Appendix A –
Air Quality Technical Report – Encinitas Sanctuary Project

Air Quality Technical Report

Encinitas Sanctuary Project

City of Encinitas, California

MARCH 2023

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Printed on 30% post-consumer recycled material.

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
µg/m^3	micrograms per cubic meter
AQMP	Air Quality Management Plan
BenMAP	Benefits Mapping and Analysis Program
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Associatioin
CARB	California Air Resources Board
CEQA	California Environmental Quality Act
City	City of Encinitas
CO	carbon monoxide
DPM	diesel particulate matter
EMFAC	EMissions FACtor model
EPA	U.S. Environmental Protection Agency
g/L	grams per liter
H_2S	hydrogen sulfide
HAP	hazardous air pollutant
HRA	Health Risk Assessment
LOS	level of service
MPO	metropolitan planning organization
NAAQS	National Ambient Air Quality Standards
NO	nitric oxide
NO_2	nitrogen dioxide
NO_x	oxides of nitrogen
$PM_{2.5}$	fine particulate matter
PM_{10}	coarse particulate matter
ppb	parts per billion
ppm	parts per million
Project	Encinitas Sanctuary Project
RAQS	Regional Air Quality Strategy
RTP	Regional Transportation Plan
SANDAG	San Diego Association of Governments
SCS	Sustainable Communities Strategy
SDAB	San Diego Air Basin
SDAPCD	San Diego Air Pollution Control District
SDG&E	San Diego Gas & Electric Company
SIP	state implementation plan
SO_2	sulfur dioxide

Acronym/Abbreviation	Definition
SO_x	sulfur oxides
TAC	toxic air contaminant
VMT	vehicle miles traveled
VOC	volatile organic compound

Executive Summary

The purpose of this technical report is to assess the potential air quality impacts associated with implementation of the Encinitas Sanctuary Project (Project). This assessment uses the significance thresholds in Appendix G of the California Environmental Quality Act (CEQA) Guidelines.

Project Overview

The proposed Project involves the subdivision and development of one 8.23-acre (358,293 SF) lot into eleven lots: nine residential lots, one private street/drainage lot, and one open space lot. Construction of the residential subdivision will include site grading, drainage, and utility improvements, one private cul-de-sac street, and frontage improvements along Ranch View Terrace. Access to the residential subdivision will be taken from Ranch View Terrace, off which the new private cul-de-sac street will be constructed. The project will increase available housing stock in the City of Encinitas and conforms with the City's existing land use and zoning designations, as well as the surrounding residential uses.

Project Design Features

The proposed Project would implement the following construction-related project design features (PDFs) intended to emissions from Project construction. The Project would implement **PDF-AQ-1 – PDF-AQ-3**, as follows:

PDF-AQ-1: Standard construction practices would be employed to reduce fugitive dust emissions and include watering of the active sites and exposed surfaces up two times per day, depending on weather conditions; watering unpaved roads, and limiting vehicle speeds on unpaved roads. Construction of the Project would be subject to SDAPCD Rule 55 – Fugitive Dust Control. Compliance with Rule 55 would limit fugitive dust that may be generated during grading and construction activities.

PDF-AQ-2: The Project will provide temporary electricity to the project site during the building construction phases and prohibit the use of diesel-fueled/natural gas fueled generators during the building construction phases.

PDF-AQ-3: The Project will limit air compressors used during the architectural coating/painting phases to equipment that is electric-powered.

Air Quality

The air quality impact analysis evaluated the potential for adverse impacts to air quality due to construction and operational emissions resulting from the Project. The State CEQA Guidelines allow lead agencies to use the significance criteria established by the applicable air quality management district or air pollution control district to evaluate a project's impacts to air quality. The San Diego Air Pollution Control District (SDAPCD) has not developed thresholds of significance for air quality and health risk, however, the SDAPCD has provided emission levels under its permitting authority for new source review for which an Air Quality Impact Assessment (AQIA) is triggered. The County of San Diego has reviewed SDAPCD's trigger levels, as well as EPA rulemaking, and CEQA thresholds adopted by the South Coast Air Quality Management District (SCAQMD) to develop screening-level thresholds (SLTs) to assist lead agencies in determining the significance of project-level air quality impacts within the County. The City of Encinitas has chosen to apply the County of San Diego SLT's for determining mass daily criteria air pollutant

thresholds of significance. Criteria air pollutants are defined as pollutants for which the federal and state governments have established ambient air quality standards (criteria) for outdoor concentrations to protect public health. Criteria air pollutants include ozone (O_3), nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), particulate matter with an aerodynamic diameter less than or equal to 10 microns (PM_{10}), particulate matter with an aerodynamic diameter less than or equal to 2.5 microns ($PM_{2.5}$), and lead. Pollutants that are evaluated include volatile organic compounds (VOCs), oxides of nitrogen (NO_x), CO, sulfur oxides (SO_x), PM_{10}, and $PM_{2.5}$. VOCs and NO_x are important because they are precursors to O_3.

Air Quality Plan Consistency

If a project proposes development that is greater than that anticipated in the local plan and the growth projections set by the San Diego Association of Governments (SANDAG), the project might be in conflict with the State Implementation Plan and SDAPCD Regional Air Quality Strategy, and therefore may contribute to a potentially significant cumulative impact on air quality. The Project was deemed to be consistent with the current air quality plan because it would not require a general plan amendment and rezone, the development intensity would be consistent with the existing land use designations and the anticipated growth associated with the Project does not exceed that projected by SANDAG. In addition, the Project would not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations as evidenced by its construction and operational emissions being less than County of San Diego thresholds of significance. Based on these considerations, impacts related to the Project's potential to conflict with or obstruct implementation of the applicable air quality plan would be less than significant.

Cumulatively Considerable Net Increase in Nonattainment Criteria Air Pollutant Emissions

Construction of the Project would result in the temporary addition of pollutants to the local airshed caused by on-site sources (i.e., off-road construction equipment, soil disturbance, and VOC off-gassing) and off-site sources (i.e., on-road haul trucks, vendor trucks, and worker vehicle trips). The maximum daily construction emissions would not exceed the County of San Diego significance thresholds for VOCs, NO_x, CO, SO_x, PM_{10}, or $PM_{2.5}$ during construction. Therefore, the Project would have a less than significant impact.

The analysis herein assumed an operational year of 2025. Operation of the Project would generate operational criteria air pollutants from mobile sources (vehicles), area sources (consumer product use, architectural coatings, and landscape maintenance equipment), and energy (natural gas). Maximum operational emissions would not exceed the County of San Diego operational significance thresholds for VOCs, NO_x, CO, SO_x, PM_{10}, or $PM_{2.5}$.

The potential for a project to result in a cumulatively considerable impact is based on the project's potential to exceed the project-specific daily thresholds. Because maximum construction and operational emissions would not exceed the County of San Diego significance thresholds for VOCs, NO_x, CO, SO_x, PM_{10}, or $PM_{2.5}$, the Project would not result in a cumulatively considerable increase in criteria air pollutants.

Exposure of Sensitive Receptors

Regarding potential carbon monoxide (CO) violations or hotspots, the County of San Diego concluded in its General Plan Update (2011) that there are no intersections within the County that are more congested than the South Coast Air Quality Management District's (SCAQMD) most congested intersections evaluated for CO hotspots in its 2003 CO attainment redesignation request to the United States Environmental Protection Agency (US EPA). As such, the County of San Diego concluded that there were no potential CO violations in the County. The proposed development

will not result in traffic that exceeds traffic volumes considered in the County of San Diego General Plan Update analysis and CO concentrations in the project area are well below ambient air quality standards. The Project would not result in a CO hotspot given the above information and continued improvements in vehicle emissions. The impact would be less than significant.

A health risk assessment (HRA) was also conducted to determine the potential impacts of exposure to diesel particulate matter (DPM), which is a TAC, at existing proximate sensitive receptors in the Project vicinity and future onsite receptors. The results of the HRA demonstrate that after implementation of **MM-AQ-1**, which requires use of Tier 4 Interim or equivalent (e.g. Tier 4 Final) for equipment greater than 80 horsepower during construction, the TAC exposure from construction diesel exhaust emissions would not result in cancer risk above the 10 in 1 million threshold, nor a Chronic Hazard Index greater than 1.0. Therefore, impacts to sensitive receptors would be less than significant with mitigation.

Other Emissions

Potential odors produced during construction would be attributable to concentrations of unburned hydrocarbons from tailpipes of construction equipment, architectural coatings, and asphalt pavement application, which would disperse rapidly from the Project site and generally occur at magnitudes that would not affect substantial numbers of people. Impacts associated with odors during construction would be less than significant. The Project would be a mixed-use residential development that would not include land uses with sources that have the potential to generate substantial odors, and impacts associated with odors during operation would be less than significant.

Mitigation Measures

Mitigation Measure AQ-1

Tier 4 Interim Construction Equipment. Prior to the commencement of any construction activities, the applicant or its designee shall provide evidence to the City of Encinitas (City) that for off-road equipment with engines rated at 80 horsepower or greater, no construction equipment shall be used that is less than Tier 4 Interim or equivalent (e.g. Tier 4 Final or other technology that achieves equivalent particulate matter control). An exemption from these requirements may be granted by the City if the applicant documents that equipment with the required tier is not reasonably available and equivalent reductions in PM_{10} exhaust emissions are achieved from other construction equipment. The applicant shall be responsible for preparation of a new air quality assessment demonstrating that health risks are below significance thresholds of 10 in a million with the revised equipment mix. Before an exemption may be considered by the City, the applicant shall be required to demonstrate that three construction fleet owners/operators in the San Diego Region were contacted and that those owners/operators confirmed Tier 4 equipment could not be located within the San Diego region. The City shall review the exemption request and provide a determination within 10 business days from receipt of the request.

Summary of Findings

Table ES-1. Summary of Impact Determinations

Analysis	Report Section	CEQA Checklist Question	Significance Determinations	
			Unmitigated	Mitigated
Air Quality Management Plan	2.4.1	AQ-1	Less than Significant	No Mitigation Required.
Cumulatively Considerable Net Increase of Any Criteria Pollutant	2.4.2	AQ-2	Less than Significant	No Mitigation Required.
Sensitive Receptors	2.4.3	AQ-3	Less than Significant	Less than Significant with Mitigation.
Other Emissions and Odors	2.4.4	AQ-4	Less than Significant	No Mitigation Required.

1 Introduction

1.1 Report Purpose and Scope

The purpose of this technical report is to assess the potential air quality impacts associated with construction and operation of the Encinitas Sanctuary (Project). This analysis uses the significance thresholds in Appendix G of the California Environmental Quality Act (CEQA) Guidelines (14 CCR 15000 et seq.) and the emissions-based significance thresholds recommended by the County of San Diego and other applicable thresholds of significance.

1.2 Project Location

The project site is a vacant 8.23-acre parcel (APN 265-331-49) located on the southwest corner of Rancho Santa Fe Road and Ranch View Terrace, in the eastern-central part of the City of Encinitas, California. The project site is set in a mostly residential area of the City, with residential housing developments contiguous to the subject site in all directions excepting a church that is contiguous to the northeast portion of the site. A larger rectangular portion of the subject site extends 800 feet on its major axis (perpendicular to Ranch Santa Fe Road) and 400 feet on its minor axis (Parallel to Ranch Santa Fe Road). A smaller narrow rectangular strip extends the subject site further east from its northeast corner to contact the subject site with Rancho Santa Fe Road. This narrow strip has approximate dimensions of 500 feet by 50 feet. See Figure 1 Project Location for details.

1.3 Project Description

The project site is a vacant 8.23-acre parcel (APN 265-331-49) located on the southwest corner of Rancho Santa Fe Road and Ranch View Terrace, in the eastern-central part of the City of Encinitas, California (See Figure 1). The proposed Project involves the subdivision and development of one 8.23-acre (358,293 SF) lot into eleven lots: nine residential lots, one private street/drainage lot, and one open space lot. Construction of the residential subdivision will include site grading, drainage, and utility improvements, one private cul-de-sac street, and frontage improvements along Ranch View Terrace. Access to the residential subdivision will be taken from Ranch View Terrace, off which the new private cul-de-sac street will be constructed. The project will increase available housing stock in the City of Encinitas and conforms with the City's existing land use and zoning designations, as well as the surrounding residential uses. See Figure 2 Site Plan for details.

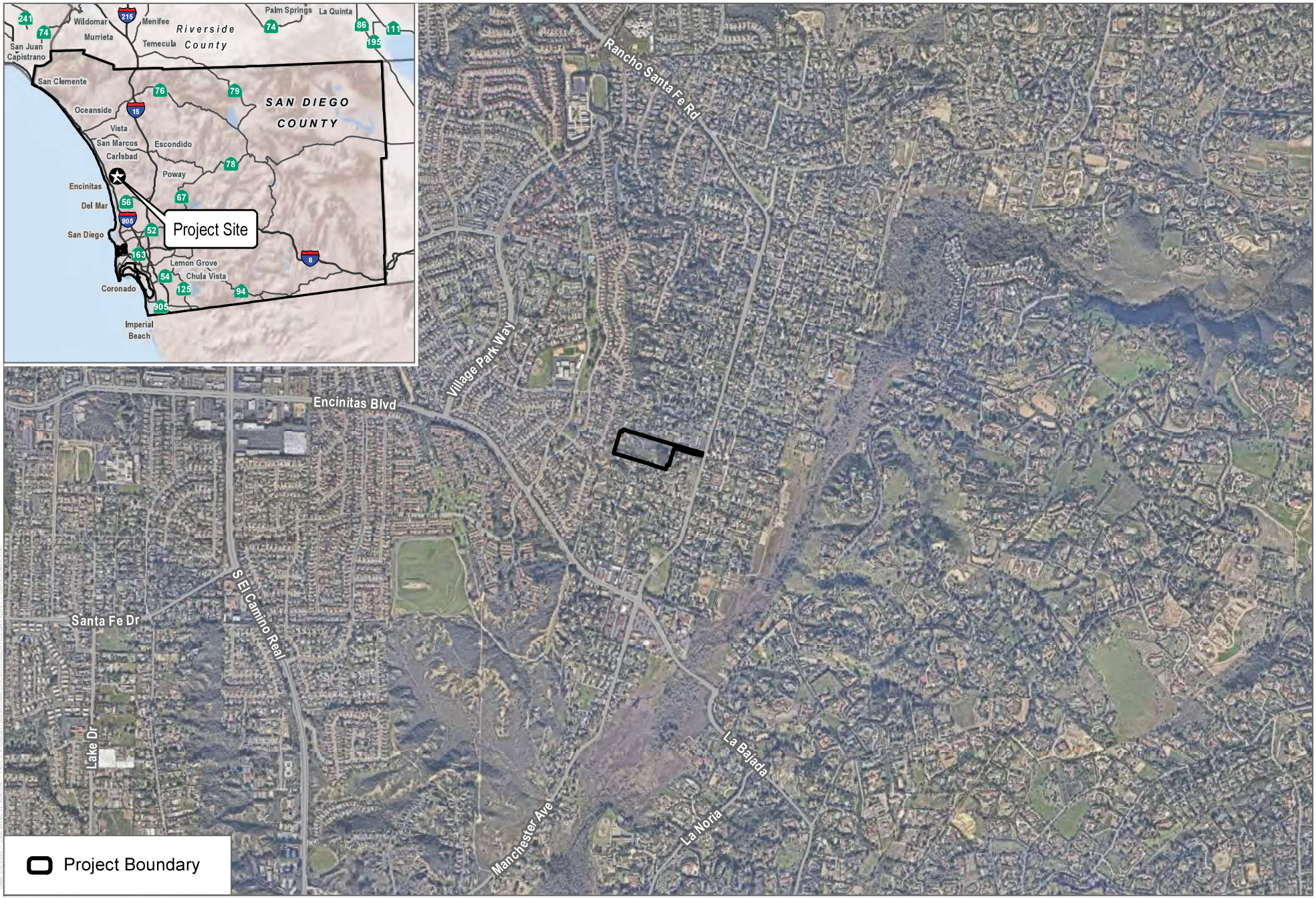
1.4 Project Design Features

The Project would implement construction-related and operational project design features (PDFs) intended to reduce emissions of criteria air pollutants and toxic air contaminants (TACs) as follows:

PDF-AQ-1: Standard construction practices would be employed to reduce fugitive dust emissions and include watering of the active sites and exposed surfaces up two times per day, depending on weather conditions; watering unpaved roads, and limiting vehicle speeds on unpaved roads. Construction of the Project would be subject to SDAPCD Rule 55 – Fugitive Dust Control. Compliance with Rule 55 would limit fugitive dust that may be generated during grading and construction activities.

