriate, but this must be documented in the Phase I report (i.e., it must be "capable of being reconstructed by an EP other than the EP responsible for the Phase I").

As presented below, analysis of the potential for onsite or offsite releases to have affected the Site via migration through soil, groundwater or soil vapor was performed with consideration given to media affected, distance from the Site, remedial actions taken, and type of contaminants, subsurface conditions, and location of the source relative to groundwater gradient.

Based on the data described above, review of adjacent properties, and available environmental records, the likelihood of vapor intrusion at the Site is considered possible based on the following:

- Former UST with a release of gasoline.

Given the reported release at the Site and due to the lack of records and lack of soil vapor data, Stantec recommends a soil vapor survey in the vicinity of the main buildings at the Site to determine whether any residual impact is present.

7.0 CONCLUSIONS AND RECOMMENDATIONS

The subject property consists of approximately 40 acres of mostly vacant land with abandoned agricultural structures and a parking area at Round Barn Boulevard and Fountain Grove Parkway, in the City of Santa Rosa, within Sonoma County, California (the "Site"). The Site is a hilly, mostly vacant lot.

This Phase I ESA was performed in conformance with the scope and limitations of ASTM E-1527-13 (and Final Rule 40 CFR Part 312 et seq.) with respect to the Site. Any exceptions to, or deletions from, this practice are described in Section 1.2 of this report. This assessment revealed evidence of the following RECs in connection with the Site:

Review of a regulatory agency database search for the Site performed by Environmental Data Resources (EDR) indicates no current underground storage tanks (USTs) or aboveground storage tanks (ASTs) were reported on the Site. No USTs or ASTs were observed at the Site during the site inspection. However, a listing in the EDR databases for an adjacent property, the Fountaingrove Winery, appears to be for the Site, which is shown as a winery on historical topographic maps. It is listed for a release of gasoline to groundwater beginning in 1989, followed by site assessment, remediation, and groundwater monitoring. The case was closed April 1, 1993. No files were available in the Geotracker database or with the City of Santa Rosa Fire Department, so the location of the UST is unclear. However, given that it was associated with the winery it was likely to have been located in the vicinity of the main buildings in the center of the Site. Due to the lack of records and lack of soil vapor data, Stantec recommends a soil vapor survey in the vicinity of the main buildings at the Site to determine whether any residual impact is present.

In addition, based on a review of historical topographic maps, the Site has always been shown as a winery located in the hills north of Santa Rosa with structures located in the same location as the current abandoned structures, along with a few smaller structures, since 1914. The presence of a winery indicates that pesticides or herbicides may have potentially been used on the Site historically. Therefore, Stantec recommends assessment of soil at the Site for residual pesticides/herbicides.

Additionally, the following non-ASTM issues were identified for the Site:

- **Lead-Based Paint (LBP)**: Given the age of the existing buildings on Site (constructed by the 1920's), the presence of lead-based paint (LBP) is considered likely. Stantec recommends removing LBP from the Site prior to any activities with the potential to disturb building materials, in accordance with all applicable laws.

- **Asbestos-Containing Material (ACM):** Given the age of the existing buildings on the Site (constructed by the 1920's), the presence of ACM is considered likely. Stantec recommends conducting a comprehensive, pre-demolition ACM survey in accordance with the sampling protocol of the Asbestos Hazard Emergency Response Act (AHERA) prior to any activities with the potential to disturb building materials to determine whether ACM are present. Further, in the event ACM is detected, Stantec recommends proper removal and disposal of the materials identified prior to any activities with the potential to disturb them.

8.0 LIMITATIONS

The conclusions and recommendations contained in this report/assessment are based upon professional opinions with regard to the subject matter. These opinions have been arrived at in accordance with currently accepted hydrogeologic and engineering standards and practices applicable to this location and existing at this time. The use of this report is subject to the following limitations:

1. The data and findings presented in this report are valid as of the dates when the investigations were performed. The passage of time, manifestation of latent conditions or occurrence of future events may require further exploration at the site, analysis of the data, and reevaluation of the findings, observations, and conclusions expressed in the report.

2. The data reported and the findings, observations, and conclusions expressed in the report are limited by the Scope of Work, budgetary constraints, site access and schedule, as defined in the contract with Stantec.

3. This report is based, in part, on unverified information supplied to Stantec by third party sources, such as regulatory agencies, prior owners or operators of the property, analytical laboratories, subcontractors, etc. Whereas efforts may have been made to substantiate this third party information, Stantec cannot guarantee the completeness or accuracy of this information.

4. The findings, observations and conclusions expressed by Stantec in this report are not, and should not be considered an opinion concerning the compliance of any past or present owner or operator of the Site with any Federal, state or local law or regulation.

5. No warranty or guarantee, whether expressed or implied, is made with respect to the data or the reported findings, observations, and conclusions, which are based solely upon Site conditions in existence at the time of investigation.

6. Stantec Reports present professional opinions and findings of a scientific and technical nature. While attempts were made to relate the data and findings to applicable environmental laws and regulations, the report shall not be construed to offer legal opinion as to the requirements of, nor compliance with, environmental laws, rules, regulations or policies of federal, state or local governmental agencies. Issues raised by the report should be reviewed by appropriate legal counsel.

7. This report is intended for the sole and exclusive use of Stantec's client. No other person or entity shall be entitled to rely on or use this report without Stantec's expressed written authorization. (Any such written authorization shall involve a "reliance letter" issued at Stantec's discretion and agreed to any executed by such user). If any unauthorized use or reliance occurs, it shall be at the user's sole risk without liability to Stantec.

9.0 REFERENCES

California Department of Conservation, Division of Oil, Gas, and Geothermal Resources (DOG), 2015, website http://www.consrv.ca.gov/dog/maps

California Division of Mines and Geology (CDMG), 1963, Geologic Map of California, Santa Rosa Sheet, scale 1:250,000.

California Geological Survey (CGS), 2002, California Geomorphic Provinces, Note 36.

_____, 2015a, Fault Activity Map of California, adjustable scale, http://www.quake.ca.gov/gmaps/FAM/faultactivitymap.html.

_____, 2015b, Alquist-Priolo Earthquake Fault Zones of California, http://www.quake.ca.gov/gmaps/ap/ap_maps.htm.

California Water Resources Control Board (SWRCB), 2015, GeoTracker Database, website download from http://geotracker.swrcb.ca.gov/

Environmental Data Resources, Inc. (EDR), EDR Radius Map with Geocheck, Inquiry Number 4173312.2s, dated January 5, 2015.

_____, Certified Sanborn Map Report, Inquiry Number 4173312.3, dated January 5, 2015.

_____, Historical Topographic Map Report, Inquiry Number 4173312.4, dated January 5, 2015.

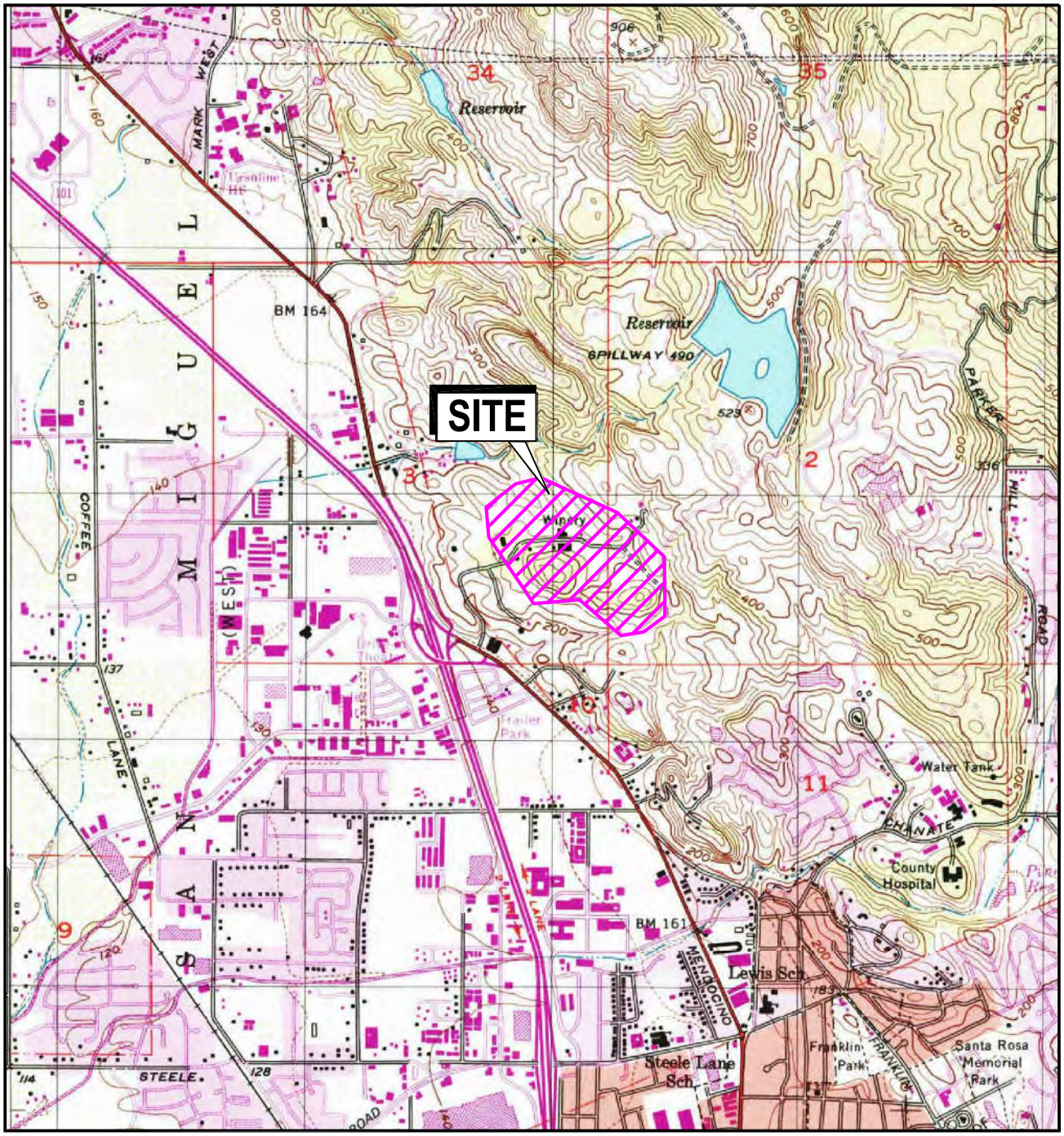
_____, Aerial Photo Decade Package, Inquiry Number 4173312.5, dated January 8, 2015.

_____, City Directory Abstract, Inquiry Number 4173312.6, dated January 5, 2015.

Stantec, 2014, Semi-Annual Groundwater Monitoring and Status Report for Fourth Quarter 2013 and First and Second Quarters 2014, Former HP Valley Site, 1201 Piner Road, Santa Rosa, CA, dated August 15.

United States Geological Survey (USGS), 1954, Santa Rosa Quadrangle, 7.5 Minute Topographic Map, Scale 1 inch = 2,000 feet, photorevised 1994.

FIGURES



Reference: U.S.G.S., 1954, Santa Rosa Quadrangle California - Sonoma County, 7.5' Series Topographic. Photorevised 1994.

NORTH

SCALE
1 inch = 2000 feet

0 1000 2000

QUADRANGLE LOCATION

Stantec

25864-F BUSINESS CENTER DRIVE
REDLANDS, CALIFORNIA
PH (909) 335-6116 FAX (909) 335-6120

FOR:
CITY VENTURES
FORMER AGRICULTURAL PROPERTY
ROUND BARN BOULEVARD
SANTA ROSA, CALIFORNIA

SITE LOCATION MAP

FIGURE:
1

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185803380	KD	KD	KE	02/11/15

LEGEND:

PROPERTY BOUNDARY

0 300 600

APPROXIMATE SCALE (FEET)

Stantec

25864-F BUSINESS CENTER DRIVE
REDLANDS, CALIFORNIA
PH (909) 335-6116 FAX (909) 335-6120

FOR:
CITY VENTURES
FORMER AGRICULTURAL PROPERTY
ROUND BARN BOULEVARD
SANTA ROSA, CALIFORNIA

SITE LOCATION MAP

FIGURE: **2**

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185803380	KD	KD	KE	02/11/15

FILEPATH:C:\Users\kdaly\Desktop\CADD\Phase I\Santa Rosa\CV Santa Rosa site map.dwg modified by KDaly on Feb 11, 2015 at 16:36

APPENDIX A
PHOTOGRAPHIC RECORD

January 15, 2015
City Ventures

Reference: Phase I Environmental Site Assessment
APN 173-02-030 through 173-02-036, Round Barn Boulevard, Santa Rosa, California
Stantec Project #: 185803380.200.0001

PHOTO No. 1, January 13, 2015
View of the round barn at the southwest corner beyond Round Barn Boulevard.
PHOTO No. 2, January 13, 2015
View of APN 173-02-030 from Fountain Grove Parkway looking north.

January 15, 2015
City Ventures

Reference: Phase I Environmental Site Assessment
APN 173-02-030 through 173-02-036, Round Barn Boulevard, Santa Rosa, California
Stantec Project #: 185803380.200.0001

PHOTO No. 3, January 13, 2015
View of APN 173-02-030 from Round Barn Boulevard looking south.
PHOTO No. 4, January 13, 2015
View of bike trail starting at APN 173-02-030 at Round Barn Boulevard looking west.

January 15, 2015
City Ventures

Reference: Phase I Environmental Site Assessment
APN 173-02-030 through 173-02-036, Round Barn Boulevard, Santa Rosa, California
Stantec Project #: 185803380.200.0001

PHOTO No. 5, January 13, 2015
View from APN 173-02-030 looking northeast across Fountain Grove Parkway.
PHOTO No. 6, January 13, 2015
View of typical terrain at higher elevation looking west on APN 173-02-036

January 15, 2015
City Ventures

Reference: Phase I Environmental Site Assessment
APN 173-02-030 through 173-02-036, Round Barn Boulevard, Santa Rosa, California
Stantec Project #: 185803380.200.0001

PHOTO No. 7, January 13, 2015
View from APN 173-02-035 looking southwest beyond Round Barn Boulevard.
PHOTO No. 8, January 13, 2015
View looking north across 173-02-032 beyond Round Barn Boulevard.

January 15, 2015
City Ventures

Reference: Phase I Environmental Site Assessment
APN 173-02-030 through 173-02-036, Round Barn Boulevard, Santa Rosa, California
Stantec Project #: 185803380.200.0001

PHOTO No. 9, January 13, 2015
View from APN 173-02-030 looking west at APNs 173-02-031, 032, and 035.
PHOTO No. 10, January 13, 2015
View from APN 173-02-033 looking south at APNs 173-02-032, 035, and 036.

January 15, 2015
City Ventures

Reference: Phase I Environmental Site Assessment
APN 173-02-030 through 173-02-036, Round Barn Boulevard, Santa Rosa, California
Stantec Project #: 185803380.200.0001

PHOTO No. 11, January 13, 2015
View from APN 173-02-032 looking northwest at APN 173-02-033.
PHOTO No. 12, January 13, 2015
Closer view of a deteriorated building on APN 173-02-033.

January 15, 2015
City Ventures

Reference: Phase I Environmental Site Assessment
APN 173-02-030 through 173-02-036, Round Barn Boulevard, Santa Rosa, California
Stantec Project #: 185803380.200.0001

PHOTO No. 13, January 13, 2015
View of deteriorated buildings looking west on APN 173-02-033.
PHOTO No. 14, January 13, 2015
View looking southeast through the fence of buildings on APN 173-02-033.

January 15, 2015
City Ventures

Reference: Phase I Environmental Site Assessment
APN 173-02-030 through 173-02-036, Round Barn Boulevard, Santa Rosa, California
Stantec Project #: 185803380.200.0001

PHOTO No. 15, January 13, 2015
View of north area of APN 173-02-034 looking west-northwest.
PHOTO No. 16, January 13, 2015
View from the northeast area on APN 173-02-034 looking west across a foot bridge.

January 15, 2015
City Ventures

Reference: Phase I Environmental Site Assessment
APN 173-02-030 through 173-02-036, Round Barn Boulevard, Santa Rosa, California
Stantec Project #: 185803380.200.0001

PHOTO No. 17, January 13, 2015
View from APN 173-02-034 looking north beyond Round Barn Boulevard.
PHOTO No. 18, January 13, 2015
View of asphalt path in the middle of APN 173-02-034.

January 15, 2015
City Ventures

Reference: Phase I Environmental Site Assessment
APN 173-02-030 through 173-02-036, Round Barn Boulevard, Santa Rosa, California
Stantec Project #: 185803380.200.0001

PHOTO No. 19, January 13, 2015
View of north area APN 173-02-034 looking east.
PHOTO No. 20, January 13, 2015
View of typical terrain on the south area of APN 173-02-034 looking east.

January 15, 2015
City Ventures

Reference: Phase I Environmental Site Assessment
APN 173-02-030 through 173-02-036, Round Barn Boulevard, Santa Rosa, California
Stantec Project #: 185803380.200.0001

PHOTO No. 20, January 13, 2015
View of typical terrain on the south area of APN 173-02-034 looking southeast.
PHOTO No. 21, January 13, 2015
View of the bike path adjacent to south area of APN 173-02-034 looking north.

January 15, 2015
City Ventures

Reference: Phase I Environmental Site Assessment
APN 173-02-030 through 173-02-036, Round Barn Boulevard, Santa Rosa, California
Stantec Project #: 185803380.200.0001

PHOTO No. 22, January 13, 2015
View looking west from APN 173-02-034 across Round Barn Boulevard.
PHOTO No. 23, January 13, 2015
Fountaingrove Center located to the south of APNs 173-02-034, 035, and 036.

APPENDIX B
ENVIRONMENTAL DATABASE REPORT

Santa Rosa 6
ROUND BARN BLVD & FOUNTAIN GROVE PKWY
Santa Rosa, CA 95403

Inquiry Number: 4173312.2s
January 05, 2015

The EDR Radius Map™ Report with GeoCheck®

EDR® Environmental Data Resources Inc

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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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) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

ROUND BARN BLVD & FOUNTAIN GROVE PKWY
SONOMA County, CA 95403

COORDINATES

Latitude (North):	38.4776000 - 38° 28' 39.36''
Longitude (West):	122.7249000 - 122° 43' 29.64''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	523996.2
UTM Y (Meters):	4258637.0
Elevation:	306 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	38122-D6 SANTA ROSA, CA
Most Recent Revision:	1999

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20120523
Source:	USDA

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

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

EXECUTIVE SUMMARY

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

CERCLIS ---------- Comprehensive Environmental Response, Compensation, and Liability Information System
FEDERAL FACILITY ---------- Federal Facility Site Information listing

Federal CERCLIS NFRAP site List

CERC-NFRAP ---------- CERCLIS No Further Remedial Action Planned

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF ---------- RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-CESQG ---------- RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

US ENG CONTROLS ---------- Engineering Controls Sites List
US INST CONTROL ---------- Sites with Institutional Controls
LUCIS ---------- Land Use Control Information System

Federal ERNS list

ERNS ---------- Emergency Response Notification System

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

UST ---------- Active UST Facilities
INDIAN UST ---------- Underground Storage Tanks on Indian Land
FEMA UST ---------- Underground Storage Tank Listing

State and tribal voluntary cleanup sites

VCP ---------- Voluntary Cleanup Program Properties
INDIAN VCP ---------- Voluntary Cleanup Priority Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS ---------- A Listing of Brownfields Sites

EXECUTIVE SUMMARY

Local Lists of Landfill / Solid Waste Disposal Sites

DEBRIS REGION 9	Torres Martinez Reservation Illegal Dump Site Locations
ODI	Open Dump Inventory
SWRCY	Recycler Database
HAULERS	Registered Waste Tire Haulers Listing
INDIAN ODI	Report on the Status of Open Dumps on Indian Lands
WMUDS/SWAT	Waste Management Unit Database

Local Lists of Hazardous waste / Contaminated Sites

US CDL	Clandestine Drug Labs
SCH	School Property Evaluation Program
Toxic Pits	Toxic Pits Cleanup Act Sites
CDL	Clandestine Drug Labs
US HIST CDL	National Clandestine Laboratory Register

Local Lists of Registered Storage Tanks

CA FID UST	Facility Inventory Database
HIST UST	Hazardous Substance Storage Container Database
SWEEPS UST	SWEEPS UST Listing

Local Land Records

LIENS 2	CERCLA Lien Information
LIENS	Environmental Liens 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

DOT OPS	Incident and Accident Data
DOD	Department of Defense Sites
FUDS	Formerly Used Defense Sites
CONSENT	Superfund (CERCLA) Consent Decrees
ROD	Records Of Decision
UMTRA	Uranium Mill Tailings Sites
US MINES	Mines Master Index File
TRIS	Toxic Chemical Release Inventory System
TSCA	Toxic Substances Control Act
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing
SSTS	Section 7 Tracking Systems
ICIS	Integrated Compliance Information System
PADS	PCB Activity Database System
MLTS	Material Licensing Tracking System

RADINFO ---- Radiation Information Database
FINDS ---- Facility Index System/Facility Registry System
RAATS ---- RCRA Administrative Action Tracking System
RMP ---- Risk Management Plans
CA BOND EXP. PLAN ---- Bond Expenditure Plan
UIC ---- UIC Listing
NPDES ---- NPDES Permits Listing
CUPA Listings ---- CUPA Resources List
DRYCLEANERS ---- Cleaner Facilities
WIP ---- Well Investigation Program Case List
ENF ---- Enforcement Action Listing
HAZNET ---- Facility and Manifest Data
EMI ---- Emissions Inventory Data
INDIAN RESERV ---- Indian Reservations
SCRD DRYCLEANERS ---- State Coalition for Remediation of Drycleaners Listing
COAL ASH EPA ---- Coal Combustion Residues Surface Impoundments List
MWMP ---- Medical Waste Management Program Listing
WDS ---- Waste Discharge System
Financial Assurance ---- Financial Assurance Information Listing
PROC ---- Certified Processors Database
HWT ---- Registered Hazardous Waste Transporter Database
PCB TRANSFORMER ---- PCB Transformer Registration Database
EPA WATCH LIST ---- EPA WATCH LIST
LEAD SMELTERS ---- Lead Smelter Sites
US AIRS ---- Aerometric Information Retrieval System Facility Subsystem
PRP ---- Potentially Responsible Parties
2020 COR ACTION ---- 2020 Corrective Action Program List
COAL ASH DOE ---- Steam-Electric Plant Operation Data
US FIN ASSUR ---- Financial Assurance Information

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP ---- EDR Proprietary Manufactured Gas Plants
EDR US Hist Cleaners ---- EDR Exclusive Historic Dry 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

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.

EXECUTIVE SUMMARY

STANDARD ENVIRONMENTAL RECORDS

Federal RCRA CORRACTS facilities list

CORRACTS: CORRACTS is a list of handlers with RCRA Corrective Action Activity. This report shows which nationally-defined corrective action core events have occurred for every handler that has had corrective action activity.

A review of the CORRACTS list, as provided by EDR, and dated 06/10/2014 has revealed that there are 2 CORRACTS sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
HEWLETT PACKARD CO	***1400 FOUNTAIN GROVE PKW***	***ENE 1/2 - 1 (0.628 mi.)***	***E24***	***89***
Lower Elevation	**Address**	**Direction / Distance**	**Map ID**	**Page**
HEWLETT PACKARD	***1201 PINER ROAD***	***WSW 1/2 - 1 (0.683 mi.)***	***F27***	***106***

Federal RCRA generators list

RCRA-LQG: 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.

A review of the RCRA-LQG list, as provided by EDR, and dated 06/10/2014 has revealed that there is 1 RCRA-LQG site within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
MEDTRONIC CARDIOVASCULAR	***3576 UNOCAL PLACE***	***NE 0 - 1/8 (0.087 mi.)***	***5***	***13***

RCRA-SQG: 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.

A review of the RCRA-SQG list, as provided by EDR, and dated 06/10/2014 has revealed that there are 2 RCRA-SQG sites within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
YARDBIRD 1379	100 BICENTENIAL WAY	SE 0 - 1/8 (0.086 mi.)	4	10
SANTA ROSA IMAGING CNTR	***3536 MENDOCINO AVE STE***	***SSW 1/8 - 1/4 (0.156 mi.)***	***B7***	***27***

EXECUTIVE SUMMARY

State- and tribal - equivalent NPL

RESPONSE: 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.

A review of the RESPONSE list, as provided by EDR, and dated 11/03/2014 has revealed that there is 1 RESPONSE site within approximately 1 mile of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
FOUNTAINGROVE PLAZA SITE	***3975 OLD REDWOOD HIGHWA***	***NW 1/4 - 1/2 (0.422 mi.)***	***18***	***48***

State- and tribal - equivalent CERCLIS

ENVIROSTOR: 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.

A review of the ENVIROSTOR list, as provided by EDR, and dated 11/03/2014 has revealed that there are 6 ENVIROSTOR sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
VAN WATERS & ROGERS, DIVISION	***1400 FOUNTAIN GROVE PKW***	***ENE 1/2 - 1 (0.628 mi.)***	***E25***	***95***
Status: Refer: RWQCB				
HEWLETT-PACKARD CO. - FOUNTAIN	***1412 FOUNTAIN GROVE PAR***	***ENE 1/2 - 1 (0.641 mi.)***	***E26***	***102***
Status: Inactive - Needs Evaluation				
Status: Refer: RWQCB				

Lower Elevation	Address	Direction / Distance	Map ID	Page
FOUNTAINGROVE PLAZA SITE	***3975 OLD REDWOOD HIGHWA***	***NW 1/4 - 1/2 (0.422 mi.)***	***18***	***48***
Status: Certified / Operation & Maintenance				
HEWLETT PACKARD VALLEY SITE	3273 AIRWAY DRIVE	WSW 1/2 - 1 (0.620 mi.)	23	88
Status: Refer: RWQCB				
HEWLETT PACKARD	***1201 PINER ROAD***	***WSW 1/2 - 1 (0.683 mi.)***	***F27***	***106***
Status: Refer: RWQCB				
VALLEY TIRE & BRAKE	1688 PINER ROAD	WSW 1/2 - 1 (0.904 mi.)	29	139
Status: Refer: RWQCB				

EXECUTIVE SUMMARY

State and tribal leaking storage tank lists

LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the State Water Resources Control Board Leaking Underground Storage Tank Information System.

A review of the LUST list, as provided by EDR, and dated 10/28/2014 has revealed that there are 8 LUST sites within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
FOUNTAINGROVE WINERY	***3590 ROUND BARN BOULEVA***	***NW 0 - 1/8 (0.004 mi.)***	***1***	***8***
Status: Completed - Case Closed				
K-MART #4340	CLEVELAND AVENUE 3771	W 1/8 - 1/4 (0.238 mi.)	9	29
K-MART #4340	***3771 CLEVELAND***	***WNW 1/4 - 1/2 (0.303 mi.)***	***10***	***30***
Status: Completed - Case Closed				
UNOCAL #5671	CLEVELAND AVENUE 3551	WSW 1/4 - 1/2 (0.311 mi.)	C11	31
UNOCAL SERVICE STATION #5671	***3551 CLEVELAND***	***WSW 1/4 - 1/2 (0.311 mi.)***	***C12***	***32***
Status: Completed - Case Closed				
SHELL	***3453 CLEVELAND AVENUE***	***WSW 1/4 - 1/2 (0.323 mi.)***	***14***	***40***
Status: Completed - Case Closed				
BREUNERS	***3550 INDUSTRIAL DRIVE***	***W 1/4 - 1/2 (0.420 mi.)***	***17***	***46***
Status: Completed - Case Closed				
KINGS OFFICE PRODUCTS	799 PINER ROAD	SW 1/4 - 1/2 (0.424 mi.)	19	74
Status: Completed - Case Closed				

SLIC: SLIC Region comes from the California Regional Water Quality Control Board.

A review of the SLIC list, as provided by EDR, and dated 10/28/2014 has revealed that there are 4 SLIC sites within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
BICENTENNIAL ROAD EXTENSION	BICENTENNIAL ROAD	SSW 1/4 - 1/2 (0.377 mi.)	15	45
Facility Status: Completed - Case Closed				
STEVENSON EQUIPMENT	***3975 REDWOOD HIGHWAY, O***	***WNW 1/4 - 1/2 (0.417 mi.)***	***16***	***45***
Facility Status: Open - Verification Monitoring				
SONOMA COUNTY GENERAL SERVICES	564 RUSSELL AVENUE	S 1/4 - 1/2 (0.448 mi.)	D20	78
Facility Status: Open - Inactive				
GEARY, W.E. & T.H., ET AL	540 & 552 RUSSELL AVENU	S 1/4 - 1/2 (0.461 mi.)	D21	78
Facility Status: Open - Inactive				

State and tribal registered storage tank lists

AST: A listing of aboveground storage tank petroleum storage tank locations.

A review of the AST list, as provided by EDR, and dated 08/01/2009 has revealed that there is 1 AST site within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
MEDTRONIC	3540 UNOCAL PL	NE 0 - 1/8 (0.055 mi.)	A3	10

ADDITIONAL ENVIRONMENTAL RECORDS

Local Lists of Hazardous waste / Contaminated Sites

HIST Cal-Sites: Formerly known as ASPIS, this database contains both known and potential hazardous substance sites. The source is the California Department of Toxic Substance Control. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

A review of the HIST Cal-Sites list, as provided by EDR, and dated 08/08/2005 has revealed that there is 1 HIST Cal-Sites site within approximately 1 mile of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
FOUNTAINGROVE PLAZA SITE	***3975 OLD REDWOOD HIGHWA***	***NW 1/4 - 1/2 (0.422 mi.)***	***18***	***48***

Local Land Records

DEED: The use of recorded land use restrictions is one of the methods the DTSC uses to protect the public from unsafe exposures to hazardous substances and wastes .

A review of the DEED list, as provided by EDR, and dated 09/08/2014 has revealed that there is 1 DEED site within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
FOUNTAINGROVE PLAZA SITE	***3975 OLD REDWOOD HIGHWA***	***NW 1/4 - 1/2 (0.422 mi.)***	***18***	***48***

Other Ascertainable Records

RCRA NonGen / NLR: 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.

A review of the RCRA NonGen / NLR list, as provided by EDR, and dated 06/10/2014 has revealed that there is 1 RCRA NonGen / NLR site within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
PACIFIC BELL	***3418-3420-3422 MENDOCIN***	***SSW 1/8 - 1/4 (0.196 mi.)***	***B8***	***28***

EXECUTIVE SUMMARY

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 (Cal-Sites).

A review of the Cortese list, as provided by EDR, and dated 09/29/2014 has revealed that there is 1 Cortese site within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
CHALET MOTEL	***3880 OLD REDWOOD HIGHWA***	***WNW 1/4 - 1/2 (0.314 mi.)***	***13***	***38***

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 7 HIST CORTESE sites within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
FOUNTAINGROVE WINERY	***3590 ROUND BARN BOULEVA***	***NW 0 - 1/8 (0.004 mi.)***	***1***	***8***
K-MART #4340	***3771 CLEVELAND***	***WNW 1/4 - 1/2 (0.303 mi.)***	***10***	***30***
UNOCAL SERVICE STATION #5671	***3551 CLEVELAND***	***WSW 1/4 - 1/2 (0.311 mi.)***	***C12***	***32***
CHALET MOTEL	***3880 OLD REDWOOD HIGHWA***	***WNW 1/4 - 1/2 (0.314 mi.)***	***13***	***38***
SHELL	***3453 CLEVELAND AVENUE***	***WSW 1/4 - 1/2 (0.323 mi.)***	***14***	***40***
STEVENSON EQUIPMENT	***3975 REDWOOD HIGHWAY, O***	***WNW 1/4 - 1/2 (0.417 mi.)***	***16***	***45***
BREUNERS	***3550 INDUSTRIAL DRIVE***	***W 1/4 - 1/2 (0.420 mi.)***	***17***	***46***

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 10/21/1993 has revealed that there are 3 Notify 65 sites within approximately 1 mile of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
UNOCAL SERVICE STATION #5671	***3551 CLEVELAND***	***WSW 1/4 - 1/2 (0.311 mi.)***	***C12***	***32***
H&C METALS	***3555 AIRWAY DRIVE***	***W 1/2 - 1 (0.577 mi.)***	***22***	***79***
7-UP BOTTLING CO.	***1901 RUSSELL AVENUE***	***SW 1/2 - 1 (0.949 mi.)***	***30***	***140***

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 11/24/2014 has revealed that there are 2 HWP sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
HEWLETT PACKARD CO	***1400 FOUNTAIN GROVE PKW***	***ENE 1/2 - 1 (0.628 mi.)***	***E24***	***89***

Lower Elevation	Address	Direction / Distance	Map ID	Page
HEWLETT-PACKARD COMPANY (VALLE	1201 PINER RD	WSW 1/2 - 1 (0.683 mi.)	F28	138

EXECUTIVE SUMMARY

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR US Hist Auto Stat: 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.

A review of the EDR US Hist Auto Stat list, as provided by EDR, has revealed that there are 2 EDR US Hist Auto Stat sites within approximately 0.25 miles of the target property.

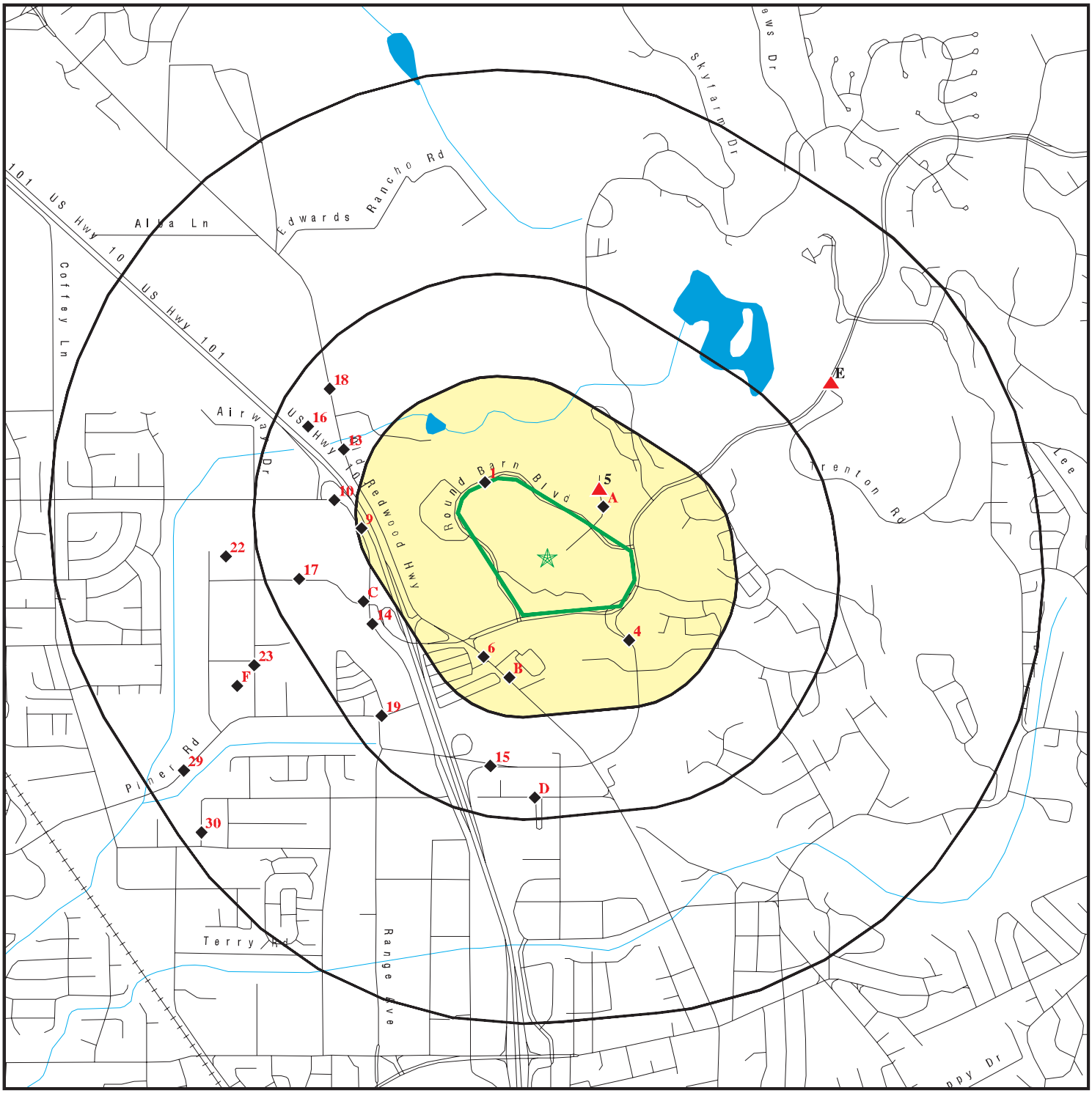
Lower Elevation	Address	Direction / Distance	Map ID	Page
Not reported	3510 UNOCAL PL	NE 0 - 1/8 (0.019 mi.)	A2	10
Not reported	3575 MENDOCINO AVE	SSW 1/8 - 1/4 (0.140 mi.)	6	26

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 2 records.

Site Name	Database(s)
SANTA ROSA CITY RD CONSTR	HIST CORTESE
SEMMELMEYER, HERB	LUST

OVERVIEW MAP - 4173312.2S



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 1/4 1/2 1 Miles

Indian Reservations BIA

Oil & Gas pipelines from USGS

100-year flood zone

500-year flood zone

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:	Santa Rosa 6	CLIENT:	Stantec
ADDRESS:	ROUND BARN BLVD & FOUNTAIN GROVE PKWY Santa Rosa CA 95403	CONTACT:	Alicia Jansen
LAT/LONG:	38.4776 / 122.7249	INQUIRY #:	4173312.2s
		DATE:	January 05, 2015 2:20 pm

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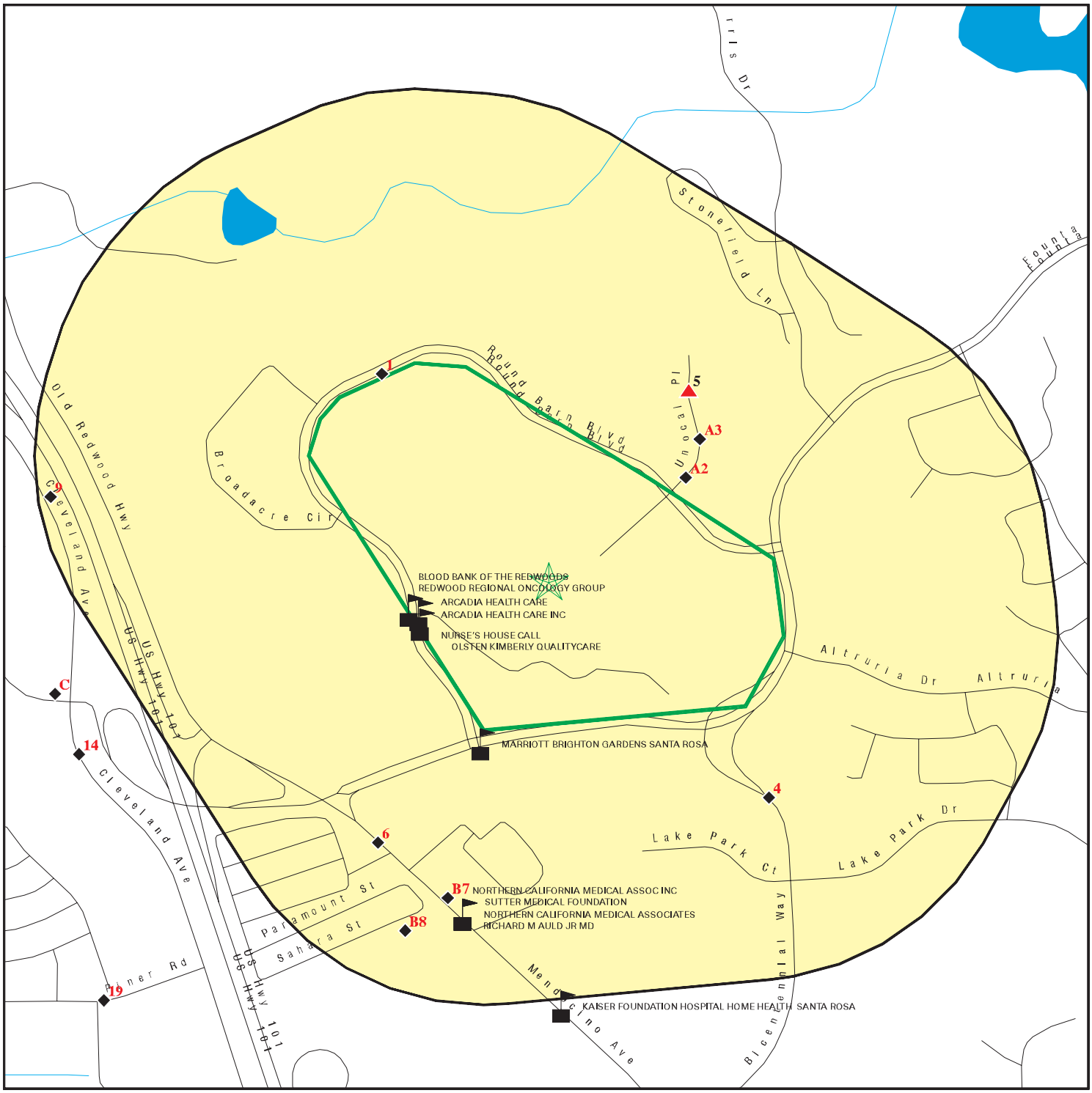
DETAIL MAP - 4173312.2S



0 1/8 1/4 1/2 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
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Oil & Gas pipelines from USGS
- 100-year flood zone
- 500-year flood zone
- 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:	Santa Rosa 6	CLIENT:	Stantec
ADDRESS:	ROUND BARN BLVD & FOUNTAIN GROVE PKWY Santa Rosa CA 95403	CONTACT:	Alicia Jansen
LAT/LONG:	38.4776 / 122.7249	INQUIRY #:	4173312.2s
		DATE:	January 05, 2015 2:22 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	TP		NR	NR	NR	NR	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
CERCLIS	0.500		0	0	0	NR	NR	0
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site List								
CERC-NFRAP	0.500		0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	2	NR	2
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		1	0	NR	NR	NR	1
RCRA-SQG	0.250		1	1	NR	NR	NR	2
RCRA-CESQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
LUCIS	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	TP		NR	NR	NR	NR	NR	0
State- and tribal - equivalent NPL								
RESPONSE	1.000		0	0	1	0	NR	1
State- and tribal - equivalent CERCLIS								
ENVIROSTOR	1.000		0	0	1	5	NR	6
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	1	6	NR	NR	8

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
SLIC	0.500		0	0	4	NR	NR	4
INDIAN LUST	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
UST	0.250		0	0	NR	NR	NR	0
AST	0.250		1	0	NR	NR	NR	1
INDIAN UST	0.250		0	0	NR	NR	NR	0
FEMA UST	0.250		0	0	NR	NR	NR	0
State and tribal voluntary cleanup sites								
VCP	0.500		0	0	0	NR	NR	0
INDIAN VCP	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								
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
HAULERS	TP		NR	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
WMUDS/SWAT	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US CDL	TP		NR	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	1	0	NR	1
SCH	0.250		0	0	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
CDL	TP		NR	NR	NR	NR	NR	0
US HIST CDL	TP		NR	NR	NR	NR	NR	0
Local Lists of Registered Storage Tanks								
CA FID UST	0.250		0	0	NR	NR	NR	0
HIST UST	0.250		0	0	NR	NR	NR	0
SWEEPS UST	0.250		0	0	NR	NR	NR	0
Local Land Records								
LIENS 2	TP		NR	NR	NR	NR	NR	0
LIENS	TP		NR	NR	NR	NR	NR	0
DEED	0.500		0	0	1	NR	NR	1
Records of Emergency Release Reports								
HMIRS	TP		NR	NR	NR	NR	NR	0
CHMIRS	TP		NR	NR	NR	NR	NR	0
LDS	TP		NR	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
MCS	TP		NR	NR	NR	NR	NR	0
SPILLS 90	TP		NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	1	NR	NR	NR	1
DOT OPS	TP		NR	NR	NR	NR	NR	0
DOD	1.000		0	0	0	0	NR	0
FUDS	1.000		0	0	0	0	NR	0
CONSENT	1.000		0	0	0	0	NR	0
ROD	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
FINDS	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
RMP	TP		NR	NR	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
UIC	TP		NR	NR	NR	NR	NR	0
NPDES	TP		NR	NR	NR	NR	NR	0
Cortese	0.500		0	0	1	NR	NR	1
HIST CORTESE	0.500		1	0	6	NR	NR	7
CUPA Listings	0.250		0	0	NR	NR	NR	0
Notify 65	1.000		0	0	1	2	NR	3
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
WIP	0.250		0	0	NR	NR	NR	0
ENF	TP		NR	NR	NR	NR	NR	0
HAZNET	TP		NR	NR	NR	NR	NR	0
EMI	TP		NR	NR	NR	NR	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
MWMP	0.250		0	0	NR	NR	NR	0
WDS	TP		NR	NR	NR	NR	NR	0
Financial Assurance	TP		NR	NR	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
HWT	0.250		0	0	NR	NR	NR	0
HWP	1.000		0	0	0	2	NR	2
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
US AIRS	TP		NR	NR	NR	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	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
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR US Hist Auto Stat	0.250		1	1	NR	NR	NR	2
EDR US Hist Cleaners	0.250		0	0	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LF	TP		NR	NR	NR	NR	NR	0
RGA LUST	TP		NR	NR	NR	NR	NR	0

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

1
NW
< 1/8
0.004 mi.
19 ft.

FOUNTAINGROVE WINERY
3590 ROUND BARN BOULEVARD
SANTA ROSA, CA 95404

HIST CORTESE **S102430406**
LUST **N/A**

Relative:
Lower

Actual:
244 ft.

HIST CORTESE:

Region:	CORTESE
Facility County Code:	49
Reg By:	LTNKA
Reg Id:	1TSR115

LUST:

Region:	STATE
Global Id:	T0609700626
Latitude:	38.4925176
Longitude:	-122.7418166
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	04/01/1993
Lead Agency:	NORTH COAST RWQCB (REGION 1)
Case Worker:	ZZZ
Local Agency:	SANTA ROSA, CITY OF
RB Case Number:	1TSR115
LOC Case Number:	Not reported
File Location:	Not reported
Potential Media Affect:	Aquifer used for drinking water supply
Potential Contaminants of Concern:	Gasoline
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0609700626
Contact Type:	Regional Board Caseworker
Contact Name:	REGIONAL WATER BOARD SITE CLOSED
Organization Name:	NORTH COAST RWQCB (REGION 1)
Address:	5550 SKYLANE BOULEVARD, SUITE A
City:	SANTA ROSA
Email:	craig.hunt@waterboards.ca.gov
Phone Number:	7075762220

Global Id:	T0609700626
Contact Type:	Local Agency Caseworker
Contact Name:	LOCAL PERMIT WORKER SANTA ROSA
Organization Name:	SANTA ROSA, CITY OF
Address:	625 5th Street
City:	SANTA ROSA
Email:	Not reported
Phone Number:	7075433500

Status History:

Global Id:	T0609700626
Status:	Open - Site Assessment
Status Date:	09/30/1991

Global Id:	T0609700626
Status:	Open - Site Assessment
Status Date:	10/07/1989

FOUNTAINGROVE WINERY (Continued) **S102430406**

Global Id: T0609700626
Status: Open - Verification Monitoring
Status Date: 09/30/1991

Global Id: T0609700626
Status: Completed - Case Closed
Status Date: 04/01/1993

Global Id: T0609700626
Status: Open - Site Assessment
Status Date: 05/20/1991

Global Id: T0609700626
Status: Open - Remediation
Status Date: 09/30/1991

Global Id: T0609700626
Status: Open - Case Begin Date
Status Date: 09/20/1989

Global Id: T0609700626
Status: Open - Site Assessment
Status Date: 05/09/1991

Regulatory Activities:
Global Id: T0609700626
Action Type: Other
Date: 09/20/1989
Action: Leak Stopped

Global Id: T0609700626
Action Type: ENFORCEMENT
Date: 10/07/1989
Action: * Historical Enforcement

Global Id: T0609700626
Action Type: Other
Date: 09/20/1989
Action: Leak Reported

Global Id: T0609700626
Action Type: Other
Date: 09/20/1989
Action: Leak Discovery

LUST REG 1:
Region: 1
Facility ID: 1TSR115
Staff Initials: Closed

A2
NE
< 1/8
0.019 mi.
99 ft.

3510 UNOCAL PL
SANTA ROSA, CA 95403

Site 1 of 2 in cluster A

EDR US Hist Auto Stat **1015443700**
N/A

Relative:
Lower

Actual:
289 ft.

EDR Historical Auto Stations:
Name: BILLS AUTO ELECTRIC & REPAIR INC
Year: 2008
Address: 3510 UNOCAL PL

A3
NE
< 1/8
0.055 mi.
291 ft.

MEDTRONIC
3540 UNOCAL PL
SANTA ROSA, CA

Site 2 of 2 in cluster A

AST **A100324381**
N/A

Relative:
Lower

Actual:
301 ft.

AST:
Certified Unified Program Agencies: Santa Rosa
Owner: Medtronic
Total Gallons: 1,320

4
SE
< 1/8
0.086 mi.
454 ft.

YARDBIRD 1379
100 BICENTENIAL WAY
SANTA ROSA, CA 95403

RCRA-SQG **1009216589**
CAR000169797

Relative:
Lower

Actual:
250 ft.

RCRA-SQG:
Date form received by agency: 01/19/2006
Facility name: YARDBIRD 1379
Facility address: 100 BICENTENIAL WAY
SANTA ROSA, CA 95403
EPA ID: CAR000169797
Mailing address: 1905 ASTON AVE
NO 100
CARLSBAD, CA 92008
Contact: ROBERT PERKINS
Contact address: 1905 ASTON AVE NO 100
CARLSBAD, CA 92008
Contact country: US
Contact telephone: 760-602-8700
Contact email: Not reported
EPA Region: 09
Classification: Small Small Quantity Generator
Description: Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:
Owner/operator name: HOME DEPOT USA INC
Owner/operator address: Not reported
Not reported
Owner/operator country: US
Owner/operator telephone: Not reported
Legal status: Private

YARDBIRD 1379 (Continued) **1009216589**

Owner/Operator Type: Operator
Owner/Op start date: 11/01/2005
Owner/Op end date: Not reported

Owner/operator name: HOME DEPOT USA INC
Owner/operator address: 2455 PACES FERRY RD D 17
ATLANTA, GA 30339
Owner/operator country: US
Owner/operator telephone: Not reported
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: 11/01/2005
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Historical Generators:
Date form received by agency: 12/27/2005
Site name: HOME DEPOT 1379
Classification: Small Quantity Generator

Hazardous Waste Summary:
Waste code: D001
Waste name: IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.

Waste code: D002
Waste name: A WASTE WHICH HAS A PH OF LESS THAN 2 OR GREATER THAN 12.5 IS CONSIDERED TO BE A CORROSIVE HAZARDOUS WASTE. SODIUM HYDROXIDE, A CAUSTIC SOLUTION WITH A HIGH PH, IS OFTEN USED BY INDUSTRIES TO CLEAN OR DEGREASE PARTS. HYDROCHLORIC ACID, A SOLUTION WITH A LOW PH, IS USED BY MANY INDUSTRIES TO CLEAN METAL PARTS PRIOR TO PAINTING. WHEN THESE CAUSTIC OR ACID SOLUTIONS BECOME CONTAMINATED AND MUST BE DISPOSED, THE WASTE WOULD BE A CORROSIVE HAZARDOUS WASTE.

Waste code: D008

YARDBIRD 1379 (Continued) **1009216589**

Waste name: LEAD

Waste code: D009
Waste name: MERCURY

Waste code: D016
Waste name: 2,4-D

Waste code: D018
Waste name: BENZENE

Waste code: D035
Waste name: METHYL ETHYL KETONE

Waste code: D001
Waste name: IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.

Waste code: D002
Waste name: A WASTE WHICH HAS A PH OF LESS THAN 2 OR GREATER THAN 12.5 IS CONSIDERED TO BE A CORROSIVE HAZARDOUS WASTE. SODIUM HYDROXIDE, A CAUSTIC SOLUTION WITH A HIGH PH, IS OFTEN USED BY INDUSTRIES TO CLEAN OR DEGREASE PARTS. HYDROCHLORIC ACID, A SOLUTION WITH A LOW PH, IS USED BY MANY INDUSTRIES TO CLEAN METAL PARTS PRIOR TO PAINTING. WHEN THESE CAUSTIC OR ACID SOLUTIONS BECOME CONTAMINATED AND MUST BE DISPOSED, THE WASTE WOULD BE A CORROSIVE HAZARDOUS WASTE.

Waste code: D006
Waste name: CADMIUM

Waste code: D008
Waste name: LEAD

Waste code: D009
Waste name: MERCURY

Waste code: D016
Waste name: 2,4-D

Waste code: D018
Waste name: BENZENE

Waste code: D035
Waste name: METHYL ETHYL KETONE

Violation Status: No violations found

5
NE
< 1/8
0.087 mi.
462 ft.

MEDTRONIC CARDIOVASCULAR
3576 UNOCAL PLACE
SANTA ROSA, CA 95401

RCRA-LQG **1001195423**
FINDS **CAR000019984**

Relative:
Higher

Actual:
326 ft.

RCRA-LQG:

Date form received by agency:	02/28/2012
Facility name:	MEDTRONIC AVE UNOCAL
Facility address:	3576 UNOCAL PLACE SANTA ROSA, CA 95403
EPA ID:	CAR000019984
Mailing address:	UNOCAL PLACE SANTA ROSA, CA 95403
Contact:	ERIK KUNZ
Contact address:	UNOCAL PLACE SANTA ROSA, CA 95403
Contact country:	Not reported
Contact telephone:	(707) 591-2164
Contact email:	ERIK.KUNZ@MEDTRONIC.COM
EPA Region:	09
Land type:	Private
Classification:	Large Quantity Generator
Description:	Handler: generates 1,000 kg or more of hazardous waste during any calendar month; or generates more than 1 kg of acutely hazardous waste during any calendar month; or generates more than 100 kg of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month; or generates 1 kg or less of acutely hazardous waste during any calendar month, and accumulates more than 1 kg of acutely hazardous waste at any time; or generates 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulates more than 100 kg of that material at any time

Owner/Operator Summary:

Owner/operator name:	MEDTRONIC CARDIOVASCULAR, INC.
Owner/operator address:	UNOCAL PLACE SANTA ROSA, CA 95403
Owner/operator country:	US
Owner/operator telephone:	(707) 591-2164
Legal status:	Private
Owner/Operator Type:	Operator
Owner/Op start date:	01/02/1999
Owner/Op end date:	Not reported
Owner/operator name:	MEDTRONIC CARDIOVASCULAR
Owner/operator address:	UNOCAL PLACE SANTA ROSA, CA 95403
Owner/operator country:	Not reported
Owner/operator telephone:	(707) 591-2164
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	01/02/1999
Owner/Op end date:	Not reported
Owner/operator name:	MEDTRONIC VASCULAR
Owner/operator address:	Not reported

MEDTRONIC CARDIOVASCULAR (Continued) **1001195423**

Not reported
Owner/operator country: US
Owner/operator telephone: Not reported
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: 01/02/1999
Owner/Op end date: Not reported

Owner/operator name: MEDTRONIC VASCULAR INC
Owner/operator address: 3576 UNOCAL PL
SANTA ROSA, CA 95403
Owner/operator country: US
Owner/operator telephone: Not reported
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: 01/02/1999
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Universal Waste Summary:
Waste type: E
Accumulated waste on-site: Yes
Generated waste on-site: No

Waste type: Batteries
Accumulated waste on-site: Yes
Generated waste on-site: No

Waste type: Lamps
Accumulated waste on-site: Yes
Generated waste on-site: No

Waste type: Batteries
Accumulated waste on-site: No
Generated waste on-site: Yes

Waste type: Lamps
Accumulated waste on-site: No
Generated waste on-site: Yes

MEDTRONIC CARDIOVASCULAR (Continued) **1001195423**

Waste type: Thermostats
Accumulated waste on-site: No
Generated waste on-site: Yes

Historical Generators:
Date form received by agency: 06/08/2010
Site name: MEDTRONIC CARDIOVASCULAR
Classification: Large Quantity Generator

Date form received by agency: 02/17/2006
Site name: MEDTRONIC VASCULAR
Classification: Large Quantity Generator

Date form received by agency: 02/03/2004
Site name: MEDTRONIC VASCULAR
Classification: Large Quantity Generator

Date form received by agency: 02/26/2002
Site name: MEDTRONIC AVE UNOCAL
Classification: Large Quantity Generator

Date form received by agency: 07/14/1999
Site name: MEDTRONIC AVE
Classification: Large Quantity Generator

Hazardous Waste Summary:
Waste code: D001
Waste name: IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.

Waste code: D002
Waste name: A WASTE WHICH HAS A PH OF LESS THAN 2 OR GREATER THAN 12.5 IS CONSIDERED TO BE A CORROSIVE HAZARDOUS WASTE. SODIUM HYDROXIDE, A CAUSTIC SOLUTION WITH A HIGH PH, IS OFTEN USED BY INDUSTRIES TO CLEAN OR DEGREASE PARTS. HYDROCHLORIC ACID, A SOLUTION WITH A LOW PH, IS USED BY MANY INDUSTRIES TO CLEAN METAL PARTS PRIOR TO PAINTING. WHEN THESE CAUSTIC OR ACID SOLUTIONS BECOME CONTAMINATED AND MUST BE DISPOSED, THE WASTE WOULD BE A CORROSIVE HAZARDOUS WASTE.

Waste code: D003
Waste name: A MATERIAL IS CONSIDERED TO BE A REACTIVE HAZARDOUS WASTE IF IT IS NORMALLY UNSTABLE, REACTS VIOLENTLY WITH WATER, GENERATES TOXIC GASES WHEN EXPOSED TO WATER OR CORROSIVE MATERIALS, OR IF IT IS CAPABLE OF DETONATION OR EXPLOSION WHEN EXPOSED TO HEAT OR A FLAME. ONE EXAMPLE OF SUCH WASTE WOULD BY WASTE GUNPOWDER.

Waste code: D007
Waste name: CHROMIUM

Waste code: D011
Waste name: SILVER

MEDTRONIC CARDIOVASCULAR (Continued) **1001195423**

Waste code: D022
Waste name: CHLOROFORM

Waste code: F002
Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS: TETRACHLOROETHYLENE, METHYLENE CHLORIDE, TRICHLOROETHYLENE, 1,1,1-TRICHLOROETHANE, CHLOROBENZENE, 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE, ORTHO-DICHLOROBENZENE, TRICHLOROFLUOROMETHANE, AND 1,1,2-TRICHLOROETHANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE LISTED IN F001, F004, OR F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Waste code: F003
Waste name: THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NON-HALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS, AND, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Waste code: F005
Waste name: THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Waste code: P030
Waste name: CYANIDES (SOLUBLE CYANIDE SALTS), NOT OTHERWISE SPECIFIED

Waste code: P105
Waste name: SODIUM AZIDE

Waste code: P108
Waste name: STRYCHNIDIN-10-ONE, & SALTS

Waste code: U044
Waste name: CHLOROFORM

Waste code: U069
Waste name: 1,2-BENZENEDICARBOXYLIC ACID, DIBUTYL ESTER

Waste code: U080
Waste name: METHANE, DICHLORO-

Waste code: U197
Waste name: P-BENZOQUINONE

Waste code: D001

MEDTRONIC CARDIOVASCULAR (Continued) **1001195423**

Waste name: IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.

Waste code: D002
Waste name: A WASTE WHICH HAS A PH OF LESS THAN 2 OR GREATER THAN 12.5 IS CONSIDERED TO BE A CORROSIVE HAZARDOUS WASTE. SODIUM HYDROXIDE, A CAUSTIC SOLUTION WITH A HIGH PH, IS OFTEN USED BY INDUSTRIES TO CLEAN OR DEGREASE PARTS. HYDROCHLORIC ACID, A SOLUTION WITH A LOW PH, IS USED BY MANY INDUSTRIES TO CLEAN METAL PARTS PRIOR TO PAINTING. WHEN THESE CAUSTIC OR ACID SOLUTIONS BECOME CONTAMINATED AND MUST BE DISPOSED, THE WASTE WOULD BE A CORROSIVE HAZARDOUS WASTE.

Waste code: D003
Waste name: A MATERIAL IS CONSIDERED TO BE A REACTIVE HAZARDOUS WASTE IF IT IS NORMALLY UNSTABLE, REACTS VIOLENTLY WITH WATER, GENERATES TOXIC GASES WHEN EXPOSED TO WATER OR CORROSIVE MATERIALS, OR IF IT IS CAPABLE OF DETONATION OR EXPLOSION WHEN EXPOSED TO HEAT OR A FLAME. ONE EXAMPLE OF SUCH WASTE WOULD BY WASTE GUNPOWDER.

Waste code: D005
Waste name: BARIUM

Waste code: D007
Waste name: CHROMIUM

Waste code: D011
Waste name: SILVER

Waste code: D018
Waste name: BENZENE

Waste code: D022
Waste name: CHLOROFORM

Waste code: D040
Waste name: TRICHLOROETHYLENE

Waste code: F002
Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS: TETRACHLOROETHYLENE, METHYLENE CHLORIDE, TRICHLOROETHYLENE, 1,1,1-TRICHLOROETHANE, CHLOROBENZENE, 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE, ORTHO-DICHLOROBENZENE, TRICHLOROFLUOROMETHANE, AND 1,1,2-TRICHLOROETHANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE LISTED IN F001, F004, OR F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Waste code: F003
Waste name: THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT

MEDTRONIC CARDIOVASCULAR (Continued) **1001195423**

MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NON-HALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS, AND, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Waste code: F005
Waste name: THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Waste code: P028
Waste name: BENZENE, (CHLOROMETHYL)-

Waste code: P030
Waste name: CYANIDES (SOLUBLE CYANIDE SALTS), NOT OTHERWISE SPECIFIED

Waste code: P098
Waste name: POTASSIUM CYANIDE

Waste code: P105
Waste name: SODIUM AZIDE

Waste code: U044
Waste name: CHLOROFORM

Waste code: U117
Waste name: ETHANE, 1,1'-OXYBIS-(I)

Waste code: U162
Waste name: METHYL METHACRYLATE (I,T)

Waste code: U194
Waste name: 1-PROPANAMINE (I,T)

Waste code: U213
Waste name: FURAN, TETRAHYDRO-(I)

Waste code: U228
Waste name: ETHENE, TRICHLORO-

Waste code: U239
Waste name: BENZENE, DIMETHYL- (I,T)

Waste code: U359
Waste name: ETHANOL, 2-ETHOXY-

Waste code: U404
Waste name: ETHANAMINE, N,N-DIETHYL- (OR) TRIETHYLAMINE

Waste code: D001

MEDTRONIC CARDIOVASCULAR (Continued) **1001195423**

Waste name: IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.

Waste code: D002
Waste name: A WASTE WHICH HAS A PH OF LESS THAN 2 OR GREATER THAN 12.5 IS CONSIDERED TO BE A CORROSIVE HAZARDOUS WASTE. SODIUM HYDROXIDE, A CAUSTIC SOLUTION WITH A HIGH PH, IS OFTEN USED BY INDUSTRIES TO CLEAN OR DEGREASE PARTS. HYDROCHLORIC ACID, A SOLUTION WITH A LOW PH, IS USED BY MANY INDUSTRIES TO CLEAN METAL PARTS PRIOR TO PAINTING. WHEN THESE CAUSTIC OR ACID SOLUTIONS BECOME CONTAMINATED AND MUST BE DISPOSED, THE WASTE WOULD BE A CORROSIVE HAZARDOUS WASTE.

Waste code: D001
Waste name: IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.

Waste code: D002
Waste name: A WASTE WHICH HAS A PH OF LESS THAN 2 OR GREATER THAN 12.5 IS CONSIDERED TO BE A CORROSIVE HAZARDOUS WASTE. SODIUM HYDROXIDE, A CAUSTIC SOLUTION WITH A HIGH PH, IS OFTEN USED BY INDUSTRIES TO CLEAN OR DEGREASE PARTS. HYDROCHLORIC ACID, A SOLUTION WITH A LOW PH, IS USED BY MANY INDUSTRIES TO CLEAN METAL PARTS PRIOR TO PAINTING. WHEN THESE CAUSTIC OR ACID SOLUTIONS BECOME CONTAMINATED AND MUST BE DISPOSED, THE WASTE WOULD BE A CORROSIVE HAZARDOUS WASTE.

Waste code: D007
Waste name: CHROMIUM

Waste code: D022
Waste name: CHLOROFORM

Waste code: F002
Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS: TETRACHLOROETHYLENE, METHYLENE CHLORIDE, TRICHLOROETHYLENE, 1,1,1-TRICHLOROETHANE, CHLOROBENZENE, 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE, ORTHO-DICHLOROBENZENE, TRICHLOROFLUOROMETHANE, AND 1,1,2-TRICHLOROETHANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE LISTED IN F001, F004, OR F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Waste code: F003
Waste name: THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT

MEDTRONIC CARDIOVASCULAR (Continued) **1001195423**

NON-HALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS, AND, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Waste code: 134
Waste name: 134

Waste code: 141
Waste name: 141

Waste code: 181
Waste name: 181

Waste code: 212
Waste name: 212

Waste code: 221
Waste name: 221

Waste code: 281
Waste name: 281

Waste code: 331
Waste name: 331

Waste code: 343
Waste name: 343

Waste code: 352
Waste name: 352

Waste code: 551
Waste name: 551

Waste code: D001
Waste name: IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.

Waste code: D002
Waste name: A WASTE WHICH HAS A PH OF LESS THAN 2 OR GREATER THAN 12.5 IS CONSIDERED TO BE A CORROSIVE HAZARDOUS WASTE. SODIUM HYDROXIDE, A CAUSTIC SOLUTION WITH A HIGH PH, IS OFTEN USED BY INDUSTRIES TO CLEAN OR DEGREASE PARTS. HYDROCHLORIC ACID, A SOLUTION WITH A LOW PH, IS USED BY MANY INDUSTRIES TO CLEAN METAL PARTS PRIOR TO PAINTING. WHEN THESE CAUSTIC OR ACID SOLUTIONS BECOME CONTAMINATED AND MUST BE DISPOSED, THE WASTE WOULD BE A CORROSIVE HAZARDOUS WASTE.

Waste code: D007
Waste name: CHROMIUM

MEDTRONIC CARDIOVASCULAR (Continued) **1001195423**

Waste code: D022
Waste name: CHLOROFORM

Waste code: F002
Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS: TETRACHLOROETHYLENE, METHYLENE CHLORIDE, TRICHLOROETHYLENE, 1,1,1-TRICHLOROETHANE, CHLOROBENZENE, 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE, ORTHO-DICHLOROBENZENE, TRICHLOROFLUOROMETHANE, AND 1,1,2-TRICHLOROETHANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE LISTED IN F001, F004, OR F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Waste code: F003
Waste name: THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NON-HALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS, AND, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Biennial Reports:

Last Biennial Reporting Year: 2013

Annual Waste Handled:
Waste code: D001
Waste name: IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.
Amount (Lbs): 17692

Waste code: D002
Waste name: A WASTE WHICH HAS A PH OF LESS THAN 2 OR GREATER THAN 12.5 IS CONSIDERED TO BE A CORROSIVE HAZARDOUS WASTE. SODIUM HYDROXIDE, A CAUSTIC SOLUTION WITH A HIGH PH, IS OFTEN USED BY INDUSTRIES TO CLEAN OR DEGREASE PARTS. HYDROCHLORIC ACID, A SOLUTION WITH A LOW PH, IS USED BY MANY INDUSTRIES TO CLEAN METAL PARTS PRIOR TO PAINTING. WHEN THESE CAUSTIC OR ACID SOLUTIONS BECOME CONTAMINATED AND MUST BE DISPOSED, THE WASTE WOULD BE A CORROSIVE HAZARDOUS WASTE.
Amount (Lbs): 2766

Waste code: D003
Waste name: A MATERIAL IS CONSIDERED TO BE A REACTIVE HAZARDOUS WASTE IF IT IS NORMALLY UNSTABLE, REACTS VIOLENTLY WITH WATER, GENERATES TOXIC GASES WHEN EXPOSED TO WATER OR CORROSIVE MATERIALS, OR IF IT IS CAPABLE OF DETONATION OR EXPLOSION WHEN EXPOSED TO HEAT OR A FLAME. ONE EXAMPLE OF SUCH WASTE WOULD BY WASTE GUNPOWDER.
Amount (Lbs): 1136

MEDTRONIC CARDIOVASCULAR (Continued) **1001195423**

Waste code: D005
Waste name: BARIUM
Amount (Lbs): 1136

Waste code: D007
Waste name: CHROMIUM
Amount (Lbs): 2766

Waste code: D011
Waste name: SILVER
Amount (Lbs): 1136

Waste code: D018
Waste name: BENZENE
Amount (Lbs): 1136

Waste code: D022
Waste name: CHLOROFORM
Amount (Lbs): 16602

Waste code: D040
Waste name: TRICHLOROETHYLENE
Amount (Lbs): 1136

Waste code: F002
Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS: TETRACHLOROETHYLENE, METHYLENE CHLORIDE, TRICHLOROETHYLENE, 1,1,1-TRICHLOROETHANE, CHLOROBENZENE, 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE, ORTHO-DICHLOROBENZENE, TRICHLOROFLUOROMETHANE, AND 1,1,2-TRICHLOROETHANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE LISTED IN F001, F004, OR F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
Amount (Lbs): 16261

Waste code: F003
Waste name: THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NON-HALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS, AND, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
Amount (Lbs): 12217

Waste code: F005
Waste name: THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

MEDTRONIC CARDIOVASCULAR (Continued) **1001195423**

Amount (Lbs): 15466

Waste code: P028
Waste name: BENZENE, (CHLOROMETHYL)-
Amount (Lbs): 1136

Waste code: P105
Waste name: SODIUM AZIDE
Amount (Lbs): 1136

Waste code: U044
Waste name: CHLOROFORM
Amount (Lbs): 1136

Waste code: U117
Waste name: ETHANE, 1,1'-OXYBIS-(I)
Amount (Lbs): 1136

Waste code: U162
Waste name: METHYL METHACRYLATE (I,T)
Amount (Lbs): 1136

Waste code: U194
Waste name: 1-PROPANAMINE (I,T)
Amount (Lbs): 1136

Waste code: U213
Waste name: FURAN, TETRAHYDRO-(I)
Amount (Lbs): 1136

Waste code: U228
Waste name: ETHENE, TRICHLORO-
Amount (Lbs): 1136

Waste code: U239
Waste name: BENZENE, DIMETHYL- (I,T)
Amount (Lbs): 120

Waste code: U359
Waste name: ETHANOL, 2-ETHOXY-
Amount (Lbs): 1136

Waste code: U404
Waste name: ETHANAMINE, N,N-DIETHYL- (OR) TRIETHYLAMINE
Amount (Lbs): 1136

Facility Has Received Notices of Violations:
Regulation violated: Not reported
Area of violation: Generators - General
Date violation determined: 02/23/2005
Date achieved compliance: 02/23/2005
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 02/23/2005
Enf. disposition status: Not reported
Enf. disp. status date: Not reported

MEDTRONIC CARDIOVASCULAR (Continued) **1001195423**

Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: Generators - General
Date violation determined: 02/17/2004
Date achieved compliance: 02/17/2004
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 02/17/2004
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: F - 262.30-34.C
Area of violation: Generators - General
Date violation determined: 12/15/2000
Date achieved compliance: 02/06/2001
Violation lead agency: EPA
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: F - 262.30-34.C
Area of violation: Generators - General
Date violation determined: 12/15/2000
Date achieved compliance: 02/06/2001
Violation lead agency: EPA
Enforcement action: Not reported
Enforcement action date: 02/16/2001
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: F - 262.40-43.D
Area of violation: Generators - General
Date violation determined: 12/15/2000
Date achieved compliance: 06/21/2001
Violation lead agency: EPA
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported

MEDTRONIC CARDIOVASCULAR (Continued) **1001195423**

Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: F - 262.40-43.D
Area of violation: Generators - General
Date violation determined: 12/15/2000
Date achieved compliance: 06/21/2001
Violation lead agency: EPA
Enforcement action: Not reported
Enforcement action date: 02/16/2001
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: F - 262.40-43.D
Area of violation: Generators - General
Date violation determined: 12/15/2000
Date achieved compliance: 06/21/2001
Violation lead agency: EPA
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 05/08/2001
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: F - 262.30-34.C
Area of violation: Generators - General
Date violation determined: 12/15/2000
Date achieved compliance: 02/06/2001
Violation lead agency: EPA
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 05/08/2001
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Evaluation Action Summary:
Evaluation date: 02/23/2005
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 02/23/2005
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 02/23/2005

MEDTRONIC CARDIOVASCULAR (Continued) **1001195423**

Evaluation lead agency: State Contractor/Grantee

Evaluation date: 02/17/2004
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 02/17/2004
Evaluation lead agency: State Contractor/Grantee

Evaluation date: 12/15/2000
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 02/06/2001
Evaluation lead agency: EPA

Evaluation date: 12/15/2000
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 06/21/2001
Evaluation lead agency: EPA

FINDS:

Registry ID: 110055665819

Environmental Interest/Information System
STATE MASTER

Registry ID: 110002917504

Environmental Interest/Information System
California Hazardous Waste Tracking System - Datamart (HWTS-DATAMART) provides California with information on hazardous waste shipments for generators, transporters, and treatment, storage, and disposal facilities.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

HAZARDOUS WASTE BIENNIAL REPORTER

CRITERIA AND HAZARDOUS AIR POLLUTANT INVENTORY

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6 **EDR US Hist Auto Stat** **1015446864**
SSW **3575 MENDOCINO AVE** **N/A**
1/8-1/4 **SANTA ROSA, CA 95403**
0.140 mi.
741 ft.

Relative:
Lower

Actual:
151 ft.

EDR Historical Auto Stations:
Name: JOURNEYS END MOBILE HOME PARK
Year: 2006
Address: 3575 MENDOCINO AVE

B7
SSW
1/8-1/4
0.156 mi.
825 ft.