PDF-AQ-2: The Project will provide temporary electricity to the project site during the building construction phases and prohibit the use of diesel-fueled/natural gas fueled generators during the building construction phases.

PDF-AQ-3: The Project will limit air compressors used during the architectural coating/painting phases to equipment that is electric-powered.



SOURCE: SanGIS 2019

DUDEK

0 1,000 2,000 Feet

FIGURE 1

Project Location

Encinitas Sanctuary Project

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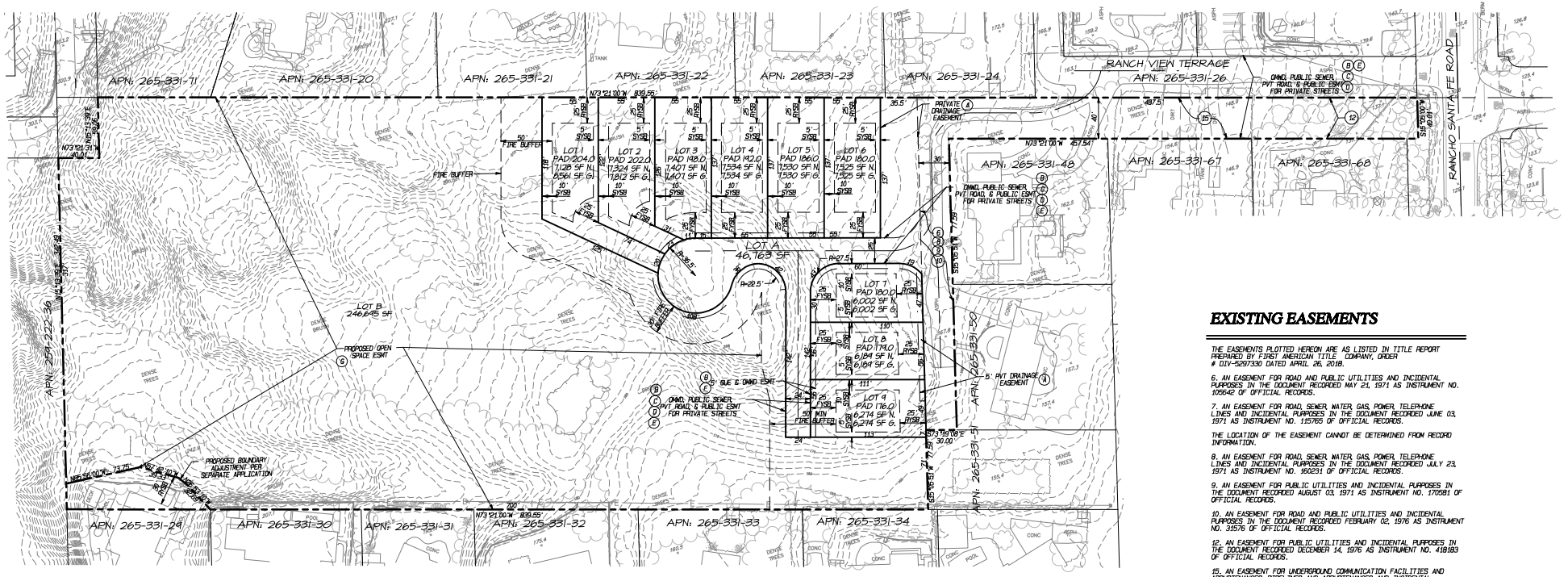

EXISTING EASEMENTS

THE EASEMENTS PLOTTED HEREON ARE AS LISTED IN TITLE REPORT PREPARED BY FIRST AMERICAN TITLE COMPANY, ORDER # DIV-5297330 DATED APRIL 26, 2018.

6. AN EASEMENT FOR ROAD AND PUBLIC UTILITIES AND INCIDENTAL PURPOSES IN THE DOCUMENT RECORDED MAY 21, 1971 AS INSTRUMENT NO. 105642 OF OFFICIAL RECORDS.

7. AN EASEMENT FOR ROAD, SEWER, WATER, GAS, POWER, TELEPHONE LINES AND INCIDENTAL PURPOSES IN THE DOCUMENT RECORDED JUNE 03, 1971 AS INSTRUMENT NO. 115765 OF OFFICIAL RECORDS.

THE LOCATION OF THE EASEMENT CANNOT BE DETERMINED FROM RECORD INFORMATION.

8. AN EASEMENT FOR ROAD, SEWER, WATER, GAS, POWER, TELEPHONE LINES AND INCIDENTAL PURPOSES IN THE DOCUMENT RECORDED JULY 23, 1971 AS INSTRUMENT NO. 160231 OF OFFICIAL RECORDS.

9. AN EASEMENT FOR PUBLIC UTILITIES AND INCIDENTAL PURPOSES IN THE DOCUMENT RECORDED AUGUST 03, 1971 AS INSTRUMENT NO. 170581 OF OFFICIAL RECORDS.

10. AN EASEMENT FOR ROAD AND PUBLIC UTILITIES AND INCIDENTAL PURPOSES IN THE DOCUMENT RECORDED FEBRUARY 02, 1976 AS INSTRUMENT NO. 31576 OF OFFICIAL RECORDS.

12. AN EASEMENT FOR PUBLIC UTILITIES AND INCIDENTAL PURPOSES IN THE DOCUMENT RECORDED DECEMBER 14, 1976 AS INSTRUMENT NO. 418183 OF OFFICIAL RECORDS.

15. AN EASEMENT FOR UNDERGROUND COMMUNICATION FACILITIES AND APPURTENANCES, PIPELINES AND APPURTENANCES AND INCIDENTAL PURPOSES IN THE DOCUMENT RECORDED MARCH 28, 2001 AS INSTRUMENT NO. 01-182048 OF OFFICIAL RECORDS.

PROPOSED EASEMENTS

- (A) PRIVATE DRAINAGE EASEMENT
- (B) OLIVENHAIN MUNICIPAL WATER DISTRICT EASEMENT
- (C) PUBLIC SEWER EASEMENT
- (D) PRIVATE ACCESS EASEMENT
- (E) PUBLIC EASEMENT FOR PRIVATE STREETS
- (F) GENERAL UTILITY EASEMENT
- (G) OPEN SPACE EASEMENT

LOTS A & B MAY NOT BE FURTHER SUBDIVIDED.

LEGEND

SUBDIVISION BOUNDARY	
LOT LINE	
LOT NUMBER	LOT 4
LOT AREA	5,000 SF
PROPOSED SETBACKS	
CENTERLINE OF RIGHT-OF-WAY	

GRAPHIC SCALE 1"=50'

0 50 100 150

SOURCE: Pasco Laret Suiter & Associates 2021

DUDEK

FIGURE 2

Site Plan

Encinitas Sanctuary Project

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2 Air Quality

2.1 Environmental Setting

2.1.1 Climate and Topography

The weather of the San Diego region, as in most of Southern California, is influenced by the Pacific Ocean and its semi-permanent high-pressure systems that result in dry, warm summers and mild, occasionally wet winters. The average temperature ranges (in degrees Fahrenheit) from the mid-40s to the high 90s. Most of the region's precipitation falls from November to April, with infrequent (approximately 10%) precipitation during the summer. The average seasonal precipitation along the coast is approximately 10 inches; the amount increases with elevation as moist air is lifted over the mountains (WRCC 2016).

The topography in the San Diego region varies greatly, from beaches on the west to mountains and desert on the east; along with local meteorology, it influences the dispersal and movement of pollutants in the basin. The mountains to the east prohibit dispersal of pollutants in that direction and help trap them in inversion layers.

The interaction of ocean, land, and the Pacific High-Pressure Zone maintains clear skies for much of the year and influences the direction of prevailing winds (westerly to northwesterly). Local terrain is often the dominant factor inland, and winds in inland mountainous areas tend to blow through the valleys during the day and down the hills and valleys at night.

2.1.2 San Diego Air Basin Climatology

The Project area is located within the San Diego Air Basin (SDAB) and is subject to the SDAPCD guidelines and regulations. The SDAB is one of 15 air basins that geographically divide the State of California. The SDAB is currently classified as a federal nonattainment area for ozone (O_3) and a state nonattainment area for particulate matter less than 10 microns (PM_{10}), particulate matter less than 2.5 microns ($PM_{2.5}$), and O_3.

The SDAB, which lies in the southwest corner of California and comprises the entire San Diego region, covers 4,260 square miles and is an area of high air pollution potential. The SDAB experiences warm summers, mild winters, infrequent rainfalls, light winds, and moderate humidity. This usually mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds.

The SDAB experiences frequent temperature inversions. Subsidence inversions occur during the warmer months as descending air associated with the Pacific High-Pressure Zone meets cool marine air. The boundary between the two layers of air creates a temperature inversion that traps pollutants. The other type of inversion, a radiation inversion, develops on winter nights when air near the ground cools by heat radiation and air aloft remains warm. The shallow inversion layer formed between these two air masses also can trap pollutants. As the pollutants become more concentrated in the atmosphere, photochemical reactions occur that produce O_3, which contributes to the formation of smog. Smog is a combination of smoke and other particulates, O_3, hydrocarbons, oxides of nitrogen (NO_x) and other chemically reactive compounds which, under certain conditions of weather and sunlight, may result in a murky brown haze that causes adverse health effects (CARB 2022a).

Light daytime winds, predominantly from the west, further aggravate the condition by driving air pollutants inland, toward the mountains. During the fall and winter, air quality problems are created due to carbon monoxide (CO) and NO_x emissions. CO concentrations are generally higher in the morning and late evening. In the morning, CO levels are elevated due to cold temperatures and the large number of motor vehicles traveling. Higher CO levels during the late evenings are a result of stagnant atmospheric conditions trapping CO in the area. Since CO is produced almost entirely from automobiles, the highest CO concentrations in the SDAB are associated with heavy traffic. Nitrogen dioxide (NO_2) levels are also generally higher during fall and winter days.

Under certain conditions, atmospheric oscillation results in the offshore transport of air from the Los Angeles region to San Diego County. This often produces high O_3 concentrations, as measured at air pollutant monitoring stations within San Diego County. The transport of air pollutants from Los Angeles to San Diego has also occurred within the stable layer of the elevated subsidence inversion, where high levels of O_3 are transported.

2.1.3 Sensitive Receptors

Air quality varies as a direct function of the amount of pollutants emitted into the atmosphere, the size and topography of the air basin, and the prevailing meteorological conditions. Air quality problems arise when the rate of pollutant emissions exceeds the rate of dispersion.

Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. People most likely to be affected by air pollution, as identified by the California Air Resources Board (CARB), include children, older adults, and people with cardiovascular and chronic respiratory diseases. According to the SDAPCD, sensitive receptors are those who are especially susceptible to adverse health effects from exposure to toxic air contaminants, such as children, the elderly, and the ill. Sensitive receptors include residences, schools (grades Kindergarten through 12), libraries, day care centers, nursing homes, retirement homes, health clinics, and hospitals within 2 kilometers of the facility (SDAPCD 2022a). The closest sensitive receptors to the Project site are single-family residences immediately adjacent on the northern and eastern boundaries of the site.

2.1.4 Pollutants and Effects

2.1.4.1 Criteria Air Pollutants

Criteria air pollutants are defined as pollutants for which the federal and state governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health. The federal and state standards have been set, with an adequate margin of safety, at levels above which concentrations could be harmful to human health and welfare. These standards are designed to protect the most sensitive persons from illness or discomfort. Pollutants of concern include O_3, NO_2, CO, sulfur dioxide (SO_2), PM_{10}, $PM_{2.5}$, and lead. These pollutants are discussed in the following paragraphs.[1] In California, sulfates, vinyl chloride, hydrogen sulfide, and visibility-reducing particles are also regulated as criteria air pollutants.

Ozone (O_3). O_3 is a strong-smelling, pale blue, reactive, toxic chemical gas consisting of three oxygen atoms. It is a secondary pollutant formed in the atmosphere by a photochemical process involving the sun's energy and O_3

[1] The following descriptions of health effects for each of the criteria air pollutants associated with project construction and operations are based on the U.S. Environmental Protection Agency's "Six Common Air Pollutants" (EPA 2017a) and the California Air Resources Board's "Glossary of Air Pollutant Terms" (CARB 2017) published information.

precursors. These precursors are mainly NO_x and VOCs. The maximum effects of precursor emissions on O_3 concentrations usually occur several hours after they are emitted and many miles from the source. Meteorology and terrain play major roles in O_3 formation, and ideal conditions occur during summer and early autumn on days with low wind speeds or stagnant air, warm temperatures, and cloudless skies. O_3 exists in the upper atmosphere O_3 layer (stratospheric O_3) and at the Earth's surface in the troposphere.[2] The O_3 that the U.S. Environmental Protection Agency (EPA) and the CARB regulate as a criteria air pollutant is produced close to the ground level, where people live, exercise, and breathe. Ground-level O_3 is a harmful air pollutant that causes numerous adverse health effects and is thus considered "bad" O_3. Stratospheric, or "good," O_3 occurs naturally in the upper atmosphere, where it reduces the amount of ultraviolet light (i.e., solar radiation) entering the Earth's atmosphere. Without the protection of the beneficial stratospheric O_3 layer, plant and animal life would be seriously harmed.