SANTA ROSA IMAGING CNTR
3536 MENDOCINO AVE STE 280
SANTA ROSA, CA 95403

Site 1 of 2 in cluster B

RCRA-SQG
FINDS

1004675624
CAR000075267

Relative:
Lower

Actual:
152 ft.

RCRA-SQG:

Date form received by agency:	06/06/2000
Facility name:	SANTA ROSA IMAGING CNTR
Facility address:	3536 MENDOCINO AVE STE 280 SANTA ROSA, CA 954033634
EPA ID:	CAR000075267
Contact:	KEITH DIEHL
Contact address:	3536 MENDOCINO AVE STE 280 SANTA ROSA, CA 954033634
Contact country:	US
Contact telephone:	(707) 579-8226
Contact email:	Not reported
EPA Region:	09
Classification:	Small Small Quantity Generator
Description:	Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:

Owner/operator name:	RAD NET CORP
Owner/operator address:	1516 COTNER AVE LOS ANGELES, CA 90025
Owner/operator country:	Not reported
Owner/operator telephone:	(310) 445-2800
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported

Handler Activities Summary:

U.S. importer of hazardous waste:	No
Mixed waste (haz. and radioactive):	No
Recycler of hazardous waste:	No
Transporter of hazardous waste:	No
Treater, storer or disposer of HW:	No
Underground injection activity:	No
On-site burner exemption:	No
Furnace exemption:	No
Used oil fuel burner:	No
Used oil processor:	No
User oil refiner:	No
Used oil fuel marketer to burner:	No
Used oil Specification marketer:	No
Used oil transfer facility:	No
Used oil transporter:	No

Hazardous Waste Summary:

Waste code:	D000
Waste name:	Not Defined

SANTA ROSA IMAGING CNTR (Continued) **1004675624**

Waste code: D011
Waste name: SILVER

Violation Status: No violations found

FINDS:

Registry ID: 110002938304

Environmental Interest/Information System

California Hazardous Waste Tracking System - Datamart (HWTS-DATAMART) provides California with information on hazardous waste shipments for generators, transporters, and treatment, storage, and disposal facilities.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

B8 **PACIFIC BELL** **RCRA NonGen / NLR** **1000251626**
SSW **3418-3420-3422 MENDOCINO AVE** **FINDS** **CAT080026008**
1/8-1/4 **SANTA ROSA, CA 95401**
0.196 mi.
1034 ft. **Site 2 of 2 in cluster B**

Relative:
Lower

Actual:
149 ft.

RCRA NonGen / NLR:
Date form received by agency: 01/22/1981
Facility name: PACIFIC BELL
Facility address: 3418-3420-3422 MENDOCINO AVE
SANTA ROSA, CA 95401
EPA ID: CAT080026008
Mailing address: 3707 KINGS WAY SEC A-6
SACRAMENTO, CA 95821
Contact: ENVIRONMENTAL MANAGER
Contact address: 3418-3420-3422 MENDOCINO AVE
SANTA ROSA, CA 95401
Contact country: US
Contact telephone: (916) 485-0997
Contact email: Not reported
EPA Region: 09
Classification: Non-Generator
Description: Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:
Owner/operator name: GREENBRIARS PROPERTIES
Owner/operator address: NOT REQUIRED
NOT REQUIRED, ME 99999
Owner/operator country: Not reported
Owner/operator telephone: (415) 555-1212
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: Not reported
Owner/Op end date: Not reported

PACIFIC BELL (Continued) **1000251626**

Owner/operator name: NOT REQUIRED
Owner/operator address: NOT REQUIRED
NOT REQUIRED, ME 99999
Owner/operator country: Not reported
Owner/operator telephone: (415) 555-1212
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Violation Status: No violations found

FINDS:

Registry ID: 110008295255

Environmental Interest/Information System
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

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9 **K-MART #4340** **LUST** **S101304904**
West **CLEVELAND AVENUE 3771** **N/A**
1/8-1/4 **SANTA ROSA, CA**
0.238 mi.
1257 ft.

Relative:
Lower

Actual:
143 ft.

LUST REG 1:
Region: 1
Facility ID: 1TSR153
Staff Initials: Closed

10
WNW
1/4-1/2
0.303 mi.
1602 ft.

K-MART #4340
3771 CLEVELAND
SANTA ROSA, CA 95401

HIST CORTESE
LUST

S100938341
N/A

Relative:
Lower

Actual:
142 ft.

HIST CORTESE:

Region:	CORTESE
Facility County Code:	49
Reg By:	LTNKA
Reg Id:	1TSR153

LUST:

Region:	STATE
Global Id:	T0609700650
Latitude:	38.477549
Longitude:	-122.734207
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	10/03/1996
Lead Agency:	NORTH COAST RWQCB (REGION 1)
Case Worker:	ZZZ
Local Agency:	SANTA ROSA, CITY OF
RB Case Number:	1TSR153
LOC Case Number:	Not reported
File Location:	Not reported
Potential Media Affect:	Aquifer used for drinking water supply
Potential Contaminants of Concern:	Waste Oil / Motor / Hydraulic / Lubricating
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0609700650
Contact Type:	Regional Board Caseworker
Contact Name:	REGIONAL WATER BOARD SITE CLOSED
Organization Name:	NORTH COAST RWQCB (REGION 1)
Address:	5550 SKYLANE BOULEVARD, SUITE A
City:	SANTA ROSA
Email:	craig.hunt@waterboards.ca.gov
Phone Number:	7075762220

Global Id:	T0609700650
Contact Type:	Local Agency Caseworker
Contact Name:	LOCAL PERMIT WORKER SANTA ROSA
Organization Name:	SANTA ROSA, CITY OF
Address:	625 5th Street
City:	SANTA ROSA
Email:	Not reported
Phone Number:	7075433500

Status History:

Global Id:	T0609700650
Status:	Open - Remediation
Status Date:	10/02/1996

Global Id:	T0609700650
Status:	Open - Case Begin Date
Status Date:	05/08/1990

K-MART #4340 (Continued) **S100938341**

Global Id: T0609700650
Status: Open - Site Assessment
Status Date: 01/11/1993

Global Id: T0609700650
Status: Open - Site Assessment
Status Date: 05/18/1990

Global Id: T0609700650
Status: Open - Verification Monitoring
Status Date: 10/02/1996

Global Id: T0609700650
Status: Open - Site Assessment
Status Date: 10/26/1992

Global Id: T0609700650
Status: Open - Site Assessment
Status Date: 07/27/1995

Global Id: T0609700650
Status: Completed - Case Closed
Status Date: 10/03/1996

Regulatory Activities:
Global Id: T0609700650
Action Type: Other
Date: 05/08/1990
Action: Leak Stopped

Global Id: T0609700650
Action Type: ENFORCEMENT
Date: 05/18/1990
Action: * Historical Enforcement

Global Id: T0609700650
Action Type: Other
Date: 05/08/1990
Action: Leak Reported

Global Id: T0609700650
Action Type: Other
Date: 05/08/1990
Action: Leak Discovery

C11 **UNOCAL #5671** **LUST** **S100467639**
WSW **CLEVELAND AVENUE 3551** **N/A**
1/4-1/2 **SANTA ROSA, CA**
0.311 mi.
1644 ft. **Site 1 of 2 in cluster C**

Relative:
Lower

Actual:
141 ft.

LUST REG 1:
Region: 1
Facility ID: 1TSR026
Staff Initials: SKB

C12 **UNOCAL SERVICE STATION #5671** **HIST CORTESE** **S100179396**
WSW **3551 CLEVELAND** **LUST** **N/A**
1/4-1/2 **SANTA ROSA, CA 93582** **SWEEPS UST**
0.311 mi. **Notify 65**
1644 ft. **Site 2 of 2 in cluster C**

Relative:
Lower

Actual:
141 ft.

HIST CORTESE:

Region:	CORTESE
Facility County Code:	49
Reg By:	LTNKA
Reg Id:	1TSR026

LUST:

Region:	STATE
Global Id:	T0609700549
Latitude:	38.476289222
Longitude:	-122.733262925
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	03/21/2014
Lead Agency:	NORTH COAST RWQCB (REGION 1)
Case Worker:	ZZZ
Local Agency:	SANTA ROSA, CITY OF
RB Case Number:	1TSR026
LOC Case Number:	Not reported
File Location:	Regional Board
Potential Media Affect:	Aquifer used for drinking water supply
Potential Contaminants of Concern:	Gasoline
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0609700549
Contact Type:	Regional Board Caseworker
Contact Name:	REGIONAL WATER BOARD SITE CLOSED
Organization Name:	NORTH COAST RWQCB (REGION 1)
Address:	5550 SKYLANE BOULEVARD, SUITE A
City:	SANTA ROSA
Email:	craig.hunt@waterboards.ca.gov
Phone Number:	7075762220

Global Id:	T0609700549
Contact Type:	Local Agency Caseworker
Contact Name:	LOCAL PERMIT WORKER SANTA ROSA
Organization Name:	SANTA ROSA, CITY OF
Address:	625 5th Street
City:	SANTA ROSA
Email:	Not reported
Phone Number:	7075433500

Status History:

Global Id:	T0609700549
Status:	Open - Case Begin Date
Status Date:	02/26/1987

Global Id:	T0609700549
Status:	Open - Site Assessment
Status Date:	09/23/1987

UNOCAL SERVICE STATION #5671 (Continued) **S100179396**

Global Id: T0609700549
Status: Open - Site Assessment
Status Date: 08/22/2001

Global Id: T0609700549
Status: Open - Eligible for Closure
Status Date: 04/23/2013

Global Id: T0609700549
Status: Completed - Case Closed
Status Date: 03/21/2014

Global Id: T0609700549
Status: Open - Site Assessment
Status Date: 06/19/1991

Global Id: T0609700549
Status: Open - Site Assessment
Status Date: 04/01/1988

Global Id: T0609700549
Status: Open - Site Assessment
Status Date: 03/01/1988

Global Id: T0609700549
Status: Open - Site Assessment
Status Date: 03/24/2000

Global Id: T0609700549
Status: Open - Site Assessment
Status Date: 05/12/2000

Regulatory Activities:

Global Id: T0609700549
Action Type: RESPONSE
Date: 03/30/2002
Action: Monitoring Report - Quarterly

Global Id: T0609700549
Action Type: RESPONSE
Date: 05/06/2002
Action: Other Report / Document

Global Id: T0609700549
Action Type: RESPONSE
Date: 11/15/2002
Action: Soil and Water Investigation Workplan

Global Id: T0609700549
Action Type: ENFORCEMENT
Date: 04/17/2000
Action: * Historical Enforcement

Global Id: T0609700549
Action Type: RESPONSE
Date: 07/02/2013
Action: Well Destruction Workplan

UNOCAL SERVICE STATION #5671 (Continued) **S100179396**

Global Id:	T0609700549
Action Type:	RESPONSE
Date:	11/01/2010
Action:	Soil and Water Investigation Workplan - Addendum
Global Id:	T0609700549
Action Type:	ENFORCEMENT
Date:	09/19/2002
Action:	Staff Letter
Global Id:	T0609700549
Action Type:	ENFORCEMENT
Date:	03/08/2002
Action:	Staff Letter
Global Id:	T0609700549
Action Type:	RESPONSE
Date:	02/27/2011
Action:	Soil and Water Investigation Workplan - Addendum
Global Id:	T0609700549
Action Type:	RESPONSE
Date:	07/26/2010
Action:	Other Report / Document
Global Id:	T0609700549
Action Type:	ENFORCEMENT
Date:	05/01/2006
Action:	Staff Letter
Global Id:	T0609700549
Action Type:	ENFORCEMENT
Date:	07/30/2009
Action:	File review
Global Id:	T0609700549
Action Type:	ENFORCEMENT
Date:	05/25/2010
Action:	Staff Letter
Global Id:	T0609700549
Action Type:	ENFORCEMENT
Date:	09/03/2013
Action:	Staff Letter
Global Id:	T0609700549
Action Type:	Other
Date:	02/26/1987
Action:	Leak Stopped
Global Id:	T0609700549
Action Type:	ENFORCEMENT
Date:	07/11/2013
Action:	Staff Letter
Global Id:	T0609700549
Action Type:	RESPONSE

UNOCAL SERVICE STATION #5671 (Continued) **S100179396**

Date: 07/26/2010
Action: Soil and Water Investigation Workplan

Global Id: T0609700549
Action Type: ENFORCEMENT
Date: 11/26/2002
Action: Staff Letter

Global Id: T0609700549
Action Type: ENFORCEMENT
Date: 09/04/2012
Action: Staff Letter

Global Id: T0609700549
Action Type: ENFORCEMENT
Date: 05/02/2013
Action: Notification - Public Notice of Case Closure

Global Id: T0609700549
Action Type: RESPONSE
Date: 05/22/2013
Action: Other Report / Document

Global Id: T0609700549
Action Type: RESPONSE
Date: 08/11/2013
Action: Well Destruction Workplan

Global Id: T0609700549
Action Type: ENFORCEMENT
Date: 01/28/2011
Action: Staff Letter

Global Id: T0609700549
Action Type: ENFORCEMENT
Date: 05/08/2012
Action: Technical Correspondence / Assistance / Other

Global Id: T0609700549
Action Type: RESPONSE
Date: 11/01/2006
Action: Soil and Water Investigation Report

Global Id: T0609700549
Action Type: ENFORCEMENT
Date: 04/04/2007
Action: Staff Letter

Global Id: T0609700549
Action Type: Other
Date: 01/01/1964
Action: Leak Began

Global Id: T0609700549
Action Type: ENFORCEMENT
Date: 05/03/2013
Action: Staff Letter

UNOCAL SERVICE STATION #5671 (Continued) **S100179396**

Global Id: T0609700549
Action Type: ENFORCEMENT
Date: 10/28/2013
Action: Verbal Enforcement

Global Id: T0609700549
Action Type: ENFORCEMENT
Date: 09/16/2010
Action: Staff Letter

Global Id: T0609700549
Action Type: ENFORCEMENT
Date: 05/05/2011
Action: Staff Letter

Global Id: T0609700549
Action Type: RESPONSE
Date: 08/22/2013
Action: Well Destruction Workplan - Regulator Responded

Global Id: T0609700549
Action Type: ENFORCEMENT
Date: 03/21/2014
Action: Closure/No Further Action Letter

Global Id: T0609700549
Action Type: RESPONSE
Date: 06/14/2007
Action: Sensitive Receptor Survey Report

Global Id: T0609700549
Action Type: Other
Date: 02/26/1987
Action: Leak Reported

Global Id: T0609700549
Action Type: RESPONSE
Date: 11/01/2002
Action: Soil and Water Investigation Workplan

Global Id: T0609700549
Action Type: Other
Date: 02/26/1987
Action: Leak Discovery

Global Id: T0609700549
Action Type: ENFORCEMENT
Date: 07/30/2009
Action: 13267 Monitoring Program

Global Id: T0609700549
Action Type: ENFORCEMENT
Date: 04/01/2014
Action: Rescission of Enforcement Action

Global Id: T0609700549
Action Type: RESPONSE

UNOCAL SERVICE STATION #5671 (Continued) **S100179396**

Date: 04/01/2013
Action: Monitoring Report - Other

Global Id: T0609700549
Action Type: RESPONSE
Date: 11/04/2012
Action: Conceptual Site Model

SWEEPS UST:
Status: Active
Comp Number: 33681
Number: 1
Board Of Equalization: 44-000057
Referral Date: 04-21-94
Action Date: 06-24-94
Created Date: 02-29-88
Owner Tank Id: 1
SWRCB Tank Id: 49-060-033681-000001
Tank Status: A
Capacity: 12000
Active Date: 04-21-94
Tank Use: M.V. FUEL
STG: P
Content: REG UNLEADED
Number Of Tanks: 3

Status: Active
Comp Number: 33681
Number: 1
Board Of Equalization: 44-000057
Referral Date: 04-21-94
Action Date: 06-24-94
Created Date: 02-29-88
Owner Tank Id: 2
SWRCB Tank Id: 49-060-033681-000002
Tank Status: A
Capacity: 12000
Active Date: 04-21-94
Tank Use: M.V. FUEL
STG: P
Content: PRM UNLEADED
Number Of Tanks: Not reported

Status: Active
Comp Number: 33681
Number: 1
Board Of Equalization: 44-000057
Referral Date: 04-21-94
Action Date: 06-24-94
Created Date: 02-29-88
Owner Tank Id: 3
SWRCB Tank Id: 49-060-033681-000003
Tank Status: A
Capacity: 520
Active Date: 04-21-94
Tank Use: OIL

UNOCAL SERVICE STATION #5671 (Continued) **S100179396**

STG:	W
Content:	WASTE OIL
Number Of Tanks:	Not reported
Status:	Not reported
Comp Number:	33681
Number:	Not reported
Board Of Equalization:	44-000057
Referral Date:	Not reported
Action Date:	Not reported
Created Date:	Not reported
Owner Tank Id:	Not reported
SWRCB Tank Id:	49-060-033681-000004
Tank Status:	Not reported
Capacity:	280
Active Date:	Not reported
Tank Use:	OIL
STG:	WASTE
Content:	WASTE OIL
Number Of Tanks:	1

Notify 65:

Date Reported:	Not reported
Staff Initials:	Not reported
Board File Number:	Not reported
Facility Type:	Not reported
Discharge Date:	Not reported
Incident Description:	93582

13
WNW
1/4-1/2
0.314 mi.
1659 ft.

CHALET MOTEL
3880 OLD REDWOOD HIGHWAY
SANTA ROSA, CA 95403

Cortese **S105026513**
HIST CORTESE **N/A**
ENF

Relative:
Lower

Actual:
154 ft.

CORTESE:

Region:	CORTESE
Envirostor Id:	Not reported
Site/Facility Type:	Not reported
Cleanup Status:	Not reported
Status Date:	Not reported
Site Code:	Not reported
Latitude:	Not reported
Longitude:	Not reported
Owner:	Not reported
Enf Type:	Not reported
Swat R:	Not reported
Flag:	CORTESE
Order No:	Not reported
Waste Discharge System No:	Not reported
Effective Date:	Not reported
Region 2:	Not reported
WID Id:	Not reported
Solid Waste Id No:	Not reported
Waste Management Uit Name:	Not reported

CHALET MOTEL (Continued) **S105026513**

HIST CORTESE:

Region:	CORTESE
Facility County Code:	49
Reg By:	WBC&D
Reg Id:	1B88044CNSO

ENF:

Region:	1
Facility Id:	213994
Agency Name:	Not reported
Place Type:	Facility
Place Subtype:	Not reported
Facility Type:	All other facilities
Agency Type:	Not reported
# Of Agencies:	Not reported
Place Latitude:	38.481496
Place Longitude:	-122.734109
SIC Code 1:	Not reported
SIC Desc 1:	Not reported
SIC Code 2:	Not reported
SIC Desc 2:	Not reported
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Enf Action
Design Flow:	Not reported
Threat To Water Quality:	Not reported
Complexity:	Not reported
Pretreatment:	Not reported
Facility Waste Type:	Not reported
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	Not reported
Program Category1:	Not reported
Program Category2:	UNREGS
# Of Programs:	Not reported
WDID:	Not reported
Reg Measure Id:	Not reported
Reg Measure Type:	Not reported
Region:	Not reported
Order #:	Not reported
Npdes# CA#:	Not reported
Major-Minor:	Not reported
Npdes Type:	Not reported
Reclamation:	Not reported
Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	Not reported
Status:	Not reported

CHALET MOTEL (Continued) **S105026513**

Status Date:	Not reported
Effective Date:	Not reported
Expiration/Review Date:	Not reported
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	Not reported
Individual/General:	Not reported
Fee Code:	Not reported
Direction/Voice:	Not reported
Enforcement Id(EID):	219084
Region:	1
Order / Resolution Number:	88-095
Enforcement Action Type:	Clean-up and Abatement Order
Effective Date:	06/27/1988
Adoption/Issuance Date:	Not reported
Achieve Date:	Not reported
Termination Date:	12/31/2004
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	Enforcement - 1B88044CNSO Chalet Motel
Description:	RAW SEWAGE REPORTED BY CITY OF SANTA ROSA POLICE DEPT. SPILL RESULTING FROM MALFUNC SEPTIC SYSTEM
Program:	DISCHLND
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	$0.00
Initial Assessed Amount:	$0.00
Liability $ Amount:	$0.00
Project $ Amount:	$0.00
Liability $ Paid:	$0.00
Project $ Completed:	$0.00
Total $ Paid/Completed Amount:	$0.00

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14 **SHELL** **HIST CORTESE** **S101304903**
WSW **3453 CLEVELAND AVENUE** **LUST** **N/A**
1/4-1/2 **SANTA ROSA, CA 95401**
0.323 mi.
1703 ft.

Relative:
Lower

Actual:
140 ft.

HIST CORTESE:

Region:	CORTESE
Facility County Code:	49
Reg By:	LTNKA
Reg Id:	1TSR023

LUST:

Region:	STATE
Global Id:	T0609700546
Latitude:	38.475614053
Longitude:	-122.733226466
Case Type:	LUST Cleanup Site

SHELL (Continued) **S101304903**

Status:	Completed - Case Closed
Status Date:	05/27/2014
Lead Agency:	NORTH COAST RWQCB (REGION 1)
Case Worker:	ZZZ
Local Agency:	SANTA ROSA, CITY OF
RB Case Number:	1TSR023
LOC Case Number:	Not reported
File Location:	Regional Board
Potential Media Affect:	Aquifer used for drinking water supply
Potential Contaminants of Concern:	Benzene, MTBE / TBA / Other Fuel Oxygenates, Gasoline
Site History:	This is an active service station with a documented release of petroleum hydrocarbons and fuel oxygenates to soil and groundwater. Soil and groundwater contamination was reported in December 1989. Overexcavation of contaminanted soil was completed in 2005. The site was closed under the SWRCB's LTCP in May, 2014.

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0609700546
Contact Type:	Local Agency Caseworker
Contact Name:	LOCAL PERMIT WORKER SANTA ROSA
Organization Name:	SANTA ROSA, CITY OF
Address:	625 5th Street
City:	SANTA ROSA
Email:	Not reported
Phone Number:	7075433500

Status History:

Global Id:	T0609700546
Status:	Open - Site Assessment
Status Date:	10/05/1987
Global Id:	T0609700546
Status:	Open - Site Assessment
Status Date:	02/15/1990
Global Id:	T0609700546
Status:	Open - Eligible for Closure
Status Date:	07/08/2013
Global Id:	T0609700546
Status:	Completed - Case Closed
Status Date:	05/27/2014
Global Id:	T0609700546
Status:	Open - Case Begin Date
Status Date:	10/05/1987
Global Id:	T0609700546
Status:	Open - Site Assessment
Status Date:	03/30/1990
Global Id:	T0609700546
Status:	Open - Site Assessment
Status Date:	05/01/1991

SHELL (Continued) **S101304903**

Regulatory Activities:

Global Id:	T0609700546
Action Type:	RESPONSE
Date:	12/15/2013
Action:	Well Destruction Report
Global Id:	T0609700546
Action Type:	RESPONSE
Date:	04/27/2012
Action:	Soil and Water Investigation Workplan - Addendum
Global Id:	T0609700546
Action Type:	RESPONSE
Date:	10/03/2011
Action:	Soil and Water Investigation Workplan
Global Id:	T0609700546
Action Type:	ENFORCEMENT
Date:	08/26/1999
Action:	* Historical Enforcement
Global Id:	T0609700546
Action Type:	ENFORCEMENT
Date:	01/24/2012
Action:	Staff Letter
Global Id:	T0609700546
Action Type:	ENFORCEMENT
Date:	12/09/2010
Action:	Staff Letter
Global Id:	T0609700546
Action Type:	REMEDIATION
Date:	02/14/1992
Action:	Excavation
Global Id:	T0609700546
Action Type:	ENFORCEMENT
Date:	07/30/2009
Action:	File review
Global Id:	T0609700546
Action Type:	ENFORCEMENT
Date:	07/28/2009
Action:	Staff Letter
Global Id:	T0609700546
Action Type:	ENFORCEMENT
Date:	08/23/2012
Action:	Staff Letter
Global Id:	T0609700546
Action Type:	ENFORCEMENT
Date:	08/30/2013
Action:	Notification - Public Notice of Case Closure
Global Id:	T0609700546

SHELL (Continued) **S101304903**

Action Type: RESPONSE
Date: 11/02/2008
Action: Soil and Water Investigation Report

Global Id: T0609700546
Action Type: RESPONSE
Date: 04/08/2011
Action: Other Report / Document

Global Id: T0609700546
Action Type: REMEDIATION
Date: 04/12/2005
Action: Excavation

Global Id: T0609700546
Action Type: ENFORCEMENT
Date: 10/15/2013
Action: Staff Letter

Global Id: T0609700546
Action Type: ENFORCEMENT
Date: 06/03/2013
Action: Verbal Enforcement

Global Id: T0609700546
Action Type: RESPONSE
Date: 08/16/2013
Action: Request for Closure

Global Id: T0609700546
Action Type: ENFORCEMENT
Date: 08/30/2013
Action: Staff Letter

Global Id: T0609700546
Action Type: ENFORCEMENT
Date: 07/19/2011
Action: Staff Letter

Global Id: T0609700546
Action Type: ENFORCEMENT
Date: 04/12/2009
Action: Staff Letter

Global Id: T0609700546
Action Type: ENFORCEMENT
Date: 11/19/2013
Action: Verbal Enforcement

Global Id: T0609700546
Action Type: ENFORCEMENT
Date: 05/05/2009
Action: Staff Letter

Global Id: T0609700546
Action Type: RESPONSE
Date: 10/30/2013

SHELL (Continued) **S101304903**

Action: Well Destruction Workplan - Regulator Responded

Global Id: T0609700546
Action Type: RESPONSE
Date: 10/02/2013
Action: Well Destruction Workplan - Regulator Responded

Global Id: T0609700546
Action Type: ENFORCEMENT
Date: 08/17/2010
Action: File review

Global Id: T0609700546
Action Type: Other
Date: 12/18/1989
Action: Leak Reported

Global Id: T0609700546
Action Type: ENFORCEMENT
Date: 09/02/2008
Action: Staff Letter

Global Id: T0609700546
Action Type: Other
Date: 12/18/1989
Action: Leak Discovery

Global Id: T0609700546
Action Type: RESPONSE
Date: 09/30/2013
Action: Other Report / Document

Global Id: T0609700546
Action Type: ENFORCEMENT
Date: 05/27/2014
Action: Closure/No Further Action Letter

Global Id: T0609700546
Action Type: RESPONSE
Date: 09/27/2012
Action: Other Report / Document

LUST REG 1:
Region: 1
Facility ID: 1TSR023
Staff Initials: SKB

15
SSW
1/4-1/2
0.377 mi.
1993 ft.

BICENTENNIAL ROAD EXTENSION
BICENTENNIAL ROAD
SANTA ROSA, CA 95402

SLIC **S101315992**
N/A

Relative:
Lower

Actual:
147 ft.

SLIC:

Region:	STATE
Facility Status:	**Completed - Case Closed**
Status Date:	04/06/1993
Global Id:	T0609793244
Lead Agency:	NORTH COAST RWQCB (REGION 1)
Lead Agency Case Number:	Not reported
Latitude:	38.470263
Longitude:	-122.727465
Case Type:	Cleanup Program Site
Case Worker:	ZZZ
Local Agency:	SANTA ROSA, CITY OF
RB Case Number:	1NSO433
File Location:	Regional Board
Potential Media Affected:	Soil
Potential Contaminants of Concern:	Waste Oil / Motor / Hydraulic / Lubricating
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

SLIC REG 1:

Region:	1
Facility ID:	1NSO433
Staff Initials:	Facility Closed

16
WNW
1/4-1/2
0.417 mi.
2201 ft.

STEVENSON EQUIPMENT
3975 REDWOOD HIGHWAY, OLD
SANTA ROSA, CA 95404

HIST CORTESE **S101304959**
SLIC **N/A**

Relative:
Lower

Actual:
149 ft.

HIST CORTESE:

Region:	CORTESE
Facility County Code:	49
Reg By:	LTNKA
Reg Id:	1TSR024

SLIC:

Region:	STATE
Facility Status:	**Open - Verification Monitoring**
Status Date:	03/09/2009
Global Id:	T0609700547
Lead Agency:	DEPARTMENT OF TOXIC SUBSTANCES CONTROL
Lead Agency Case Number:	49650001
Latitude:	38.4803809
Longitude:	-122.7334664
Case Type:	Cleanup Program Site
Case Worker:	Not reported
Local Agency:	SANTA ROSA, CITY OF
RB Case Number:	1TSR024
File Location:	DTSC
Potential Media Affected:	Aquifer used for drinking water supply
Potential Contaminants of Concern:	Waste Oil / Motor / Hydraulic / Lubricating

STEVENSON EQUIPMENT (Continued) **S101304959**

Site History: This site is managed as a DTSC lead agency site. Groundwater has been impacted by HVOCs apparently related to past mechanic shop activities at the site. RWQCB staff recommends review of the site UST related data to assess whether case closure would be appropriate for the UST releases at the site.

Click here to access the California GeoTracker records for this facility:

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17 **BREUNERS** **HIST CORTESE** **S102425740**
West **3550 INDUSTRIAL DRIVE** **LUST** **N/A**
1/4-1/2 **SANTA ROSA, CA 95403**
0.420 mi.
2220 ft.

Relative:
Lower

Actual:
138 ft.

HIST CORTESE:

Region:	CORTESE
Facility County Code:	49
Reg By:	LTNKA
Reg Id:	1TSR176

LUST:

Region:	STATE
Global Id:	T0609700665
Latitude:	38.4768419
Longitude:	-122.7362439
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	03/30/1993
Lead Agency:	NORTH COAST RWQCB (REGION 1)
Case Worker:	ZZZ
Local Agency:	SANTA ROSA, CITY OF
RB Case Number:	1TSR176
LOC Case Number:	Not reported
File Location:	Not reported
Potential Media Affect:	Soil
Potential Contaminants of Concern:	Gasoline
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0609700665
Contact Type:	Regional Board Caseworker
Contact Name:	REGIONAL WATER BOARD SITE CLOSED
Organization Name:	NORTH COAST RWQCB (REGION 1)
Address:	5550 SKYLANE BOULEVARD, SUITE A
City:	SANTA ROSA
Email:	craig.hunt@waterboards.ca.gov
Phone Number:	7075762220

Global Id:	T0609700665
Contact Type:	Local Agency Caseworker
Contact Name:	LOCAL PERMIT WORKER SANTA ROSA
Organization Name:	SANTA ROSA, CITY OF
Address:	625 5th Street
City:	SANTA ROSA
Email:	Not reported
Phone Number:	7075433500

BREUNERS (Continued) **S102425740**

Status History:

Global Id:	T0609700665
Status:	Open - Site Assessment
Status Date:	02/08/1991
Global Id:	T0609700665
Status:	Open - Verification Monitoring
Status Date:	02/18/1992
Global Id:	T0609700665
Status:	Open - Case Begin Date
Status Date:	02/01/1991
Global Id:	T0609700665
Status:	Open - Site Assessment
Status Date:	02/05/1991
Global Id:	T0609700665
Status:	Open - Remediation
Status Date:	02/18/1992
Global Id:	T0609700665
Status:	Completed - Case Closed
Status Date:	03/30/1993
Global Id:	T0609700665
Status:	Open - Site Assessment
Status Date:	02/25/1991
Global Id:	T0609700665
Status:	Open - Site Assessment
Status Date:	02/18/1992

Regulatory Activities:

Global Id:	T0609700665
Action Type:	Other
Date:	02/01/1991
Action:	Leak Stopped
Global Id:	T0609700665
Action Type:	ENFORCEMENT
Date:	02/08/1991
Action:	* Historical Enforcement
Global Id:	T0609700665
Action Type:	Other
Date:	02/01/1991
Action:	Leak Reported
Global Id:	T0609700665
Action Type:	Other
Date:	02/01/1991
Action:	Leak Discovery

BREUNERS (Continued) **S102425740**

LUST REG 1:
Region: 1
Facility ID: 1TSR176
Staff Initials: Closed

18
NW
1/4-1/2
0.422 mi.
2228 ft.

Relative:
Lower

Actual:
152 ft.

FOUNTAINGROVE PLAZA SITE
3975 OLD REDWOOD HIGHWAY
SANTA ROSA, CA 95403

Database(s): HIST Cal-Sites, LIENS, DEED, RESPONSE, HAZNET, ENVIROSTOR

EDR ID Number: S102564485
EPA ID Number: N/A

Calsite:
Region: BERKELEY
Facility ID: 49650001
Facility Type: ERAP
Type: EXPEDITED REMEDIAL ACTION PROGRAM
Branch: NC
Branch Name: NORTH COAST
File Name: FOUNTAINGROVE PLAZA SITE
State Senate District: 03011999
Status: CERTIFIED OPERATION AND MAINTENANCE, ALL PLANNED ACTIVITIES IMPLEMENTED, REMEDIATION CONTINUES
Status Name: CERTIFIED / OPERATION & MAINTENANCE
Lead Agency: DEPT OF TOXIC SUBSTANCES CONTROL
NPL: Not Listed
SIC Code: 65
SIC Name: REAL ESTATE
Access: Controlled
Cortese: Not reported
Hazardous Ranking Score: Not reported
Date Site Hazard Ranked: Not reported
Groundwater Contamination: Not reported
Staff Member Responsible for Site: JNAITO
Supervisor Responsible for Site: Not reported
Region Water Control Board: NC
Region Water Control Board Name: NORTH COAST
Lat/Long Direction: Not reported
Lat/Long (dms): 0 0 0 / 0 0 0
Lat/long Method: Not reported
Lat/Long Description: Not reported
State Assembly District Code: 07
State Senate District Code: 02
Facility ID: 49650001
Activity: PEA
Activity Name: PRELIMINARY ENDANGERMENT ASSESSMENT
AWP Code: Not reported
Proposed Budget: 0
AWP Completion Date: Not reported
Revised Due Date: Not reported
Comments Date: 04301996
Est Person-Yrs to complete: 0
Estimated Size: Not reported
Request to Delete Activity: Not reported
Activity Status: COM
Definition of Status: CERTIFIED / OPERATION & MAINTENANCE
Liquids Removed (Gals): 0

FOUNTAINGROVE PLAZA SITE (Continued) **S102564485**

Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	49650001
Activity:	SS
Activity Name:	SITE SCREENING
AWP Code:	Not reported
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	04011996
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	COM
Definition of Status:	CERTIFIED / OPERATION & MAINTENANCE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	49650001
Activity:	PRP
Activity Name:	POTENTIAL RESPONSIBLE PARTY SEARCH
AWP Code:	Not reported
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	08211996
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	COM
Definition of Status:	CERTIFIED / OPERATION & MAINTENANCE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0

FOUNTAINGROVE PLAZA SITE (Continued) **S102564485**

Unknown Type:	0
Facility ID:	49650001
Activity:	CONF
Activity Name:	SITE CONFERENCES FOR SB 923 SITES
AWP Code:	Not reported
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	08211996
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	COM
Definition of Status:	CERTIFIED / OPERATION & MAINTENANCE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	49650001
Activity:	ORDER
Activity Name:	I/SE, IORSE, FFA, FFSRA, VCA, EA
AWP Code:	Not reported
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	01071997
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	COM
Definition of Status:	CERTIFIED / OPERATION & MAINTENANCE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	49650001
Activity:	PPP
Activity Name:	PUBLIC PARTICIPATION PLAN
AWP Code:	Not reported
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	10151996

FOUNTAINGROVE PLAZA SITE (Continued) **S102564485**

Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	COM
Definition of Status:	CERTIFIED / OPERATION & MAINTENANCE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	49650001
Activity:	RIFS
Activity Name:	REMEDIAL INVESTIGATION / FEASIBILITY STUDY
AWP Code:	Not reported
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	09301997
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	COM
Definition of Status:	CERTIFIED / OPERATION & MAINTENANCE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	49650001
Activity:	RAP
Activity Name:	REMEDIAL ACTION PLAN / RECORD OF DECISION
AWP Code:	Not reported
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	02241998
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	COM
Definition of Status:	CERTIFIED / OPERATION & MAINTENANCE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported

FOUNTAINGROVE PLAZA SITE (Continued) **S102564485**

Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	49650001
Activity:	RMDL
Activity Name:	REMEDIAL ACTION (RAP REQUIRED)
AWP Code:	Not reported
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	02261999
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	COM
Definition of Status:	CERTIFIED / OPERATION & MAINTENANCE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	N
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	49650001
Activity:	CERT
Activity Name:	CERTIFICATION
AWP Code:	Not reported
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	03011999
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	COM
Definition of Status:	CERTIFIED / OPERATION & MAINTENANCE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	14
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	49650001
Activity:	CEQA

FOUNTAINGROVE PLAZA SITE (Continued) **S102564485**

Activity Name:	CEQA INCLUDING NEGATIVE DECS
AWP Code:	NOE
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	02241998
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	COM
Definition of Status:	CERTIFIED / OPERATION & MAINTENANCE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	49650001
Activity:	ALLOC
Activity Name:	ALLOCATION OF LIABILITY FOR SB 923 SITES
AWP Code:	Not reported
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	02241998
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	COM
Definition of Status:	CERTIFIED / OPERATION & MAINTENANCE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	49650001
Activity:	ORDER
Activity Name:	I/SE, IORSE, FFA, FFSRA, VCA, EA
AWP Code:	OM
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	03011999
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported

FOUNTAINGROVE PLAZA SITE (Continued) **S102564485**

Activity Status:	COM
Definition of Status:	CERTIFIED / OPERATION & MAINTENANCE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	49650001
Activity:	DEED
Activity Name:	DEED RESTRICTIONS
AWP Code:	Not reported
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	03011999
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	COM
Definition of Status:	CERTIFIED / OPERATION & MAINTENANCE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	49650001
Activity:	OM
Activity Name:	OPERATION & MAINTENANCE
AWP Code:	Not reported
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	03011999
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	COM
Definition of Status:	CERTIFIED / OPERATION & MAINTENANCE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported

FOUNTAINGROVE PLAZA SITE (Continued) **S102564485**

For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	49650001
Activity:	5YEAR
Activity Name:	FIVE-YEAR REVIEW REQUIRED BY CERCLA
AWP Code:	Not reported
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	03262004
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	COM
Definition of Status:	CERTIFIED / OPERATION & MAINTENANCE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	49650001
Activity:	2061
Activity Name:	AB 2061 DESIGNATION
AWP Code:	Not reported
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	05291996
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	COM
Definition of Status:	CERTIFIED / OPERATION & MAINTENANCE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	49650001
Activity:	5YEAR
Activity Name:	FIVE-YEAR REVIEW REQUIRED BY CERCLA
AWP Code:	Not reported
Proposed Budget:	0

FOUNTAINGROVE PLAZA SITE (Continued) **S102564485**

AWP Completion Date:	02262009
Revised Due Date:	Not reported
Comments Date:	Not reported
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	COM
Definition of Status:	CERTIFIED / OPERATION & MAINTENANCE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Alternate Address:	3975 OLD REDWOOD HIGHWAY
Alternate City,St,Zip:	SANTA ROSA, CA 95403
Background Info:	The site consists of approximately 9 acres of flat vacant land and located on the outskirts of the City of Santa Rosa. Based on a review of historical records, it was determined that a gasoline service station operated at the site from at least the 1950's - 1964. Stevenson Equipment Company, Inc. owned the property from 1962 - 1986. Stevenson Equipment was in the business of repairing heavy equipment and selling new equipment and is no longer in business.
Comments Date:	01071997
Comments:	Signed Expedited Remedial Agreement.
Comments Date:	02241998
Comments:	Approved RAP requiring installation of groundwater extraction
Comments Date:	02241998
Comments:	from a trench and direct discharge to sanitary sewer under a
Comments Date:	02241998
Comments:	permit from the City of Santa Rosa. Plan concluded an
Comments Date:	02241998
Comments:	Allocation of Liability allocating 26% to Fountaingrove Plaza
Comments Date:	02241998
Comments:	and 74% to Orphan Share.
Comments Date:	02261999
Comments:	Approved Implementation Plan. Approximately 3 to 6 gallons per
Comments Date:	02261999
Comments:	minute of groundwater discharges into the trench.
Comments Date:	03011999
Comments:	Approved O&M Plan covering groundwater extraction and monitoring
Comments Date:	03011999
Comments:	program. Also Deed Restriction recorded prohibiting use of
Comments Date:	03011999
Comments:	shallow groundwater and prohibit disturbance of extraction.
Comments Date:	03011999
Comments:	Signed O&M Agreement covering system.
Comments Date:	03262004
Comments:	Approved 5 Year Review.
Comments Date:	04011996
Comments:	Site Screening noted VOCs problem.

FOUNTAINGROVE PLAZA SITE (Continued) **S102564485**

Comments Date: 04301996
Comments: Approved PEA documenting PCE contamination.
Comments Date: 05291996
Comments: Designated for ERAP pilot project.
Comments Date: 08211996
Comments: Conducted site conference with appropriate regulatory agencies
Comments Date: 08211996
Comments: and completed PRP search.
Comments Date: 09301997
Comments: Investigation found the TCE plume was contained on-site. TCE
Comments Date: 09301997
Comments: found in shallow groundwater at concentrations up to 1300 parts
Comments Date: 09301997
Comments: per billion (ug/L).
Comments Date: 10151996
Comments: Approved Public Participation Plan.
ID Name: CALSTARS CODE
ID Value: 290002
Alternate Name: FOUNTAINGROVE PLAZA SITE
Special Programs Code: Not reported
Special Programs Name: Not reported

LIENS:
Envirostor Id: 49650001
Latitude: 38.484133
Longitude: -122.73760
Project Mgr: TOM LANPHAR
Project Code: 290002
If Satisfied: Not reported
Date Satisfied: Not reported
Site Status: Certified, Operation and Maintenance
Site Type: ERAP
Completed: 09/08/2011
Description: The site consists of vacant land located on the northern outskirts of the City of Santa Rosa. Based on a review of historical records, it was determined that a gasoline service station operated at the site from at least the 1950's - 1964. Stevenson Equipment Company, Inc. owned the property from 1962 - 1986. Stevenson Equipment was in the business of repairing heavy equipment and selling new equipment and is no longer in business.

DEED:
Area: PROJECT WIDE
Sub Area: Not reported
Site Type: STATE RESPONSE
Status: CERTIFIED / OPERATION & MAINTENANCE
Agency: Not reported
Covenant Uploaded: Not reported
Deed Date(s): 03/01/1999
EDR Link ID: 49650001

RESPONSE:
Facility ID: 49650001
Site Type: State Response
Site Type Detail: State Response ERAP
Acres: 4.34

FOUNTAINGROVE PLAZA SITE (Continued) **S102564485**

National Priorities List: NO
Cleanup Oversight Agencies: SMBRP, RWQCB 1 - North Coast
Lead Agency Description: DTSC - Site Cleanup Program
Project Manager: Tom Lanphar
Supervisor: Denise Tsuji
Division Branch: Cleanup Berkeley
Site Code: 290002
Site Mgmt. Req.: REM, LUC, MON, GW, OIL, NOWN, NDAM, NUSE, EXT
Assembly: 02
Senate: 02
Special Program Status: Designation of Single Agency
Status: Certified / Operation & Maintenance
Status Date: 03/01/1999
Restricted Use: YES
Funding: Responsible Party
Latitude: 38.48413
Longitude: -122.7376
APN: 058-035-029, 058-035-24, 058-035-24.
Past Use: ENGINE TESTING/REPAIR, RETAIL - VEHICLES, VEHICLE MAINTENANCE
Potential COC : Trichloroethylene (TCE
Confirmed COC: Trichloroethylene (TCE
Potential Description: OTH
Alias Name: FOUNTAINGROVE PLAZA SITE
Alias Type: Alternate Name
Alias Name: 058-035-029
Alias Type: APN
Alias Name: 058-035-24
Alias Type: APN
Alias Name: 058-035-24.
Alias Type: APN
Alias Name: 110033614792
Alias Type: EPA (FRS #)
Alias Name: 290002
Alias Type: Project Code (Site Code)
Alias Name: 49650001
Alias Type: Envirostor ID Number

Completed Info:

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Land Use Restriction
Completed Date: 03/01/1999
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operation & Maintenance Order/Agreement
Completed Date: 03/01/1999
Comments: Signed O&M Agreement with Fountaingrove Plaza Associates for operation, maintenance and monitoring of the groundwater extraction system.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: CEQA - Notice of Exemption
Completed Date: 02/24/1998
Comments: Not reported

FOUNTAINGROVE PLAZA SITE (Continued) **S102564485**

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Certification
Completed Date: 03/01/1999
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Voluntary Cleanup Agreement
Completed Date: 01/07/1997
Comments: Signed Expedited Remedial Action Enforceable Agreement with Fountaingrove Plaza Associates.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Annual Oversight Cost Estimate
Completed Date: 09/30/2009
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Litigation Support
Completed Date: 10/21/2010
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Correspondence
Completed Date: 10/18/2012
Comments: letter sent in response to request for reduced gw monitoring requirements

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Annual Oversight Cost Estimate
Completed Date: 08/20/2012
Comments: letter sent 8/20/2012

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Lien
Completed Date: 09/08/2011
Comments: Lien filed with Sonoma County Registrar on 9/8/2011

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Letter - Demand
Completed Date: 05/26/2010
Comments: Demand Letter #2

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Letter - Demand
Completed Date: 04/26/2010
Comments: Demand Letter #1

Completed Area Name: PROJECT WIDE

FOUNTAINGROVE PLAZA SITE (Continued) **S102564485**

Completed Sub Area Name: Not reported
Completed Document Type: Correspondence
Completed Date: 10/06/2011
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Annual Oversight Cost Estimate
Completed Date: 10/17/2013
Comments: 2013/2014 Cost Estimate, no action required.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Conferences for SB 923 Sites
Completed Date: 08/21/1996
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Allocation of Liability for SB 923 Sites
Completed Date: 02/24/1998
Comments: Plan concluded an Allocation of Liability allocating 26% to Fountaingrove Plaza and 74% to Orphan Share.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: AB 2061 - Designation
Completed Date: 05/29/1996
Comments: Designated for ERAP pilot project.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: 5 Year Review Reports
Completed Date: 08/18/2010
Comments: DTSC approved Revised Five Year Review Report

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: 5 Year Review Reports
Completed Date: 03/26/2004
Comments: Approved 5 Year Review.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Manual
Completed Date: 03/01/1999
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Remedial Action Completion Report
Completed Date: 02/26/1999
Comments: Approved Implementation Report. Approximately 3 to 6 gallons per minute of groundwater removed fom the extraction trench and disposed to the sanitary sewer under permit from the City.

Completed Area Name: PROJECT WIDE

FOUNTAINGROVE PLAZA SITE (Continued) **S102564485**

Completed Sub Area Name: Not reported
Completed Document Type: Remedial Action Plan
Completed Date: 02/24/1998
Comments: Approved RAP requiring installation of groundwater extraction from a trench and direct discharge to sanitary sewer under a permit from the City of Santa Rosa.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Remedial Investigation / Feasibility Study
Completed Date: 09/30/1997
Comments: Investigation found the TCE plume was contained on-site. TCE found in shallow groundwater at concentrations up to 1300 parts per billion (ug/L).

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Public Participation Plan / Community Relations Plan
Completed Date: 10/15/1996
Comments: Approved Public Participation Plan.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Screening
Completed Date: 04/01/1996
Comments: Site Screening noted VOCs problem.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 04/30/1996
Comments: Approved PEA documenting PCE contamination.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 05/11/2006
Comments: Report submitted late. Comment letter combined with comments on other documents. Report indicates that required capture zone has not been achieved.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 05/11/2006
Comments: Report submitted late. Comment letter combined with comments on other documents. Report indicates that required capture zone has not been achieved.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 06/15/2006
Comments: Report approved with modifications and requirements for subsequent reports.

Completed Area Name: PROJECT WIDE

FOUNTAINGROVE PLAZA SITE (Continued) **S102564485**

Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 06/15/2006
Comments: Report approved with requirements for subsequent reports

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 07/31/2006
Comments: Report accepted, SCS will submit proposal for repair/replacement of damaged well.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 08/23/2006
Comments: DTSC reviewed the responses to our comments sent via email by G. Suemnicht and determined that they addressed our comments.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 05/19/2006
Comments: Report approved with modifications.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 10/25/2006
Comments: Comments to be addressed in subsequent reports.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 09/19/2006
Comments: Report reviewed. No significant comments.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Workplan
Completed Date: 08/01/2006
Comments: Installation of an additional monitoring well approved. Work Plan approved with modifications and comments.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Workplan
Completed Date: 08/17/2006
Comments: Workplan for inspecting wells noted as being damaged approved for implementation with modifications.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Workplan
Completed Date: 08/28/2006
Comments: Workplan to repair damaged wells is being implemented. All wells except one should be available for sounding as part of September

FOUNTAINGROVE PLAZA SITE (Continued) **S102564485**

sounding event.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 12/20/2006
Comments: Report approved with modifications. Work Plan to achieve required capture zone was required on 12/5/2006.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 01/05/2007
Comments: Report includes the information required in a monthly report. However, the groundwater extraction system has not yet been restarted. Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 01/05/2007
Comments: DTSC received notification that project manager for SCS Engineers changed from Gene Suemnicht, CEG, to Karin Fresnel, CEG #2264.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Fieldwork
Completed Date: 03/15/2007
Comments: Consultant notified on 3/13 via email that sampling event would occur on 3/15/07.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 10/01/2007
Comments: Insufficient information and analysis has been submitted to support the document's conclusion that the Site has achieved asymptotic levels. The groundwater extraction system has not operated continuously over the past year within the operating parameters outlined in the RAP. Therefore, recommendations not approved.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 02/05/2007
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Long Term Monitoring Report
Completed Date: 05/23/2007
Comments: Three comments sent via email. 1. Table 2, Cumulative Groundwater Treatment System Results. Subsequent reports including this table should include the restart date for the groundwater extraction and treatment system in the notes for 10/27/2006. 2. Figure 3, Site Plan with Groundwater Elevation Contours for April 2007. The capture zone for the groundwater extraction trench is required on this

FOUNTAINGROVE PLAZA SITE (Continued) **S102564485**

figure. I am going to need a revised figure showing this in next month's monthly report. 3. It looks like SCS is consistently conducting the sounding events in the middle of the month. Therefore, would it make sense to revise the existing requirement to require sounding in the middle of the month instead of during the first full week of the month?

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Long Term Monitoring Report
Completed Date: 07/30/2007
Comments: The groundwater elevation in Table 1A for MW-24 is correct (139.34 feet MSL). This groundwater elevation was usd to determine the isopleths and flow directions on Figure 3. SCS staff indicated that the groundwater elevation for MW-24 shown on Figure 4 is a typographical error that was not caught during internal QA/QC.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Monitoring Report
Completed Date: 08/18/2010
Comments: DTSC approved revised report for GW monitoring and five year review.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 10/04/2010
Comments: Report approved; however, did not accept recommendation to close site. Fountaingrove Plaza shall continued annual monitoring and reporting.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 03/20/2012
Comments: report approved

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 02/04/2013
Comments: 2102 Annual Groundwater Monitoring Report. Groundwater monitoring results for 2012 indicates the plume is stable. Based on plume stability monitoring and reporting frequency was extended to biennial. Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 09/09/2011
Comments: sent report to Cal/EPA on Sept. 6, 2011

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 05/17/2012
Comments: submitted annual site desingation report to Cal/EPA 5/17/2012

FOUNTAINGROVE PLAZA SITE (Continued) **S102564485**

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 07/12/2013
Comments: Report documents conditions at site, including stable TCE plume, reduciton of groundwater monitoring from annual to bi-annual, establishment of Financial Assurance by Fountaingrove Associates, and continued issue of money owed to DTSC by Fountaingrove Plaza Associates and collection efforts by DTSC.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 08/12/2014
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 10/18/2012
Comments: FA mechanism reviewed and approved by DTSC Financial Responsibility Unit

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 05/16/2012
Comments: report approved and DTSC agrees with reducing groundwater elevation measurement to once per year.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Financial Assurance Documentation
Completed Date: 10/17/2012
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Letter - Demand
Completed Date: 08/30/2010
Comments: Demand Letter #3

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Correspondence
Completed Date: 07/29/2011
Comments: Not reported

Future Area Name: PROJECT WIDE
Future Sub Area Name: Not reported
Future Document Type: Operations and Maintenance Report
Future Due Date: 2016
Future Area Name: PROJECT WIDE
Future Sub Area Name: Not reported
Future Document Type: 5 Year Review Reports
Future Due Date: 2016
Schedule Area Name: PROJECT WIDE

FOUNTAINGROVE PLAZA SITE (Continued) **S102564485**

Schedule Sub Area Name: Not reported
Schedule Document Type: Operations and Maintenance Report
Schedule Due Date: 04/24/2015
Schedule Revised Date: Not reported

HAZNET:
envid: S102564485
Year: 2013
GEPAID: CAL000352506
Contact: MATTHEW HURAY
Telephone: 3018166254
Mailing Name: Not reported
Mailing Address: 1800 HARRISON ST
Mailing City,St,Zip: OAKLAND, CA 946125103
Gen County: Sonoma
TSD EPA ID: CAD059494310
TSD County: Santa Clara
Waste Category: Not reported
Disposal Method: Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 0.0035
Facility County: Not reported

ENVIROSTOR:
Facility ID: 49650001
Status: Certified / Operation & Maintenance
Status Date: 03/01/1999
Site Code: 290002
Site Type: State Response
Site Type Detailed: State Response ERAP
Acres: 4.34
NPL: NO
Regulatory Agencies: SMBRP, RWQCB 1 - North Coast
Lead Agency: SMBRP
Program Manager: Tom Lanphar
Supervisor: Denise Tsuji
Division Branch: Cleanup Berkeley
Assembly: 02
Senate: 02
Special Program: Designation of Single Agency
Restricted Use: YES
Site Mgmt Req: REM, LUC, MON, GW, OIL, NOWN, NDAM, NUSE, EXT
Funding: Responsible Party
Latitude: 38.48413
Longitude: -122.7376
APN: 058-035-029, 058-035-24, 058-035-24.
Past Use: ENGINE TESTING/REPAIR, RETAIL - VEHICLES, VEHICLE MAINTENANCE
Potential COC: Trichloroethylene (TCE
Confirmed COC: Trichloroethylene (TCE
Potential Description: OTH
Alias Name: FOUNTAINGROVE PLAZA SITE
Alias Type: Alternate Name
Alias Name: 058-035-029
Alias Type: APN
Alias Name: 058-035-24
Alias Type: APN

FOUNTAINGROVE PLAZA SITE (Continued) **S102564485**

Alias Name: 058-035-24.
Alias Type: APN
Alias Name: 110033614792
Alias Type: EPA (FRS #)
Alias Name: 290002
Alias Type: Project Code (Site Code)
Alias Name: 49650001
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Land Use Restriction
Completed Date: 03/01/1999
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operation & Maintenance Order/Agreement
Completed Date: 03/01/1999
Comments: Signed O&M Agreement with Fountaingrove Plaza Associates for operation, maintenance and monitoring of the groundwater extraction system.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: CEQA - Notice of Exemption
Completed Date: 02/24/1998
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Certification
Completed Date: 03/01/1999
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Voluntary Cleanup Agreement
Completed Date: 01/07/1997
Comments: Signed Expedited Remedial Action Enforceable Agreement with Fountaingrove Plaza Associates.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Annual Oversight Cost Estimate
Completed Date: 09/30/2009
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Litigation Support
Completed Date: 10/21/2010
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Correspondence

FOUNTAINGROVE PLAZA SITE (Continued) **S102564485**

Completed Date: 10/18/2012
Comments: letter sent in response to request for reduced gw monitoring requirements

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Annual Oversight Cost Estimate
Completed Date: 08/20/2012
Comments: letter sent 8/20/2012

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Lien
Completed Date: 09/08/2011
Comments: Lien filed with Sonoma County Registrar on 9/8/2011

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Letter - Demand
Completed Date: 05/26/2010
Comments: Demand Letter #2

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Letter - Demand
Completed Date: 04/26/2010
Comments: Demand Letter #1

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Correspondence
Completed Date: 10/06/2011
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Annual Oversight Cost Estimate
Completed Date: 10/17/2013
Comments: 2013/2014 Cost Estimate, no action required.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Conferences for SB 923 Sites
Completed Date: 08/21/1996
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Allocation of Liability for SB 923 Sites
Completed Date: 02/24/1998
Comments: Plan concluded an Allocation of Liability allocating 26% to Fountaingrove Plaza and 74% to Orphan Share.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: AB 2061 - Designation
Completed Date: 05/29/1996

FOUNTAINGROVE PLAZA SITE (Continued) **S102564485**

Comments: Designated for ERAP pilot project.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: 5 Year Review Reports
Completed Date: 08/18/2010
Comments: DTSC approved Revised Five Year Review Report

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: 5 Year Review Reports
Completed Date: 03/26/2004
Comments: Approved 5 Year Review.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Manual
Completed Date: 03/01/1999
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Remedial Action Completion Report
Completed Date: 02/26/1999
Comments: Approved Implementation Report. Approximately 3 to 6 gallons per minute of groundwater removed fom the extraction trench and disposed to the sanitary sewer under permit from the City.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Remedial Action Plan
Completed Date: 02/24/1998
Comments: Approved RAP requiring installation of groundwater extraction from a trench and direct discharge to sanitary sewer under a permit from the City of Santa Rosa.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Remedial Investigation / Feasibility Study
Completed Date: 09/30/1997
Comments: Investigation found the TCE plume was contained on-site. TCE found in shallow groundwater at concentrations up to 1300 parts per billion (ug/L).

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Public Participation Plan / Community Relations Plan
Completed Date: 10/15/1996
Comments: Approved Public Participation Plan.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Screening
Completed Date: 04/01/1996
Comments: Site Screening noted VOCs problem.

Completed Area Name: PROJECT WIDE

FOUNTAINGROVE PLAZA SITE (Continued) **S102564485**

Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 04/30/1996
Comments: Approved PEA documenting PCE contamination.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 05/11/2006
Comments: Report submitted late. Comment letter combined with comments on other documents. Report indicates that required capture zone has not been achieved.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 05/11/2006
Comments: Report submitted late. Comment letter combined with comments on other documents. Report indicates that required capture zone has not been achieved.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 06/15/2006
Comments: Report approved with modifications and requirements for subsequent reports.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 06/15/2006
Comments: Report approved with requirements for subsequent reports

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 07/31/2006
Comments: Report accepted, SCS will submit proposal for repair/replacement of damaged well.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 08/23/2006
Comments: DTSC reviewed the responses to our comments sent via email by G. Suemnicht and determined that they addressed our comments.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 05/19/2006
Comments: Report approved with modifications.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report

FOUNTAINGROVE PLAZA SITE (Continued) **S102564485**

Completed Date: 10/25/2006
Comments: Comments to be addressed in subsequent reports.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 09/19/2006
Comments: Report reviewed. No significant comments.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Workplan
Completed Date: 08/01/2006
Comments: Installation of an additional monitoring well approved. Work Plan approved with modifications and comments.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Workplan
Completed Date: 08/17/2006
Comments: Workplan for inspecting wells noted as being damaged approved for implementation with modifications.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Workplan
Completed Date: 08/28/2006
Comments: Workplan to repair damaged wells is being implemented. All wells except one should be available for sounding as part of September sounding event.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 12/20/2006
Comments: Report approved with modifications. Work Plan to achieve required capture zone was required on 12/5/2006.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 01/05/2007
Comments: Report includes the information required in a monthly report. However, the groundwater extraction system has not yet been restarted. Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 01/05/2007
Comments: DTSC received notification that project manager for SCS Engineers changed from Gene Suemnicht, CEG, to Karin Fresnel, CEG #2264.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Fieldwork
Completed Date: 03/15/2007

FOUNTAINGROVE PLAZA SITE (Continued) **S102564485**

Comments: Consultant notified on 3/13 via email that sampling event would occur on 3/15/07.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 10/01/2007
Comments: Insufficient information and analysis has been submitted to support the document's conclusion that the Site has achieved asymptotic levels. The groundwater extraction system has not operated continuously over the past year within the operating parameters outlined in the RAP. Therefore, recommendations not approved.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 02/05/2007
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Long Term Monitoring Report
Completed Date: 05/23/2007
Comments: Three comments sent via email. 1. Table 2, Cumulative Groundwater Treatment System Results. Subsequent reports including this table should include the restart date for the groundwater extraction and treatment system in the notes for 10/27/2006. 2. Figure 3, Site Plan with Groundwater Elevation Contours for April 2007. The capture zone for the groundwater extraction trench is required on this figure. I am going to need a revised figure showing this in next month's monthly report. 3. It looks like SCS is consistently conducting the sounding events in the middle of the month. Therefore, would it make sense to revise the existing requirement to require sounding in the middle of the month instead of during the first full week of the month?

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Long Term Monitoring Report
Completed Date: 07/30/2007
Comments: The groundwater elevation in Table 1A for MW-24 is correct (139.34 feet MSL). This groundwater elevation was usd to determine the isopleths and flow directions on Figure 3. SCS staff indicated that the groundwater elevation for MW-24 shown on Figure 4 is a typographical error that was not caught during internal QA/QC.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Monitoring Report
Completed Date: 08/18/2010
Comments: DTSC approved revised report for GW monitoring and five year review.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 10/04/2010
Comments: Report approved; however, did not accept recommendation to close

FOUNTAINGROVE PLAZA SITE (Continued) **S102564485**

site. Fountaingrove Plaza shall continued annual monitoring and reporting.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 03/20/2012
Comments: report approved

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 02/04/2013
Comments: 2102 Annual Groundwater Monitoring Report. Groundwater monitoring results for 2012 indicates the plume is stable. Based on plume stability monitoring and reporting frequency was extended to biennial. Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 09/09/2011
Comments: sent report to Cal/EPA on Sept. 6, 2011

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 05/17/2012
Comments: submitted annual site desingation report to Cal/EPA 5/17/2012

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 07/12/2013
Comments: Report documents conditions at site, including stable TCE plume, reduciton of groundwater monitoring from annual to bi-annual, establishment of Financial Assurance by Fountaingrove Associates, and continued issue of money owed to DTSC by Fountaingrove Plaza Associates and collection efforts by DTSC.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 08/12/2014
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 10/18/2012
Comments: FA mechanism reviewed and approved by DTSC Financial Responsibility Unit

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 05/16/2012

FOUNTAINGROVE PLAZA SITE (Continued) **S102564485**

Comments:	report approved and DTSC agrees with reducing groundwater elevation measurement to once per year.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Financial Assurance Documentation
Completed Date:	10/17/2012
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Letter - Demand
Completed Date:	08/30/2010
Comments:	Demand Letter #3
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Correspondence
Completed Date:	07/29/2011
Comments:	Not reported
Future Area Name:	PROJECT WIDE
Future Sub Area Name:	Not reported
Future Document Type:	Operations and Maintenance Report
Future Due Date:	2016
Future Area Name:	PROJECT WIDE
Future Sub Area Name:	Not reported
Future Document Type:	5 Year Review Reports
Future Due Date:	2016
Schedule Area Name:	PROJECT WIDE
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Operations and Maintenance Report
Schedule Due Date:	04/24/2015
Schedule Revised Date:	Not reported

19
SW
1/4-1/2
0.424 mi.
2241 ft.

KINGS OFFICE PRODUCTS **LUST** **S106085298**
799 PINER ROAD **N/A**
SANTA ROSA, CA 95404

Relative:
Lower

Actual:
139 ft.

LUST:

Region:	STATE
Global Id:	T0609704828
Latitude:	38.472264
Longitude:	-122.732166
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	12/30/2010
Lead Agency:	NORTH COAST RWQCB (REGION 1)
Case Worker:	ZZZ
Local Agency:	Not reported
RB Case Number:	1TSR399
LOC Case Number:	Not reported
File Location:	Regional Board
Potential Media Affect:	Aquifer used for drinking water supply
Potential Contaminants of Concern:	Gasoline
Site History:	Not reported

KINGS OFFICE PRODUCTS (Continued) **S106085298**

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0609704828
Contact Type:	Regional Board Caseworker
Contact Name:	REGIONAL WATER BOARD SITE CLOSED
Organization Name:	NORTH COAST RWQCB (REGION 1)
Address:	5550 SKYLANE BOULEVARD, SUITE A
City:	SANTA ROSA
Email:	craig.hunt@waterboards.ca.gov
Phone Number:	7075762220

Status History:

Global Id:	T0609704828
Status:	Open - Case Begin Date
Status Date:	03/20/2002
Global Id:	T0609704828
Status:	Open - Verification Monitoring
Status Date:	03/03/2010
Global Id:	T0609704828
Status:	Completed - Case Closed
Status Date:	12/30/2010
Global Id:	T0609704828
Status:	Open - Site Assessment
Status Date:	04/02/2002
Global Id:	T0609704828
Status:	Open - Site Assessment
Status Date:	11/22/2002
Global Id:	T0609704828
Status:	Open - Site Assessment
Status Date:	04/18/2002

Regulatory Activities:

Global Id:	T0609704828
Action Type:	ENFORCEMENT
Date:	01/08/2003
Action:	* Verbal Communication
Global Id:	T0609704828
Action Type:	RESPONSE
Date:	04/24/2003
Action:	Other Report / Document
Global Id:	T0609704828
Action Type:	ENFORCEMENT
Date:	05/25/2006
Action:	Technical Correspondence / Assistance / Other
Global Id:	T0609704828
Action Type:	ENFORCEMENT
Date:	11/12/2010

KINGS OFFICE PRODUCTS (Continued) **S106085298**

Action: Notification - Public Notice of Case Closure

Global Id: T0609704828
Action Type: ENFORCEMENT
Date: 05/06/2008
Action: Staff Letter

Global Id: T0609704828
Action Type: ENFORCEMENT
Date: 09/08/2010
Action: Staff Letter

Global Id: T0609704828
Action Type: RESPONSE
Date: 09/03/2010
Action: Soil and Water Investigation Workplan

Global Id: T0609704828
Action Type: ENFORCEMENT
Date: 07/07/2009
Action: Staff Letter

Global Id: T0609704828
Action Type: ENFORCEMENT
Date: 12/30/2010
Action: Closure/No Further Action Letter

Global Id: T0609704828
Action Type: ENFORCEMENT
Date: 05/06/2010
Action: Meeting

Global Id: T0609704828
Action Type: Other
Date: 03/20/2002
Action: Leak Stopped

Global Id: T0609704828
Action Type: ENFORCEMENT
Date: 04/05/2002
Action: Notification - Proposition 65

Global Id: T0609704828
Action Type: ENFORCEMENT
Date: 05/29/2002
Action: Staff Letter

Global Id: T0609704828
Action Type: ENFORCEMENT
Date: 12/10/2002
Action: * Verbal Communication

Global Id: T0609704828
Action Type: ENFORCEMENT
Date: 02/04/2003
Action: Staff Letter

KINGS OFFICE PRODUCTS (Continued) **S106085298**

Global Id:	T0609704828
Action Type:	ENFORCEMENT
Date:	09/05/2008
Action:	Staff Letter
Global Id:	T0609704828
Action Type:	ENFORCEMENT
Date:	03/20/2002
Action:	Meeting
Global Id:	T0609704828
Action Type:	ENFORCEMENT
Date:	05/23/2002
Action:	Meeting
Global Id:	T0609704828
Action Type:	ENFORCEMENT
Date:	05/29/2002
Action:	Meeting
Global Id:	T0609704828
Action Type:	ENFORCEMENT
Date:	11/22/2002
Action:	File review
Global Id:	T0609704828
Action Type:	ENFORCEMENT
Date:	02/04/2003
Action:	Meeting
Global Id:	T0609704828
Action Type:	ENFORCEMENT
Date:	04/22/2003
Action:	Meeting
Global Id:	T0609704828
Action Type:	RESPONSE
Date:	08/01/2002
Action:	Preliminary Site Assessment Workplan
Global Id:	T0609704828
Action Type:	RESPONSE
Date:	07/05/2006
Action:	Other Workplan
Global Id:	T0609704828
Action Type:	ENFORCEMENT
Date:	08/18/2010
Action:	Meeting
Global Id:	T0609704828
Action Type:	Other
Date:	04/05/2002
Action:	Leak Reported
Global Id:	T0609704828
Action Type:	RESPONSE

KINGS OFFICE PRODUCTS (Continued) **S106085298**

Date: 11/22/2002
Action: Soil and Water Investigation Workplan

Global Id: T0609704828
Action Type: Other
Date: 03/20/2002
Action: Leak Discovery

Global Id: T0609704828
Action Type: ENFORCEMENT
Date: 09/03/2010
Action: Meeting

D20 **SONOMA COUNTY GENERAL SERVICES** **SLIC** **S105050994**
South **564 RUSSELL AVENUE** **N/A**
1/4-1/2 **SANTA ROSA, CA 0**
0.448 mi.
2364 ft. **Site 1 of 2 in cluster D**

Relative:
Lower

Actual:
154 ft.

SLIC:
Region: STATE
Facility Status: **Open - Inactive**
Status Date: 03/05/2009
Global Id: T0609793335
Lead Agency: NORTH COAST RWQCB (REGION 1)
Lead Agency Case Number: Not reported
Latitude: 38.468727311597
Longitude: -122.725846767426
Case Type: Cleanup Program Site
Case Worker: JBL
Local Agency: SONOMA COUNTY
RB Case Number: 1NSR284
File Location: Regional Board
Potential Media Affected: Under Investigation
Potential Contaminants of Concern: Diesel
Site History: Not reported

Click here to access the California GeoTracker records for this facility:

SLIC REG 1:
Region: 1
Facility ID: 1NSR284
Staff Initials: JLB

D21 **GEARY, W.E. & T.H., ET AL** **SLIC** **S105051062**
South **540 & 552 RUSSELL AVENUE** **N/A**
1/4-1/2 **SANTA ROSA, CA 0**
0.461 mi.
2436 ft. **Site 2 of 2 in cluster D**

Relative:
Lower

Actual:
156 ft.

SLIC:
Region: STATE
Facility Status: **Open - Inactive**
Status Date: 03/05/2009
Global Id: T0609793422

GEARY, W.E. & T.H., ET AL (Continued) **S105051062**

Lead Agency:	NORTH COAST RWQCB (REGION 1)
Lead Agency Case Number:	Not reported
Latitude:	38.4688659134234
Longitude:	-122.725310325623
Case Type:	Cleanup Program Site
Case Worker:	JBL
Local Agency:	SANTA ROSA, CITY OF
RB Case Number:	1NSR330
File Location:	Regional Board
Potential Media Affected:	Under Investigation
Potential Contaminants of Concern:	Not reported
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

SLIC REG 1:

Region:	1
Facility ID:	1NSR330
Staff Initials:	JLB

22
West
1/2-1
0.577 mi.
3047 ft.

Relative:
Lower

Actual:
136 ft.