O_3 in the troposphere causes numerous adverse health effects; short-term exposures (lasting for a few hours) to O_3 at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes (EPA 2013).

Inhalation of O_3 causes inflammation and irritation of the tissues lining human airways, causing and worsening a variety of symptoms. Exposure to O_3 can reduce the volume of air that the lungs breathe in, thereby causing shortness of breath. O_3 in sufficient doses increases the permeability of lung cells, rendering them more susceptible to toxins and microorganisms. The occurrence and severity of health effects from O_3 exposure vary widely among individuals, even when the dose and the duration of exposure are the same. Research shows adults and children who spend more time outdoors participating in vigorous physical activities are at greater risk from the harmful health effects of O_3 exposure. While there are relatively few studies on the effects of O_3 on children, the available studies show that children are no more or less likely to suffer harmful effects than adults. However, there are a number of reasons why children may be more susceptible to O_3 and other pollutants. Children and teens spend nearly twice as much time outdoors and engaged in vigorous activities as adults. Children breathe more rapidly than adults and inhale more pollution per pound of their body weight than adults. Also, children are less likely than adults to notice their own symptoms and avoid harmful exposures. Further research may be able to better distinguish between health effects in children and adults. Children, adolescents and adults who exercise or work outdoors, where O_3 concentrations are the highest, are at the greatest risk of harm from this pollutant (CARB 2023a).

Nitrogen Dioxide (NO_2). NO_2 is a brownish, highly reactive gas that is present in all urban atmospheres. The major mechanism for the formation of NO_2 in the atmosphere is the oxidation of the primary air pollutant nitric oxide (NO), which is a colorless, odorless gas. NO_x plays a major role, together with VOCs, in the atmospheric reactions that produce O_3. NO_x is formed from fuel combustion under high temperature or pressure. In addition, NO_x is an important precursor to acid rain and may affect both terrestrial and aquatic ecosystems. The two major emissions sources are transportation and stationary fuel combustion sources such as electric utility and industrial boilers.

NO_2 can irritate the lungs, cause bronchitis and pneumonia, and lower resistance to respiratory infections (EPA 2016a). A large body of health science literature indicates that exposure to NO_2 can induce adverse health effects. The strongest health evidence, and the health basis for the ambient air quality standards for NO_2, results from controlled human exposure studies that show that NO_2 exposure can intensify responses to allergens in allergic asthmatics.

[2] The troposphere is the layer of the Earth's atmosphere nearest to the surface of the Earth. The troposphere extends outward about 5 miles at the poles and about 10 miles at the equator.

In addition, a number of epidemiological studies have demonstrated associations between NO_2 exposure and premature death, cardiopulmonary effects, decreased lung function growth in children, respiratory symptoms, emergency room visits for asthma, and intensified allergic responses. Infants and children are particularly at risk because they have disproportionately higher exposure to NO_2 than adults due to their greater breathing rate for their body weight and their typically greater outdoor exposure duration. Several studies have shown that long-term NO_2 exposure during childhood, the period of rapid lung growth, can lead to smaller lungs at maturity in children with higher levels of exposure compared to children with lower exposure levels. In addition, children with asthma have a greater degree of airway responsiveness compared with adult asthmatics. In adults, the greatest risk is to people who have chronic respiratory diseases, such as asthma and chronic obstructive pulmonary disease (CARB 2023b).

Carbon Monoxide (CO). CO is a colorless, odorless gas formed by the incomplete combustion of hydrocarbon, or fossil fuels. CO is emitted almost exclusively from motor vehicles, power plants, refineries, industrial boilers, ships, aircraft, and trains. In urban areas, such as the Project location, automobile exhaust accounts for the majority of CO emissions. CO is a non-reactive air pollutant that dissipates relatively quickly; therefore, ambient CO concentrations generally follow the spatial and temporal distributions of vehicular traffic. CO concentrations are influenced by local meteorological conditions—primarily wind speed, topography, and atmospheric stability. CO from motor vehicle exhaust can become locally concentrated when surface-based temperature inversions are combined with calm atmospheric conditions, which is a typical situation at dusk in urban areas from November to February. The highest levels of CO typically occur during the colder months of the year, when inversion conditions are more frequent.

CO is harmful because it binds to hemoglobin in the blood, reducing the ability of blood to carry oxygen. This interferes with oxygen delivery to the body's organs. The most common effects of CO exposure are fatigue, headaches, confusion and reduced mental alertness, light-headedness, and dizziness due to inadequate oxygen delivery to the brain. For people with cardiovascular disease, short-term CO exposure can further reduce their body's already compromised ability to respond to the increased oxygen demands of exercise, exertion, or stress. Inadequate oxygen delivery to the heart muscle leads to chest pain and decreased exercise tolerance. Unborn babies whose mothers experience high levels of CO exposure during pregnancy are at risk of adverse developmental effects. Unborn babies, infants, elderly people, and people with anemia or with a history of heart or respiratory disease are most likely to experience health effects with exposure to elevated levels of CO (CARB 2023c).

Sulfur Dioxide (SO_2). SO_2 is a colorless, pungent gas formed primarily from incomplete combustion of sulfur-containing fossil fuels. The main sources of SO_2 are coal and oil used in power plants and industries; as such, the highest levels of SO_2 are generally found near large industrial complexes. In recent years, SO_2 concentrations have been reduced by the increasingly stringent controls placed on stationary source emissions of SO_2 and limits on the sulfur content of fuels.

Controlled human exposure and epidemiological studies show that children and adults with asthma are more likely to experience adverse responses with SO_2 exposure, compared with the non-asthmatic population. Effects at levels near the 1-hour standard are those of asthma exacerbation, including bronchoconstriction accompanied by symptoms of respiratory irritation such as wheezing, shortness of breath, and chest tightness, especially during exercise or physical activity. Also, exposure at elevated levels of SO_2 (above 1 parts per million [ppm]) results in increased incidence of pulmonary symptoms and disease, decreased pulmonary function, and increased risk of mortality. Older people and people with cardiovascular disease or chronic lung disease (such as bronchitis or emphysema) are most likely to experience these adverse effects (CARB 2023d).

SO_2 is of concern both because it is a direct respiratory irritant and because it contributes to the formation of sulfate and sulfuric acid in particulate matter (NRC 2005). People with asthma are of particular concern, both because they have increased baseline airflow resistance and because their SO_2-induced increase in airflow resistance is greater than in healthy people, and it increases with the severity of their asthma (NRC 2005). SO_2 is thought to induce airway constriction via neural reflexes involving irritant receptors in the airways (NRC 2005).

Particulate Matter (PM). Particulate matter pollution consists of very small liquid and solid particles floating in the air, which can include smoke, soot, dust, salts, acids, and metals. Particulate matter can form when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. $PM_{2.5}$ and PM_{10} represent fractions of particulate matter. Coarse particulate matter (PM_{10}) consists of particulate matter that is 10 microns or less in diameter and is about 1/7 the thickness of a human hair. Major sources of PM_{10} include crushing or grinding operations; dust stirred up by vehicles traveling on roads; wood-burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush/waste burning; industrial sources; windblown dust from open lands; and atmospheric chemical and photochemical reactions. Fine particulate matter ($PM_{2.5}$) consists of particulate matter that is 2.5 microns or less in diameter and is roughly 1/28 the diameter of a human hair. $PM_{2.5}$ results from fuel combustion (e.g., from motor vehicles and power generation and industrial facilities), residential fireplaces, and woodstoves. In addition, $PM_{2.5}$ can be formed in the atmosphere from gases such as sulfur oxides (SO_x), NO_x, and VOCs.

$PM_{2.5}$ and PM_{10} pose a greater health risk than larger-size particles. When inhaled, these tiny particles can penetrate the human respiratory system's natural defenses and damage the respiratory tract. $PM_{2.5}$ and PM_{10} can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. Very small particles of substances such as lead, sulfates, and nitrates can cause lung damage directly or be absorbed into the blood stream, causing damage elsewhere in the body. Additionally, these substances can transport adsorbed gases such as chlorides or ammonium into the lungs, also causing injury. Whereas PM_{10} tends to collect in the upper portion of the respiratory system, $PM_{2.5}$ is so tiny that it can penetrate deeper into the lungs and damage lung tissue. Suspended particulates also damage and discolor surfaces on which they settle and produce haze and reduce regional visibility.

A number of adverse health effects have been associated with exposure to both $PM_{2.5}$ and PM_{10}. For $PM_{2.5}$, short-term exposures (up to 24-hour duration) have been associated with premature mortality, increased hospital admissions for heart or lung causes, acute and chronic bronchitis, asthma attacks, emergency room visits, respiratory symptoms, and restricted activity days. These adverse health effects have been reported primarily in infants, children, and older adults with preexisting heart or lung diseases. In addition, of all of the common air pollutants, $PM_{2.5}$ is associated with the greatest proportion of adverse health effects related to air pollution, both in the United States and worldwide based on the World Health Organization's Global Burden of Disease Project. Short-term exposures to PM_{10} have been associated primarily with worsening of respiratory diseases, including asthma and chronic obstructive pulmonary disease, leading to hospitalization and emergency department visits (CARB 2017).

Long-term exposure (months to years) to $PM_{2.5}$ has been linked to premature death, particularly in people who have chronic heart or lung diseases, and reduced lung function growth in children. The effects of long-term exposure to PM_{10} are less clear, although several studies suggest a link between long-term PM_{10} exposure and respiratory mortality. The International Agency for Research on Cancer published a review in 2015 that concluded that particulate matter in outdoor air pollution causes lung cancer (CARB 2017).

Lead. Lead in the atmosphere occurs as particulate matter. Sources of lead include leaded gasoline; the manufacturing of batteries, paints, ink, ceramics, and ammunition; and secondary lead smelters. Prior to 1978, mobile emissions were the primary source of atmospheric lead. Between 1978 and 1987, the phaseout of leaded gasoline reduced the overall inventory of airborne lead by nearly 95%. With the phaseout of leaded gasoline, secondary lead smelters, battery recycling, and manufacturing facilities are becoming lead-emissions sources of greater concern.

Prolonged exposure to atmospheric lead poses a serious threat to human health. Health effects associated with exposure to lead include gastrointestinal disturbances, anemia, kidney disease, and in severe cases, neuromuscular and neurological dysfunction. Of particular concern are low-level lead exposures during infancy and childhood. Such exposures are associated with decrements in neurobehavioral performance, including IQ performance, psychomotor performance, reaction time, and growth. Children are highly susceptible to the effects of lead.

Volatile Organic Compounds (VOCs). Hydrocarbons are organic gases that are formed from hydrogen and carbon and sometimes other elements. Hydrocarbons that contribute to formation of O_3 are referred to and regulated as VOCs (also referred to as reactive organic gases). Combustion engine exhaust, oil refineries, and fossil-fueled power plants are the sources of hydrocarbons. Other sources of hydrocarbons include evaporation from petroleum fuels, solvents, dry-cleaning solutions, and paint.

The primary health effects of VOCs result from the formation of O_3 and its related health effects. High levels of VOCs in the atmosphere can interfere with oxygen intake by reducing the amount of available oxygen through displacement. Carcinogenic forms of hydrocarbons, such as benzene, are considered TACs.

Sulfates. Sulfates are the fully oxidized form of sulfur, which typically occur in combination with metals or hydrogen ions. Sulfates are produced from reactions of SO_2 in the atmosphere and can result in respiratory impairment, as well as reduced visibility.

Vinyl Chloride. Vinyl chloride is a colorless gas with a mild, sweet odor, which has been detected near landfills, sewage plants, and hazardous waste sites, due to the microbial breakdown of chlorinated solvents. Short-term exposure to high levels of vinyl chloride in air can cause nervous system effects, such as dizziness, drowsiness, and headaches. Long-term exposure through inhalation can cause liver damage, including liver cancer.

Hydrogen Sulfide. Hydrogen sulfide is a colorless and flammable gas that has a characteristic odor of rotten eggs. Sources of hydrogen sulfide include geothermal power plants, petroleum refineries, sewers, and sewage treatment plants. Exposure to hydrogen sulfide can result in nuisance odors, as well as headaches and breathing difficulties at higher concentrations.

Visibility-Reducing Particles. Visibility-reducing particles are any particles in the air that obstruct the range of visibility. Effects of reduced visibility can include obscuring the viewshed of natural scenery, reducing airport safety, and discouraging tourism. Sources of visibility-reducing particles are the same as for $PM_{2.5}$.

2.1.4.2 Non-Criteria Pollutants

Toxic Air Contaminants (TACs). A substance is considered toxic if it has the potential to cause adverse health effects in humans, including increasing the risk of cancer upon exposure, or acute and/or chronic noncancer health effects. A toxic substance released into the air is considered a TAC. TACs are identified by federal and state agencies based

on a review of available scientific evidence. In the State of California, TACs are identified through a two-step process that was established in 1983 under the Toxic Air Contaminant Identification and Control Act. This two-step process of risk identification and risk management and reduction was designed to protect residents from the health effects of toxic substances in the air. In addition, the California Air Toxics "Hot Spots" Information and Assessment Act, Assembly Bill (AB) 2588, was enacted by the legislature in 1987 to address public concern over the release of TACs into the atmosphere. The law requires facilities emitting toxic substances to provide local air pollution control districts with information that will allow an assessment of the air toxics problem, identification of air toxics emissions sources, location of resulting hotspots, notification of the public exposed to significant risk, and development of effective strategies to reduce potential risks to the public over 5 years.

Examples include certain aromatic and chlorinated hydrocarbons, certain metals, and asbestos. TACs are generated by a number of sources, including stationary sources such as dry cleaners, gas stations, combustion sources, and laboratories; mobile sources such as automobiles; and area sources such as landfills. Adverse health effects associated with exposure to TACs may include carcinogenic (i.e., cancer-causing) and noncarcinogenic effects. Noncarcinogenic effects typically affect one or more target organ systems and may be experienced on either short-term (acute) or long-term (chronic) exposure to a given TAC.

Diesel Particulate Matter (DPM). DPM is part of a complex mixture that makes up diesel exhaust. Diesel exhaust is composed of two phases, gas and particle, both of which contribute to health risks. More than 90% of DPM is less than 1 micrometer in diameter (about 1/70th the diameter of a human hair), and thus is a subset of $PM_{2.5}$ (CARB 2022b). DPM is typically composed of carbon particles ("soot," also called black carbon) and numerous organic compounds, including over 40 known cancer-causing organic substances. Examples of these chemicals include polycyclic aromatic hydrocarbons, benzene, formaldehyde, acetaldehyde, acrolein, and 1,3-butadiene (CARB 2022b). CARB classified "particulate emissions from diesel-fueled engines" (i.e., DPM) as a TAC in August 1998 (17 CCR 93000). DPM is emitted from a broad range of diesel engines: on-road diesel engines of trucks, buses, and cars and off-road diesel engines including locomotives, marine vessels, and heavy-duty construction equipment, among others. Approximately 70% of all airborne cancer risk in California is associated with DPM (CARB 2000). To reduce the cancer risk associated with DPM, CARB adopted a diesel risk reduction plan in 2000 (CARB 2000). Because it is part of $PM_{2.5}$, DPM also contributes to the same non-cancer health effects as $PM_{2.5}$ exposure. These effects include premature death; hospitalizations and emergency department visits for exacerbated chronic heart and lung disease, including asthma; increased respiratory symptoms; and decreased lung function in children. Several studies suggest that exposure to DPM may also facilitate development of new allergies (CARB 2022b). Those most vulnerable to non-cancer health effects are children whose lungs are still developing and the elderly who often have chronic health problems.