H&C METALS
3555 AIRWAY DRIVE
SANTA ROSA, CA 95403

HIST CORTESE **S100236151**
LUST **N/A**
SWEEPS UST
Notify 65
ENF

HIST CORTESE:

Region:	CORTESE
Facility County Code:	49
Reg By:	LTNKA
Reg Id:	1TSR112

LUST:

Region:	STATE
Global Id:	T0609700623
Latitude:	38.477592
Longitude:	-122.739191
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	02/14/1996
Lead Agency:	NORTH COAST RWQCB (REGION 1)
Case Worker:	ZZZ
Local Agency:	SANTA ROSA, CITY OF
RB Case Number:	1TSR112
LOC Case Number:	Not reported
File Location:	Not reported
Potential Media Affect:	Aquifer used for drinking water supply
Potential Contaminants of Concern:	Gasoline
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0609700623
Contact Type:	Regional Board Caseworker
Contact Name:	REGIONAL WATER BOARD SITE CLOSED
Organization Name:	NORTH COAST RWQCB (REGION 1)

H&C METALS (Continued) **S100236151**

Address: 5550 SKYLANE BOULEVARD, SUITE A
City: SANTA ROSA
Email: craig.hunt@waterboards.ca.gov
Phone Number: 7075762220

Global Id: T0609700623
Contact Type: Local Agency Caseworker
Contact Name: LOCAL PERMIT WORKER SANTA ROSA
Organization Name: SANTA ROSA, CITY OF
Address: 625 5th Street
City: SANTA ROSA
Email: Not reported
Phone Number: 7075433500

Status History:

Global Id: T0609700623
Status: Open - Site Assessment
Status Date: 10/23/1989

Global Id: T0609700623
Status: Open - Verification Monitoring
Status Date: 02/13/1996

Global Id: T0609700623
Status: Open - Case Begin Date
Status Date: 09/27/1989

Global Id: T0609700623
Status: Open - Site Assessment
Status Date: 02/15/1990

Global Id: T0609700623
Status: Open - Site Assessment
Status Date: 10/20/1994

Global Id: T0609700623
Status: Open - Site Assessment
Status Date: 10/07/1989

Global Id: T0609700623
Status: Completed - Case Closed
Status Date: 02/14/1996

Global Id: T0609700623
Status: Open - Remediation
Status Date: 02/13/1996

Regulatory Activities:

Global Id: T0609700623
Action Type: Other
Date: 09/27/1989
Action: Leak Stopped

Global Id: T0609700623
Action Type: ENFORCEMENT
Date: 05/03/1991

H&C METALS (Continued) **S100236151**

Action: * Historical Enforcement

Global Id: T0609700623
Action Type: Other
Date: 09/27/1989
Action: Leak Reported

Global Id: T0609700623
Action Type: Other
Date: 09/27/1989
Action: Leak Discovery

LUST REG 1:
Region: 1
Facility ID: 1TSR112
Staff Initials: Closed

SWEEPS UST:
Status: Not reported
Comp Number: 302
Number: Not reported
Board Of Equalization: Not reported
Referral Date: Not reported
Action Date: Not reported
Created Date: Not reported
Owner Tank Id: Not reported
SWRCB Tank Id: 49-060-000302-000001
Tank Status: Not reported
Capacity: 4000
Active Date: Not reported
Tank Use: M.V. FUEL
STG: PRODUCT
Content: REG UNLEADED
Number Of Tanks: 1

Notify 65:
Date Reported: Not reported
Staff Initials: Not reported
Board File Number: Not reported
Facility Type: Not reported
Discharge Date: Not reported
Incident Description: 93582

ENF:
Region: 1
Facility Id: 229427
Agency Name: Not reported
Place Type: Service/Commercial
Place Subtype: Service/Commercial Site, NEC
Facility Type: All other facilities
Agency Type: Not reported
Of Agencies: Not reported
Place Latitude: 38.47768
Place Longitude: -122.738119

H&C METALS (Continued) **S100236151**

SIC Code 1:	Not reported
SIC Desc 1:	Not reported
SIC Code 2:	Not reported
SIC Desc 2:	Not reported
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Enf Action
Design Flow:	Not reported
Threat To Water Quality:	Not reported
Complexity:	Not reported
Pretreatment:	Not reported
Facility Waste Type:	Not reported
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	Not reported
Program Category1:	Not reported
Program Category2:	TANKS
# Of Programs:	Not reported
WDID:	Not reported
Reg Measure Id:	Not reported
Reg Measure Type:	Not reported
Region:	Not reported
Order #:	Not reported
Npdes# CA#:	Not reported
Major-Minor:	Not reported
Npdes Type:	Not reported
Reclamation:	Not reported
Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	Not reported
Status:	Not reported
Status Date:	Not reported
Effective Date:	Not reported
Expiration/Review Date:	Not reported
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	Not reported
Individual/General:	Not reported
Fee Code:	Not reported
Direction/Voice:	Not reported
Enforcement Id(EID):	382347
Region:	1
Order / Resolution Number:	98-079
Enforcement Action Type:	Clean-up and Abatement Order

H&C METALS (Continued) **S100236151**

Effective Date:	10/19/1998
Adoption/Issuance Date:	Not reported
Achieve Date:	Not reported
Termination Date:	Not reported
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	Enforcement - 1B1SR112NUG H&C Metals
Description:	REQUESTING WORKPLAN TO DEFINE HORIZONTAL & VERTICAL EXTENT OF GW CONTAMINATION.
Program:	UST
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	$0.00
Initial Assessed Amount:	$0.00
Liability $ Amount:	$0.00
Project $ Amount:	$0.00
Liability $ Paid:	$0.00
Project $ Completed:	$0.00
Total $ Paid/Completed Amount:	$0.00

Region:	1
Facility Id:	229427
Agency Name:	Not reported
Place Type:	Service/Commercial
Place Subtype:	Service/Commercial Site, NEC
Facility Type:	All other facilities
Agency Type:	Not reported
# Of Agencies:	Not reported
Place Latitude:	38.47768
Place Longitude:	-122.738119
SIC Code 1:	Not reported
SIC Desc 1:	Not reported
SIC Code 2:	Not reported
SIC Desc 2:	Not reported
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Enf Action
Design Flow:	Not reported
Threat To Water Quality:	Not reported
Complexity:	Not reported
Pretreatment:	Not reported
Facility Waste Type:	Not reported
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	Not reported
Program Category1:	Not reported
Program Category2:	TANKS
# Of Programs:	Not reported

H&C METALS (Continued) **S100236151**

WDID:	Not reported
Reg Measure Id:	Not reported
Reg Measure Type:	Not reported
Region:	Not reported
Order #:	Not reported
Npdes# CA#:	Not reported
Major-Minor:	Not reported
Npdes Type:	Not reported
Reclamation:	Not reported
Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	Not reported
Status:	Not reported
Status Date:	Not reported
Effective Date:	Not reported
Expiration/Review Date:	Not reported
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	Not reported
Individual/General:	Not reported
Fee Code:	Not reported
Direction/Voice:	Not reported
Enforcement Id(EID):	221183
Region:	1
Order / Resolution Number:	91-079
Enforcement Action Type:	Clean-up and Abatement Order
Effective Date:	05/03/1991
Adoption/Issuance Date:	Not reported
Achieve Date:	Not reported
Termination Date:	10/19/1998
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	Enforcement - 1B1SR112NUG H&C Metals
Description:	REQUESTING WORKPLAN TO DEFINE HORIZONTAL & VERTICAL EXTENT OF GW CONTAMINATION.
Program:	UST
Latest Milestone Completion Date:	2/14/1996
# Of Programs1:	1
Total Assessment Amount:	$0.00
Initial Assessed Amount:	$0.00
Liability $ Amount:	$0.00
Project $ Amount:	$0.00
Liability $ Paid:	$0.00
Project $ Completed:	$0.00
Total $ Paid/Completed Amount:	$0.00
Region:	1
Facility Id:	229427
Agency Name:	Not reported
Place Type:	Service/Commercial
Place Subtype:	Service/Commercial Site, NEC

H&C METALS (Continued) **S100236151**

Facility Type:	All other facilities
Agency Type:	Not reported
# Of Agencies:	Not reported
Place Latitude:	38.47768
Place Longitude:	-122.738119
SIC Code 1:	Not reported
SIC Desc 1:	Not reported
SIC Code 2:	Not reported
SIC Desc 2:	Not reported
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Enf Action
Design Flow:	Not reported
Threat To Water Quality:	Not reported
Complexity:	Not reported
Pretreatment:	Not reported
Facility Waste Type:	Not reported
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	Not reported
Program Category1:	Not reported
Program Category2:	TANKS
# Of Programs:	Not reported
WDID:	Not reported
Reg Measure Id:	Not reported
Reg Measure Type:	Not reported
Region:	Not reported
Order #:	Not reported
Npdes# CA#:	Not reported
Major-Minor:	Not reported
Npdes Type:	Not reported
Reclamation:	Not reported
Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	Not reported
Status:	Not reported
Status Date:	Not reported
Effective Date:	Not reported
Expiration/Review Date:	Not reported
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	Not reported
Individual/General:	Not reported
Fee Code:	Not reported

H&C METALS (Continued) **S100236151**

Direction/Voice:	Not reported
Enforcement Id(EID):	221028
Region:	1
Order / Resolution Number:	LT960214
Enforcement Action Type:	Staff Enforcement Letter
Effective Date:	02/14/1996
Adoption/Issuance Date:	Not reported
Achieve Date:	Not reported
Termination Date:	02/14/1996
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	Enforcement - 1B1SR112NUG H&C Metals
Description:	CASE CLOSURE.
Program:	UST
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	$0.00
Initial Assessed Amount:	$0.00
Liability $ Amount:	$0.00
Project $ Amount:	$0.00
Liability $ Paid:	$0.00
Project $ Completed:	$0.00
Total $ Paid/Completed Amount:	$0.00

Region:	1
Facility Id:	229427
Agency Name:	Not reported
Place Type:	Service/Commercial
Place Subtype:	Service/Commercial Site, NEC
Facility Type:	All other facilities
Agency Type:	Not reported
# Of Agencies:	Not reported
Place Latitude:	38.47768
Place Longitude:	-122.738119
SIC Code 1:	Not reported
SIC Desc 1:	Not reported
SIC Code 2:	Not reported
SIC Desc 2:	Not reported
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Enf Action
Design Flow:	Not reported
Threat To Water Quality:	Not reported
Complexity:	Not reported
Pretreatment:	Not reported
Facility Waste Type:	Not reported
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported

H&C METALS (Continued) **S100236151**

Program:	Not reported
Program Category1:	Not reported
Program Category2:	TANKS
# Of Programs:	Not reported
WDID:	Not reported
Reg Measure Id:	Not reported
Reg Measure Type:	Not reported
Region:	Not reported
Order #:	Not reported
Npdes# CA#:	Not reported
Major-Minor:	Not reported
Npdes Type:	Not reported
Reclamation:	Not reported
Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	Not reported
Status:	Not reported
Status Date:	Not reported
Effective Date:	Not reported
Expiration/Review Date:	Not reported
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	Not reported
Individual/General:	Not reported
Fee Code:	Not reported
Direction/Voice:	Not reported
Enforcement Id(EID):	220516
Region:	1
Order / Resolution Number:	LT931021
Enforcement Action Type:	Staff Enforcement Letter
Effective Date:	10/21/1993
Adoption/Issuance Date:	Not reported
Achieve Date:	Not reported
Termination Date:	10/21/1993
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	Enforcement - 1B1SR112NUG H&C Metals
Description:	REQUESTING SUBMITTAL OF WORKPLAN.
Program:	UST
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	$0.00
Initial Assessed Amount:	$0.00
Liability $ Amount:	$0.00
Project $ Amount:	$0.00
Liability $ Paid:	$0.00
Project $ Completed:	$0.00
Total $ Paid/Completed Amount:	$0.00

23
WSW
1/2-1
0.620 mi.
3274 ft.

HEWLETT PACKARD VALLEY SITE
3273 AIRWAY DRIVE
SANTA ROSA, CA 95401

ENVIROSTOR | **1000281841** | **N/A**

Relative:
Lower

Actual:
135 ft.

ENVIROSTOR:

Facility ID:	49360003
Status:	Refer: RWQCB
Status Date:	09/27/1993
Site Code:	200291
Site Type:	Historical
Site Type Detailed:	* Historical
Acres:	Not reported
NPL:	NO
Regulatory Agencies:	NONE SPECIFIED
Lead Agency:	NONE SPECIFIED
Program Manager:	Not reported
Supervisor:	Referred - Not Assigned
Division Branch:	Cleanup Berkeley
Assembly:	02
Senate:	02
Special Program:	* Rural County Survey Program
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	Not reported
Latitude:	38.47333
Longitude:	-122.7377
APN:	NONE SPECIFIED
Past Use:	NONE SPECIFIED
Potential COC:	NONE SPECIFIED
Confirmed COC:	NONE SPECIFIED
Potential Description:	NONE SPECIFIED
Alias Name:	CAD980814529
Alias Type:	EPA Identification Number
Alias Name:	200291
Alias Type:	Project Code (Site Code)
Alias Name:	49360003
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	* Discovery
Completed Date:	03/01/1982
Comments:	FACILITY IDENTIFIED EPA/CERCLIS
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Site Screening
Completed Date:	04/21/1988
Comments:	Site Screening Done: PA done by EPA, DHS needs to review.
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported

HEWLETT PACKARD VALLEY SITE (Continued) **1000281841**

Schedule Due Date: Not reported
Schedule Revised Date: Not reported

E24
ENE
1/2-1
0.628 mi.
3318 ft.

Relative:
Higher

Actual:
540 ft.

HEWLETT PACKARD CO
1400 FOUNTAIN GROVE PKWY
SANTA ROSA, CA 95403

Site 1 of 3 in cluster E

RCRA-TSDF **1000281829**
CERC-NFRAP **CAD058412842**
CORRACTS
RCRA-SQG
FINDS
LUST
HWP
US FIN ASSUR

RCRA-TSDF:
Date form received by agency: 10/12/2000
Facility name: HEWLETT PACKARD CO
Site name: HEWLETT PACKARD
Facility address: 1400 FOUNTAINGROVE PARKWAY
SANTA ROSA, CA 95403
EPA ID: CAD058412842
Contact: MICHAEL S. DITTMORE
Contact address: Not reported
Not reported
Contact country: Not reported
Contact telephone: (707) 577-3306
Contact email: Not reported
EPA Region: 09
Land type: Municipal
Classification: TSDF
Description: Handler is engaged in the treatment, storage or disposal of hazardous waste

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Historical Generators:
Date form received by agency: 11/29/1999
Site name: HEWLETT PACKARD CO
Classification: Small Quantity Generator

Date form received by agency: 03/04/1999
Site name: HEWLETT PACKARD FG
Classification: Large Quantity Generator

HEWLETT PACKARD CO (Continued) **1000281829**

Date form received by agency: 09/01/1996
Site name: HEWLETT PACKARD CO
Classification: Large Quantity Generator

Date form received by agency: 03/05/1996
Site name: HEWLETT PACKARD-FOUNTAINGROVE SITE
Classification: Large Quantity Generator

Date form received by agency: 03/30/1994
Site name: HEWLETT-PACKARD
Classification: Large Quantity Generator

Date form received by agency: 02/28/1992
Site name: HEWLETT PACKARD CO/SANTA ROSA
Classification: Large Quantity Generator

Date form received by agency: 04/12/1990
Site name: HEWLETT PACKARD CO/SANTA ROSA DIV
Classification: Large Quantity Generator

Date form received by agency: 08/18/1980
Site name: HEWLETT PACKARD CO
Classification: Large Quantity Generator

Date form received by agency: 08/18/1980
Site name: HEWLETT PACKARD CO
Classification: Large Quantity Generator

Hazardous Waste Summary:
Waste code: F002
Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS: TETRACHLOROETHYLENE, METHYLENE CHLORIDE, TRICHLOROETHYLENE, 1,1,1-TRICHLOROETHANE, CHLOROBENZENE, 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE, ORTHO-DICHLOROBENZENE, TRICHLOROFLUOROMETHANE, AND 1,1,2-TRICHLOROETHANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE LISTED IN F001, F004, OR F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Corrective Action Summary:
Event date: 11/09/1988
Event: CA049PA

Event date: 07/25/1989
Event: CA Prioritization, Facility or area was assigned a high corrective action priority.

Event date: 07/25/1989
Event: CA029WQ

Event date: 07/25/1989
Event: CA049RE

Event date: 07/25/1989
Event: CA074HI

HEWLETT PACKARD CO (Continued) **1000281829**

Event date: 10/31/1991
Event: CA036WQ

Event date: Not reported
Event: CA021OP

Event date: Not reported
Event: CA048ST

Facility Has Received Notices of Violations:
Regulation violated: Not reported
Area of violation: Generators - General
Date violation determined: 01/24/1992
Date achieved compliance: 04/01/1992
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 01/24/1992
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: Generators - General
Date violation determined: 01/24/1992
Date achieved compliance: 04/01/1992
Violation lead agency: State
Enforcement action: FINAL CIVIL JUDICIAL ACTION FOR COMPLIANCE AND/OR MONETARY PENALTY
Enforcement action date: 04/01/1992
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: LDR - General
Date violation determined: 05/23/1990
Date achieved compliance: 04/01/1992
Violation lead agency: State
Enforcement action: FINAL CIVIL JUDICIAL ACTION FOR COMPLIANCE AND/OR MONETARY PENALTY
Enforcement action date: 04/01/1992
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Evaluation Action Summary:
Evaluation date: 02/05/1992
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Not reported

HEWLETT PACKARD CO (Continued) **1000281829**

Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 12/11/1991
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 04/01/1992
Evaluation lead agency: State

Evaluation date: 06/14/1990
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 05/23/1990
Evaluation: FOCUSED COMPLIANCE INSPECTION
Area of violation: LDR - General
Date achieved compliance: 04/01/1992
Evaluation lead agency: State

Evaluation date: 09/30/1987
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

CERC-NFRAP:
Site ID: 0901462
Federal Facility: Not a Federal Facility
NPL Status: Not on the NPL
Non NPL Status: NFRAP-Site does not qualify for the NPL based on existing information

CERCLIS-NFRAP Site Contact Details:
Contact Sequence ID: 13286669.00000
Person ID: 13003854.00000

Contact Sequence ID: 13292264.00000
Person ID: 13003858.00000

Contact Sequence ID: 13298122.00000
Person ID: 13004003.00000

CERCLIS-NFRAP Assessment History:
Action: DISCOVERY
Date Started: / /
Date Completed: 08/01/80
Priority Level: Not reported

Action: PRELIMINARY ASSESSMENT
Date Started: / /
Date Completed: 02/01/83
Priority Level: Low priority for further assessment

Action: PRELIMINARY ASSESSMENT
Date Started: / /
Date Completed: 02/14/89

HEWLETT PACKARD CO (Continued) **1000281829**

Priority Level: Low priority for further assessment

Action: PRELIMINARY ASSESSMENT
Date Started: / /
Date Completed: 07/25/89
Priority Level: NFRAP-Site does not qualify for the NPL based on existing information

Action: ARCHIVE SITE
Date Started: / /
Date Completed: 07/25/89
Priority Level: Not reported

CORRACTS:

EPA ID: CAD058412842
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 19890725
Action: CA075HI - CA Prioritization, Facility or area was assigned a high corrective action priority
NAICS Code(s): Not reported
Original schedule date: Not reported
Schedule end date: Not reported

FINDS:

Registry ID: 110057214205

Environmental Interest/Information System
OSHA ESTABLISHMENT

LUST REG 1:
Region: 1
Facility ID: 1TSO038
Staff Initials: Closed

HWP:
EPA Id: CAD058412842
Cleanup Status: CLOSED
Latitude: 38.47562
Longitude: -122.7230
Facility Type: Historical - Non-Operating
Facility Size: Not reported
Team: Not reported
Supervisor: Not reported
Site Code: Not reported
Assembly District: 2
Senate District: 2
Public Information Officer: Not reported

Activities:
EPA Id: CAD058412842
Facility Type: Historical - Non-Operating
Unit Names: CONTAIN1, Di-Sep Cation Exchange Tank, Wastewater Treatment Plant

HEWLETT PACKARD CO (Continued) **1000281829**

Event Description: New Operating Permit - APPLICATION PART B RECEIVED
Actual Date: 04/14/1983

EPA Id: CAD058412842
Facility Type: Historical - Non-Operating
Unit Names: CONTAIN1, Di-Sep Cation Exchange Tank, Wastewater Treatment Plant
Event Description: New Operating Permit - FINAL PERMIT - WITHDRAWAL REQUEST ACKNOWLEDGED
Actual Date: 10/31/1984

EPA Id: CAD058412842
Facility Type: Historical - Non-Operating
Unit Names: CONTAIN1, Di-Sep Cation Exchange Tank, Wastewater Treatment Plant
Event Description: New Operating Permit - CALL-IN LETTER ISSUED
Actual Date: 10/15/1982

Closure:

EPA Id: CAD058412842
Facility Type: Historical - Non-Operating
Unit Names: CONTAIN1, Di-Sep Cation Exchange Tank, Wastewater Treatment Plant
Event Description: Closure Final - CLOSURE PLAN APPROVED
Actual Date: 04/03/1995

EPA Id: CAD058412842
Facility Type: Historical - Non-Operating
Unit Names: CONTAIN1, Di-Sep Cation Exchange Tank, Wastewater Treatment Plant
Event Description: Closure Final - RECEIVE CLOSURE CERTIFICATION
Actual Date: 09/01/1995

EPA Id: CAD058412842
Facility Type: Historical - Non-Operating
Unit Names: CONTAIN1, Di-Sep Cation Exchange Tank, Wastewater Treatment Plant
Event Description: Closure Final - PUBLIC COMMENT (BEGIN)
Actual Date: 02/15/1995

EPA Id: CAD058412842
Facility Type: Historical - Non-Operating
Unit Names: CONTAIN1, Di-Sep Cation Exchange Tank, Wastewater Treatment Plant
Event Description: Closure Final - RESPONSE TO 1ST NOD RECEIVED
Actual Date: 12/20/1994

EPA Id: CAD058412842
Facility Type: Historical - Non-Operating
Unit Names: CONTAIN1, Di-Sep Cation Exchange Tank, Wastewater Treatment Plant
Event Description: Closure Final - ISSUE CLOSURE VERIFICATION
Actual Date: 09/29/1995

EPA Id: CAD058412842
Facility Type: Historical - Non-Operating
Unit Names: CONTAIN1, Di-Sep Cation Exchange Tank, Wastewater Treatment Plant
Event Description: Closure Final - 1ST NOTICE OF DEFICIENCY ISSUED
Actual Date: 12/08/1994

EPA Id: CAD058412842
Facility Type: Historical - Non-Operating
Unit Names: CONTAIN1, Di-Sep Cation Exchange Tank, Wastewater Treatment Plant
Event Description: Closure Final - PUBLIC COMMENT (END)
Actual Date: 03/17/1995

HEWLETT PACKARD CO (Continued) **1000281829**

EPA Id: CAD058412842
Facility Type: Historical - Non-Operating
Unit Names: CONTAIN1, Di-Sep Cation Exchange Tank, Wastewater Treatment Plant
Event Description: Closure Final - CLOSURE PLAN RECEIVED
Actual Date: 10/25/1994

US FIN ASSUR:
EPA ID: CAD058412842
Provider: FIDELITY & DEPOSIT CO. OF MARYLAND & ZURICH AMERICAN INS. COMPANY
EPA region: 9
County: SONOMA
Mechanism type: SURETY BOND GUARANTEEING PAYMENTS TO A TRUST FUND
Mechanism ID: 1
Cost estimate: 1177000
Face value: 1177000
Effective date: 2008-01-31 00:00:00

E25 **VAN WATERS & ROGERS, DIVISION** **HIST CORTESE** **1000281827**
ENE **1400 FOUNTAIN GROVE PKWY** **CA FID UST** **N/A**
1/2-1 **SANTA ROSA, CA 95401** **HIST UST**
0.628 mi. **SWEEPS UST**
3318 ft. **Site 2 of 3 in cluster E** **CHMIRS**
EMI
Relative: **ENVIROSTOR**
Higher

Actual: **540 ft.**

HIST CORTESE:
Region: CORTESE
Facility County Code: 49
Reg By: LTNKA
Reg Id: 1TSO038

CA FID UST:
Facility ID: 49000080
Regulated By: UTNKA
Regulated ID: 00023770
Cortese Code: Not reported
SIC Code: Not reported
Facility Phone: 7075771400
Mail To: Not reported
Mailing Address: 1400 FOUNTAIN GROVE PKY
Mailing Address 2: Not reported
Mailing City,St,Zip: SANTA ROSA 95401
Contact: Not reported
Contact Phone: Not reported
DUNs Number: Not reported
NPDES Number: Not reported
EPA ID: Not reported
Comments: Not reported
Status: Active

HIST UST:
Region: STATE
Facility ID: 00000023770
Facility Type: Other
Other Type: MANUFACTURING

VAN WATERS & ROGERS, DIVISION (Continued) **1000281827**

Contact Name: Not reported
Telephone: 7075771400
Owner Name: HEWLETT-PACKARD COMPANY
Owner Address: 1400 FOUNTAIN GROVE PARKWAY
Owner City,St,Zip: SANTA ROSA, CA 95401

Total Tanks: 0005
Tank Num: 001
Container Num: 01
Year Installed: 1972
Tank Capacity: 00015000
Tank Used for: PRODUCT
Type of Fuel: DIESEL
Tank Construction Thickness: Not reported
Leak Detection: None

Total Tanks: 0005
Tank Num: 002
Container Num: 03
Year Installed: 1972
Tank Capacity: 00001000
Tank Used for: PRODUCT
Type of Fuel: UNLEADED
Tank Construction Thickness: 10
Leak Detection: None

Total Tanks: 0005
Tank Num: 003
Container Num: 05
Year Installed: 1980
Tank Capacity: 00002000
Tank Used for: WASTE
Type of Fuel: WASTE OIL
Tank Construction Thickness: 3/16
Leak Detection: Groundwater Monitoring Well

Total Tanks: 0005
Tank Num: 004
Container Num: 04
Year Installed: 1975
Tank Capacity: 00002000
Tank Used for: WASTE
Type of Fuel: Not reported
Tank Construction Thickness: 3/16
Leak Detection: Groundwater Monitoring Well

Total Tanks: 0005
Tank Num: 005
Container Num: 02
Year Installed: 1972
Tank Capacity: 00015000
Tank Used for: PRODUCT
Type of Fuel: DIESEL
Tank Construction Thickness: Not reported
Leak Detection: None

VAN WATERS & ROGERS, DIVISION (Continued) **1000281827**

SWEEPS UST:

Status:	Active
Comp Number:	23770
Number:	9
Board Of Equalization:	44-012605
Referral Date:	07-01-85
Action Date:	Not reported
Created Date:	02-29-88
Owner Tank Id:	1
SWRCB Tank Id:	49-060-023770-000001
Tank Status:	A
Capacity:	15000
Active Date:	07-01-85
Tank Use:	M.V. FUEL
STG:	P
Content:	DIESEL
Number Of Tanks:	5

Status:	Active
Comp Number:	23770
Number:	9
Board Of Equalization:	44-012605
Referral Date:	07-01-85
Action Date:	Not reported
Created Date:	02-29-88
Owner Tank Id:	3
SWRCB Tank Id:	49-060-023770-000002
Tank Status:	A
Capacity:	1000
Active Date:	07-01-85
Tank Use:	M.V. FUEL
STG:	P
Content:	REG UNLEADED
Number Of Tanks:	Not reported

Status:	Active
Comp Number:	23770
Number:	9
Board Of Equalization:	44-012605
Referral Date:	07-01-85
Action Date:	Not reported
Created Date:	02-29-88
Owner Tank Id:	5
SWRCB Tank Id:	49-060-023770-000003
Tank Status:	A
Capacity:	2000
Active Date:	07-01-85
Tank Use:	OIL
STG:	W
Content:	WASTE OIL
Number Of Tanks:	Not reported

Status:	Active
Comp Number:	23770
Number:	9
Board Of Equalization:	44-012605
Referral Date:	07-01-85

VAN WATERS & ROGERS, DIVISION (Continued) **1000281827**

Action Date:	Not reported
Created Date:	02-29-88
Owner Tank Id:	4
SWRCB Tank Id:	49-060-023770-000004
Tank Status:	A
Capacity:	2000
Active Date:	07-01-85
Tank Use:	UNKNOWN
STG:	W
Content:	Not reported
Number Of Tanks:	Not reported

Status:	Active
Comp Number:	23770
Number:	9
Board Of Equalization:	44-012605
Referral Date:	07-01-85
Action Date:	Not reported
Created Date:	02-29-88
Owner Tank Id:	2
SWRCB Tank Id:	49-060-023770-000005
Tank Status:	A
Capacity:	15000
Active Date:	07-01-85
Tank Use:	M.V. FUEL
STG:	P
Content:	DIESEL
Number Of Tanks:	Not reported

CHMIRS:

OES Incident Number:	11-7414	
OES notification:	12/15/2011	
OES Date:	Not reported	
OES Time:	Not reported	
Incident Date:	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	

VAN WATERS & ROGERS, DIVISION (Continued) **1000281827**

Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	No
Waterway:	Not reported
Spill Site:	Merchant/Business
Cleanup By:	Unknown
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Gal(s)
Other:	Not reported
Date/Time:	1100
Year:	2011
Agency:	NRC
Incident Date:	12/15/2011
Admin Agency:	Santa Rosa Fire Department
Amount:	Not reported
Contained:	Yes
Site Type:	Not reported
E Date:	Not reported
Substance:	Sulfuric Acid
Quantity Released:	30
Unknown:	Not reported
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	Not reported
Number of Injuries:	Not reported
Number of Fatalities:	Not reported
#1 Pipeline:	Not reported
#2 Pipeline:	Not reported
#3 Pipeline:	Not reported
#1 Vessel >= 300 Tons:	Not reported
#2 Vessel >= 300 Tons:	Not reported
#3 Vessel >= 300 Tons:	Not reported
Evacs:	Not reported
Injuries:	Not reported
Fatals:	Not reported
Comments:	Not reported
Description:	Per NRC Report, "while delivering sulfuric acid, an employee slipped and pulled the hose from the tote." Remedial Actions: "A crew is remediating the affected area; an employee was transported to the hospital for injuries relating to exposure to the material." Additional Information: "The Occupational Health and Safety Administration was notified."
OES Incident Number:	'10-2524
OES notification:	04/22/2010
OES Date:	Not reported
OES Time:	Not reported
Incident Date:	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

VAN WATERS & ROGERS, DIVISION (Continued) **1000281827**

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:	Storm Drain / Contained on site
Spill Site:	Industrial Plant
Cleanup By:	Contractor
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Gal(s)
Other:	Not reported
Date/Time:	715
Year:	2010
Agency:	Agilent Technologies
Incident Date:	4/22/2010
Admin Agency:	Santa Rosa Fire Department
Amount:	Not reported
Contained:	Yes
Site Type:	Storm Drain / Contained on site
E Date:	Not reported
Substance:	Cafeteria Sanitation Sewer
Quantity Released:	50
Unknown:	Not reported
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	Not reported
Number of Injuries:	Not reported
Number of Fatalities:	Not reported
#1 Pipeline:	Not reported
#2 Pipeline:	Not reported
#3 Pipeline:	Not reported
#1 Vessel >= 300 Tons:	Not reported
#2 Vessel >= 300 Tons:	Not reported
#3 Vessel >= 300 Tons:	Not reported
Evacs:	Not reported
Injuries:	Not reported
Fatals:	Not reported
Comments:	Not reported
Description:	A blockage in a sewer line caused an overflow to a storm drain. VAC trucks are on scene.

VAN WATERS & ROGERS, DIVISION (Continued) **1000281827**

EMI:

Year:	1987
County Code:	49
Air Basin:	SF
Facility ID:	2136
Air District Name:	BA
SIC Code:	5161
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	1
Reactive Organic Gases Tons/Yr:	1
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	1987
County Code:	49
Air Basin:	SF
Facility ID:	279
Air District Name:	BA
SIC Code:	3674
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	30
Reactive Organic Gases Tons/Yr:	14
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	1
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

ENVIROSTOR:

Facility ID:	49360005
Status:	Refer: RWQCB
Status Date:	09/27/1993
Site Code:	200268
Site Type:	Historical
Site Type Detailed:	* Historical
Acres:	Not reported
NPL:	NO
Regulatory Agencies:	NONE SPECIFIED
Lead Agency:	NONE SPECIFIED
Program Manager:	Not reported
Supervisor:	Referred - Not Assigned
Division Branch:	Cleanup Berkeley
Assembly:	02
Senate:	02
Special Program:	* Rural County Survey Program
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	Not reported
Latitude:	38.47887

VAN WATERS & ROGERS, DIVISION (Continued) **1000281827**

Longitude: -122.7091
APN: NONE SPECIFIED
Past Use: NONE SPECIFIED
Potential COC: NONE SPECIFIED
Confirmed COC: NONE SPECIFIED
Potential Description: NONE SPECIFIED
Alias Name: CAD058412842
Alias Type: EPA Identification Number
Alias Name: 200268
Alias Type: Project Code (Site Code)
Alias Name: 49360005
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: * Discovery
Completed Date: 05/09/1988
Comments: FACILITY IDENTIFIED EPA/CERCLIS DISC 08/01/80, PA1 02/01/83. SITE SCREENING DONE NEED TO REVIEW EPA PA

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Screening
Completed Date: 05/09/1988
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

E26 **HEWLETT-PACKARD CO. - FOUNTAIN GROVE** **LUST** **S100863975**
ENE **1412 FOUNTAIN GROVE PARKWAY** **ENVIROSTOR** **N/A**
1/2-1 **SANTA ROSA, CA 95403**
0.641 mi.
3384 ft. **Site 3 of 3 in cluster E**

Relative:
Higher

Actual:
533 ft.

LUST:
Region: STATE
Global Id: T0609700027
Latitude: 38.4925176
Longitude: -122.7418166
Case Type: LUST Cleanup Site
Status: Completed - Case Closed
Status Date: 08/10/1993
Lead Agency: NORTH COAST RWQCB (REGION 1)
Case Worker: ZZZ
Local Agency: SONOMA COUNTY
RB Case Number: 1TSO038
LOC Case Number: Not reported
File Location: Not reported
Potential Media Affect: Aquifer used for drinking water supply

HEWLETT-PACKARD CO. - FOUNTAIN GROVE (Continued) **S100863975**

Potential Contaminants of Concern: * Solvents
Site History: Not reported

Click here to access the California GeoTracker records for this facility:

Contact:
Global Id: T0609700027
Contact Type: Regional Board Caseworker
Contact Name: REGIONAL WATER BOARD SITE CLOSED
Organization Name: NORTH COAST RWQCB (REGION 1)
Address: 5550 SKYLANE BOULEVARD, SUITE A
City: SANTA ROSA
Email: craig.hunt@waterboards.ca.gov
Phone Number: 7075762220

Global Id: T0609700027
Contact Type: Local Agency Caseworker
Contact Name: ENVIRON HEALTH STAFF (NON LOP-RB1)
Organization Name: SONOMA COUNTY
Address: 625 5th Street
City: SANTA ROSA
Email: Not reported
Phone Number: Not reported

Status History:
Global Id: T0609700027
Status: Open - Case Begin Date
Status Date: 08/24/1987

Global Id: T0609700027
Status: Open - Remediation
Status Date: 09/23/1987

Global Id: T0609700027
Status: Open - Site Assessment
Status Date: 09/23/1987

Global Id: T0609700027
Status: Completed - Case Closed
Status Date: 08/10/1993

Global Id: T0609700027
Status: Open - Verification Monitoring
Status Date: 08/09/1993

Regulatory Activities:
Global Id: T0609700027
Action Type: Other
Date: 08/24/1987
Action: Leak Stopped

Global Id: T0609700027
Action Type: ENFORCEMENT
Date: 03/07/2000
Action: * Historical Enforcement

Global Id: T0609700027

HEWLETT-PACKARD CO. - FOUNTAIN GROVE (Continued) **S100863975**

Action Type: Other
Date: 08/24/1987
Action: Leak Reported

Global Id: T0609700027
Action Type: Other
Date: 08/24/1987
Action: Leak Discovery

ENVIROSTOR:
Facility ID: 71002486
Status: Inactive - Needs Evaluation
Status Date: Not reported
Site Code: Not reported
Site Type: Tiered Permit
Site Type Detailed: Tiered Permit
Acres: Not reported
NPL: NO
Regulatory Agencies: NONE SPECIFIED
Lead Agency: NONE SPECIFIED
Program Manager: Not reported
Supervisor: Not reported
Division Branch: Cleanup Berkeley
Assembly: 02
Senate: 02
Special Program: Not reported
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: Not reported
Latitude: 38.47412
Longitude: -122.6857
APN: NONE SPECIFIED
Past Use: NONE SPECIFIED
Potential COC: NONE SPECIFIED
Confirmed COC: NONE SPECIFIED
Potential Description: NONE SPECIFIED
Alias Name: CAD058412842
Alias Type: EPA Identification Number
Alias Name: 71002486
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: Not reported
Completed Sub Area Name: Not reported
Completed Document Type: Not reported
Completed Date: Not reported
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported

HEWLETT-PACKARD CO. - FOUNTAIN GROVE (Continued) **S100863975**

Schedule Revised Date: Not reported

Facility ID: 80001431
Status: Refer: RWQCB
Status Date: 10/31/1991
Site Code: Not reported
Site Type: Corrective Action
Site Type Detailed: Corrective Action
Acres: 0
NPL: NO
Regulatory Agencies: NONE SPECIFIED
Lead Agency: NONE SPECIFIED
Program Manager: Tom Lanphar
Supervisor: Denise Tsuji
Division Branch: Cleanup Berkeley
Assembly: 02
Senate: 02
Special Program: Not reported
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: Not reported
Latitude: 38.47562
Longitude: -122.7230
APN: NONE SPECIFIED
Past Use: NONE SPECIFIED
Potential COC: NONE SPECIFIED
Confirmed COC: NONE SPECIFIED
Potential Description: NONE SPECIFIED
Alias Name: CAD058412842
Alias Type: EPA Identification Number
Alias Name: 80001431
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Assessment Report
Completed Date: 11/09/1988
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Assessment Report
Completed Date: 07/25/1989
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

F27
WSW
1/2-1
0.683 mi.
3606 ft.

Relative:
Lower

Actual:
134 ft.

HEWLETT PACKARD
1201 PINER ROAD
SANTA ROSA, CA 95403

Site 1 of 2 in cluster F

Database(s): RCRA-TSDF, CORRACTS, RCRA-SQG, FINDS, HIST CORTESE, LUST, SLIC, CHMIRS, ENF, HAZNET, EMI, ENVIROSTOR, Financial Assurance, 2020 COR ACTION

EDR ID Number: 1000281844
EPA ID Number: CAT000624866

RCRA-TSDF:

Date form received by agency:	10/29/1999
Facility name:	HEWLETT PACKARD
Facility address:	1201 PINER ROAD REMEDIATION ACTIVITIES SANTA ROSA, CA 95401
EPA ID:	CAT000624866
Mailing address:	3000 HANOVER ST PALO ALTO, CA 94304
Contact:	ELIZABETH MC DONALD
Contact address:	3000 HANOVER ST PALO ALTO, CA 94304
Contact country:	US
Contact telephone:	(650) 857-8153
Contact email:	Not reported
EPA Region:	09
Land type:	Municipal
Classification:	TSDF
Description:	Handler is engaged in the treatment, storage or disposal of hazardous waste

Owner/Operator Summary:

Owner/operator name:	HEWLETT-PACKARD COMPANY SANTA ROSA DIV.
Owner/operator address:	1400 FOUNTAIN GROVE PARKWAY CITY NOT REPORTED, CA 99999
Owner/operator country:	Not reported
Owner/operator telephone:	(707) 525-1400
Legal status:	Private
Owner/Operator Type:	Operator
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported
Owner/operator name:	PAUL WRIGHT
Owner/operator address:	P O BOX 1270 SANTA ROSA, CA 95403
Owner/operator country:	Not reported
Owner/operator telephone:	(707) 528-1172
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported

Handler Activities Summary:

HEWLETT PACKARD (Continued) **1000281844**

U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Historical Generators:
Date form received by agency: 09/01/1996
Site name: HEWLETT PACKARD
Classification: Large Quantity Generator

Date form received by agency: 03/30/1994
Site name: HEWLETT-PACKARD
Classification: Large Quantity Generator

Date form received by agency: 02/28/1992
Site name: HEWLETT PACKARD - 2T
Classification: Large Quantity Generator

Date form received by agency: 04/12/1990
Site name: HEWLETT PACKARD SIGNAL ANALYSIS D
Classification: Large Quantity Generator

Hazardous Waste Summary:
Waste code: F002
Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS: TETRACHLOROETHYLENE, METHYLENE CHLORIDE, TRICHLOROETHYLENE, 1,1,1-TRICHLOROETHANE, CHLOROBENZENE, 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE, ORTHO-DICHLOROBENZENE, TRICHLOROFLUOROMETHANE, AND 1,1,2-TRICHLOROETHANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE LISTED IN F001, F004, OR F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Corrective Action Summary:
Event date: 06/15/1982
Event: Stabilization Measures Implemented, Groundwater extraction and treatment (e.g., to achieve groundwater containment, to achieve MCL).

Event date: 01/01/1987
Event: RFI Imposition

Event date: 05/28/1987
Event: RFI Approved

HEWLETT PACKARD (Continued) **1000281844**

Event date: 10/01/1987
Event: Stabilization Construction Completed

Event date: 12/20/1988
Event: CA029WQ

Event date: 12/20/1988
Event: CA049PA

Event date: 12/20/1988
Event: CA Prioritization, Facility or area was assigned a high corrective action priority.

Event date: 12/20/1988
Event: CA074HI

Event date: 10/31/1991
Event: CA036WQ

Event date: 08/29/1994
Event: CA Prioritization, Facility or area was assigned a high corrective action priority.

Event date: 12/12/1994
Event: Stabilization Measures Evaluation,This facility is amenable to stabilization activity based on the status of corrective action work at the facility, technical factors, the degree of risk, timing considerations and administrative considerations.

Event date: 12/12/1994
Event: Stabilization Measures Evaluation,This facility is amenable to stabilization activity based on the status of corrective action work at the facility, technical factors, the degree of risk, timing considerations and administrative considerations.

Event date: 11/24/1997
Event: Current Human Exposures under Control, Yes, Current Human Exposures Under Control has been verified. Based on a review of information contained in the EI determination, current human exposures are expected to be under control at the facility under current and reasonably expected conditions. This determination will be re-evaluated when the Agency/State becomes aware of significant changes at the facility.

Event date: 11/24/1997
Event: Igration of Contaminated Groundwater under Control, Yes, Migration of Contaminated Groundwater Under Control has been verified. Based on a review of information contained in the EI determination, it has been determined that migration of contaminated groundwater is under control at the facility. Specifically, this determination indicates that the migration of contaminated groundwater is under control, and that monitoring will be conducted to confirm that contaminated groundwater remains within the existing area of contaminated groundwater. This determination will be re-evaluated when the Agency becomes aware of significant changes at the facility.

Event date: 11/24/1997

HEWLETT PACKARD (Continued) **1000281844**

Event:	CA Responsibility Referred To A Non-RCRA Federal Authority
Event date:	07/06/1998
Event:	RFA Completed, Assessment was an RFA.
Event date:	11/09/2000
Event:	Igration of Contaminated Groundwater under Control, Yes, Migration of Contaminated Groundwater Under Control has been verified. Based on a review of information contained in the EI determination, it has been determined that migration of contaminated groundwater is under control at the facility. Specifically, this determination indicates that the migration of contaminated groundwater is under control, and that monitoring will be conducted to confirm that contaminated groundwater remains within the existing area of contaminated groundwater. This determination will be re-evaluated when the Agency becomes aware of significant changes at the facility.
Event date:	11/09/2000
Event:	Current Human Exposures under Control, More information is needed to make a determination.
Event date:	12/28/2000
Event:	Current Human Exposures under Control, More information is needed to make a determination.
Event date:	12/28/2000
Event:	Igration of Contaminated Groundwater under Control, Yes, Migration of Contaminated Groundwater Under Control has been verified. Based on a review of information contained in the EI determination, it has been determined that migration of contaminated groundwater is under control at the facility. Specifically, this determination indicates that the migration of contaminated groundwater is under control, and that monitoring will be conducted to confirm that contaminated groundwater remains within the existing area of contaminated groundwater. This determination will be re-evaluated when the Agency becomes aware of significant changes at the facility.
Event date:	09/07/2006
Event:	Date For Remedy Selection (CM Imposed)
Event date:	09/07/2006
Event:	CA550RC
Event date:	09/07/2006
Event:	CA550RC
Event date:	09/07/2006
Event:	Date For Remedy Selection (CM Imposed)
Event date:	09/14/2006
Event:	Current Human Exposures under Control, Yes, Current Human Exposures Under Control has been verified. Based on a review of information contained in the EI determination, current human exposures are expected to be under control at the facility under current and reasonably expected conditions. This determination will be re-evaluated when the Agency/State becomes aware of significant changes at the facility.

HEWLETT PACKARD (Continued) **1000281844**

Event date: 09/14/2006
Event: Current Human Exposures under Control, Yes, Current Human Exposures Under Control has been verified. Based on a review of information contained in the EI determination, current human exposures are expected to be under control at the facility under current and reasonably expected conditions. This determination will be re-evaluated when the Agency/State becomes aware of significant changes at the facility.

Event date: 09/22/2009
Event: CA800YE

Facility Has Received Notices of Violations:
Regulation violated: F - 264.140-150.H
Area of violation: TSD - Financial Requirements
Date violation determined: 09/01/1992
Date achieved compliance: 09/21/1992
Violation lead agency: EPA
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 270
Area of violation: TSD - General
Date violation determined: 04/25/1991
Date achieved compliance: 08/12/1991
Violation lead agency: State
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 270
Area of violation: TSD - General
Date violation determined: 08/29/1989
Date achieved compliance: 12/09/1989
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 11/28/1989
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.110-120.G
Area of violation: TSD - Closure/Post-Closure

HEWLETT PACKARD (Continued) **1000281844**

Date violation determined: 07/23/1987
Date achieved compliance: 08/29/1989
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 11/25/1987
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.110-120.G
Area of violation: TSD - Closure/Post-Closure
Date violation determined: 07/23/1987
Date achieved compliance: 08/29/1989
Violation lead agency: State
Enforcement action: INITIAL 3008(A) COMPLIANCE
Enforcement action date: 12/04/1987
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 270
Area of violation: TSD - General
Date violation determined: 07/23/1987
Date achieved compliance: 12/09/1989
Violation lead agency: State
Enforcement action: INITIAL 3008(A) COMPLIANCE
Enforcement action date: 12/04/1987
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 270
Area of violation: TSD - General
Date violation determined: 07/23/1987
Date achieved compliance: 12/09/1989
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 11/25/1987
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.110-120.G
Area of violation: TSD - Closure/Post-Closure
Date violation determined: 07/23/1987

HEWLETT PACKARD (Continued) **1000281844**

Date achieved compliance: 08/29/1989
Violation lead agency: State
Enforcement action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement action date: 02/06/1989
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: 18800
Paid penalty amount: 18800

Regulation violated: FR - 270
Area of violation: TSD - General
Date violation determined: 07/23/1987
Date achieved compliance: 12/09/1989
Violation lead agency: State
Enforcement action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement action date: 02/06/1989
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: 18800
Paid penalty amount: 18800

Evaluation Action Summary:
Evaluation date: 04/15/1992
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: TSD - Financial Requirements
Date achieved compliance: 09/21/1992
Evaluation lead agency: EPA Contractor/Grantee

Evaluation date: 08/08/1991
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 04/25/1991
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - General
Date achieved compliance: 08/12/1991
Evaluation lead agency: State

Evaluation date: 08/29/1989
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - General
Date achieved compliance: 12/09/1989
Evaluation lead agency: State

Evaluation date: 07/07/1989
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 07/23/1987

HEWLETT PACKARD (Continued) **1000281844**

Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - General
Date achieved compliance: 12/09/1989
Evaluation lead agency: State

Evaluation date: 07/23/1987
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - Closure/Post-Closure
Date achieved compliance: 08/29/1989
Evaluation lead agency: State

CORRACTS:

EPA ID: CAT000624866
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 19870101
Action: CA100 - RFI Imposition
NAICS Code(s): Not reported
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAT000624866
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 19871001
Action: CA650 - Stabilization Construction Completed
NAICS Code(s): Not reported
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAT000624866
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 19980706
Action: CA050RF - RFA Completed, Assessment was an RFA
NAICS Code(s): Not reported
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAT000624866
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 20060907
Action: CA550RC
NAICS Code(s): Not reported
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAT000624866
EPA Region: 09
Area Name: SWMU 2 - HW UST AND CONTAMINATED SOIL
Actual Date: 20060907
Action: CA550RC
NAICS Code(s): Not reported
Original schedule date: Not reported
Schedule end date: Not reported

HEWLETT PACKARD (Continued) **1000281844**

EPA ID: CAT000624866
EPA Region: 09
Area Name: SWMU 1 - CONTAMINATED GROUNDWATER
Actual Date: 20060907
Action: CA550RC
NAICS Code(s): Not reported
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAT000624866
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 20060907
Action: CA550RC
NAICS Code(s): Not reported
Original schedule date: 20060907
Schedule end date: Not reported

EPA ID: CAT000624866
EPA Region: 09
Area Name: SWMU 3 - CONTAMINATED SOIL UNDER BLDG 2T
Actual Date: 20060907
Action: CA550RC
NAICS Code(s): Not reported
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAT000624866
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 20060907
Action: CA400 - Date For Remedy Selection (CM Imposed)
NAICS Code(s): Not reported
Original schedule date: 20060907
Schedule end date: Not reported

EPA ID: CAT000624866
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 20060907
Action: CA400 - Date For Remedy Selection (CM Imposed)
NAICS Code(s): Not reported
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAT000624866
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 20001109
Action: CA750YE - Migration of Contaminated Groundwater under Control, Yes, Migration of Contaminated Groundwater Under Control has been verified
NAICS Code(s): Not reported
Original schedule date: 20001109
Schedule end date: Not reported

EPA ID: CAT000624866
EPA Region: 09

HEWLETT PACKARD (Continued) **1000281844**

Area Name: ENTIRE FACILITY
Actual Date: 20001109
Action: CA725IN - Current Human Exposures Under Control, More information is needed to make a determination
NAICS Code(s): Not reported
Original schedule date: 20001109
Schedule end date: Not reported

EPA ID: CAT000624866
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 19941212
Action: CA225YE - Stabilization Measures Evaluation, This facility ,is amenable to stabilization activity based on the, status of corrective action work at the facility, technical factors, the degree of risk, timing considerations and administrative considerations
NAICS Code(s): Not reported
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAT000624866
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 19941212
Action: CA225YE - Stabilization Measures Evaluation, This facility ,is amenable to stabilization activity based on the, status of corrective action work at the facility, technical factors, the degree of risk, timing considerations and administrative considerations
NAICS Code(s): Not reported
Original schedule date: 19941212
Schedule end date: Not reported

EPA ID: CAT000624866
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 20060914
Action: CA725YE - Current Human Exposures Under Control, Yes, Current Human Exposures Under Control has been verified
NAICS Code(s): Not reported
Original schedule date: 20060914
Schedule end date: Not reported

EPA ID: CAT000624866
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 20060914
Action: CA725YE - Current Human Exposures Under Control, Yes, Current Human Exposures Under Control has been verified
NAICS Code(s): Not reported
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAT000624866
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 19820615
Action: CA600GW - Stabilization Measures Implemented, Groundwater extraction

HEWLETT PACKARD (Continued) **1000281844**

and treatment
NAICS Code(s): Not reported
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAT000624866
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 19881220
Action: CA029WQ
NAICS Code(s): Not reported
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAT000624866
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 19881220
Action: CA074HI
NAICS Code(s): Not reported
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAT000624866
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 19881220
Action: CA075HI - CA Prioritization, Facility or area was assigned a high corrective action priority
NAICS Code(s): Not reported
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAT000624866
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 19881220
Action: CA049PA
NAICS Code(s): Not reported
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAT000624866
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 20090922
Action: CA800YE
NAICS Code(s): Not reported
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAT000624866
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 19971124
Action: CA750YE - Migration of Contaminated Groundwater under Control, Yes, Migration of Contaminated Groundwater Under Control has been verified

HEWLETT PACKARD (Continued) **1000281844**

NAICS Code(s): Not reported
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAT000624866
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 19971124
Action: CA210 - CA Responsibility Referred To A Non-RCRA Federal Authority
NAICS Code(s): Not reported
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAT000624866
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 19971124
Action: CA725YE - Current Human Exposures Under Control, Yes, Current Human Exposures Under Control has been verified
NAICS Code(s): Not reported
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAT000624866
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 20001228
Action: CA725IN - Current Human Exposures Under Control, More information is needed to make a determination
NAICS Code(s): Not reported
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAT000624866
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 20001228
Action: CA750YE - Migration of Contaminated Groundwater under Control, Yes, Migration of Contaminated Groundwater Under Control has been verified
NAICS Code(s): Not reported
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAT000624866
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 19870528
Action: CA200 - RFI Approved
NAICS Code(s): Not reported
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAT000624866
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 19940829
Action: CA075HI - CA Prioritization, Facility or area was assigned a high

HEWLETT PACKARD (Continued) **1000281844**

corrective action priority
NAICS Code(s): Not reported
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAT000624866
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 19911031
Action: CA036WQ
NAICS Code(s): Not reported
Original schedule date: Not reported
Schedule end date: Not reported

FINDS:

Registry ID: 110000621426

Environmental Interest/Information System

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

US National Pollutant Discharge Elimination System (NPDES) module of the Compliance Information System (ICIS) tracks surface water permits issued under the Clean Water Act. Under NPDES, all facilities that discharge pollutants from any point source into waters of the United States are required to obtain a permit. The permit will likely contain limits on what can be discharged, impose monitoring and reporting requirements, and include other provisions to ensure that the discharge does not adversely affect water quality.

CRITERIA AND HAZARDOUS AIR POLLUTANT INVENTORY

HIST CORTESE:
Region: CORTESE
Facility County Code: 49
Reg By: LTNKA
Reg Id: 1TSO039

LUST:
Region: STATE
Global Id: T0609700028
Latitude: 38.4722216763313
Longitude: -122.739622592926
Case Type: LUST Cleanup Site
Status: Completed - Case Closed
Status Date: 08/26/2011
Lead Agency: NORTH COAST RWQCB (REGION 1)
Case Worker: ZZZ
Local Agency: Not reported
RB Case Number: 1TSO039

HEWLETT PACKARD (Continued) **1000281844**

LOC Case Number:	Not reported
File Location:	Regional Board
Potential Media Affect:	Not reported
Potential Contaminants of Concern:	* Solvents
Site History:	This site is the location of solvent releases to soil and groundwater from former printed circuit board manufacturing facilities. These facilities included one waste solvent tank, which appears to be the basis for the UST Program site investigation case. The waste solvent UST was removed under the regulatory oversight of Sonoma County Health Department. No releases from the tank were noted at the time of the tank removal. All invesatigative data, regulatory and cleanup activities for this site are being managed under the SIte Clceanup Program, with staff oversight costs funded under a Cost Recovery Program ageement with Hewlett Packard Company. All case activity and reports are tracked and uploaded to the Geotracker case # 1NSO039.

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0609700028
Contact Type:	Regional Board Caseworker
Contact Name:	REGIONAL WATER BOARD SITE CLOSED
Organization Name:	NORTH COAST RWQCB (REGION 1)
Address:	5550 SKYLANE BOULEVARD, SUITE A
City:	SANTA ROSA
Email:	craig.hunt@waterboards.ca.gov
Phone Number:	7075762220

Status History:

Global Id:	T0609700028
Status:	Open - Case Begin Date
Status Date:	08/24/1987
Global Id:	T0609700028
Status:	Completed - Case Closed
Status Date:	08/26/2011
Global Id:	T0609700028
Status:	Open - Inactive
Status Date:	03/18/2009
Global Id:	T0609700028
Status:	Open - Remediation
Status Date:	09/23/1987
Global Id:	T0609700028
Status:	Open - Verification Monitoring
Status Date:	06/01/2000
Global Id:	T0609700028
Status:	Open - Site Assessment
Status Date:	09/23/1987
Global Id:	T0609700028
Status:	Open - Site Assessment
Status Date:	12/10/2001

HEWLETT PACKARD (Continued) **1000281844**

Regulatory Activities:

Global Id:	T0609700028
Action Type:	ENFORCEMENT
Date:	05/02/2000
Action:	* Historical Enforcement
Global Id:	T0609700028
Action Type:	Other
Date:	08/24/1987
Action:	Leak Stopped
Global Id:	T0609700028
Action Type:	ENFORCEMENT
Date:	03/18/2009
Action:	File review
Global Id:	T0609700028
Action Type:	Other
Date:	08/24/1987
Action:	Leak Reported
Global Id:	T0609700028
Action Type:	Other
Date:	08/24/1987
Action:	Leak Discovery

LUST REG 1:

Region:	1
Facility ID:	1TSO039
Staff Initials:	JAT

SLIC:

Region:	STATE
Facility Status:	**Open - Assessment & Interim Remedial Action**
Status Date:	02/23/2009
Global Id:	T0609791161
Lead Agency:	NORTH COAST RWQCB (REGION 1)
Lead Agency Case Number:	Not reported
Latitude:	38.472906145
Longitude:	-122.73916
Case Type:	Cleanup Program Site
Case Worker:	JAT
Local Agency:	SONOMA COUNTY
RB Case Number:	1NSO039
File Location:	Regional Board
Potential Media Affected:	Aquifer used for drinking water supply, Other Groundwater (uses other than drinking water)
Potential Contaminants of Concern:	* Solvents
Site History:	From 1972 to 1987, Hewlett-Packard Company (Hewlett-Packard) leased three parcels identified by the Sonoma County Assessors Parcel Numbers APN 015-670-024, APN 015-670-027 and APN 015-670-028, Hewlett-Packard operated a light industrial, ultra-high frequency test and instrument manufacturing facility at the site. The manufacturing operations included milling, machining, and coating metal parts and components for test and instrument manufacturing. The

HEWLETT PACKARD (Continued) **1000281844**

site occupied approximately 8 acres and included two buildings, designated as 1T and 2T, plus a separate cafeteria building. The site is bordered on the south by Piner Road, on the north by Center Drive, on the west by Industrial Drive, and on the east by Airway Drive. In 1987, Hewlett-Packard Company ceased operations at Building 1T, which was then converted into office space. The Building 1T was subsequently remodeled to accommodate additional occupancy by a church and a private school. Hewlett Packard continued to perform research and development activities in Building 2T until 1998. Building 1T was constructed in 1969 on the parcel APN 015-670-024. Operations within and surrounding Building 1T included 23 chemical use areas that generated chemical wastes including metals, volatile organic compounds, detergents, acids, and caustics. Building 2T was constructed on parcels APN 015-670-27 and APN 015-670-028. 6. The facilities within and surrounding Building 2T included hazardous waste management units permitted under the Federal Resource Conservation and Recovery Act of 1976 (RCRA) as amended (42 U.S.C. 6901 et seq);. These waste management units consisted of a drum storage area, and the Brite Dip Sump system, which included a dip sump, waste transfer trench, waste storage tanks, and a drum rinse shed. The RCRA permitted waste management operations were located on parcel APN 015-670-028. In February 1993, closure of the two waste management units was completed according to a closure plan approved by the U.S. Environmental Protection Agency and the California Department of Toxic Substances Control on June 22, 1992. Hewlett-Packard continued research and development operations at Building 2T until 1998, when Agilent Corporation assumed control of the premises. Agilent ceased operations at Building 2T in November 2002. In a letter dated March 3, 2008, submitted to NCRWQCB by email on Februsry 23, 2009, Geosyntec consultants stated on behalf of Hewlett Packard Company, that the soil vapor extraction system installed at Building 1T would be operated continuously through 2008. In-situ bioremediation consisting of injections of carbon substrate, microbial nutrients and Dehalicoccoides microbial culture commecnced on Sepetember 24, 2012 in four horizontal wells installed in two treatment zones beneath Building 1T.

Click here to access the California GeoTracker records for this facility:

CHMIRS:

OES Incident Number:	’10-3809
OES notification:	06/22/2010
OES Date:	Not reported
OES Time:	Not reported
Incident Date:	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

HEWLETT PACKARD (Continued) **1000281844**

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:	Yes
Waterway:	unknown tributary to Santa Rosa Creek
Spill Site:	Merchant/Business
Cleanup By:	Unknown
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Gal(s)
Other:	Not reported
Date/Time:	2053
Year:	2010
Agency:	Santa Rosa Fire
Incident Date:	6/22/2010
Admin Agency:	Santa Rosa Fire Department
Amount:	Not reported
Contained:	Yes
Site Type:	unknown tributary to Santa Rosa Creek
E Date:	Not reported
Substance:	Milk
Quantity Released:	128
Unknown:	Not reported
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	Not reported
Number of Injuries:	Not reported
Number of Fatalities:	Not reported
#1 Pipeline:	Not reported
#2 Pipeline:	Not reported
#3 Pipeline:	Not reported
#1 Vessel >= 300 Tons:	Not reported
#2 Vessel >= 300 Tons:	Not reported
#3 Vessel >= 300 Tons:	Not reported
Evacs:	Not reported
Injuries:	Not reported
Fatals:	Not reported
Comments:	Not reported
Description:	The product was found to have been dumped by an employee of a market. The product was dumped onto asphalt which led to a storm drain that feeds to a creek. The RP on scene does not think it has reached the creek as of yet and public works is on scene to vacumn it out. The product has been diked to prevent further milk entering the storm drain.

HEWLETT PACKARD (Continued) **1000281844**

ENF:

Region:	1
Facility Id:	270102
Agency Name:	Not reported
Place Type:	Manufacturing
Place Subtype:	Manufacturing NEC
Facility Type:	Industrial
Agency Type:	Not reported
# Of Agencies:	Not reported
Place Latitude:	38.47234
Place Longitude:	-122.73921
SIC Code 1:	3679
SIC Desc 1:	Electronic Components, NEC
SIC Code 2:	Not reported
SIC Desc 2:	Not reported
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Enf Action
Design Flow:	Not reported
Threat To Water Quality:	Not reported
Complexity:	Not reported
Pretreatment:	Not reported
Facility Waste Type:	Not reported
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	Not reported
Program Category1:	Not reported
Program Category2:	TANKS
# Of Programs:	Not reported
WDID:	Not reported
Reg Measure Id:	Not reported
Reg Measure Type:	Not reported
Region:	Not reported
Order #:	Not reported
Npdes# CA#:	Not reported
Major-Minor:	Not reported
Npdes Type:	Not reported
Reclamation:	Not reported
Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	Not reported
Status:	Not reported
Status Date:	Not reported
Effective Date:	Not reported
Expiration/Review Date:	Not reported
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported

HEWLETT PACKARD (Continued) **1000281844**

WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	Not reported
Individual/General:	Not reported
Fee Code:	Not reported
Direction/Voice:	Not reported
Enforcement Id(EID):	222455
Region:	1
Order / Resolution Number:	82-033
Enforcement Action Type:	Clean-up and Abatement Order
Effective Date:	06/15/1982
Adoption/Issuance Date:	Not reported
Achieve Date:	Not reported
Termination Date:	Not reported
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Active
Title:	Enforcement - 1B86006NSON HP Valley Site
Description:	DISCHARGE OF WASTE OIL AND/OR SOLVENTS TO GROUNDWATER.
Program:	UST
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	$0.00
Initial Assessed Amount:	$0.00
Liability $ Amount:	$0.00
Project $ Amount:	$0.00
Liability $ Paid:	$0.00
Project $ Completed:	$0.00
Total $ Paid/Completed Amount:	$0.00

Region:	1
Facility Id:	270102
Agency Name:	Not reported
Place Type:	Manufacturing
Place Subtype:	Manufacturing NEC
Facility Type:	Industrial
Agency Type:	Not reported
# Of Agencies:	Not reported
Place Latitude:	38.47234
Place Longitude:	-122.73921
SIC Code 1:	3679
SIC Desc 1:	Electronic Components, NEC
SIC Code 2:	Not reported
SIC Desc 2:	Not reported
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Enf Action
Design Flow:	Not reported
Threat To Water Quality:	Not reported

HEWLETT PACKARD (Continued) **1000281844**

Complexity:	Not reported
Pretreatment:	Not reported
Facility Waste Type:	Not reported
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	Not reported
Program Category1:	Not reported
Program Category2:	TANKS
# Of Programs:	Not reported
WDID:	Not reported
Reg Measure Id:	Not reported
Reg Measure Type:	Not reported
Region:	Not reported
Order #:	Not reported
Npdes# CA#:	Not reported
Major-Minor:	Not reported
Npdes Type:	Not reported
Reclamation:	Not reported
Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	Not reported
Status:	Not reported
Status Date:	Not reported
Effective Date:	Not reported
Expiration/Review Date:	Not reported
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	Not reported
Individual/General:	Not reported
Fee Code:	Not reported
Direction/Voice:	Not reported
Enforcement Id(EID):	222454
Region:	1
Order / Resolution Number:	83-079
Enforcement Action Type:	Clean-up and Abatement Order
Effective Date:	06/15/1983
Adoption/Issuance Date:	Not reported
Achieve Date:	Not reported
Termination Date:	Not reported
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Active
Title:	Enforcement - 1B86006NSON HP Valley Site
Description:	WASTE SOLVENT DISCHARGES W/CONTAMINATED GROUNDWATER.
Program:	UST
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	$0.00
Initial Assessed Amount:	$0.00
Liability $ Amount:	$0.00
Project $ Amount:	$0.00

HEWLETT PACKARD (Continued) **1000281844**

Liability $ Paid:	$0.00
Project $ Completed:	$0.00
Total $ Paid/Completed Amount:	$0.00
Region:	1
Facility Id:	270102
Agency Name:	Not reported
Place Type:	Manufacturing
Place Subtype:	Manufacturing NEC
Facility Type:	Industrial
Agency Type:	Not reported
# Of Agencies:	Not reported
Place Latitude:	38.47234
Place Longitude:	-122.73921
SIC Code 1:	3679
SIC Desc 1:	Electronic Components, NEC
SIC Code 2:	Not reported
SIC Desc 2:	Not reported
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Enf Action
Design Flow:	Not reported
Threat To Water Quality:	Not reported
Complexity:	Not reported
Pretreatment:	Not reported
Facility Waste Type:	Not reported
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	Not reported
Program Category1:	Not reported
Program Category2:	TANKS
# Of Programs:	Not reported
WDID:	Not reported
Reg Measure Id:	Not reported
Reg Measure Type:	Not reported
Region:	Not reported
Order #:	Not reported
Npdes# CA#:	Not reported
Major-Minor:	Not reported
Npdes Type:	Not reported
Reclamation:	Not reported
Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	Not reported
Status:	Not reported
Status Date:	Not reported
Effective Date:	Not reported
Expiration/Review Date:	Not reported
Termination Date:	Not reported

HEWLETT PACKARD (Continued) **1000281844**

WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	Not reported
Individual/General:	Not reported
Fee Code:	Not reported
Direction/Voice:	Not reported
Enforcement Id(EID):	369559
Region:	1
Order / Resolution Number:	Not reported
Enforcement Action Type:	13267 Letter
Effective Date:	07/22/2009
Adoption/Issuance Date:	Not reported
Achieve Date:	Not reported
Termination Date:	07/16/2010
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	Enforcement 13267 Order- 1B86006NSON HP Valley Site
Description:	Reports are insufficient.
Program:	UST
Latest Milestone Completion Date:	7/16/2010
# Of Programs1:	1
Total Assessment Amount:	$0.00
Initial Assessed Amount:	$0.00
Liability $ Amount:	$0.00
Project $ Amount:	$0.00
Liability $ Paid:	$0.00
Project $ Completed:	$0.00
Total $ Paid/Completed Amount:	$0.00

Region:	1
Facility Id:	270102
Agency Name:	Not reported
Place Type:	Manufacturing
Place Subtype:	Manufacturing NEC
Facility Type:	Industrial
Agency Type:	Not reported
# Of Agencies:	Not reported
Place Latitude:	38.47234
Place Longitude:	-122.73921
SIC Code 1:	3679
SIC Desc 1:	Electronic Components, NEC
SIC Code 2:	Not reported
SIC Desc 2:	Not reported
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1

HEWLETT PACKARD (Continued) **1000281844**

Source Of Facility:	Enf Action
Design Flow:	Not reported
Threat To Water Quality:	Not reported
Complexity:	Not reported
Pretreatment:	Not reported
Facility Waste Type:	Not reported
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	Not reported
Program Category1:	Not reported
Program Category2:	TANKS
# Of Programs:	Not reported
WDID:	Not reported
Reg Measure Id:	Not reported
Reg Measure Type:	Not reported
Region:	Not reported
Order #:	Not reported
Npdes# CA#:	Not reported
Major-Minor:	Not reported
Npdes Type:	Not reported
Reclamation:	Not reported
Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	Not reported
Status:	Not reported
Status Date:	Not reported
Effective Date:	Not reported
Expiration/Review Date:	Not reported
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	Not reported
Individual/General:	Not reported
Fee Code:	Not reported
Direction/Voice:	Not reported
Enforcement Id(EID):	364405
Region:	1
Order / Resolution Number:	R1-2009-0025
Enforcement Action Type:	13267 Letter
Effective Date:	03/02/2009
Adoption/Issuance Date:	Not reported
Achieve Date:	Not reported
Termination Date:	07/16/2010
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	Enforcement 13267 Order- 1B86006NSON HP Valley Site
Description:	Failure to submit reports as requested by RWB staff.
Program:	UST
Latest Milestone Completion Date:	7/16/2010
# Of Programs1:	1
Total Assessment Amount:	$0.00

HEWLETT PACKARD (Continued) **1000281844**

Initial Assessed Amount:	$0.00
Liability $ Amount:	$0.00
Project $ Amount:	$0.00
Liability $ Paid:	$0.00
Project $ Completed:	$0.00
Total $ Paid/Completed Amount:	$0.00

HAZNET:

envid:	1000281844
Year:	2013
GEPAID:	CAC002743491
Contact:	THOMAS GONZALEZ
Telephone:	7074958060
Mailing Name:	Not reported
Mailing Address:	1201 PINER RD
Mailing City,St,Zip:	SANTA ROSA, CA 95403
Gen County:	Sonoma
TSD EPA ID:	NVD980895338
TSD County:	99
Waste Category:	Not reported
Disposal Method:	Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons:	0.375
Facility County:	Not reported

envid:	1000281844
Year:	2013
GEPAID:	CAC002743491
Contact:	THOMAS GONZALEZ
Telephone:	7074958060
Mailing Name:	Not reported
Mailing Address:	1201 PINER RD
Mailing City,St,Zip:	SANTA ROSA, CA 95403
Gen County:	Sonoma
TSD EPA ID:	CAD059494310
TSD County:	Santa Clara
Waste Category:	Not reported
Disposal Method:	Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons:	0.6
Facility County:	Not reported

EMI:

Year:	1987
County Code:	49
Air Basin:	SF
Facility ID:	278
Air District Name:	BA
SIC Code:	3679
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	7
Reactive Organic Gases Tons/Yr:	4
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0

HEWLETT PACKARD (Continued) **1000281844**

SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0
Year:	1990
County Code:	49
Air Basin:	SF
Facility ID:	278
Air District Name:	BA
SIC Code:	3671
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	4
Reactive Organic Gases Tons/Yr:	3
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0
Year:	1993
County Code:	49
Air Basin:	SF
Facility ID:	278
Air District Name:	BA
SIC Code:	3679
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	1
Reactive Organic Gases Tons/Yr:	1
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0
Year:	1995
County Code:	49
Air Basin:	SF
Facility ID:	278
Air District Name:	BA
SIC Code:	3679
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	1
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0
Year:	1996
County Code:	49

HEWLETT PACKARD (Continued) **1000281844**

Air Basin:	SF
Facility ID:	278
Air District Name:	BA
SIC Code:	3679
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	1
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	1997
County Code:	49
Air Basin:	SF
Facility ID:	278
Air District Name:	BA
SIC Code:	3679
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	1998
County Code:	49
Air Basin:	SF
Facility ID:	278
Air District Name:	BA
SIC Code:	3674
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	1
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	1999
County Code:	49
Air Basin:	SF
Facility ID:	278
Air District Name:	BA
SIC Code:	3679
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported

HEWLETT PACKARD (Continued) **1000281844**

Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	1
Reactive Organic Gases Tons/Yr:	1
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	2000
County Code:	49
Air Basin:	SF
Facility ID:	278
Air District Name:	BA
SIC Code:	3679
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	1
Reactive Organic Gases Tons/Yr:	1
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	2003
County Code:	49
Air Basin:	SF
Facility ID:	278
Air District Name:	BA
SIC Code:	3577
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	2004
County Code:	49
Air Basin:	SF
Facility ID:	278
Air District Name:	BA
SIC Code:	3577
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0.013
Reactive Organic Gases Tons/Yr:	0.0090818
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0

HEWLETT PACKARD (Continued) **1000281844**

Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0
Year:	2005
County Code:	49
Air Basin:	SF
Facility ID:	278
Air District Name:	BA
SIC Code:	3577
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	.012
Reactive Organic Gases Tons/Yr:	.0083832
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0
Year:	2006
County Code:	49
Air Basin:	SF
Facility ID:	278
Air District Name:	BA
SIC Code:	3577
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	.012
Reactive Organic Gases Tons/Yr:	.0083832
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0
Year:	2007
County Code:	49
Air Basin:	SF
Facility ID:	278
Air District Name:	BA
SIC Code:	3577
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	.012
Reactive Organic Gases Tons/Yr:	.0083832
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0
Year:	2008
County Code:	49
Air Basin:	SF

HEWLETT PACKARD (Continued) **1000281844**

Facility ID:	278
Air District Name:	BA
SIC Code:	3577
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	.012
Reactive Organic Gases Tons/Yr:	.0083832
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	2009
County Code:	49
Air Basin:	SF
Facility ID:	278
Air District Name:	BA
SIC Code:	3577
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	2010
County Code:	49
Air Basin:	SF
Facility ID:	278
Air District Name:	BA
SIC Code:	3577
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	2011
County Code:	49
Air Basin:	SF
Facility ID:	278
Air District Name:	BA
SIC Code:	3577
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported

HEWLETT PACKARD (Continued) **1000281844**

Total Organic Hydrocarbon Gases Tons/Yr:	0
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	2012
County Code:	49
Air Basin:	SF
Facility ID:	278
Air District Name:	BA
SIC Code:	3577
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

ENVIROSTOR:

Facility ID:	80001807
Status:	Refer: RWQCB
Status Date:	01/01/2008
Site Code:	Not reported
Site Type:	Corrective Action
Site Type Detailed:	Corrective Action
Acres:	8.6
NPL:	NO
Regulatory Agencies:	RWQCB
Lead Agency:	WQC
Program Manager:	Tom Lanphar
Supervisor:	Denise Tsuji
Division Branch:	Cleanup Berkeley
Assembly:	02
Senate:	02
Special Program:	Not reported
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	Not reported
Latitude:	38.47107
Longitude:	-122.7400
APN:	NONE SPECIFIED
Past Use:	NONE SPECIFIED
Potential COC:	NONE SPECIFIED
Confirmed COC:	NONE SPECIFIED
Potential Description:	NONE SPECIFIED
Alias Name:	CAT000624866
Alias Type:	EPA Identification Number
Alias Name:	80001807
Alias Type:	Envirostor ID Number

HEWLETT PACKARD (Continued) **1000281844**

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	RCRA Facility Assessment Report
Completed Date:	07/06/1998
Comments:	DTSC RFA, THE COVER LETTER IDENTIFIES DAISEY LEE (510-540-3933) AS THE CONTACT. TKELLY 19980722.09:25E

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Interim Measures Implementation Report
Completed Date:	10/01/1987
Comments:	Not reported

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	RFI Report
Completed Date:	05/28/1987
Comments:	Not reported

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Preliminary Assessment Report
Completed Date:	12/20/1988
Comments:	Not reported

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Interim Measures Workplan
Completed Date:	06/15/1982
Comments:	Not reported

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Consent Agreement
Completed Date:	06/15/1982
Comments:	Not reported

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Remedy Constructed
Completed Date:	09/07/2006
Comments:	Not reported

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Human Exposure Controlled
Completed Date:	11/09/2000
Comments:	Not reported

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Groundwater Migration Controlled
Completed Date:	11/09/2000
Comments:	Not reported

Completed Area Name:	PROJECT WIDE

HEWLETT PACKARD (Continued) **1000281844**

Completed Sub Area Name: Not reported
Completed Document Type: * Remedy Selected
Completed Date: 09/07/2006
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Interim Measures Questionnaire
Completed Date: 12/12/1994
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Human Exposure Controlled
Completed Date: 09/14/2006
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

CA Financial Assurance 1:
EPA ID Number: CAT000624866/80001807
Sudden Amount1: Not reported
Non Sudden Amount1: Not reported
Closure Mechanism: SB/F
Closure Amount: $4,643,000.00
Post Closure Mechanism: Not reported
Post Closure Amount: Not reported
Corrective Action Mechanism: Not reported
Corrective Action Amount: Not reported
Sudden Mechanism Type: Not reported
Sudden Mechanism Amount: Not reported
Non Sudden Mechanism Type: Not reported
Non Sudden Mechanism Amount: Not reported
O&M Mechanism Type: Not reported
O&M Amount: Not reported

2020 COR ACTION:
EPA ID: CAT000624866
Region: 9
Action: Remedy Constructed

F28 **HEWLETT-PACKARD COMPANY (VALLEY SITE)** **HWP** **1001815653**
WSW **1201 PINER RD** **N/A**
1/2-1 **SANTA ROSA, CA 95403**
0.683 mi.
3606 ft. **Site 2 of 2 in cluster F**

Relative:
Lower

Actual:
134 ft.