Odorous Compounds. Odors are generally regarded as an annoyance rather than a health hazard. Manifestations of a person's reaction to odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting and headache). The ability to detect odors varies considerably among the population and overall is quite subjective. People may have different reactions to the same odor. An odor that is offensive to one person may be perfectly acceptable to another (e.g., coffee roaster). An unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. In a phenomenon known as odor fatigue, a person can become desensitized to almost any odor, and recognition may only occur with an alteration in the intensity. The occurrence and severity of odor impacts depend on the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of receptors.

Valley Fever. Coccidioidomycosis, more commonly known as "Valley Fever," is an infection caused by inhalation of the spores of the *Coccidioides immitis* fungus, which grows in the soils of the southwestern United States. The fungus is very prevalent in the soils of California's San Joaquin Valley, particularly in Kern County. Kern County is considered a highly endemic county (i.e., more than 20 cases annually of Valley Fever per 100,000 people) based on the incidence rates reported through 2016 (California Department of Public Health 2017). The ecologic factors that appear to be most conducive to survival and replication of the spores are high summer temperatures, mild winters, sparse rainfall, and alkaline, sandy soils.

San Diego County (County) is not considered a highly endemic region for Valley Fever, as the latest report from the County of San Diego Health and Human Services Agency Public Health Services indicated the County has 8.3 cases per 100,000 people (County of San Diego 2019). In the zip code area of the Project site, the case rate is reported as 3.5 cases per 100,000 people (County of San Diego 2021).

2.2 Regulatory Setting

2.2.1 Federal

2.2.1.1 Criteria Pollutants

The federal Clean Air Act (CAA), passed in 1970 and last amended in 1990, forms the basis for the national air pollution control effort. The EPA is responsible for implementing most aspects of the CAA, including the setting of National Ambient Air Quality Standards (NAAQS) for major air pollutants, hazardous air pollutant (HAP) standards, approval of state attainment plans, motor vehicle emission standards, stationary source emission standards and permits, acid rain control measures, stratospheric O_3 protection, and enforcement provisions.

NAAQS are established by the EPA for "criteria pollutants" under the CAA, which are O_3, CO, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and lead. The NAAQS describe acceptable air quality conditions designed to protect the health and welfare of the citizens of the nation. The CAA requires the EPA to reassess the NAAQS at least every 5 years to determine whether adopted standards are adequate to protect public health based on current scientific evidence. States with areas that exceed the NAAQS must prepare a state implementation plan (SIP) that demonstrates how those areas will attain the standards within mandated time frames.

2.2.1.2 Hazardous Air Pollutants

The 1977 CAA Amendments required the EPA to identify national emission standards for hazardous air pollutants to protect the public health and welfare. HAPs include certain volatile organic chemicals, pesticides, herbicides, and radionuclides that present a tangible hazard, based on scientific studies of exposure to humans and other mammals. Under the 1990 CAA Amendments, which expanded the control program for HAPs, 189 substances and chemical families were identified as HAPs.

2.2.2 State

2.2.2.1 Criteria Pollutants

The California Clean Air Act was adopted in 1988 and establishes the state's air quality goals, planning mechanisms, regulatory strategies, and standards of progress. Under the California Clean Air Act, the task of air

quality management and regulation has been legislatively granted to CARB, with subsidiary responsibilities assigned to air quality management districts and air pollution control districts at the regional and county levels. CARB is responsible for ensuring implementation of the California Clean Air Act, responding to the federal CAA, and regulating emissions from motor vehicles and consumer products. Pursuant to the authority granted to it, CARB has established California Ambient Air Quality Standards (CAAQS), which are generally more restrictive than the NAAQS.

The NAAQS and CAAQS are presented in Table 1.

Table 1. Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[a]	National Standards[b]	
		Concentration[c]	Primary[c,d]	Secondary[c,e]
O_3	1 hour	0.09 ppm (180 µg/m³)	—	Same as primary standard[f]
	8 hours	0.070 ppm (137 µg/m³)	0.070 ppm (137 µg/m³)[f]	
NO_2[g]	1 hour	0.18 ppm (339 µg/m³)	0.100 ppm (188 µg/m³)	Same as primary standard
	Annual arithmetic mean	0.030 ppm (57 µg/m³)	0.053 ppm (100 µg/m³)	
CO	1 hour	20 ppm (23 mg/m³)	35 ppm (40 mg/m³)	None
	8 hours	9.0 ppm (10 mg/m³)	9 ppm (10 mg/m³)	
SO_2[h]	1 hour	0.25 ppm (655 µg/m³)	0.075 ppm (196 µg/m³)	—
	3 hours	—	—	0.5 ppm (1,300 µg/m³)
	24 hours	0.04 ppm (105 µg/m³)	0.14 ppm (for certain areas)[g]	—
	Annual	—	0.030 ppm (for certain areas)[g]	—
PM_{10}[i]	24 hours	50 µg/m³	150 µg/m³	Same as primary standard
	Annual arithmetic mean	20 µg/m³	—	
$PM_{2.5}$[i]	24 hours	—	35 µg/m³	Same as primary standard
	Annual arithmetic mean	12 µg/m³	12.0 µg/m³	15.0 µg/m³
Lead[j, k]	30-day average	1.5 µg/m³	—	—
	Calendar quarter	—	1.5 µg/m³ (for certain areas)[k]	Same as primary standard
	Rolling 3-month average	—	0.15 µg/m³	
Hydrogen sulfide	1 hour	0.03 ppm (42 µg/m³)	—	—
Vinyl chloride[j]	24 hours	0.01 ppm (26 µg/m³)	—	—
Sulfates	24- hours	25 µg/m³	—	—

Table 1. Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[a]	National Standards[b]	
		Concentration[c]	Primary[c,d]	Secondary[c,e]
Visibility reducing particles	8 hour (10:00 a.m. to 6:00 p.m. PST)	Insufficient amount to produce an extinction coefficient of 0.23 per kilometer due to the number of particles when the relative humidity is less than 70%	—	—

Source: CARB 2016.

Notes: O_3 = ozone; ppm = parts per million by volume; μg/m³ = micrograms per cubic meter; NO_2 = nitrogen dioxide; CO = carbon monoxide; mg/m³= milligrams per cubic meter; SO_2 = sulfur dioxide; PM_{10} = particulate matter with an aerodynamic diameter less than or equal to 10 microns; $PM_{2.5}$ = particulate matter with an aerodynamic diameter less than or equal to 2.5 microns.

[a] California standards for O_3, CO, SO_2 (1-hour and 24-hour), NO_2, suspended particulate matter (PM_{10}, $PM_{2.5}$), and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. CAAQS are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

[b] National standards (other than O_3, NO_2, SO_2, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once per year. The O_3 standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over 3 years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 μg/m³ is equal to or less than 1. For $PM_{2.5}$, the 24-hour standard is attained when 98% of the daily concentrations, averaged over 3 years, are equal to or less than the standard.

[c] Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based on a reference temperature of 25°Celsius (°C) and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

[d] National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.

[e] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[f] On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

[g] To attain the national 1-hour standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 parts per billion (ppb). Note that the national 1-hour standard is in units of ppb. California standards are in units of ppm. To directly compare the national 1-hour standard to the California standards, the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

[h] On June 2, 2010, a new 1-hour SO_2 standard was established, and the existing 24-hour and annual primary standards were revoked. To attain the national 1-hour standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until 1 year after an area is designated for the 2010 standard, except that in areas designated nonattainment of the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

[i] On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 μg/m³ to 12.0 μg/m³. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 μg/m³, as was the annual secondary standard of 15 μg/m³. The existing 24-hour PM_{10} standards (primary and secondary) of 150 μg/m³ were also retained. The form of the annual primary and secondary standards is the annual mean averaged over 3 years.

[j] CARB has identified lead and vinyl chloride as TACs with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

[k] The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 μg/m³ as a quarterly average) remains in effect until 1 year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

Ambient Air Quality Monitoring Data

SDAPCD operates a network of ambient air monitoring stations throughout the County, which measure ambient concentrations of pollutants and determine whether the ambient air quality meets the CAAQS and the NAAQS. SDAPCD monitors air quality conditions at 10 locations throughout the basin. The Camp Pendleton monitoring

station represents the closest monitoring station to the Project site for concentrations for O_3, $PM_{2.5}$, and NO_2. The Escondido monitoring station is the closest monitoring station for CO. The closest monitoring station for SO_2 and PM_{10} is the El Cajon monitoring station. Ambient concentrations of pollutants from 2019 through 2021 are presented in Table 2.

Table 2. Local Ambient Air Quality Data

Monitoring Station	Unit	Averaging Time	Agency/ Method	Ambient Air Quality Standard	Measured Concentration by Year			Exceedances by Year		
					2019	2020	2021	2019	2020	2021
Ozone (O_3)										
Camp Pendleton	ppm	Maximum 1-hour concentration	State	0.09	0.075	0.094	0.074	0	0	0
	ppm	Maximum 8-hour concentration	State	0.070	0.065	0.074	0.059	0	3	0
			Federal	0.070	0.064	0.074	0.059	0	3	0
Nitrogen Dioxide (NO_2)										
Camp Pendleton	ppm	Maximum 1-hour concentration	State	0.18	0.053	0.058	0.059	*0*	*0*	*0*
			Federal	0.100	0.053	0.058	0.059	*0*	*0*	*0*
	ppm	Annual concentration	State	0.030	0.004	0.005	0.005	0	0	0
			Federal	0.053	0.004	0.005	0.005	0	0	0
Carbon Monoxide (CO)										
Escondido-Rancho Carmel Drive	ppm	Maximum 1-hour concentration	State	20	4.1	3.3	3.0	0	0	0
			Federal	35	4.1	3.3	3.0	0	0	0
	ppm	Maximum 8-hour concentration	State	9.0	2.5	1.7	1.8	0	0	0
			Federal	9	2.5	1.7	1.8	0	0	0
Sulfur Dioxide (SO_2)										
El Cajon	ppm	Maximum 1-hour concentration	Federal	0.075	0.001	0.002	0.002	0	0	0
	ppm	Maximum 24-hour concentration	State	0.04	0.000	0.000	0.000	0	0	0
			Federal	0.140	0.000	0.000	0.000	0	0	0

Table 2. Local Ambient Air Quality Data

Monitoring Station	Unit	Averaging Time	Agency/ Method	Ambient Air Quality Standard	Measured Concentration by Year			Exceedances by Year		
					2019	2020	2021	2019	2020	2021
	ppm	Annual concentration	Federal	0.030	0.000	0.000	0.000	0	0	0
Coarse Particulate Matter (PM_{10})[a]										
El Cajon	µg/m³	Maximum 24-hour concentration	State	50	37.4	ND	ND	0	0	0
			Federal	150	38.7	ND	ND	0	0	0
	µg/m³	Annual concentration	State	20	ND	ND	ND	ND	ND	ND
Fine Particulate Matter ($PM_{2.5}$)[a]										
Camp Pendleton	µg/m³	Maximum 24-hour concentration	Federal	35	16.2	47.5	20.9	0	2	0
	µg/m³	Annual concentration	State	12	ND	ND	ND	ND	ND	ND
			Federal	12.0	7.0	8.7	7.6	0	5.8	0

Sources: CARB 2022c; EPA 2022a.

Notes: ppm = parts per million; — = not available or applicable; µg/m³ = micrograms per cubic meter; ND = insufficient data available to determine the value.

Data taken from CARB iADAM (http://www.arb.ca.gov/adam) and EPA AirData (http://www.epa.gov/airdata/) represent the highest concentrations experienced over a given year.

Exceedances of federal and state standards are only shown for O_3 and particulate matter. Daily exceedances for particulate matter are estimated days because PM_{10} and $PM_{2.5}$ are not monitored daily. All other criteria pollutants did not exceed federal or state standards during the years shown. There is no federal standard for 1-hour O_3, annual PM_{10}, or 24-hour SO_2, nor is there a state 24-hour standard for $PM_{2.5}$.

The Camp Pendleton monitoring station is located at 21441-W B Street, Oceanside, California.

The Escondido monitoring station is located at 600 East Valley Pkwy, Escondido, California.

The El Cajon monitoring station is located at 10537 Floyd Smith Drive, El Cajon, California.

[a] Measurements of PM_{10} and $PM_{2.5}$ are usually collected every 6 days and every 1 to 3 days, respectively. Number of days exceeding the standards is a mathematical estimate of the number of days concentrations would have been greater than the level of the standard had each day been monitored. The numbers in parentheses are the measured number of samples that exceeded the standard.

SDAB Attainment Designation

Pursuant to the 1990 CAA Amendments, EPA classifies air basins (or portions thereof) as "attainment" or "nonattainment" for each criteria air pollutant, based on whether the NAAQS have been achieved. Generally, if the recorded concentrations of a pollutant are lower than the standard, the area is classified as "attainment" for that pollutant. If an area exceeds the standard, the area is classified as "nonattainment" for that pollutant. As previously discussed, these standards are set by EPA or CARB for the maximum level of a given air pollutant that can exist in the outdoor air without unacceptable effects on human health or the public welfare. If there is not

enough data available to determine whether the standard is exceeded in an area, the area is designated as "unclassified" or "unclassifiable."

The designation of "unclassifiable/attainment" means that the area meets the standard or is expected to be meet the standard despite a lack of monitoring data. Areas that achieve the standards after a nonattainment designation are redesignated as maintenance areas and must have approved maintenance plans to ensure continued attainment of the standards. The California Clean Air Act, like its federal counterpart, called for the designation of areas as "attainment" or "nonattainment," but based on the CAAQS rather than the NAAQS.

Table 3 summarizes SDAB's federal and state attainment designations for each of the criteria pollutants.

Table 3. SDAB Attainment Designation

Pollutant	Federal Designation	State Designation
O_3 (8-hour)	**Nonattainment**	**Nonattainment**
O_3 (1-hour)	Attainment[a]	**Nonattainment**
CO	Attainment	Attainment
PM_{10}	Unclassifiable[b]	**Nonattainment**
$PM_{2.5}$	Attainment	**Nonattainment**[c]
NO_2	Attainment	Attainment
SO_2	Attainment	Attainment
Lead	Attainment	Attainment
Sulfates	(No federal standard)	Attainment
Hydrogen sulfide	(No federal standard)	Unclassified
Visibility-reducing particles	(No federal standard)	Unclassified
Vinyl chloride	(No federal standard)	No designation

Sources: SDAPCD 2022b
Definitions: attainment = meets the standards; nonattainment = does not meet the standards; unclassified or unclassifiable = insufficient data to classify
Notes: SDAB = San Diego; O_3 = ozone; CO = carbon monoxide; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; NO_2 = nitrogen dioxide; SO_2 = sulfur dioxide.