HWP:

EPA Id:	CAT000624866
Cleanup Status:	CLOSED
Latitude:	38.47107
Longitude:	-122.7400
Facility Type:	Historical - Non-Operating
Facility Size:	Not reported
Team:	Not reported
Supervisor:	Not reported
Site Code:	Not reported
Assembly District:	2
Senate District:	2
Public Information Officer:	Not reported

Activities:

EPA Id:	CAT000624866
Facility Type:	Historical - Non-Operating
Unit Names:	CONTAIN1, CONTAIN2, TANKSTR1
Event Description:	New Operating Permit - APPLICATION PART A RECEIVED
Actual Date:	11/19/1980

EPA Id:	CAT000624866
Facility Type:	Historical - Non-Operating
Unit Names:	CONTAIN1, CONTAIN2, TANKSTR1
Event Description:	New Operating Permit - APPLICATION PART B RECEIVED
Actual Date:	04/14/1983

EPA Id:	CAT000624866
Facility Type:	Historical - Non-Operating
Unit Names:	CONTAIN1, CONTAIN2, TANKSTR1
Event Description:	New Operating Permit - FINAL PERMIT - WITHDRAWAL REQUEST RECEIVED
Actual Date:	05/10/1989

EPA Id:	CAT000624866
Facility Type:	Historical - Non-Operating
Unit Names:	CONTAIN1, CONTAIN2, TANKSTR1
Event Description:	New Operating Permit - FINAL PERMIT - WITHDRAWAL REQUEST ACKNOWLEDGED
Actual Date:	06/22/1992

EPA Id:	CAT000624866
Facility Type:	Historical - Non-Operating
Unit Names:	CONTAIN1, CONTAIN2, TANKSTR1
Event Description:	New Operating Permit - CALL-IN LETTER ISSUED
Actual Date:	10/15/1982

Closure:

EPA Id:	CAT000624866
Facility Type:	Historical - Non-Operating
Unit Names:	CONTAIN1, CONTAIN2, TANKSTR1
Event Description:	Closure Final - RECEIVE CLOSURE CERTIFICATION
Actual Date:	02/19/1993

EPA Id:	CAT000624866

HEWLETT-PACKARD COMPANY (VALLEY SITE) (Continued) **1001815653**

Facility Type:	Historical - Non-Operating
Unit Names:	CONTAIN1, CONTAIN2, TANKSTR1
Event Description:	Closure Final - ISSUE CLOSURE VERIFICATION
Actual Date:	09/09/1994

29
WSW
1/2-1
0.904 mi.
4773 ft.

VALLEY TIRE & BRAKE **ENVIROSTOR** **S101482603**
1688 PINER ROAD **N/A**
SANTA ROSA, CA 95401

Relative:
Lower

Actual:
128 ft.

ENVIROSTOR:

Facility ID:	49750003
Status:	Refer: RWQCB
Status Date:	05/13/1988
Site Code:	Not reported
Site Type:	Historical
Site Type Detailed:	* Historical
Acres:	Not reported
NPL:	NO
Regulatory Agencies:	NONE SPECIFIED
Lead Agency:	NONE SPECIFIED
Program Manager:	Not reported
Supervisor:	Referred - Not Assigned
Division Branch:	Cleanup Berkeley
Assembly:	02
Senate:	02
Special Program:	* Rural County Survey Program
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	Not reported
Latitude:	38.47030
Longitude:	-122.7415
APN:	015-053-048
Past Use:	NONE SPECIFIED
Potential COC:	NONE SPECIFIED
Confirmed COC:	NONE SPECIFIED
Potential Description:	NONE SPECIFIED
Alias Name:	015-053-048
Alias Type:	APN
Alias Name:	49750003
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	* Discovery
Completed Date:	03/14/1988
Comments:	FACILITY IDENTIFIED SONOMA CNTY EH - SOIL & VEGETATION CONTAMINATED W WASTE OIL
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Site Screening
Completed Date:	05/13/1988
Comments:	SITE SCREENING DONE ONSITE CONTAM

VALLEY TIRE & BRAKE (Continued) **S101482603**

Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

30
SW
1/2-1
0.949 mi.
5011 ft.

7-UP BOTTLING CO.
1901 RUSSELL AVENUE
SANTA ROSA, CA 93582

HIST CORTESE **S100178654**
LUST **N/A**
Notify 65

Relative:
Lower

Actual:
129 ft.

HIST CORTESE:

Region:	CORTESE
Facility County Code:	49
Reg By:	LTNKA
Reg Id:	1TSR055

LUST:

Region:	STATE
Global Id:	T0609700577
Latitude:	38.468807
Longitude:	-122.740985
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	11/17/1993
Lead Agency:	NORTH COAST RWQCB (REGION 1)
Case Worker:	ZZZ
Local Agency:	SANTA ROSA, CITY OF
RB Case Number:	1TSR055
LOC Case Number:	Not reported
File Location:	Not reported
Potential Media Affect:	Aquifer used for drinking water supply
Potential Contaminants of Concern:	Gasoline
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0609700577
Contact Type:	Regional Board Caseworker
Contact Name:	REGIONAL WATER BOARD SITE CLOSED
Organization Name:	NORTH COAST RWQCB (REGION 1)
Address:	5550 SKYLANE BOULEVARD, SUITE A
City:	SANTA ROSA
Email:	craig.hunt@waterboards.ca.gov
Phone Number:	7075762220

Status History:

Global Id:	T0609700577
Status:	Open - Remediation
Status Date:	11/16/1993

7-UP BOTTLING CO. (Continued) **S100178654**

Global Id: T0609700577
Status: Open - Site Assessment
Status Date: 05/18/1990

Global Id: T0609700577
Status: Open - Site Assessment
Status Date: 11/22/1989

Global Id: T0609700577
Status: Open - Case Begin Date
Status Date: 07/07/1988

Global Id: T0609700577
Status: Open - Verification Monitoring
Status Date: 11/16/1993

Global Id: T0609700577
Status: Completed - Case Closed
Status Date: 11/17/1993

Global Id: T0609700577
Status: Open - Site Assessment
Status Date: 07/18/1988

Global Id: T0609700577
Status: Open - Site Assessment
Status Date: 11/16/1993

Regulatory Activities:
Global Id: T0609700577
Action Type: ENFORCEMENT
Date: 09/09/1988
Action: * Historical Enforcement

Global Id: T0609700577
Action Type: Other
Date: 07/07/1988
Action: Leak Stopped

Global Id: T0609700577
Action Type: Other
Date: 07/07/1988
Action: Leak Reported

Global Id: T0609700577
Action Type: Other
Date: 07/07/1988
Action: Leak Discovery

Notify 65:
Date Reported: Not reported
Staff Initials: Not reported
Board File Number: Not reported
Facility Type: Not reported
Discharge Date: Not reported

7-UP BOTTLING CO. (Continued) **S100178654**

Incident Description: 93582

Count: 2 records. ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
SANTA ROSA	S105026499	SANTA ROSA CITY RD CONSTR	2500 FOUNTAIN GROVE	95404	HIST CORTESE
SANTA ROSA	S104857248	SEMMELMEYER, HERB	MENDOCINO AVENUE 580		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: 09/29/2014
Date Data Arrived at EDR: 10/08/2014
Date Made Active in Reports: 11/17/2014
Number of Days to Update: 40

Source: EPA
Telephone: N/A
Last EDR Contact: 10/08/2014
Next Scheduled EDR Contact: 01/19/2015
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: 09/29/2014
Date Data Arrived at EDR: 10/08/2014
Date Made Active in Reports: 11/17/2014
Number of Days to Update: 40

Source: EPA
Telephone: N/A
Last EDR Contact: 10/08/2014
Next Scheduled EDR Contact: 01/19/2015
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: 09/29/2014
Date Data Arrived at EDR: 10/08/2014
Date Made Active in Reports: 11/17/2014
Number of Days to Update: 40

Source: EPA
Telephone: N/A
Last EDR Contact: 10/08/2014
Next Scheduled EDR Contact: 01/19/2015
Data Release Frequency: Quarterly

Federal CERCLIS list

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

CERCLIS 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). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 11/11/2013
Date Made Active in Reports: 02/13/2014
Number of Days to Update: 94

Source: EPA
Telephone: 703-412-9810
Last EDR Contact: 11/24/2014
Next Scheduled EDR Contact: 03/09/2015
Data Release Frequency: Quarterly

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: 07/21/2014
Date Data Arrived at EDR: 10/07/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 13

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 10/07/2014
Next Scheduled EDR Contact: 01/19/2015
Data Release Frequency: Varies

Federal CERCLIS NFRAP site List

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned

Archived sites are sites that have been removed and archived from the inventory of CERCLIS 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 this 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. This 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 a potential NPL site.

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 11/11/2013
Date Made Active in Reports: 02/13/2014
Number of Days to Update: 94

Source: EPA
Telephone: 703-412-9810
Last EDR Contact: 11/24/2014
Next Scheduled EDR Contact: 03/09/2015
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: 06/10/2014
Date Data Arrived at EDR: 07/02/2014
Date Made Active in Reports: 09/18/2014
Number of Days to Update: 78

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 12/29/2014
Next Scheduled EDR Contact: 04/13/2015
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: 06/10/2014
Date Data Arrived at EDR: 07/02/2014
Date Made Active in Reports: 09/18/2014
Number of Days to Update: 78

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/29/2014
Next Scheduled EDR Contact: 04/13/2015
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: 06/10/2014
Date Data Arrived at EDR: 07/02/2014
Date Made Active in Reports: 09/18/2014
Number of Days to Update: 78

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/29/2014
Next Scheduled EDR Contact: 04/13/2015
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: 06/10/2014
Date Data Arrived at EDR: 07/02/2014
Date Made Active in Reports: 09/18/2014
Number of Days to Update: 78

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/29/2014
Next Scheduled EDR Contact: 04/13/2015
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: 06/10/2014
Date Data Arrived at EDR: 07/02/2014
Date Made Active in Reports: 09/18/2014
Number of Days to Update: 78

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/29/2014
Next Scheduled EDR Contact: 04/13/2015
Data Release Frequency: Varies

Federal institutional controls / engineering controls registries

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: 09/18/2014
Date Data Arrived at EDR: 09/19/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 31

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 12/03/2014
Next Scheduled EDR Contact: 03/16/2015
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: 09/18/2014
Date Data Arrived at EDR: 09/19/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 31

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 12/03/2014
Next Scheduled EDR Contact: 03/16/2015
Data Release Frequency: Varies

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: 08/29/2014
Date Data Arrived at EDR: 10/09/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 11

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 11/17/2014
Next Scheduled EDR Contact: 03/02/2015
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: 09/29/2014
Date Data Arrived at EDR: 09/30/2014
Date Made Active in Reports: 11/06/2014
Number of Days to Update: 37

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 12/29/2014
Next Scheduled EDR Contact: 04/13/2015
Data Release Frequency: Annually

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: 11/03/2014
Date Data Arrived at EDR: 11/04/2014
Date Made Active in Reports: 12/12/2014
Number of Days to Update: 38

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 11/04/2014
Next Scheduled EDR Contact: 02/16/2015
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: 11/03/2014
Date Data Arrived at EDR: 11/04/2014
Date Made Active in Reports: 12/12/2014
Number of Days to Update: 38

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 11/04/2014
Next Scheduled EDR Contact: 02/16/2015
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: 11/17/2014
Date Data Arrived at EDR: 11/19/2014
Date Made Active in Reports: 12/24/2014
Number of Days to Update: 35

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 11/19/2014
Next Scheduled EDR Contact: 03/02/2015
Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

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: Geotracker's Leaking Underground Fuel Tank Report

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state. For more information on a particular leaking underground storage tank sites, please contact the appropriate regulatory agency.

Date of Government Version: 10/28/2014
Date Data Arrived at EDR: 10/30/2014
Date Made Active in Reports: 12/12/2014
Number of Days to Update: 43

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 12/15/2014
Next Scheduled EDR Contact: 03/30/2015
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

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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 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 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 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

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 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

SLIC: Statewide SLIC Cases

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: 10/28/2014
Date Data Arrived at EDR: 10/30/2014
Date Made Active in Reports: 12/15/2014
Number of Days to Update: 46

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/15/2014
Next Scheduled EDR Contact: 03/30/2015
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

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 05/20/2014
Date Data Arrived at EDR: 06/10/2014
Date Made Active in Reports: 08/22/2014
Number of Days to Update: 73

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 10/27/2014
Next Scheduled EDR Contact: 02/09/2015
Data Release Frequency: Quarterly

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: 11/04/2014
Date Data Arrived at EDR: 11/07/2014
Date Made Active in Reports: 11/17/2014
Number of Days to Update: 10

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 10/27/2014
Next Scheduled EDR Contact: 02/09/2015
Data Release Frequency: Quarterly

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 05/22/2014
Date Data Arrived at EDR: 08/22/2014
Date Made Active in Reports: 09/18/2014
Number of Days to Update: 27

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 10/27/2014
Next Scheduled EDR Contact: 02/09/2015
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: 10/06/2014
Date Data Arrived at EDR: 10/29/2014
Date Made Active in Reports: 11/17/2014
Number of Days to Update: 19

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 10/27/2014
Next Scheduled EDR Contact: 02/09/2015
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: 07/30/2014
Date Data Arrived at EDR: 08/12/2014
Date Made Active in Reports: 08/22/2014
Number of Days to Update: 10

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 10/27/2014
Next Scheduled EDR Contact: 02/09/2015
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: 02/01/2013
Date Data Arrived at EDR: 05/01/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 184

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 10/31/2014
Next Scheduled EDR Contact: 02/09/2015
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: 11/03/2014
Date Data Arrived at EDR: 11/05/2014
Date Made Active in Reports: 11/17/2014
Number of Days to Update: 12

Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 10/27/2014
Next Scheduled EDR Contact: 02/09/2015
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: 03/01/2013
Date Data Arrived at EDR: 03/01/2013
Date Made Active in Reports: 04/12/2013
Number of Days to Update: 42

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 10/27/2014
Next Scheduled EDR Contact: 02/09/2015
Data Release Frequency: Quarterly

State and tribal registered storage tank lists

UST: Active UST Facilities
Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 09/17/2014
Date Data Arrived at EDR: 09/17/2014
Date Made Active in Reports: 10/24/2014
Number of Days to Update: 37

Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 12/15/2014
Next Scheduled EDR Contact: 03/30/2015
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: 08/01/2009
Date Data Arrived at EDR: 09/10/2009
Date Made Active in Reports: 10/01/2009
Number of Days to Update: 21

Source: California Environmental Protection Agency
Telephone: 916-327-5092
Last EDR Contact: 12/23/2014
Next Scheduled EDR Contact: 04/13/2015
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: 11/03/2014
Date Data Arrived at EDR: 11/05/2014
Date Made Active in Reports: 11/17/2014
Number of Days to Update: 12

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 10/27/2014
Next Scheduled EDR Contact: 02/09/2015
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: 10/06/2014
Date Data Arrived at EDR: 10/29/2014
Date Made Active in Reports: 11/06/2014
Number of Days to Update: 8

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 10/27/2014
Next Scheduled EDR Contact: 02/09/2015
Data Release Frequency: Semi-Annually

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: 07/30/2014
Date Data Arrived at EDR: 08/12/2014
Date Made Active in Reports: 08/22/2014
Number of Days to Update: 10

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 10/27/2014
Next Scheduled EDR Contact: 02/09/2015
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: 02/01/2013
Date Data Arrived at EDR: 05/01/2013
Date Made Active in Reports: 01/27/2014
Number of Days to Update: 271

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 10/31/2014
Next Scheduled EDR Contact: 02/09/2015
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: 08/20/2014
Date Data Arrived at EDR: 08/22/2014
Date Made Active in Reports: 09/18/2014
Number of Days to Update: 27

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 10/27/2014
Next Scheduled EDR Contact: 02/09/2015
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: 05/20/2014
Date Data Arrived at EDR: 06/10/2014
Date Made Active in Reports: 08/15/2014
Number of Days to Update: 66

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 10/27/2014
Next Scheduled EDR Contact: 02/09/2015
Data Release Frequency: Quarterly

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: 08/14/2014
Date Data Arrived at EDR: 08/15/2014
Date Made Active in Reports: 08/22/2014
Number of Days to Update: 7

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 10/27/2014
Next Scheduled EDR Contact: 02/09/2015
Data Release Frequency: Quarterly

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: 11/04/2014
Date Data Arrived at EDR: 11/07/2014
Date Made Active in Reports: 11/17/2014
Number of Days to Update: 10

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 10/27/2014
Next Scheduled EDR Contact: 02/09/2015
Data Release Frequency: Quarterly

FEMA UST: Underground Storage Tank Listing

A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/01/2010
Date Data Arrived at EDR: 02/16/2010
Date Made Active in Reports: 04/12/2010
Number of Days to Update: 55

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 10/10/2014
Next Scheduled EDR Contact: 01/26/2015
Data Release Frequency: Varies

State and tribal voluntary cleanup sites

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: 09/29/2014
Date Data Arrived at EDR: 10/01/2014
Date Made Active in Reports: 11/06/2014
Number of Days to Update: 36

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 12/31/2014
Next Scheduled EDR Contact: 04/13/2015
Data Release Frequency: Varies

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: 11/03/2014
Date Data Arrived at EDR: 11/04/2014
Date Made Active in Reports: 12/12/2014
Number of Days to Update: 38

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 11/04/2014
Next Scheduled EDR Contact: 02/16/2015
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: 09/22/2014
Date Data Arrived at EDR: 09/23/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 27

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 12/22/2014
Next Scheduled EDR Contact: 04/06/2015
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

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: 10/24/2014
Next Scheduled EDR Contact: 02/09/2015
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

SWRCY: Recycler Database
A listing of recycling facilities in California.

Date of Government Version: 09/16/2014
Date Data Arrived at EDR: 09/17/2014
Date Made Active in Reports: 10/23/2014
Number of Days to Update: 36
Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 12/15/2014
Next Scheduled EDR Contact: 03/30/2015
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing
A listing of registered waste tire haulers.

Date of Government Version: 09/08/2014
Date Data Arrived at EDR: 09/09/2014
Date Made Active in Reports: 10/22/2014
Number of Days to Update: 43
Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 11/12/2014
Next Scheduled EDR Contact: 03/02/2015
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: 10/29/2014
Next Scheduled EDR Contact: 02/16/2015
Data Release Frequency: Varies

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: 11/05/2014
Next Scheduled EDR Contact: 02/23/2015
Data Release Frequency: No Update Planned

Local Lists of Hazardous waste / Contaminated Sites

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: 07/25/2014
Date Data Arrived at EDR: 09/09/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 41
Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 11/25/2014
Next Scheduled EDR Contact: 03/16/2015
Data Release Frequency: Quarterly

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: 11/03/2014
Date Data Arrived at EDR: 11/04/2014
Date Made Active in Reports: 12/12/2014
Number of Days to Update: 38
Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 11/04/2014
Next Scheduled EDR Contact: 02/16/2015
Data Release Frequency: Quarterly

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

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: 06/30/2014
Date Data Arrived at EDR: 09/02/2014
Date Made Active in Reports: 09/24/2014
Number of Days to Update: 22
Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 10/10/2014
Next Scheduled EDR Contact: 01/19/2015
Data Release Frequency: Varies

US HIST CDL: National Clandestine Laboratory Register

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: 07/25/2014
Date Data Arrived at EDR: 09/09/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 41

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 11/25/2014
Next Scheduled EDR Contact: 03/16/2015
Data Release Frequency: No Update Planned

Local Lists of Registered Storage Tanks

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

UST MENDOCINO: Mendocino County UST Database

A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 09/23/2009
Date Data Arrived at EDR: 09/23/2009
Date Made Active in Reports: 10/01/2009
Number of Days to Update: 8

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 12/24/2014
Next Scheduled EDR Contact: 03/16/2015
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

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

Local Land Records

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: 02/18/2014
Date Data Arrived at EDR: 03/18/2014
Date Made Active in Reports: 04/24/2014
Number of Days to Update: 37

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 10/27/2014
Next Scheduled EDR Contact: 02/09/2015
Data Release Frequency: Varies

LIENS: Environmental Liens Listing

A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 10/02/2014
Date Data Arrived at EDR: 10/03/2014
Date Made Active in Reports: 11/20/2014
Number of Days to Update: 48

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 12/05/2014
Next Scheduled EDR Contact: 03/23/2015
Data Release Frequency: Varies

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: 09/08/2014
Date Data Arrived at EDR: 09/10/2014
Date Made Active in Reports: 10/22/2014
Number of Days to Update: 42

Source: DTSC and SWRCB
Telephone: 916-323-3400
Last EDR Contact: 12/09/2014
Next Scheduled EDR Contact: 03/23/2015
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: 09/30/2014
Date Data Arrived at EDR: 10/01/2014
Date Made Active in Reports: 11/06/2014
Number of Days to Update: 36

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 12/30/2014
Next Scheduled EDR Contact: 04/13/2015
Data Release Frequency: Annually

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: 10/27/2014
Date Data Arrived at EDR: 10/29/2014
Date Made Active in Reports: 12/10/2014
Number of Days to Update: 42

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 10/29/2014
Next Scheduled EDR Contact: 02/09/2015
Data Release Frequency: Varies

LDS: Land Disposal Sites Listing

The Land Disposal program regulates of waste discharge to land for treatment, storage and disposal in waste management units.

Date of Government Version: 10/28/2014
Date Data Arrived at EDR: 10/30/2014
Date Made Active in Reports: 12/12/2014
Number of Days to Update: 43

Source: State Water Qualilty Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/15/2014
Next Scheduled EDR Contact: 03/30/2015
Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing

The State Water Resources Control Board and nine Regional Water Quality Control Boards partner with the Department of Defense (DoD) through the Defense and State Memorandum of Agreement (DSMOA) to oversee the investigation and remediation of water quality issues at military facilities.

Date of Government Version: 10/28/2014
Date Data Arrived at EDR: 10/30/2014
Date Made Active in Reports: 12/12/2014
Number of Days to Update: 43

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/15/2014
Next Scheduled EDR Contact: 03/30/2015
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

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: 06/10/2014
Date Data Arrived at EDR: 07/02/2014
Date Made Active in Reports: 09/18/2014
Number of Days to Update: 78

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/29/2014
Next Scheduled EDR Contact: 04/13/2015
Data Release Frequency: Varies

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: 11/04/2014
Next Scheduled EDR Contact: 02/16/2015
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: 11/07/2014
Next Scheduled EDR Contact: 01/26/2015
Data Release Frequency: Semi-Annually

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: 06/06/2014
Date Data Arrived at EDR: 09/10/2014
Date Made Active in Reports: 09/18/2014
Number of Days to Update: 8

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 12/12/2014
Next Scheduled EDR Contact: 03/23/2015
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: 12/31/2013
Date Data Arrived at EDR: 01/24/2014
Date Made Active in Reports: 02/24/2014
Number of Days to Update: 31

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 12/24/2014
Next Scheduled EDR Contact: 04/13/2015
Data Release Frequency: Varies

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: 11/25/2013
Date Data Arrived at EDR: 12/12/2013
Date Made Active in Reports: 02/24/2014
Number of Days to Update: 74

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 12/12/2014
Next Scheduled EDR Contact: 03/23/2015
Data Release Frequency: Annually

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: 09/14/2010
Date Data Arrived at EDR: 10/07/2011
Date Made Active in Reports: 03/01/2012
Number of Days to Update: 146

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 11/26/2014
Next Scheduled EDR Contact: 03/09/2015
Data Release Frequency: Varies

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: 08/05/2014
Date Data Arrived at EDR: 09/04/2014
Date Made Active in Reports: 11/17/2014
Number of Days to Update: 74

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 12/30/2014
Next Scheduled EDR Contact: 03/16/2015
Data Release Frequency: Semi-Annually

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: 12/31/2011
Date Data Arrived at EDR: 07/31/2013
Date Made Active in Reports: 09/13/2013
Number of Days to Update: 44

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 11/26/2014
Next Scheduled EDR Contact: 03/09/2015
Data Release Frequency: Annually

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: 12/31/2006
Date Data Arrived at EDR: 09/29/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 64

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 12/22/2014
Next Scheduled EDR Contact: 04/06/2015
Data Release Frequency: Every 4 Years

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: 11/19/2014
Next Scheduled EDR Contact: 03/09/2015
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: 11/19/2014
Next Scheduled EDR Contact: 03/09/2015
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

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: 10/27/2014
Next Scheduled EDR Contact: 02/09/2015
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: 07/31/2014
Date Data Arrived at EDR: 10/29/2014
Date Made Active in Reports: 11/06/2014
Number of Days to Update: 8

Source: Environmental Protection Agency
Telephone: 202-564-5088
Last EDR Contact: 10/10/2014
Next Scheduled EDR Contact: 01/26/2015
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: 07/01/2014
Date Data Arrived at EDR: 10/15/2014
Date Made Active in Reports: 11/17/2014
Number of Days to Update: 33

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 10/15/2014
Next Scheduled EDR Contact: 01/26/2015
Data Release Frequency: Annually

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: 07/22/2013
Date Data Arrived at EDR: 08/02/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 91

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 12/04/2014
Next Scheduled EDR Contact: 03/23/2015
Data Release Frequency: Quarterly

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: 10/07/2014
Date Data Arrived at EDR: 10/08/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 12

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 10/08/2014
Next Scheduled EDR Contact: 01/19/2015
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: 08/16/2014
Date Data Arrived at EDR: 09/10/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 40

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 12/09/2014
Next Scheduled EDR Contact: 03/23/2015
Data Release Frequency: Quarterly

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

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: 08/01/2014
Date Data Arrived at EDR: 08/12/2014
Date Made Active in Reports: 11/06/2014
Number of Days to Update: 86

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 10/27/2014
Next Scheduled EDR Contact: 02/09/2015
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: 12/31/2011
Date Data Arrived at EDR: 02/26/2013
Date Made Active in Reports: 04/19/2013
Number of Days to Update: 52

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 11/26/2014
Next Scheduled EDR Contact: 03/09/2015
Data Release Frequency: Biennially

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

NPDES: NPDES Permits Listing

A listing of NPDES permits, including stormwater.

Date of Government Version: 11/17/2014
Date Data Arrived at EDR: 11/19/2014
Date Made Active in Reports: 12/29/2014
Number of Days to Update: 40

Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 11/19/2014
Next Scheduled EDR Contact: 03/02/2015
Data Release Frequency: Quarterly

UIC: UIC Listing
A listing of wells identified as underground injection wells, in the California Oil and Gas Wells database.

Date of Government Version: 07/14/2014
Date Data Arrived at EDR: 09/17/2014
Date Made Active in Reports: 10/23/2014
Number of Days to Update: 36
Source: Deaprtment of Conservation
Telephone: 916-445-2408
Last EDR Contact: 12/15/2014
Next Scheduled EDR Contact: 03/30/2015
Data Release Frequency: Varies

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: 09/29/2014
Date Data Arrived at EDR: 09/30/2014
Date Made Active in Reports: 11/19/2014
Number of Days to Update: 50
Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 12/29/2014
Next Scheduled EDR Contact: 04/13/2015
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

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: 10/21/1993
Date Data Arrived at EDR: 11/01/1993
Date Made Active in Reports: 11/19/1993
Number of Days to Update: 18
Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 12/18/2014
Next Scheduled EDR Contact: 04/06/2015
Data Release Frequency: No Update Planned

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: 06/28/2014
Date Data Arrived at EDR: 07/03/2014
Date Made Active in Reports: 08/21/2014
Number of Days to Update: 49
Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 12/22/2014
Next Scheduled EDR Contact: 03/23/2015
Data Release Frequency: Annually

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: 12/23/2014
Next Scheduled EDR Contact: 04/13/2015
Data Release Frequency: Varies

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: 11/10/2014
Date Data Arrived at EDR: 11/12/2014
Date Made Active in Reports: 12/12/2014
Number of Days to Update: 30

Source: State Water Resoruces Control Board
Telephone: 916-445-9379
Last EDR Contact: 11/07/2014
Next Scheduled EDR Contact: 02/09/2015
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.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 10/15/2014
Date Made Active in Reports: 11/19/2014
Number of Days to Update: 35

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 10/15/2014
Next Scheduled EDR Contact: 01/26/2015
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: 12/31/2012
Date Data Arrived at EDR: 03/25/2014
Date Made Active in Reports: 04/28/2014
Number of Days to Update: 34

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 12/24/2014
Next Scheduled EDR Contact: 04/06/2015
Data Release Frequency: Varies

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: 12/31/2005
Date Data Arrived at EDR: 12/08/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 34

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 11/07/2014
Next Scheduled EDR Contact: 01/26/2015
Data Release Frequency: Semi-Annually

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: 03/07/2011
Date Data Arrived at EDR: 03/09/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 54

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 11/18/2014
Next Scheduled EDR Contact: 02/02/2015
Data Release Frequency: Varies

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: 11/07/2014
Next Scheduled EDR Contact: 01/26/2015
Data Release Frequency: N/A

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: 11/19/2014
Next Scheduled EDR Contact: 03/09/2015
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: 11/11/2011
Date Data Arrived at EDR: 05/18/2012
Date Made Active in Reports: 05/25/2012
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 11/14/2014
Next Scheduled EDR Contact: 02/23/2015
Data Release Frequency: Varies

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: 12/29/2015
Next Scheduled EDR Contact: 04/13/2015
Data Release Frequency: Quarterly

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

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 06/04/2014
Date Data Arrived at EDR: 06/12/2014
Date Made Active in Reports: 07/28/2014
Number of Days to Update: 46

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 10/06/2014
Next Scheduled EDR Contact: 01/19/2015
Data Release Frequency: Varies

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: 11/14/2014
Next Scheduled EDR Contact: 02/23/2015
Data Release Frequency: Quarterly

PROC: Certified Processors Database
A listing of certified processors.

Date of Government Version: 09/16/2014
Date Data Arrived at EDR: 09/17/2014
Date Made Active in Reports: 10/23/2014
Number of Days to Update: 36

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 12/15/2014
Next Scheduled EDR Contact: 03/30/2015
Data Release Frequency: Quarterly

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 02/01/2011
Date Data Arrived at EDR: 10/19/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 83

Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 10/31/2014
Next Scheduled EDR Contact: 02/09/2015
Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing
Financial Assurance information

Date of Government Version: 10/28/2014
Date Data Arrived at EDR: 10/30/2014
Date Made Active in Reports: 12/10/2014
Number of Days to Update: 41

Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 10/27/2014
Next Scheduled EDR Contact: 02/09/2015
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: 11/17/2014
Date Data Arrived at EDR: 11/18/2014
Date Made Active in Reports: 12/29/2014
Number of Days to Update: 41

Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 11/26/2014
Next Scheduled EDR Contact: 03/02/2015
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: 12/12/2014
Next Scheduled EDR Contact: 03/23/2015
Data Release Frequency: Varies

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: 08/20/2014
Date Data Arrived at EDR: 09/10/2014
Date Made Active in Reports: 10/23/2014
Number of Days to Update: 43

Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 12/09/2014
Next Scheduled EDR Contact: 03/23/2015
Data Release Frequency: Varies

COAL ASH DOE: Sleam-Electric Plan 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: 10/17/2014
Next Scheduled EDR Contact: 01/26/2015
Data Release Frequency: Varies

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: 10/14/2014
Date Data Arrived at EDR: 10/15/2014
Date Made Active in Reports: 11/19/2014
Number of Days to Update: 35
Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 10/15/2014
Next Scheduled EDR Contact: 01/26/2015
Data Release Frequency: Quarterly

HWP: EnviroStor Permitted Facilities Listing
Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 11/24/2014
Date Data Arrived at EDR: 11/25/2014
Date Made Active in Reports: 12/30/2014
Number of Days to Update: 35
Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 11/25/2014
Next Scheduled EDR Contact: 03/09/2015
Data Release Frequency: Quarterly

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: 10/16/2014
Date Data Arrived at EDR: 10/31/2014
Date Made Active in Reports: 11/17/2014
Number of Days to Update: 17
Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 12/23/2014
Next Scheduled EDR Contact: 04/13/2015
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data
A listing of minor source facilities.

Date of Government Version: 10/16/2014
Date Data Arrived at EDR: 10/31/2014
Date Made Active in Reports: 11/17/2014
Number of Days to Update: 17
Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 12/23/2014
Next Scheduled EDR Contact: 04/13/2015
Data Release Frequency: Annually

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: 09/04/2014
Date Data Arrived at EDR: 09/04/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 46
Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 11/11/2014
Next Scheduled EDR Contact: 03/02/2015
Data Release Frequency: Quarterly

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 US Hist Auto Stat: EDR Exclusive Historic Gas 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 US Hist Cleaners: EDR Exclusive Historic Dry 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: 10/21/2014
Date Data Arrived at EDR: 11/07/2014
Date Made Active in Reports: 12/12/2014
Number of Days to Update: 35

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 12/29/2014
Next Scheduled EDR Contact: 04/13/2015
Data Release Frequency: Semi-Annually

Underground Tanks

Underground storage tank sites located in Alameda county.

Date of Government Version: 10/21/2014
Date Data Arrived at EDR: 11/07/2014
Date Made Active in Reports: 12/15/2014
Number of Days to Update: 38

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 12/29/2014
Next Scheduled EDR Contact: 04/13/2015
Data Release Frequency: Semi-Annually

AMADOR COUNTY:

CUPA Facility List

Cupa Facility List

Date of Government Version: 09/08/2014
Date Data Arrived at EDR: 09/09/2014
Date Made Active in Reports: 09/24/2014
Number of Days to Update: 15

Source: Amador County Environmental Health
Telephone: 209-223-6439
Last EDR Contact: 12/05/2014
Next Scheduled EDR Contact: 03/23/2015
Data Release Frequency: Varies

BUTTE COUNTY:

CUPA Facility Listing

Cupa facility list.

Date of Government Version: 08/01/2013
Date Data Arrived at EDR: 08/02/2013
Date Made Active in Reports: 08/22/2013
Number of Days to Update: 20

Source: Public Health Department
Telephone: 530-538-7149
Last EDR Contact: 11/06/2014
Next Scheduled EDR Contact: 01/26/2015
Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA Facility Listing
Cupa Facility Listing

Date of Government Version: 10/06/2014
Date Data Arrived at EDR: 10/07/2014
Date Made Active in Reports: 11/19/2014
Number of Days to Update: 43

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 12/29/2014
Next Scheduled EDR Contact: 04/13/2015
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 06/11/2014
Date Data Arrived at EDR: 06/13/2014
Date Made Active in Reports: 07/07/2014
Number of Days to Update: 24

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 11/07/2014
Next Scheduled EDR Contact: 02/23/2015
Data Release Frequency: Varies

CONTRA COSTA COUNTY:

Site List
List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 08/11/2014
Date Data Arrived at EDR: 08/14/2014
Date Made Active in Reports: 10/09/2014
Number of Days to Update: 56

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 11/03/2014
Next Scheduled EDR Contact: 02/16/2015
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA Facility List
Cupa Facility list

Date of Government Version: 11/03/2014
Date Data Arrived at EDR: 11/04/2014
Date Made Active in Reports: 12/12/2014
Number of Days to Update: 38

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 11/03/2014
Next Scheduled EDR Contact: 02/16/2015
Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 11/19/2014
Date Data Arrived at EDR: 11/21/2014
Date Made Active in Reports: 12/29/2014
Number of Days to Update: 38

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 11/03/2014
Next Scheduled EDR Contact: 02/16/2015
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: 09/30/2014
Date Data Arrived at EDR: 10/14/2014
Date Made Active in Reports: 11/19/2014
Number of Days to Update: 36

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 10/10/2014
Next Scheduled EDR Contact: 01/19/2015
Data Release Frequency: Semi-Annually

HUMBOLDT COUNTY:

CUPA Facility List

CUPA facility list.

Date of Government Version: 09/10/2014
Date Data Arrived at EDR: 09/11/2014
Date Made Active in Reports: 09/25/2014
Number of Days to Update: 14

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 11/26/2014
Next Scheduled EDR Contact: 03/09/2015
Data Release Frequency: Varies

IMPERIAL COUNTY:

CUPA Facility List

Cupa facility list.

Date of Government Version: 11/03/2014
Date Data Arrived at EDR: 11/04/2014
Date Made Active in Reports: 12/12/2014
Number of Days to Update: 38

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 10/27/2014
Next Scheduled EDR Contact: 02/09/2015
Data Release Frequency: Varies

INYO COUNTY:

CUPA Facility List

Cupa facility list.