[a] The federal 1-hour standard of 0.12 parts per million (ppm) was in effect from 1979 through June 15, 2005. The revoked standard is referenced here because it was employed for such a long period and because this benchmark is addressed in SIPs.

[b] At the time of designation, if the available data does not support a designation of attainment or nonattainment, the area is designated as unclassifiable.

[c] CARB has not reclassified the region to attainment yet due to (1) incomplete data, and (2) the use of non-California Approved Samplers (CAS). While data collected does meet the requirements for designation of attainment with federal $PM_{2.5}$ standards, the data completeness requirements for state $PM_{2.5}$ standards substantially exceed federal requirements and mandates, and have historically not been feasible for most air districts to adhere to given local resources. APCD has begun replacing most regional filter-based $PM_{2.5}$ monitors as they reach the end of their useful life with continuous $PM_{2.5}$ air monitors to ensure collected data meets stringent completeness requirements in the future. APCD anticipates these new monitors will be approved as "CAS" monitors once CARB review the list of approved monitors, which has not been updated since 2013.

2.2.2.2 Toxic Air Contaminants

The state Air Toxics Program was established in 1983 under AB 1807 (Tanner). The California TAC list identifies more than 700 pollutants, of which carcinogenic and noncarcinogenic toxicity criteria have been established for a subset of these pollutants pursuant to the California Health and Safety Code. In accordance with AB 2728, the state list includes the (federal) HAPs. The Air Toxics "Hot Spots" Information and Assessment Act of 1987 (AB 2588) seeks to identify and evaluate risk from air toxics sources; however, AB 2588 does not regulate air toxics emissions.

TAC emissions from individual facilities are quantified and prioritized. "High-priority" facilities are required to perform a health risk assessment (HRA), and if specific thresholds are exceeded, are required to communicate the results to the public in the form of notices and public meetings.

In 2000, CARB approved a comprehensive Diesel Risk Reduction Plan to reduce diesel emissions from both new and existing diesel-fueled vehicles and engines. The regulation was anticipated to result in an 80% decrease in statewide diesel health risk in 2020 compared with the diesel risk in 2000. Additional regulations apply to new trucks and diesel fuel, including the On-Road Heavy Duty Diesel Vehicle (In-Use) Regulation, the On-Road Heavy Duty (New) Vehicle Program, the In-Use Off-Road Diesel Vehicle Regulation, and the New Off-Road Compression-Ignition (Diesel) Engines and Equipment program. All of these regulations and programs have timetables by which manufacturers must comply and existing operators must upgrade their diesel powered equipment. Several Airborne Toxic Control Measures that reduce diesel emissions including In-Use Off-Road Diesel-Fueled Fleets (13 CCR 2449 et seq.) and In-Use On-Road Diesel-Fueled Vehicles (13 CCR 2025).

California Health and Safety Code Section 41700

Section 41700 of the Health and Safety Code states that a person shall not discharge from any source whatsoever quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or that endanger the comfort, repose, health, or safety of any of those persons or the public, or that cause, or have a natural tendency to cause, injury or damage to business or property. This section also applies to sources of objectionable odors.

2.2.3 Local

2.1.7.1 San Diego Air Pollution Control District

While CARB is responsible for the regulation of mobile emission sources within the state, local air quality management districts and air pollution control districts are responsible for enforcing standards and regulating stationary sources. The Project site is located within the SDAB and is subject to the guidelines and regulations of SDAPCD.

In San Diego County, O_3 and particulate matter are the pollutants of main concern, since exceedances of CAAQS for those pollutants are experienced here in most years. For this reason, the SDAB has been designated as a nonattainment area for the state PM_{10}, $PM_{2.5}$, and O_3 standards. The SDAB is also a federal O_3 attainment (maintenance) area for 1997 8-hour O_3 standard, a O_3 nonattainment area for the 2008 8-hour O_3 standard, and a CO maintenance area (western and central part of the SDAB only). The Project area is in the CO maintenance area.

2.1.7.2 Federal Attainment Plans

In November 2020, the SDAPCD adopted the Air Quality Management Plan for attaining the federal 8-hour 75 ppb and 70 ppb Ozone standards (2020 Attainment Plan), which is the air basin's input to the State Implementation Plan (SIP) and required to demonstrate how the SDACPD proposes to attain the federal ozone standards. The plan anticipates attainment of the 75ppb and 70ppb NAAQS standards by 2026 and 2032, respectively. The 2020 Attainment Plan includes planning requirements for attaining the O_3 NAAQS including on-road motor vehicle emissions budgets for transportation conformity, a VMT offset demonstration, Reasonably Available Control

Measures (RACM), Reasonable Further Progress (RFP), an Attainment Demonstration, and contingency measures in the event of a failure to meet a milestone or to attain by the predicted attainment date (SDAPCD 2020).

2.1.7.3 State Attainment Plans

SDAPCD and SANDAG are responsible for developing and implementing the clean air plan for attainment and maintenance of the ambient air quality standards in the SDAB. The RAQS for the SDAB was initially adopted in 1991 and is updated every 3 years, most recently in 2016 (SDAPCD 2016c). The RAQS outlines SDAPCD's plans and control measures designed to attain the CAAQS for O_3. The RAQS relies on information from CARB and SANDAG, including mobile and area source emissions, as well as information regarding projected growth in the County and the cities in the County, to forecast future emissions and then determine from that the strategies necessary for the reduction of emissions through regulatory controls. The CARB mobile source emission projections and SANDAG growth projections are based on population, vehicle trends, and land use plans developed by the County and the cities in the County as part of the development of their general plans (SANDAG 2017a, 2017b).

SDAPCD released the 2022 Draft RAQS in November and is scheduled to adopt the final RAQS in early 2023. The RAQS seeks to protect public health and the environment by improving air quality. The 2022 update also complements regional actions addressing greenhouse gases and climate change.

In regard to particulate matter emissions reduction efforts, in December 2005, SDAPCD prepared a report titled "Measures to Reduce Particulate Matter in San Diego County" to address implementation of Senate Bill 656 in San Diego County (Senate Bill 656 required additional controls to reduce ambient concentrations of PM10 and PM2.5) (SDAPCD 2005). In the report, SDAPCD evaluated the implementation of source-control measures that would reduce particulate matter emissions associated with residential wood combustion; various construction activities including earthmoving, demolition, and grading; bulk material storage and handling; carryout and trackout removal and cleanup methods; inactive disturbed land; disturbed open areas; unpaved parking lots/staging areas; unpaved roads; and windblown dust (SDAPCD 2005).

2.1.7.4 SDAPCD Rules and Regulations

As stated previously, SDAPCD is responsible for planning, implementing, and enforcing federal and state ambient standards in the SDAB. The following rules and regulations apply to all sources in the jurisdiction of SDAPCD:

- **SDAPCD Regulation IV: Prohibitions; Rule 50: Visible Emissions.** Prohibits any activity causing air contaminant emissions darker than 20% opacity for more than an aggregate of 3 minutes in any consecutive 60-minute time period. In addition, Rule 50 prohibits any diesel pile-driving hammer activity causing air contaminant emissions for a period or periods aggregating more than 4 minutes during the driving of a single pile (SDAPCD 1997).
- **SDAPCD Regulation IV: Prohibitions; Rule 51: Nuisance.** Prohibits the discharge, from any source, of such quantities of air contaminants or other materials that cause or have a tendency to cause injury, detriment, nuisance, annoyance to people and/or the public, or damage to any business or property (SDAPCD 1976).

- **SDAPCD Regulation IV: Prohibitions; Rule 55: Fugitive Dust.** Regulates fugitive dust emissions from any commercial construction or demolition activity capable of generating fugitive dust emissions, including active operations, open storage piles, and inactive disturbed areas, as well as track-out and carry-out onto paved roads beyond a project site (SDAPCD 2009b).
- **SDAPCD Regulation IV: Prohibitions; Rule 67.0.1: Architectural Coatings.** Requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce VOC emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories (SDAPCD 2015).

2.3 Significance Criteria and Methodology

2.3.1 Thresholds of Significance

The State of California has developed guidelines to address the significance of air quality impacts based on Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.), which provides guidance that a project would have a significant environmental impact if it would:

1. Conflict with or obstruct implementation of the applicable air quality plan.
2. 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.
3. Expose sensitive receptors to substantial pollutant concentrations.
4. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.) indicates that, where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to determine whether a project would have a significant impact on air quality.

Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.) indicates that, where available, the significance criteria established by the applicable air quality management district or pollution control district may be relied upon to determine whether the project would have a significant impact on air quality. As discussed earlier, the SDAPCD has not developed thresholds of significance for air quality and health risk, however, the SDAPCD has provided emission levels under its permitting authority for new source review for which an AQIA is triggered. The County of San Diego has reviewed SDAPCD's trigger levels, as well as EPA rulemaking, and CEQA thresholds adopted by the SCAQMD to develop SLTs to assist lead agencies in determining the significance of project-level air quality impacts within the County. The City of Encinitas has chosen to apply the County of San Diego SLT's for determining mass daily criteria air pollutant thresholds of significance. Project related air quality impacts estimated in this environmental analysis would be considered significant if any of the applicable significance thresholds in Table 4 are exceeded.

For CEQA purposes, these screening criteria can be used as numeric methods to demonstrate that the Project's total emissions would or would not result in a significant impact to air quality.

Table 4. Air Quality Significance Thresholds

Construction Emissions			
Pollutant	**Total Emissions (Pounds per Day)**		
Coarse particulate matter (PM_{10})	100		
Fine particulate matter ($PM_{2.5}$)	55		
Oxides of nitrogen (NO_x)	250		
Sulfur oxides (SO_x)	250		
Carbon monoxide (CO)	550		
Volatile organic compounds (VOCs)	75[a]		
Operational Emissions			
	Total Emissions		
Pollutant	**Pounds per Hour**	**Pounds per Day**	**Tons per Year**
Coarse particulate matter (PM_{10})	—	100	15
Fine particulate matter ($PM_{2.5}$)	—	55	10
Oxides of nitrogen (NO_x)	25	250	40
Sulfur oxides (SO_x)	25	250	40
Carbon monoxide (CO)	100	550	100
Lead and lead compounds	—	3.2	0.6
Volatile organic compounds (VOCs)	—	75*	13.7

Source: SDAPCD 2016a.
Notes: SDAPCD = San Diego Air Pollution Control District.
[a] VOC threshold based on the threshold of significance for VOCs from the South Coast Air Quality Management District (SCAQMD) for the Coachella Valley as stated in the San Diego County Guidelines for Determining Significance.

The thresholds listed in Table 4 represent screening-level thresholds that can be used to evaluate whether Project-related emissions would cause a significant impact on air quality. Emissions below the screening-level thresholds would not cause a significant impact. In the event that emissions exceed these thresholds, modeling would be required to demonstrate that the Project's total air quality impacts result in ground-level concentrations that are below the CAAQS and NAAQS, including appropriate background levels. For non-attainment pollutants, if emissions exceed the thresholds shown in Table 4, the Project could have the potential to result in a cumulatively considerable net increase in these pollutants and thus could have a significant impact on the ambient air quality.

SDAPCD Rule 51 (Public Nuisance) prohibits emission of any material that causes nuisance to a considerable number of persons or endangers the comfort, health, or safety of any person (SDAPCD 1976). A project that proposes a use that would produce objectionable odors would be deemed to have a significant odor impact if it would affect a considerable number of off-site receptors.

2.3.2 Approach and Methodology

2.3.2.1 Construction Mass Emissions

Emissions from the construction phase of Project components were estimated using the California Emissions Estimator Model (CalEEMod) Version 2022.1.1.5[3]. The CalEEMod default construction schedule for this proposed land use was used in the analysis. The equipment mix assumptions were also based on CalEEMod default assumptions based on proposed land use and is meant to represent a reasonably conservative estimate of construction activity. For the analysis, it is generally assumed that heavy construction equipment would be operating at the site for a maximum of 8 hours per day, 5 days per week. Default assumptions provided in CalEEMod were used to determine worker trips and vendor truck trips for each potential construction phase. The default CalEEMod trip distance for construction vehicles was assumed, which was a one-way distance of 11.97 miles for worker trips, 7.63 miles for vendor truck trips, and 20 miles for haul truck trips. In addition, it was assumed that one on-site truck would be present during earthmoving activities to assist with fugitive dust control through watering.

It was assumed that construction of the Project would begin in January 2024 and would last approximately 13 months. The construction schedule used in the analysis represents a "worst-case" analysis scenario since emission factors for construction equipment decrease as the analysis year increases due to improvements in technology and more stringent regulatory requirements. The following represents the construction phasing assumed for the Project:

- Site Preparation: January 2024 (5 days)
- Grading: January 2024 (8 days)
- Building Construction: January 2024 to December 2024 (230 days)
- Paving: December 2024 (18 days)
- Architectural Coating: January 2025 (18 days)

Table 5 provides the construction equipment mix and vehicle trips assumed for estimating Project-generated construction emissions.

Table 5. Construction Scenario Assumptions

Construction Phase	Average Daily Vehicle Trips			Equipment		
	Worker Trips	Vendor Truck Trips	Truck Trips	Equipment Type	Quantity	Usage Hours
Site Preparation	18	2	0	Rubber Tired Dozers	3	8
				Tractors/Loaders/Backhoes	4	8
Grading	16	2	126	Excavators	1	8
				Graders	1	8
				Rubber Tired Dozers	1	8
				Tractors/Loaders/Backhoes	3	8
	18	2	0	Cranes	1	7

[3] CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform to calculate construction and operational emissions from land use development projects. The model was developed for the California Air Pollution Control Officers Association in collaboration with multiple air districts across the state. Numerous lead agencies in the state, including SDAPCD, use CalEEMod to estimate GHG emissions in accordance with CEQA Guidelines Section 15064.4(a)(1).

Table 5. Construction Scenario Assumptions

Construction Phase	Average Daily Vehicle Trips			Equipment		
	Worker Trips	Vendor Truck Trips	Truck Trips	Equipment Type	Quantity	Usage Hours
Building Construction				Forklifts	3	8
				Generator Sets	1	8
				Tractors/Loaders/Backhoes	3	7
				Welders	1	8
Paving	20	0	0C	Cement and Mortar Mixers	2	6
				Pavers	1	8
				Paving Equipment	2	6
				Rollers	2	6
				Tractors/Loaders/Backhoes	1	8
Architectural Coating	10	2	0	Air Compressors	1	6

Note: See Appendix A for additional details.