Date of Government Version: 09/10/2013
Date Data Arrived at EDR: 09/11/2013
Date Made Active in Reports: 10/14/2013
Number of Days to Update: 33

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 11/19/2014
Next Scheduled EDR Contact: 03/09/2015
Data Release Frequency: Varies

KERN COUNTY:

Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 07/22/2014
Date Data Arrived at EDR: 11/12/2014
Date Made Active in Reports: 12/19/2014
Number of Days to Update: 37

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 11/05/2014
Next Scheduled EDR Contact: 02/23/2015
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: 11/21/2014
Date Data Arrived at EDR: 11/25/2014
Date Made Active in Reports: 12/30/2014
Number of Days to Update: 35

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 11/21/2014
Next Scheduled EDR Contact: 03/09/2015
Data Release Frequency: Varies

LAKE COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 07/23/2014
Date Data Arrived at EDR: 07/25/2014
Date Made Active in Reports: 08/22/2014
Number of Days to Update: 28

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 10/20/2014
Next Scheduled EDR Contact: 02/02/2015
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: 12/18/2014
Next Scheduled EDR Contact: 04/06/2015
Data Release Frequency: No Update Planned

HMS: Street Number List
Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 03/31/2014
Date Data Arrived at EDR: 06/06/2014
Date Made Active in Reports: 07/17/2014
Number of Days to Update: 41

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 10/14/2014
Next Scheduled EDR Contact: 01/26/2015
Data Release Frequency: Semi-Annually

List of Solid Waste Facilities
Solid Waste Facilities in Los Angeles County.

Date of Government Version: 10/20/2014
Date Data Arrived at EDR: 10/22/2014
Date Made Active in Reports: 12/12/2014
Number of Days to Update: 51

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 10/22/2014
Next Scheduled EDR Contact: 02/02/2015
Data Release Frequency: Varies

City of Los Angeles Landfills

Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 03/05/2009
Date Data Arrived at EDR: 03/10/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 29

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 10/17/2014
Next Scheduled EDR Contact: 02/02/2015
Data Release Frequency: Varies

Site Mitigation List

Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 01/07/2014
Date Data Arrived at EDR: 02/25/2014
Date Made Active in Reports: 03/25/2014
Number of Days to Update: 28

Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 10/17/2014
Next Scheduled EDR Contact: 02/02/2015
Data Release Frequency: Annually

City of El Segundo Underground Storage Tank

Underground storage tank sites located in El Segundo city.

Date of Government Version: 10/20/2014
Date Data Arrived at EDR: 10/22/2014
Date Made Active in Reports: 12/15/2014
Number of Days to Update: 54

Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 10/20/2014
Next Scheduled EDR Contact: 02/02/2015
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: 07/28/2014
Date Data Arrived at EDR: 07/28/2014
Date Made Active in Reports: 08/20/2014
Number of Days to Update: 23

Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 10/27/2014
Next Scheduled EDR Contact: 02/09/2015
Data Release Frequency: Annually

City of Torrance Underground Storage Tank

Underground storage tank sites located in the city of Torrance.

Date of Government Version: 01/13/2014
Date Data Arrived at EDR: 03/27/2014
Date Made Active in Reports: 04/28/2014
Number of Days to Update: 32

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 10/10/2014
Next Scheduled EDR Contact: 01/26/2015
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: 10/02/2014
Date Data Arrived at EDR: 10/03/2014
Date Made Active in Reports: 11/20/2014
Number of Days to Update: 48

Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 11/26/2014
Next Scheduled EDR Contact: 03/09/2015
Data Release Frequency: Varies

MARIN COUNTY:

Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 10/08/2014
Date Data Arrived at EDR: 10/22/2014
Date Made Active in Reports: 12/15/2014
Number of Days to Update: 54

Source: Public Works Department Waste Management
Telephone: 415-499-6647
Last EDR Contact: 10/20/2014
Next Scheduled EDR Contact: 01/19/2015
Data Release Frequency: Semi-Annually

MERCED COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 11/25/2014
Date Data Arrived at EDR: 11/26/2014
Date Made Active in Reports: 12/29/2014
Number of Days to Update: 33

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 11/21/2014
Next Scheduled EDR Contact: 03/09/2015
Data Release Frequency: Varies

MONO COUNTY:

CUPA Facility List
CUPA Facility List

Date of Government Version: 09/02/2014
Date Data Arrived at EDR: 09/05/2014
Date Made Active in Reports: 09/24/2014
Number of Days to Update: 19

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 11/26/2014
Next Scheduled EDR Contact: 03/16/2015
Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA Facility Listing
CUPA Program listing from the Environmental Health Division.

Date of Government Version: 06/09/2014
Date Data Arrived at EDR: 06/11/2014
Date Made Active in Reports: 07/09/2014
Number of Days to Update: 28

Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 11/26/2014
Next Scheduled EDR Contact: 03/09/2015
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: 12/05/2011
Date Data Arrived at EDR: 12/06/2011
Date Made Active in Reports: 02/07/2012
Number of Days to Update: 63

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 11/25/2014
Next Scheduled EDR Contact: 03/16/2015
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: 01/15/2008
Date Data Arrived at EDR: 01/16/2008
Date Made Active in Reports: 02/08/2008
Number of Days to Update: 23

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 11/25/2014
Next Scheduled EDR Contact: 03/16/2015
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 09/16/2014
Date Data Arrived at EDR: 09/18/2014
Date Made Active in Reports: 09/25/2014
Number of Days to Update: 7

Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 12/15/2014
Next Scheduled EDR Contact: 02/16/2015
Data Release Frequency: Varies

ORANGE COUNTY:

List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 11/01/2014
Date Data Arrived at EDR: 11/12/2014
Date Made Active in Reports: 12/12/2014
Number of Days to Update: 30

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 11/05/2014
Next Scheduled EDR Contact: 02/23/2015
Data Release Frequency: Annually

List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 11/01/2014
Date Data Arrived at EDR: 11/12/2014
Date Made Active in Reports: 12/12/2014
Number of Days to Update: 30

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 11/05/2014
Next Scheduled EDR Contact: 02/23/2015
Data Release Frequency: Quarterly

List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 11/01/2014
Date Data Arrived at EDR: 11/10/2014
Date Made Active in Reports: 12/15/2014
Number of Days to Update: 35

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 11/10/2014
Next Scheduled EDR Contact: 02/23/2015
Data Release Frequency: Quarterly

PLACER COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 09/22/2014
Date Data Arrived at EDR: 09/23/2014
Date Made Active in Reports: 11/21/2014
Number of Days to Update: 59

Source: Placer County Health and Human Services
Telephone: 530-745-2363
Last EDR Contact: 12/05/2014
Next Scheduled EDR Contact: 03/23/2015
Data Release Frequency: Semi-Annually

RIVERSIDE COUNTY:

Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 10/08/2014
Date Data Arrived at EDR: 10/10/2014
Date Made Active in Reports: 11/20/2014
Number of Days to Update: 41

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 12/22/2014
Next Scheduled EDR Contact: 01/05/2015
Data Release Frequency: Quarterly

Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 10/08/2014
Date Data Arrived at EDR: 10/10/2014
Date Made Active in Reports: 11/25/2014
Number of Days to Update: 46

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 12/22/2014
Next Scheduled EDR Contact: 04/06/2015
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: 02/06/2014
Date Data Arrived at EDR: 04/08/2014
Date Made Active in Reports: 04/29/2014
Number of Days to Update: 21

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 10/06/2014
Next Scheduled EDR Contact: 01/19/2015
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: 10/21/2014
Date Data Arrived at EDR: 10/28/2014
Date Made Active in Reports: 12/15/2014
Number of Days to Update: 48

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 10/21/2014
Next Scheduled EDR Contact: 01/19/2015
Data Release Frequency: Quarterly

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: 08/06/2014
Date Data Arrived at EDR: 08/07/2014
Date Made Active in Reports: 09/30/2014
Number of Days to Update: 54

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 11/10/2014
Next Scheduled EDR Contact: 02/23/2015
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: 09/23/2013
Date Data Arrived at EDR: 09/24/2013
Date Made Active in Reports: 10/17/2013
Number of Days to Update: 23

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 12/04/2014
Next Scheduled EDR Contact: 03/23/2015
Data Release Frequency: Quarterly

Solid Waste Facilities

San Diego County Solid Waste Facilities.

Date of Government Version: 10/31/2014
Date Data Arrived at EDR: 11/21/2014
Date Made Active in Reports: 12/29/2014
Number of Days to Update: 38

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 10/27/2014
Next Scheduled EDR Contact: 02/09/2015
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: 12/04/2014
Next Scheduled EDR Contact: 03/23/2015
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: 11/05/2014
Next Scheduled EDR Contact: 02/23/2015
Data Release Frequency: Quarterly

Underground Storage Tank Information

Underground storage tank sites located in San Francisco county.

Date of Government Version: 11/29/2010
Date Data Arrived at EDR: 03/10/2011
Date Made Active in Reports: 03/15/2011
Number of Days to Update: 5

Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 11/05/2014
Next Scheduled EDR Contact: 02/23/2015
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: 06/20/2014
Date Data Arrived at EDR: 06/23/2014
Date Made Active in Reports: 07/11/2014
Number of Days to Update: 18
Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 12/18/2014
Next Scheduled EDR Contact: 04/06/2015
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA Facility List
Cupa Facility List.

Date of Government Version: 11/21/2014
Date Data Arrived at EDR: 11/24/2014
Date Made Active in Reports: 12/30/2014
Number of Days to Update: 36
Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 11/21/2014
Next Scheduled EDR Contact: 03/09/2015
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: 10/06/2014
Date Data Arrived at EDR: 10/10/2014
Date Made Active in Reports: 11/19/2014
Number of Days to Update: 40
Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 12/15/2014
Next Scheduled EDR Contact: 03/30/2015
Data Release Frequency: Annually

Fuel Leak List
A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 09/15/2014
Date Data Arrived at EDR: 09/16/2014
Date Made Active in Reports: 10/22/2014
Number of Days to Update: 36
Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 12/11/2014
Next Scheduled EDR Contact: 03/30/2015
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: 11/19/2014
Next Scheduled EDR Contact: 03/09/2015
Data Release Frequency: Varies

SANTA CLARA COUNTY:

Cupa Facility List
Cupa facility list

Date of Government Version: 11/25/2014
Date Data Arrived at EDR: 11/26/2014
Date Made Active in Reports: 12/30/2014
Number of Days to Update: 34

Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 11/21/2014
Next Scheduled EDR Contact: 03/09/2015
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: 11/25/2014
Next Scheduled EDR Contact: 03/16/2015
Data Release Frequency: Annually

Hazardous Material Facilities
Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 11/10/2014
Date Data Arrived at EDR: 11/10/2014
Date Made Active in Reports: 12/15/2014
Number of Days to Update: 35

Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 11/07/2014
Next Scheduled EDR Contact: 02/23/2015
Data Release Frequency: Annually

SANTA CRUZ COUNTY:

CUPA Facility List
CUPA facility listing.

Date of Government Version: 11/24/2014
Date Data Arrived at EDR: 11/25/2014
Date Made Active in Reports: 12/31/2014
Number of Days to Update: 36

Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 11/21/2014
Next Scheduled EDR Contact: 03/09/2015
Data Release Frequency: Varies

SHASTA COUNTY:

CUPA Facility List
Cupa Facility List.

Date of Government Version: 09/16/2014
Date Data Arrived at EDR: 09/18/2014
Date Made Active in Reports: 10/22/2014
Number of Days to Update: 34

Source: Shasta County Department of Resource Management
Telephone: 530-225-5789
Last EDR Contact: 11/26/2014
Next Scheduled EDR Contact: 03/09/2015
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: 06/19/2014
Date Data Arrived at EDR: 06/26/2014
Date Made Active in Reports: 07/25/2014
Number of Days to Update: 29

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 12/11/2014
Next Scheduled EDR Contact: 03/30/2015
Data Release Frequency: Quarterly

Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 06/19/2014
Date Data Arrived at EDR: 06/26/2014
Date Made Active in Reports: 07/25/2014
Number of Days to Update: 29

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 12/11/2014
Next Scheduled EDR Contact: 03/30/2015
Data Release Frequency: Quarterly

SONOMA COUNTY:

Cupa Facility List
Cupa Facility list

Date of Government Version: 09/30/2014
Date Data Arrived at EDR: 10/02/2014
Date Made Active in Reports: 11/20/2014
Number of Days to Update: 49

Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 12/29/2014
Next Scheduled EDR Contact: 04/13/2015
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: 10/01/2014
Date Data Arrived at EDR: 10/03/2014
Date Made Active in Reports: 11/20/2014
Number of Days to Update: 48

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 12/29/2014
Next Scheduled EDR Contact: 04/13/2015
Data Release Frequency: Quarterly

SUTTER COUNTY:

Underground Storage Tanks
Underground storage tank sites located in Sutter county.

Date of Government Version: 09/08/2014
Date Data Arrived at EDR: 09/09/2014
Date Made Active in Reports: 10/24/2014
Number of Days to Update: 45

Source: Sutter County Department of Agriculture
Telephone: 530-822-7500
Last EDR Contact: 12/05/2014
Next Scheduled EDR Contact: 03/23/2015
Data Release Frequency: Semi-Annually

TUOLUMNE COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 10/28/2014
Date Data Arrived at EDR: 10/29/2014
Date Made Active in Reports: 12/12/2014
Number of Days to Update: 44

Source: Divison of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 10/27/2014
Next Scheduled EDR Contact: 02/09/2015
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: 10/29/2014
Date Data Arrived at EDR: 11/24/2014
Date Made Active in Reports: 12/29/2014
Number of Days to Update: 35

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 11/17/2014
Next Scheduled EDR Contact: 03/02/2015
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: 10/03/2014
Next Scheduled EDR Contact: 01/12/2015
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: 11/17/2014
Next Scheduled EDR Contact: 03/02/2015
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: 09/26/2014
Date Data Arrived at EDR: 10/29/2014
Date Made Active in Reports: 12/12/2014
Number of Days to Update: 44

Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 10/27/2014
Next Scheduled EDR Contact: 02/09/2015
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: 08/26/2014
Date Data Arrived at EDR: 09/17/2014
Date Made Active in Reports: 10/28/2014
Number of Days to Update: 41

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 12/15/2014
Next Scheduled EDR Contact: 03/30/2015
Data Release Frequency: Quarterly

YOLO COUNTY:

Underground Storage Tank Comprehensive Facility Report

Underground storage tank sites located in Yolo county.

Date of Government Version: 09/23/2014
Date Data Arrived at EDR: 09/30/2014
Date Made Active in Reports: 11/25/2014
Number of Days to Update: 56

Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 12/18/2014
Next Scheduled EDR Contact: 04/06/2015
Data Release Frequency: Annually

YUBA COUNTY:

CUPA Facility List
CUPA facility listing for Yuba County.

Date of Government Version: 11/17/2014
Date Data Arrived at EDR: 11/18/2014
Date Made Active in Reports: 12/30/2014
Number of Days to Update: 42

Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 11/17/2014
Next Scheduled EDR Contact: 02/16/2015
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: 07/30/2013
Date Data Arrived at EDR: 08/19/2013
Date Made Active in Reports: 10/03/2013
Number of Days to Update: 45

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 11/17/2014
Next Scheduled EDR Contact: 03/02/2015
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 07/19/2012
Date Made Active in Reports: 08/28/2012
Number of Days to Update: 40

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 10/10/2014
Next Scheduled EDR Contact: 01/26/2015
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: 11/01/2014
Date Data Arrived at EDR: 11/05/2014
Date Made Active in Reports: 11/24/2014
Number of Days to Update: 19

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 11/05/2014
Next Scheduled EDR Contact: 02/16/2015
Data Release Frequency: Annually

PA MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 07/21/2014
Date Made Active in Reports: 08/25/2014
Number of Days to Update: 35

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 10/20/2014
Next Scheduled EDR Contact: 02/02/2015
Data Release Frequency: Annually

RI MANIFEST: Manifest information
Hazardous waste manifest information

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 07/15/2014
Date Made Active in Reports: 08/13/2014
Number of Days to Update: 29

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 11/26/2014
Next Scheduled EDR Contact: 03/09/2015
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 06/20/2014
Date Made Active in Reports: 08/07/2014
Number of Days to Update: 48

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 12/12/2014
Next Scheduled EDR Contact: 03/30/2015
Data Release Frequency: Annually

Oil/Gas Pipelines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines.

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.

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, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

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.

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

STREET AND ADDRESS INFORMATION

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GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

SANTA ROSA 6
ROUND BARN BLVD & FOUNTAIN GROVE PKWY
SANTA ROSA, CA 95403

TARGET PROPERTY COORDINATES

Latitude (North):	38.4776 - 38° 28' 39.36''
Longitude (West):	122.7249 - 122° 43' 29.64''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	523996.2
UTM Y (Meters):	4258637.0
Elevation:	306 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	38122-D6 SANTA ROSA, CA
Most Recent Revision:	1999

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).

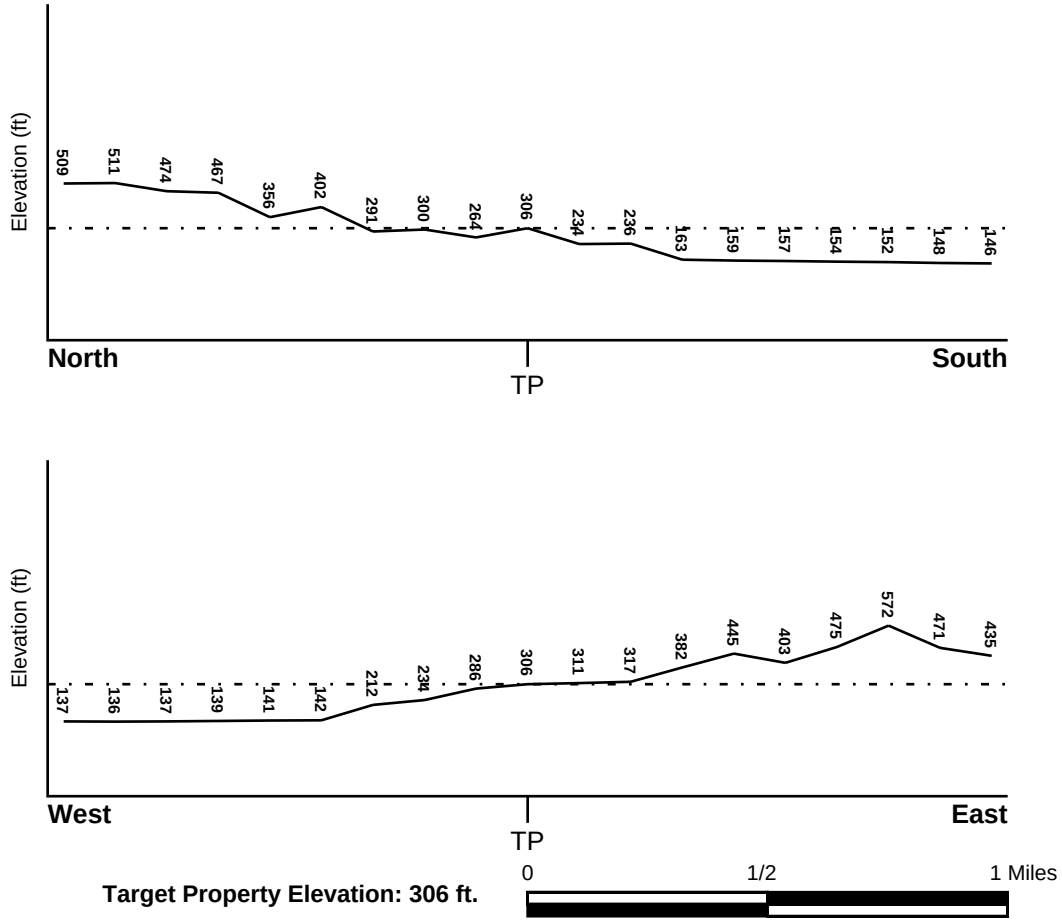
TOPOGRAPHIC INFORMATION

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 SW

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Target Property Elevation: 306 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

Target Property County	FEMA Flood Electronic Data
SONOMA, CA	YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property: 06097C - FEMA DFIRM Flood data

Additional Panels in search area: Not Reported

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
SANTA ROSA	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
1	1/8 - 1/4 Mile SSW	WSW
4	1/4 - 1/2 Mile WSW	NE
5	1/4 - 1/2 Mile West	NE
A10	1/2 - 1 Mile West	NW
12	1/2 - 1 Mile WSW	S
13	1/2 - 1 Mile WSW	W

For additional site information, refer to Physical Setting Source Map Findings.

* ©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

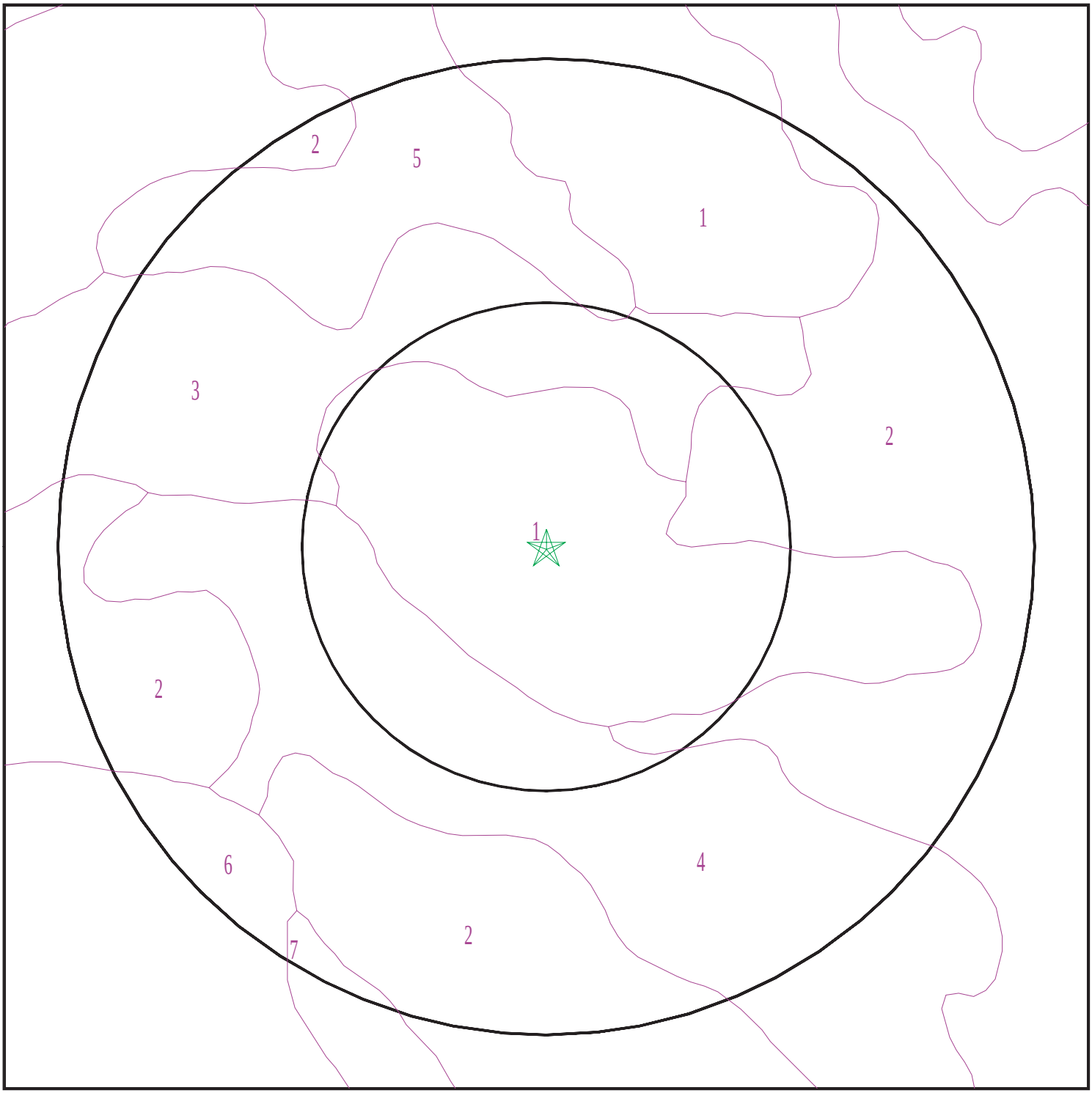
Era:	Cenozoic
System:	Tertiary
Series:	Pliocene volcanic rocks
Code:	Tpv *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Volcanic Rocks

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 - 4173312.2s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME:	Santa Rosa 6	CLIENT:	Stantec
ADDRESS:	ROUND BARN BLVD & FOUNTAIN GROVE PKWY Santa Rosa CA 95403	CONTACT:	Alicia Jansen
LAT/LONG:	38.4776 / 122.7249	INQUIRY #:	4173312.2s
		DATE:	January 05, 2015 2:22 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: GOULDING

Soil Surface Texture: cobbly clay loam

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: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 36 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	9 inches	cobbly clay 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: 14 Min: 4	Max: 6.5 Min: 5.6
2	9 inches	18 inches	very gravelly clay loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Clayey Gravel	Max: 14 Min: 4	Max: 6.5 Min: 6.1
3	18 inches	22 inches	unweathered bedrock	Not reported	Not reported	Max: Min:	Max: Min:

Soil Map ID: 2

Soil Component Name: SPRECKELS

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: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

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	9 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: 14 Min: 4	Max: 6.5 Min: 6.1
2	9 inches	18 inches	clay 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: 6.5 Min: 6.1
3	18 inches	37 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: 1.4 Min: 0.42	Max: 6 Min: 5.1
4	37 inches	59 inches	cemented	Not reported	Not reported	Max: Min:	Max: Min:

Soil Map ID: 3

Soil Component Name: SPRECKELS

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: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

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	9 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: 14 Min: 4	Max: 6.5 Min: 6.1
2	9 inches	18 inches	clay 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: 6.5 Min: 6.1
3	18 inches	37 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: 1.4 Min: 0.42	Max: 6 Min: 5.1
4	37 inches	59 inches	cemented	Not reported	Not reported	Max: Min:	Max: Min:

Soil Map ID: 4

Soil Component Name: RAYNOR

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: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 77 inches

Depth to Watertable Min: > 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

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	16 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: 7.3 Min: 6.1
2	16 inches	35 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
3	35 inches	44 inches	very cobbly 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
4	44 inches	59 inches	fragmental material	Not reported	Not reported	Max: Min:	Max: Min:

Soil Map ID: 5

Soil Component Name: RAYNOR

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: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 77 inches

Depth to Watertable Min: > 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

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	16 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: 7.3 Min: 6.1
2	16 inches	35 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
3	35 inches	44 inches	very cobbly 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
4	44 inches	59 inches	fragmental material	Not reported	Not reported	Max: Min:	Max: Min:

Soil Map ID: 6

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	38 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: 7.3 Min: 5.6
2	38 inches	59 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: 7

Soil Component Name: ARBUCKLE

Soil Surface Texture: gravelly sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

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	5 inches	gravelly sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 7.3 Min: 6.1

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
2	5 inches	27 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay. FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 7.3 Min: 6.1
3	27 inches	72 inches	gravelly clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Clayey Gravel	Max: 4 Min: 1.4	Max: 6.5 Min: 5.6

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 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
8	USGS40000188536	1/2 - 1 Mile WNW

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

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	7398	1/4 - 1/2 Mile SSW
3	7394	1/4 - 1/2 Mile NNW
6	CADW50000031820	1/2 - 1 Mile WNW
9	7393	1/2 - 1 Mile WNW
A11	7395	1/2 - 1 Mile West
14	20679	1/2 - 1 Mile North

PHYSICAL SETTING SOURCE MAP - 4173312.2s

0 1/4 1/2 1 Miles

- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- 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:	Santa Rosa 6	CLIENT:	Stantec
ADDRESS:	ROUND BARN BLVD & FOUNTAIN GROVE PKWY Santa Rosa CA 95403	CONTACT:	Alicia Jansen
LAT/LONG:	38.4776 / 122.7249	INQUIRY #:	4173312.2s
		DATE:	January 05, 2015 2:22 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database | EDR ID Number

1
SSW
1/8 - 1/4 Mile
Lower

Site ID:	Not Reported
Groundwater Flow:	WSW
Shallow Water Depth:	Not Reported
Deep Water Depth:	Not Reported
Average Water Depth:	35
Date:	08/15/1991

AQUIFLOW **71017**

2
SSW
1/4 - 1/2 Mile
Lower

CA WELLS **7398**

Water System Information:

Prime Station Code:	07N/08W-10A01 M	User ID:	RXR
FRDS Number:	4900688001	County:	Sonoma
District Number:	03	Station Type:	WELL/AMBNT/MUN/INTAKE
Water Type:	Well/Groundwater	Well Status:	Active Raw
Source Lat/Long:	382825.0 1224334.0	Precision:	1,000 Feet (10 Seconds)
Source Name:	WELL 01		
System Number:	4900688		
System Name:	Journey's End Mobile Home Park		
Organization That Operates System:			
	3575 MENDOCINO AVE SANTA ROSA, CA 95403		
Pop Served:	230	Connections:	160
Area Served:	Not Reported		
Sample Collected:	24-JAN-11	Findings:	800. US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	24-JAN-11	Findings:	7.41
Chemical:	PH, LABORATORY		
Sample Collected:	24-JAN-11	Findings:	260. MG/L
Chemical:	ALKALINITY (TOTAL) AS CACO3		
Sample Collected:	24-JAN-11	Findings:	260. MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	24-JAN-11	Findings:	240. MG/L
Chemical:	HARDNESS (TOTAL) AS CACO3		
Sample Collected:	24-JAN-11	Findings:	45. MG/L
Chemical:	CALCIUM		
Sample Collected:	24-JAN-11	Findings:	30. MG/L
Chemical:	MAGNESIUM		
Sample Collected:	24-JAN-11	Findings:	88. MG/L
Chemical:	SODIUM		
Sample Collected:	24-JAN-11	Findings:	100. MG/L
Chemical:	CHLORIDE		
Sample Collected:	24-JAN-11	Findings:	0.15 MG/L
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)		

Sample Collected:	24-JAN-11	Findings:	9.1 UG/L
Chemical:	ARSENIC		
Sample Collected:	24-JAN-11	Findings:	220. UG/L
Chemical:	BARIUM		
Sample Collected:	24-JAN-11	Findings:	1600. UG/L
Chemical:	MANGANESE		
Sample Collected:	24-JAN-11	Findings:	490. MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	20-JAN-14	Findings:	. 252. MG/L
Chemical:	HARDNESS (TOTAL) AS CACO3		
Sample Collected:	20-JAN-14	Findings:	. 45. MG/L
Chemical:	CALCIUM		
Sample Collected:	20-JAN-14	Findings:	. 34. MG/L
Chemical:	MAGNESIUM		
Sample Collected:	20-JAN-14	Findings:	. 240. UG/L
Chemical:	BARIUM		
Sample Collected:	20-JAN-14	Findings:	. 170. UG/L
Chemical:	IRON		
Sample Collected:	20-JAN-14	Findings:	. 1600. UG/L
Chemical:	MANGANESE		
Sample Collected:	20-JAN-14	Findings:	5. UNITS
Chemical:	COLOR		
Sample Collected:	20-JAN-14	Findings:	870. US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	20-JAN-14	Findings:	7.3
Chemical:	PH, LABORATORY		
Sample Collected:	20-JAN-14	Findings:	260. MG/L
Chemical:	ALKALINITY (TOTAL) AS CACO3		
Sample Collected:	20-JAN-14	Findings:	260. MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	20-JAN-14	Findings:	. 83. MG/L
Chemical:	SODIUM		
Sample Collected:	20-JAN-14	Findings:	100. MG/L
Chemical:	CHLORIDE		
Sample Collected:	20-JAN-14	Findings:	0.24 MG/L
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)		
Sample Collected:	20-JAN-14	Findings:	10. UG/L
Chemical:	ARSENIC		
Sample Collected:	20-JAN-14	Findings:	500. MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		

3
NNW
1/4 - 1/2 Mile
Lower

CA WELLS **7394**

Water System Information:

Prime Station Code:	07N/08W-03G01 M	User ID:	RXR
FRDS Number:	4900774001	County:	Sonoma
District Number:	03	Station Type:	WELL/AMBNT/MUN/INTAKE
Water Type:	Well/Groundwater	Well Status:	Active Raw
Source Lat/Long:	382856.0 1224339.0	Precision:	100 Feet (one Second)
Source Name:	WELL 01		
System Number:	4900774		
System Name:	Cloverleaf Ranch Summer Camp		
Organization That Operates System:			
	3890 OLD REDWOOD HWY SANTA ROSA, CA 95403		
Pop Served:	100	Connections:	15
Area Served:	Not Reported		

4
WSW
1/4 - 1/2 Mile
Lower

Site ID:	Not Reported
Groundwater Flow:	NE
Shallow Water Depth:	Not Reported
Deep Water Depth:	Not Reported
Average Water Depth:	Not Reported
Date:	09/30/1998

AQUIFLOW **70226**

5
West
1/4 - 1/2 Mile
Lower

Site ID:	Not Reported
Groundwater Flow:	NE
Shallow Water Depth:	Not Reported
Deep Water Depth:	Not Reported
Average Water Depth:	Not Reported
Date:	05/05/1999

AQUIFLOW **70225**

6
WNW
1/2 - 1 Mile
Lower

CA WELLS **CADW50000031820**

Latitude :	38.4802		
Longitude :	122.7343		
Site code:	384802N1227343W001	Casgem sta:	07N08W03L001M
Local well:	Not Reported	Casgem s 1:	Unknown
County id:	49		
Basin cd:	1-55.01	Basin desc:	Santa Rosa Plain
Org unit n:	North Central Region Office	Site id:	CADW50000031820

7
SW
1/2 - 1 Mile
Lower

Site ID:	Not Reported
Groundwater Flow:	Not Reported
Shallow Water Depth:	13
Deep Water Depth:	14
Average Water Depth:	Not Reported
Date:	11/17/1995

AQUIFLOW **70929**

8
WNW
1/2 - 1 Mile
Lower

FED USGS **USGS40000188536**

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-382852122440301		
Monloc name:	007N008W03L001M		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18010110	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	38.481022
Longitude:	-122.7352651	Sourcemap scale:	24000
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	142
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:	19460508	Welldepth:	150
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1946-05-01	24.00	

9
WNW
1/2 - 1 Mile
Lower

CA WELLS **7393**

Water System Information:

Prime Station Code:	07N/08W-03F01 M	User ID:	RXR
FRDS Number:	4900772001	County:	Sonoma
District Number:	03	Station Type:	WELL/AMBNT/MUN/INTAKE
Water Type:	Well/Groundwater	Well Status:	Active Raw
Source Lat/Long:	382857.0 1224402.0	Precision:	100 Feet (one Second)
Source Name:	WELL 01		
System Number:	4900772		
System Name:	Ingram's Chili Bowl Restaurant		
Organization That Operates System:			
	287 BUENA VISTA DR. SANTA ROSA, CA 95404		
Pop Served:	25	Connections:	1
Area Served:	Not Reported		

A10
West
1/2 - 1 Mile
Lower

AQUIFLOW **70221**

Site ID:	Not Reported
Groundwater Flow:	NW
Shallow Water Depth:	Not Reported
Deep Water Depth:	Not Reported
Average Water Depth:	Not Reported
Date:	12/27/1995

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
A11 **West** **1/2 - 1 Mile** **Lower**	**CA WELLS**	**7395**

Water System Information:

Prime Station Code:	07N/08W-03M04 M	User ID:	RXR
FRDS Number:	4900778001	County:	Sonoma
District Number:	03	Station Type:	WELL/AMBNT/MUN/INTAKE
Water Type:	Well/Groundwater	Well Status:	Active Untreated
Source Lat/Long:	382844.0 1224417.0	Precision:	10 Feet (1/10 Second)
Source Name:	WELL 01		
System Number:	4900778		
System Name:	PETER STRAIN		
Organization That Operates System:	Not Reported		
Pop Served:	36	Connections:	12
Area Served:	AIRWAY APARTMENTS		

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12 **WSW** **1/2 - 1 Mile** **Lower**	Site ID:	Not Reported	**AQUIFLOW**	**70222**
	Groundwater Flow:	S		
	Shallow Water Depth:	9.29		
	Deep Water Depth:	11.93		
	Average Water Depth:	Not Reported		
	Date:	09/25/1996		

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13 **WSW** **1/2 - 1 Mile** **Lower**	Site ID:	Not Reported	**AQUIFLOW**	**70269**
	Groundwater Flow:	W		
	Shallow Water Depth:	Not Reported		
	Deep Water Depth:	Not Reported		
	Average Water Depth:	Not Reported		
	Date:	07/19/1999		

	Database	EDR ID Number
14 **North** **1/2 - 1 Mile** **Higher**	**CA WELLS**	**20679**

Water System Information:

Prime Station Code:	4901191-001	User ID:	RXR
FRDS Number:	4901191001	County:	Sonoma
District Number:	03	Station Type:	WELL/AMBNT/MUN/INTAKE
Water Type:	Well/Groundwater	Well Status:	Active Raw
Source Lat/Long:	382930.0 1224330.0	Precision:	1,000 Feet (10 Seconds)
Source Name:	WELL 01		
System Number:	4901191		
System Name:	Paradise Ridge Winery		
Organization That Operates System:	4545 THOMAS LAKE HARRIS DR. SANTA ROSA, CA 95403		
Pop Served:	25	Connections:	1
Area Served:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Sample Collected:	21-MAR-12	Findings:	5.2 MG/L
Chemical:	NITRATE (AS NO3)		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: CA Radon

Radon Test Results

Zipcode	Num Tests	> 4 pCi/L
95403	10	0

Federal EPA Radon Zone for SONOMA 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: 95403

Number of sites tested: 4

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.575 pCi/L	100%	0%	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.

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

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.

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 Services
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 Services (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Services, 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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