Implementation of the Project would generate criteria air pollutant emissions from entrained dust, off-road equipment, vehicle emissions, architectural coatings, and asphalt pavement application. Based on project specific information, approximately 12,500 cubic yards of soil will be cut and 4,500 cubic yards will be fill for a net export of 8,00 cubic yards. Entrained dust results from the exposure of earth surfaces to wind from the direct disturbance and movement of soil, resulting in PM_{10} and $PM_{2.5}$ emissions. Construction of Project components would be subject to SDAPCD Rule 55 – Fugitive Dust Control. Compliance with Rule 55 would limit fugitive dust (PM_{10} and $PM_{2.5}$) that may be generated during grading and construction activities. Standard construction practices that would be employed to reduce fugitive dust emissions include watering of the active sites two times per day, depending on weather conditions as indicated by PDF-AQ-1.

Internal combustion engines used by construction equipment, vendor trucks (i.e., delivery trucks), haul trucks, and worker vehicles would result in emissions of VOCs, NO_x, CO, PM_{10}, and $PM_{2.5}$. The application of architectural coatings, such as exterior application/interior paint and other finishes, and application of asphalt pavement would also produce VOC emissions; however, the contractor is required to procure architectural coatings from a supplier in compliance with the requirements of SDAPCD Rule 67.0.1 for Architectural Coatings. For additional details see Appendix A, *Air Quality Emissions CalEEMod Output Files*.

2.3.2.2 Construction Health Risk Analysis

An HRA was performed to assess the impact of construction on sensitive receptors proximate to the Project site. This report includes an HRA associated with emissions from construction of the Project based on the methodologies prescribed in the Office of Environmental Health Hazard Assessment (OEHHA) document, Air Toxics Hot Spots Program Risk Assessment Guidelines – Guidance Manual for Preparation of Health Risk Assessments (OEHHA Guidelines) (OEHHA 2015). To implement the OEHHA Guidelines based on proposed project information, the SDAPCD has developed a three-tiered approach where each successive tier is progressively more refined, with fewer conservative assumptions. The SDAPCD document, Supplemental Guidelines for Submission of Air Toxics "Hot Spots" Program Health Risk Assessments (SDAPCD 2022), provides guidance with which to perform HRAs within the SDAB.

Health effects from carcinogenic air toxics are usually described in terms of cancer risk. The SDAPCD recommends a carcinogenic (cancer) risk threshold of 10 in one million. Additionally, some TACs increase non-cancer health risk due to long-term (chronic) exposures. The Chronic Hazard Index is the sum of the individual substance chronic hazard indices for all TACs affecting the same target organ system. The SDAPCD recommends a Chronic Hazard Index significance threshold of one (project increment). The exhaust from diesel engines is a complex mixture of gases, vapors, and particles, many of which are known human carcinogens. DPM has established cancer risk factors and relative exposure values for long-term chronic health hazard impacts. No short-term, acute relative exposure level has been established for DPM; therefore, acute impacts of DPM are not addressed in this assessment.

The HRA for the Project evaluated the risk to existing off-site residents from diesel emissions from exhaust from on-site construction equipment and diesel haul and vendor trucks.

The dispersion modeling of DPM was performed using the American Meteorological Society/EPA Regulatory Model (AERMOD), which is the model SDAPCD requires for atmospheric dispersion of emissions. AERMOD is a steady-state Gaussian plume model that incorporates air dispersion based on planetary boundary layer turbulence structure and scaling concepts, including treatment of surface and elevated sources, building downwash, and simple and complex terrain (EPA 2021). For the Project, AERMOD was run with all sources emitting unit emissions (one gram per second) to obtain the "X/Q" values. X/Q is a dispersion factor that is the average effluent concentration normalized by source strength and is used as a way to simplify the representation of emissions from many sources. The X/Q values of ground-level concentrations were determined for construction emissions using AERMOD and the maximum concentrations determined for the one-hour and period-averaging periods. Principal parameters of this modeling are presented in Table 6.

Table 6. AERMOD Principal Parameters

Parameter	Details
Meteorological Data	The latest three-year meteorological data (2019-2021) for the McClellan-Palomar Airport Station were obtained from SDAPCD as the recommended meteorological station and input to AERMOD.
Urban versus Rural Option	Urban areas typically have more surface roughness, as well as structures and low-albedo surfaces that absorb more sunlight—and thus more heat—relative to rural areas. Per the SDAPCD guidelines, the land use procedure from 4.4.1 of the OEHHA Guidance Manual indicated that urban dispersion was appropriate for the project site.
Terrain Characteristics	The elevation of the modeled site is 92 meters above sea level. Digital elevation model files were imported into AERMOD so that complex terrain features were evaluated as appropriate.
Elevation Data	Digital elevation data were imported into AERMOD, and elevations were assigned to the emission sources and receptors. Digital elevation data were obtained through AERMOD View in the U.S. Geological Survey's National Elevation Dataset format with a 10-meter resolution.

Table 6. AERMOD Principal Parameters

Parameter	Details
Emission Sources and Release Parameters	Air dispersion modeling of DPM from construction equipment was conducted using emissions estimated using CalEEMod, assuming emissions would occur eight hours per day, five days per week. Vendor and hauling trips were modified to account only for emissions occurring within 1,320 ft of the project site. The Project area was modeled as a series of adjacent line-volume sources. The line of adjacent volume sources was assumed to have a release height of 5 meters, a plume height of 10 meters, and a plume width of 10 meters (SCAQMD 2008).
Receptors	The HRA evaluates the risk to existing off-site and future on-site sensitive receptors located in proximity to the Project Site. For the off-site receptors, a uniform fine 1.0 by 1.0-kilometer (0.62- by 0.62-mile) Cartesian grid with 20-meter (66-foot) spacing was centered over the Project Site and converted into discrete receptors to capture the maximum point of impact.

Notes: AERMOD = American Meteorological Society/EPA Regulatory Model; SDAPCD = San Diego Air Pollution Control District; DPM = diesel particulate matter; CalEEMod = California Emissions Estimator Model.
See Appendix B for additional information.

Dispersion model plot files from AERMOD were then imported into CARB's Hotspots Analysis and Reporting Program Version 2 (Version 222118) to determine health risk, which requires peak one-hour emission rates and annual emission rates for all pollutants for each modeling source. For the offsite residential health risk, the HRA assumes exposure would start in the third trimester of pregnancy for a duration of 13 months. A construction HRA CalEEMod run was performed to estimate on-site emissions of exhaust PM_{10}, which was used as a surrogate for DPM.[4] The predominant source of construction exhaust PM_{10} is operation of off-road diesel construction equipment. However, it was conservatively assumed that emissions from heavy-duty haul and vendor trucks, which could be diesel- or gasoline-fueled, traveling 0.25 miles would occur on site to represent potential on-site travel and nearby local off-site travel. Total exhaust PM_{10} emissions from CalEEMod were averaged over the Project's construction duration to estimate the annual and hourly exposure, which were estimated to be 122.08 pounds per year and 0.06 pounds per hour of DPM.

2.3.2.3 Operation

Operation of the proposed Project would generate VOC, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$ emissions from area sources, energy sources and mobile sources, which are discussed below. Emissions from these sources were estimated based on CalEEMod default assumptions for operations of the Project land uses. It was assumed that the project would be fully operational following the completion of construction, which would occur in 2025.

Area

The area source category calculates direct sources of air pollutant emissions located at the Project site, including consumer product use, architectural coatings, and landscape maintenance equipment. CalEEMod defaults were used to estimate emissions from area sources during operation of the Project. Other area sources include fireplaces

[4] Under California regulatory guidelines, DPM is used as a surrogate measure of carcinogen exposure for the mixture of chemicals that make up diesel exhaust as a whole. The California Environmental Protection Agency has concluded that "potential cancer risk from inhalation exposure to whole diesel exhaust will outweigh the multi-pathway cancer risk from the speciated components" (OEHHA 2003).

and wood stoves, which may be included in the Project. CalEEMod defaults were used to estimate fireplace and wood stove emissions.

Consumer products are various solvents used in non-industrial applications which emit VOCs during their product use. These typically include cleaning supplies, kitchen aerosols, cosmetics and toiletries. Consumer product VOC emissions are estimated in CalEEMod based on the floor area of residential and nonresidential buildings and on the default factor of pounds of VOC per building square foot per day. For parking lot land uses, CalEEMod estimates VOC emissions associated with use of parking surface degreasers based on a square footage of parking surface area and pounds of VOC per square foot per day. The CalEEMod default utilization rates and emission factors were assumed.

This VOC emissions associated with the reapplication rate and coating for each building surface type and parking surface was also estimated using CalEEMod. The reapplication rate is the percentage of the total surface area that is repainted each year. A default of 10% is used, meaning that 10% of the surface area is repainted each year (i.e., all surface areas are repainted once every 10 years). Daily emissions divide the annual rate by 365 days per year. It was assumed that the Project would comply with SDAPCD Rule 67.0.1 for Architectural Coatings.

Landscape maintenance includes fuel combustion emissions from equipment such as lawn mowers, rototillers, shredders/grinders, blowers, trimmers, chainsaws, and hedge trimmers, as well as air compressors, generators, and pumps. The emissions associated from landscape equipment use were estimated using CalEEMod. The emission factors are multiplied by the number of summer days that represent the number of operational days.

Energy

As represented in CalEEMod, energy sources include emissions associated with natural gas usage. Electricity use would contribute indirectly to criteria air pollutant emissions; however, the emissions from electricity use are only quantified for GHGs in CalEEMod, since criteria pollutant emissions occur at the site of the power plant, which is typically off site. CalEEMod default values for energy consumption for each land use were applied for the Project analysis. The energy use from residential land uses is calculated in CalEEMod based on the Residential Appliance Saturation Survey.

Mobile Sources (Motor Vehicles)

Following the completion of construction activities, the Project would generate VOC, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$ emissions from mobile sources (vehicular traffic) as a result of the 9 additional residential units. The CalEEMod Version 2022.1.1.5 was used to estimate daily emissions from proposed vehicular sources in combination with trip rates provided by the applicant (9 trips per dwelling unit per day). CalEEMod default data, including trip characteristics, variable start information, emissions factors, and trip distances, were used for the model inputs. Emission factors representing the vehicle mix and emissions for 2025 were used to estimate emissions associated with vehicular sources. For additional details see Appendix A, *Air Quality CalEEMod Output Files*.

2.4 Impact Analysis

2.4.1 Would the Project conflict with or obstruct implementation of the applicable air quality plan?

2.4.1.1 Analysis

As stated in Section 2.2.3, Local, SDAPCD and SANDAG are responsible for developing and implementing the clean air plans for attainment and maintenance of the NAAQS and CAAQS in the SDAB; specifically, the SIP and RAQS.[5] The federal O_3 maintenance plan, which is part of the SIP, was last updated in 2020. The SIP includes a demonstration that current strategies and tactics will maintain acceptable air quality in the SDAB based on the NAAQS. The RAQS was initially adopted in 1991 and is updated every 3 years (most recently in 2016). The RAQS outlines SDAPCD's plans and control measures designed to attain the CAAQS for O_3. The SIP and RAQS rely on information from CARB and SANDAG, including mobile and area source emissions, as well as information regarding projected growth in San Diego County and the cities in the County, to project future emissions and then determine from that the strategies necessary for the reduction of emissions through regulatory controls. CARB mobile source emission projections and SANDAG growth projections are based on population, vehicle trends, and land use plans developed by San Diego County and the cities in the County as part of the development of their general plans. The Draft 2022 RAQS was released in November 2022 and continues to build upon previous progress to reduce ground-level ozone, but also complements regional actions addressing greenhouse gases and climate change.

If a project proposes development that is greater than that anticipated in the local plan and SANDAG's growth projections, the project might conflict with the SIP and RAQS and may contribute to a potentially significant cumulative impact on air quality.

The City of Encinitas General Plan identifies the site as Rural Residential 1.01-2.00 dwelling units/acre and the project site is zoned Rural Residential 2 (RR2). The Project would be consistent with the existing land use designation and zoning.

SANDAG produces a Regional Growth Forecast, which is important for developing regional plans and strategies mandated by federal and state governments such as the Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS), the Program Environmental Impact Report (EIR) for the RTP/SCS, the Air Quality Management Plan, the Federal Transportation Improvement Program, and the Regional Housing Needs Assessment (RHNA). The most recent RTP/SCS was adopted in December 2021 with a planning horizon of 2016 through 2050. The growth forecasts are appended to the RTP/SCS. Appendix F of the 2021 Regional Plan describes the trends in population, housing, and employment. The San Diego region is expected to grow by nearly 437,000 people and the growth in population will add about 440,000 jobs and more than 280,000 housing units (SANDAG 2021).

The forecast process includes two main phases. The first phase of the forecast is produced using California Department of Finance (DOF) population projections and rates developed by SANDAG based on historic economic and demographic trends. The size and makeup of the working age population in the region and high labor force participation is used to project future job growth. The projected higher values in working age population, coupled

[5] For the purpose of this discussion, the relevant federal air quality plan is the O_3 maintenance plan (SDAPCD 2016b). The RAQS is the applicable plan for purposes of state air quality planning. Both plans reflect growth projections in the SDAB.

with older residents staying in the labor force longer results in more jobs in the region by the end of the forecast period. Housing units and households in the region were forecasted based on rates developed from historical data as well as assumptions of housing unit development and household formation in the future. The second phase of the forecast allocates the forecasted growth down to the jurisdictions and smaller geographical areas. The subregional forecast distributes growth based on a variety of factors, including available capacity for housing and accessibility to jobs and transportation. SANDAG works with the region's 18 cities, the County of San Diego, and other agencies that manage land use to understand local land use plans, such as general plans, community plans, and specific plans, as well as constraints to development and already permitted projects to develop the subregional projections for housing and employment. Table 7 shows the population, housing units, and employment projections for the City and the San Diego region for the 2021 Regional Plan.

Table 7. Population, Housing, and Employment

Year	City of Encinitas			San Diego Region		
	Population	Housing Units	Employment	Population	Housing Units	Employment
2016	62,625	26,040	28,812	3,309,510	1,190,555	1,646,419
2025	63,476	26,750	29,264	3,470,848	1,288,216	1,761,747
2035	64,157	27,690	29,950	3,620,348	1,409,866	1,921,475
2050	64,591	27,690	30,753	3,746,073	1,471,299	2,086,318
Change in Number (2016-2050)	1,966 (3.1%)	1,650 (6.3%)	1,941 (6.7%)	436,563 (14.2%)	280,744 (23.6%)	439,899 (26.7%)

Source: SANDAG Regional Plan 2021, Appendix F: Regional Growth Forecast and Sustainable Communities Strategy Land Use Pattern

The Project would add 9 residential units with an estimated population of 25 residents. The added residents would represent approximately 1% of the anticipated population growth and 0.5% of the housing growth over the RTP/SCS planning horizon. Based on the above information, the increase in population and housing units would be well within the growth projections. Therefore, the Project would not conflict with SANDAG's regional growth forecast for the City.

2.4.1.2 Conclusion

The increase in the housing units and associated vehicle source emissions is not anticipated to result in air quality impacts that were not envisioned in the growth projections and RAQS, and the increase in residential units in the region would not obstruct or impede implementation of local air quality plans. Based on the analysis above, implementation of the Project would not result in development in excess of that anticipated in local plans or increases in population/housing growth beyond those contemplated by SANDAG. As such, vehicle trip generation and planned development for the Project are considered to be anticipated in the SIP and RAQS. Because the proposed land uses and associated vehicle trips are anticipated in local air quality plans, the Project would be consistent at a regional level with the underlying growth forecasts in the RAQS. Impacts would be **less than significant**.

2.4.2 Would the Project 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?

Air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development, and SDAPCD develops and implements plans for future attainment of the NAAQS and CAAQS. Based on these considerations, project-level thresholds of significance for criteria pollutants are relevant in the determination of whether the Project's individual emissions would have a cumulatively significant impact on air quality.

2.4.2.1 Construction

Construction of the proposed Project would result in the temporary addition of pollutants to the local airshed caused by on-site sources (i.e., off-road construction equipment, soil disturbance, and VOC off-gassing) and off-site sources (vendor and haul truck trips, and worker vehicle trips). Construction emissions can vary substantially day to day, depending on the level of activity, the specific type of operation, and for dust, the prevailing weather conditions.

Criteria air pollutant emissions associated with construction activities were quantified using CalEEMod. Default values provided by the program were used where detailed Project information was not available. A detailed depiction of the construction schedule—including information regarding phasing, equipment used during each phase, haul trucks, vendor trucks, and worker vehicles—is included in Section 2.3.2. above.

Development of the Project would generate air pollutant emissions from entrained dust, off-road equipment, vehicle emissions, asphalt pavement application, and architectural coatings. As described previously, fugitive dust would be limited through compliance with SDAPCD Rule 55, which requires the restriction of visible emissions of fugitive dust beyond the property line. This measure is incorporated into the project PDF-AQ-1.

Table 8 shows the estimated maximum unmitigated daily construction emissions associated with the construction phases of the Project. Complete details of the emissions calculations are provided in Appendix A, *Air Quality CalEEMod Output Files*.

Table 8. Estimated Maximum Daily Construction Criteria Air Pollutant Emissions

Construction Year	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Pounds per Day					
2024	3.72	36.2	33.8	0.09	9.78	5.49
2025	1.54	0.99	1.58	<0.01	0.13	0.05
Maximum	***3.72***	***36.2***	***33.8***	***0.09***	***9.78***	***5.49***
County threshold	*75*	*250*	*550*	*250*	*100*	*55*
Threshold exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter;
See Appendix A for complete results.
The values shown are the maximum summer or winter daily emissions results from CalEEMod and include fugitive dust mitigation pursuant to PDF AQ-1.)

As shown in Table 8, daily construction emissions for the Project would not exceed the County of San Diego's significance thresholds. Therefore, the Project would have a **less than significant impact** related to emissions of criteria air pollutant emissions during construction.

2.4.2.2 Operations

Operation of the proposed Project would generate VOC, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$ emissions from mobile sources (vehicle trips), area sources (consumer products, landscape maintenance equipment), and energy sources. Criteria air pollutant emissions associated with long-term operations were quantified using CalEEMod. Project-generated mobile source emissions were estimated in CalEEMod based on project-specific trip rates. CalEEMod default values were used to estimate emissions fro.m the Project area and energy sources.

Table 9 presents the unmitigated maximum daily emissions associated with the operation of the Project in 2025 after all phases of construction have been completed. Complete details of the emissions calculations are provided in Appendix A, *Air Quality CalEEMod Output Files*. Emissions represent maximum of summer and winter. "Summer" emissions are representative of the conditions that may occur during the O_3 season (May 1 to October 31), and "winter" emissions are representative of the conditions that may occur during the balance of the year (November 1 to April 30).

Table 9. Estimated Maximum Daily Operational Criteria Air Pollutant Emissions

Source	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Pounds per Day					
Summer						
Mobile	0.38	0.28	2.87	0.01	0.23	0.04
Area	14.2	0.27	17.5	0.03	2.34	2.33
Energy	<0.01	0.06	0.03	<0.01	0.01	0.01
Total	14.6	0.62	20.4	0.04	2.58	2.38
County threshold	75	250	550	250	100	55
Threshold exceeded?	**No**	**No**	**No**	**No**	**No**	**No**
Winter						
Mobile	0.38	0.31	2.70	0.01	0.23	0.04

Table 9. Estimated Maximum Daily Operational Criteria Air Pollutant Emissions

Source	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Pounds per Day					
Area	14.2	0.27	17.0	0.03	2.34	2.33
Energy	<0.01	0.06	0.03	<0.01	0.01	0.01
Total	***14.6***	***0.64***	***19.7***	***0.04***	***2.58***	***2.38***
County threshold	*75*	*250*	*550*	*250*	*100*	*55*
Threshold exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; <0.01 = reported value is less than 0.01.
See Appendix A for complete results.

As shown in Table 9, daily operational emissions for the Project would not exceed County of San Diego's significance thresholds for any criteria air pollutant. Therefore, the Project would result in a **less than significant impact** related to emissions of criteria air pollutant emissions during operation.

2.4.2.3 Conclusion

In analyzing cumulative impacts from a project, the analysis must specifically evaluate the project's contribution to the cumulative increase in pollutants for which the SDAB is designated as nonattainment for the CAAQS and NAAQS. If the project does not exceed thresholds and is determined to have less than significant project-specific impacts, it may still contribute to a significant cumulative impact on air quality if the emissions from the project components, in combination with the emissions from other proposed or reasonably foreseeable future projects, are in excess of established thresholds. However, the project would only be considered to have a significant cumulative impact if its contribution accounts for a significant proportion of the cumulative total emissions (i.e., it represents a "cumulatively considerable contribution" to the cumulative air quality impact).

Additionally, for the SDAB, the RAQS serves as the long-term regional air quality planning document for the purpose of assessing cumulative operational emissions within the basin to ensure the SDAB continues to make progress toward NAAQS and CAAQS attainment status. As such, cumulative projects located in the San Diego region would have the potential to result in a cumulative impact to air quality if, in combination, they would conflict with or obstruct implementation of the RAQS. Similarly, individual projects that are inconsistent with the regional planning documents on which the RAQS is based would have the potential to result in cumulative impacts if they represent development beyond regional projections.

The SDAB has been designated as a federal nonattainment area for O_3 and a state nonattainment area for O_3, PM_{10}, and $PM_{2.5}$. PM_{10} and $PM_{2.5}$ emissions associated with construction generally result in near-field impacts. The nonattainment status is the result of cumulative emissions from all sources of these air pollutants and their precursors within the SDAB. As shown in Tables 8, the emissions of all criteria pollutants from the Project's construction would be below the significance levels. Construction would be short term, temporary in nature, and activities would be considered typical of a residential project. Once construction is completed, construction-related emissions would cease. As shown in Table 9, operational emissions generated by the Project would not result in emissions that exceed significance thresholds for any criteria air pollutant. As such, the Project would result in less than significant impacts to air quality.

Regarding long-term cumulative operational emissions in relation to consistency with local air quality plans, the SIP and RAQS serve as the primary air quality planning documents for the state and SDAB, respectively. The SIP and RAQS rely on SANDAG growth projections based on population, vehicle trends, and land use plans developed by the cities and by the County as part of the development of their general plans. Therefore, projects that propose development that is consistent with the growth anticipated by local plans would be consistent with the SIP and RAQS and would not be considered to result in cumulatively considerable impacts from operational emissions. As discussed in Section 2.4.1 of this report, the Project is consistent with the SANDAG growth projections. Thus, it would be consistent at a regional level with the underlying growth forecasts in the SIP and RAQS.

As a result, the Project would not result in a cumulatively considerable contribution to regional O_3 concentrations or other criteria pollutant emissions. Cumulative impacts for construction and operation would be **less than significant** for the Project.

2.4.3 Would the Project expose sensitive receptors to substantial pollutant concentrations?

2.4.3.1 Carbon Monoxide Hotspots

Mobile-source impacts occur on two basic scales of motion. Regionally, Project-related travel will add to regional trip generation and increase the vehicle miles traveled within the local airshed and the SDAB. Locally, Project traffic will be added to the City's roadway system. If such traffic occurs during periods of poor atmospheric ventilation, consists of a large number of vehicles "cold-started" and operating at pollution-inefficient speeds, and operates on roadways already crowded with non-Project traffic, there is a potential for the formation of microscale CO "hotspots" in the area immediately around points of congested traffic. Because of continued improvement in mobile emissions at a rate faster than the rate of vehicle growth and/or congestion, the potential for CO hotspots in the basin is steadily decreasing.

Projects contributing to adverse traffic impacts may result in the formation of CO hotspots. To verify that the Project would not cause or contribute to a violation of the CO standard, a screening evaluation of the potential for CO hotspots was conducted. The City does not have guidance regarding CO hotspots; as such, the County's CO hotspot screening guidance (County of San Diego 2007) was followed to determine whether the Project would require a site-specific hotspot analysis. Per guidance, any project that would place receptors within 500 feet of a signalized intersection operating at or below LOS E (peak-hour trips exceeding 3,000 trips) must conduct a "hotspot" analysis for CO. Likewise, projects that will cause road intersections to operate at or below a level of service (LOS) E (i.e., with intersection peak-hour trips exceeding 3,000) will also have to conduct a CO "hotspot" analysis. There are no signalized intersections within 500 feet of the project site. The Local Transportation Analysis prepared by LOS Engineering, Inc. determined that the Project would not result in any traffic effects relative to LOS under existing, existing plus project, cumulative, and cumulative plus project. Thus, the potential to cause a CO hotspot is less than significant.

Since the last update of the SDAPCD's guidance (2007), the County has evaluated the potential for the growth anticipated under the General Plan Update to result in CO "hot spots" throughout the County (County of San Diego 2009). To do this, the County reviewed the CO "hot spot" analysis conducted by the South Coast Air Quality Management District (SCAQMD) for their request to the USEPA for redesignation as a CO attainment area (SCAQMD

2003). In SCAQMD's analysis, they modeled the four most congested intersections identified in their basin (South Coast Air Basin [SCAB]), which included the following:

- **Long Beach Boulevard and Imperial Highway** – proximity to the Lynwood monitoring station, which consistently records the highest 8-hour CO concentrations in the SCAB each year.
- **Wilshire Boulevard and Veteran Avenue** – the most congested intersection in Los Angeles County, with an average daily traffic volume of 100,000 vehicles/day.
- **Highland Avenue and Sunset Boulevard** – one of the most congested intersections in the City of Los Angeles.
- **Century Boulevard and La Cienega Boulevard** – one of the most congested intersections in the City of Los Angeles.

The SCAQMD's analysis found that these intersections had an average 7.7 ppm 1-hour CO concentrations predicted by the models, which is only 38.5% of the 1-hour CO CAAQS of 20 ppm. Therefore, even the most congested intersections in SCAQMD's air basin would not experience a CO "hot spot".

The air quality monitoring station closest to the most congested intersection in Los Angeles County (Wilshire Boulevard/Veteran Avenue) is the VA Hospital, West Los Angeles Station (Site ID 060370113) located at Wilshire Boulevard and Sawtelle Boulevard, approximately 0.5 miles to the southwest. Ambient CO levels monitored at this representative monitoring station are outlined in Table 11 for the original analysis year (2002), and for the most recent year of available data (2021). As shown, there is noticeable improvement in background levels of CO since the SCAQMD's regional hotspot analysis.

Table 10. Ambient Carbon Monoxide Concentrations for SCAQMD's Most Congested Intersection

	CO Concentration (ppm)	
Year	Maximum 1-hour	Maximum 8-hour
2002	4.3	2.7
2021	1.5	1.0

Source: EPA 2022

For the County of San Diego, there are no roadways/segments identified as deficient facilities under the worst-case traffic scenario that have an ADT greater than the 100,000 that was anticipated for the most congested intersection analyzed by SCAQMD. The most congested intersection in the County is Campo Road/SR-94 between Jamacha Boulevard and Jamacha Road in Valle De Oro. According to Table 5.23 of the Traffic and Circulation Assessment: County of San Diego General Plan Update (Wilson and Company 2009), this intersection has an ADT of 79,200, which is only 79% of the most congested intersection in the SCAB.

Project-generated trips would only represent 0.1% of the most congested intersection in the SCAB, which were determined to not experience a CO "hot spot" according to SCAQMD's 2003 analysis.

In addition, the CO "hot spot" analysis performed by the SCAQMD included emissions for 1997 and 2002. Both running exhaust emission factors and idling emission factors predicted by the EMFAC model decreased from 1997 through 2002 as outlined in Table 11 below. This decrease in CO emission factors is indicative of a phase-out of

older vehicles and increasingly strict emissions standards implemented by CARB. Emission factors for San Diego County from the EMFAC2007 Model, which were used in the General Plan Update analysis, indicated that running exhaust emissions of CO would be less than 6.708 g CO per mile in 2010. Continued improvement in vehicular emissions at a rate faster than the rate of vehicle growth and/or congestion means that the potential for CO hotspots in the SDAB is likely to decrease.

Table 11. Carbon Monoxide Emission Factors Predicted by the EMFAC Model

Year	CO Emission Factors (grams CO/mile)	
	Running Exhaust	Idling Exhaust
1997	13.13	2.43
2002	7.98	1.30

Source: South Coast Air Quality Management District 2003

The County of San Diego concluded in the General Plan Update (2011) that because the most congested intersections in San Diego are less congested than those from the SCAB, and because emissions of CO would be lower than those used in the SCAQMD analysis, CO concentrations would be lower within San Diego County, and no CO "hot spots" are anticipated as was concluded in the SCAQMD analysis.

Given that proposed development will not result in traffic that exceeds traffic volumes considered in the General Plan Update analysis, coupled with the considerably low level of CO concentrations in the project area, and continued improvements in vehicle emissions, the Project is not anticipated to result in CO "hot spots". Consequently, implementation of the Project would not result in CO concentrations in excess of the health protective CAAQS or NAAQS, and as such, would not expose sensitive receptors to significant pollutant concentrations or health effects. Therefore, impacts related to sensitive receptor exposure to substantial CO concentrations would be less than significant, and no mitigation measures are required.

2.4.3.2 Toxic Air Contaminants

In addition to impacts from criteria pollutants, Project impacts may include emissions of pollutants identified by the state and federal government as TACs or HAPs. The greatest potential for TAC emissions during construction would be DPM emissions from heavy equipment operations and heavy-duty trucks, and the associated health impacts to sensitive receptors. Construction of the Project would occur over a period of 13 months and following completion of construction activities, Project-related TAC emissions would cease. The closest sensitive receptors to the Project site are single-family residences immediately adjacent on the northern and eastern boundaries of the site. As such, a construction health risk analysis was performed for the Project as discussed below.

Based on results from the HRA, the maximally exposed individual resident offsite would be located at the single-family residences to the east of the Project site and south of the new proposed private roadway. Table 12 summarizes the results of the HRA for Project construction, and detailed results are provided in Appendix B, *Health Risk Assessment Output Files*.

Table 12. Construction Activity Health Risk Assessment Results Prior to Mitigation

Impact Parameter	Units	Project Impact	CEQA Threshold	Level of Significance
Offsite				
Cancer Risk	Per Million	33.71	10.0	**Potentially Significant**
HIC	Not Applicable	0.04	1.0	Less than Significant

Source: Appendix B
Notes: CEQA = California Environmental Quality Act; HIC = Chronic Hazard Index.

The results of the HRA demonstrate that the TAC exposure from construction diesel exhaust emissions would result in cancer risk above the 10 in 1 million threshold and Chronic Hazard Index less than 1. Therefore, TAC emissions from construction of the Project would result in a **potentially significant** impact and thus mitigation is required. Mitigation Measure (**MM) AQ-1** would require the use of Tier 4 Interim or Equivalent (e.g. Tier 4 Final) for construction equipment greater than 80 horsepower. Table 13 shows the mitigated HRA results.

Table 13. Construction Activity Health Risk Assessment Results With Mitigation

Impact Parameter	Units	Project Impact	CEQA Threshold	Level of Significance
Offsite				
Cancer Risk	Per Million	7.78	10.0	Less than Significant
HIC	Not Applicable	<0.01	1.0	Less than Significant

Source: Appendix B
Notes: CEQA = California Environmental Quality Act; HIC = Chronic Hazard Index.

The results of the HRA as shown in Table 13 demonstrate that the TAC exposure from construction diesel exhaust emissions after implementation of mitigation would not result in cancer risk above the 10 in 1 million threshold and Chronic Hazard Index less than 1. Therefore, TAC emissions from construction of the Project would result in a **less than significant impact with mitigation**.

2.4.3.3 Health Effects of Criteria Air Pollutants

Construction and operation of the Project would not result in emissions that exceed SDAPCD's emission thresholds for any criteria air pollutants. The SDAPCD thresholds are based on the SDAB complying with the NAAQS and CAAQS which are protective of public health; therefore, no adverse effects to human health would result from the Project. The following provides a general discussion of criteria air pollutants and their health effects.

Regarding VOCs, some VOCs would be associated with motor vehicles and construction equipment, while others are associated with architectural coatings and asphalt off-gassing, the emissions of which would not result in exceedances of County of San Diego thresholds. Generally, the VOCs in architectural coatings and asphalt are of relatively low toxicity. Additionally, SDAPCD Rule 67.0.1 restricts the VOC content of coatings for both construction and operational applications.

In addition, VOCs and NO_x are precursors to O_3, for which the SDAB is designated as nonattainment with respect to the NAAQS and CAAQS (the SDAB is designated by EPA as an attainment area for the 1-hour O_3 NAAQS standard and 1997 8-hour NAAQS standard). The health effects associated with O_3, as discussed in Section 2.1.4, Criteria

Air Pollutants, are generally associated with reduced lung function. The contribution of VOCs and NO_x to regional ambient O_3 concentrations is the result of complex photochemistry. The increases in O_3 concentrations in the SDAB due to O_3 precursor emissions tend to be found downwind from the source location to allow time for the photochemical reactions to occur. However, the potential for exacerbating excessive O_3 concentrations would also depend on the time of year that the VOC emissions would occur because exceedances of the O_3 NAAQS and CAAQS tend to occur between April and October when solar radiation is highest. The holistic effect of a single project's emissions of O_3 precursors is speculative due to the lack of quantitative methods to assess this impact. Nonetheless, the VOC and NO_x emissions associated with Project construction could minimally contribute to regional O_3 concentrations and the associated health impacts. Due to the minimal contribution during construction and operation, as well as the existing good air quality in coastal San Diego areas, health impacts would be considered less than significant.

Regarding NO_2, which is a constituent of NO_x, construction of the Project would not contribute to exceedances of the NAAQS and CAAQS for NO_2 since NO_x emissions would be less than the applicable SDAPCD threshold. As described in Section 3.1, NO_2 health impacts are associated with respiratory irritation, which may be experienced by nearby receptors during the periods of heaviest use of off-road construction equipment. However, these operations would be relatively short term, and the off-road construction equipment would be operating on various portions of the site and would not be concentrated in one portion of the site at any one time. Construction of the Project would not require any stationary emission sources that would create substantial, localized NO_2 impacts.

As discussed earlier, $PM_{2.5}$ and PM_{10} pose a greater health risk than larger-size particles. When inhaled, these tiny particles can penetrate the human respiratory system's natural defenses and damage the respiratory tract. $PM_{2.5}$ and PM_{10} can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. Similar to O_3, construction of the Project would not exceed thresholds for PM_{10} or $PM_{2.5}$ and would not contribute to exceedances of the NAAQS and CAAQS for particulate matter. Due to the minimal contribution of particulate matter during construction and operation, health impacts would be considered less than significant.

Based on the preceding considerations, health impacts from Project-related criteria air pollutant emissions would be considered **less than significant**.

2.4.3.4 Conclusion

The results of the HRA demonstrate that after implementation of **MM-AQ-1**, which requires use of Tier 4 equipment during construction for equipment greater than 80 horsepower, the TAC exposure from construction diesel exhaust emissions would not result in cancer risk above the 10 in 1 million threshold, nor a Chronic Hazard Index greater than 1.0. VOC and NO_x emissions, as described previously, would minimally contribute to regional O_3 concentrations and the associated health effects. In addition to O_3, NO_x emissions would not contribute to potential exceedances of the NAAQS and CAAQS for NO_2. As shown in Table 2, the existing NO_2 concentrations in the area are well below the NAAQS and CAAQS standards. Thus, it is not expected the Project's operational NO_x emissions would result in exceedances of the NO_2 standards or contribute to the associated health effects. CO tends to be a localized impact associated with congested intersections. The associated CO "hotspots" were discussed previously as a less than significant impact. Thus, the Project's CO emissions would not contribute to significant health effects associated with this pollutant. PM_{10} and $PM_{2.5}$ would not contribute to potential exceedances of the NAAQS and CAAQS for particulate matter and would not obstruct the SDAB from coming into attainment for these pollutants and would

not contribute to significant health effects associated with particulates. Therefore, overall health impacts associated with criteria air pollutants would be considered **less than significant with mitigation**.

Mitigation Measure AQ-1

Tier 4 Interim Construction Equipment. Prior to the commencement of any construction activities, the applicant or its designee shall provide evidence to the City of Encinitas (City) that for off-road equipment with engines rated at 80 horsepower or greater, no construction equipment shall be used that is less than Tier 4 Interim or equivalent (e.g. Tier 4 Final or other technology that achieves equivalent particulate matter control). An exemption from these requirements may be granted by the City if the applicant documents that equipment with the required tier is not reasonably available and equivalent reductions in PM_{10} exhaust emissions are achieved from other construction equipment. The applicant shall be responsible for preparation of a new air quality assessment demonstrating that health risks are below significance thresholds of 10 in a million with the revised equipment mix. Before an exemption may be considered by the City, the applicant shall be required to demonstrate that three construction fleet owners/operators in the San Diego Region were contacted and that those owners/operators confirmed Tier 4 equipment could not be located within the San Diego region. The City shall review the exemption request and provide a determination within 10 business days from receipt of the request.

2.4.4 Would the Project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

2.4.4.1 Construction

Odors would be generated from vehicles and/or equipment exhaust emissions during construction of the Project. Odors produced during construction would be attributable to concentrations of unburned hydrocarbons from tailpipes of construction equipment and architectural coatings. Such odors are temporary and for the types of construction activities anticipated for Project components, would generally remain localized and occur at magnitudes that would not affect substantial numbers of people. Therefore, impacts associated with odors during construction would be considered **less than significant**.

2.4.4.2 Operational

Due to the subjective nature of odor impacts, the number of variables that can influence the potential for an odor impact, and the variety of odor sources, there are no quantitative or formulaic methodologies to determine if potential odors would have a significant impact. Examples of land uses and industrial operations that are commonly associated with odor complaints include agricultural uses, wastewater treatment plants, food processing facilities, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding facilities. In addition to the odor source, the distance between the sensitive receptor(s) and the odor source, as well as the local meteorological conditions, are considerations in the potential for a project to frequently expose the public to objectionable odors. Although localized air quality impacts are focused on potential impacts to sensitive receptors, such as residences and schools, other land uses where people may congregate (e.g., workplaces) or uses with the intent to attract

people (e.g., restaurants and visitor-serving accommodations) should also be considered in the evaluation of potential odor nuisance impacts. The Project is a residential development, which is not expected to produce any nuisance odors; therefore, impacts related to odors caused by the Project would be **less than significant**.

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CalEEMod Outputs and Estimated Emissions

Encinitas Sanctuary Custom Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Encinitas Sanctuary
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.20
Precipitation (days)	21.2
Location	33.043938631219575, -117.23784188923133
County	San Diego
City	Encinitas
Air District	San Diego County APCD
Air Basin	San Diego
TAZ	6216
EDFZ	12
Electric Utility	San Diego Gas & Electric
Gas Utility	San Diego Gas & Electric

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Single Family Housing	9.00	Dwelling Unit	2.46	17,550	42,385	0.00	25.0	—
Other Asphalt Surfaces	0.97	Acre	0.97	0.00	0.00	0.00	—	—

City Park	0.12	Acre	0.12	0.00	0.00	0.00	—	—
Other Non-Asphalt Surfaces	1.07	Acre	1.07	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-10-A	Water Exposed Surfaces
Construction	C-10-C	Water Unpaved Construction Roads
Construction	C-11	Limit Vehicle Speeds on Unpaved Roads
Construction	C-13	Use Low-VOC Paints for Construction
Area Sources	AS-2	Use Low-VOC Paints

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.52	1.28	11.4	14.0	0.02	0.50	0.17	0.66	0.46	0.04	0.50	—	2,623	2,623	0.11	0.03	0.83	2,636
Mit.	1.52	1.28	11.4	14.0	0.02	0.50	0.17	0.66	0.46	0.04	0.50	—	2,623	2,623	0.11	0.03	0.83	2,636
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.43	7.65	36.2	33.8	0.09	1.60	21.2	22.8	1.47	10.3	11.8	—	12,412	12,412	0.63	1.52	0.53	12,881
Mit.	4.43	3.72	36.2	33.8	0.09	1.60	8.18	9.78	1.47	4.01	5.49	—	12,412	12,412	0.63	1.52	0.53	12,881

% Reduced	—	51%	—	—	—	—	61%	57%	—	61%	53%	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.14	0.95	8.69	10.3	0.02	0.37	0.64	1.02	0.34	0.26	0.60	—	2,073	2,073	0.09	0.06	0.44	2,093
Mit.	1.14	0.95	8.69	10.3	0.02	0.37	0.35	0.72	0.34	0.13	0.47	—	2,073	2,073	0.09	0.06	0.44	2,093
% Reduced	—	—	—	—	—	—	46%	29%	—	51%	22%	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.21	0.17	1.59	1.87	< 0.005	0.07	0.12	0.19	0.06	0.05	0.11	—	343	343	0.01	0.01	0.07	346
Mit.	0.21	0.17	1.59	1.87	< 0.005	0.07	0.06	0.13	0.06	0.02	0.09	—	343	343	0.01	0.01	0.07	346
% Reduced	—	—	—	—	—	—	46%	29%	—	51%	22%	—	—	—	—	—	—	—
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	75.0	250	550	250	—	—	100	—	—	55.0	—	—	—	—	—	—	—
Unmit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Mit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	75.0	250	550	250	—	—	100	—	—	55.0	—	—	—	—	—	—	—
Unmit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Mit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Exceeds (Annual)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	40.0	40.0	100	40.0	—	—	15.0	—	—	15.0	—	—	—	—	—	—	—

Unmit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Mit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.52	1.28	11.4	14.0	0.02	0.50	0.17	0.66	0.46	0.04	0.50	—	2,623	2,623	0.11	0.03	0.83	2,636
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	4.43	3.72	36.2	33.8	0.09	1.60	21.2	22.8	1.47	10.3	11.8	—	12,412	12,412	0.63	1.52	0.53	12,881
2025	0.20	7.65	0.99	1.58	< 0.005	0.03	0.10	0.13	0.03	0.02	0.05	—	273	273	0.01	0.01	0.01	277
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.14	0.95	8.69	10.3	0.02	0.37	0.64	1.02	0.34	0.26	0.60	—	2,073	2,073	0.09	0.06	0.44	2,093
2025	0.01	0.38	0.05	0.08	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	13.5	13.5	< 0.005	< 0.005	0.01	13.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.21	0.17	1.59	1.87	< 0.005	0.07	0.12	0.19	0.06	0.05	0.11	—	343	343	0.01	0.01	0.07	346
2025	< 0.005	0.07	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.24	2.24	< 0.005	< 0.005	< 0.005	2.27

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2024	1.52	1.28	11.4	14.0	0.02	0.50	0.17	0.66	0.46	0.04	0.50	—	2,623	2,623	0.11	0.03	0.83	2,636
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	4.43	3.72	36.2	33.8	0.09	1.60	8.18	9.78	1.47	4.01	5.49	—	12,412	12,412	0.63	1.52	0.53	12,881
2025	0.20	1.54	0.99	1.58	< 0.005	0.03	0.10	0.13	0.03	0.02	0.05	—	273	273	0.01	0.01	0.01	277
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.14	0.95	8.69	10.3	0.02	0.37	0.35	0.72	0.34	0.13	0.47	—	2,073	2,073	0.09	0.06	0.44	2,093
2025	0.01	0.08	0.05	0.08	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	13.5	13.5	< 0.005	< 0.005	0.01	13.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.21	0.17	1.59	1.87	< 0.005	0.07	0.06	0.13	0.06	0.02	0.09	—	343	343	0.01	0.01	0.07	346
2025	< 0.005	0.01	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.24	2.24	< 0.005	< 0.005	< 0.005	2.27

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	14.5	14.6	0.62	20.4	0.04	2.35	0.22	2.58	2.34	0.04	2.38	254	964	1,218	0.66	0.05	2.63	1,251
Mit.	14.5	14.6	0.62	20.4	0.04	2.35	0.22	2.58	2.34	0.04	2.38	254	964	1,218	0.66	0.05	2.63	1,251
% Reduced	—	< 0.5%	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	14.4	14.6	0.64	19.7	0.04	2.35	0.22	2.58	2.34	0.04	2.38	254	932	1,186	0.66	0.05	0.19	1,217
Mit.	14.4	14.5	0.64	19.7	0.04	2.35	0.22	2.58	2.34	0.04	2.38	254	932	1,186	0.66	0.05	0.19	1,217

% Reduced	—	< 0.5%	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.58	3.91	0.43	6.80	0.01	0.54	0.22	0.76	0.53	0.04	0.57	60.0	857	917	0.48	0.03	1.21	940
Mit.	3.58	3.88	0.43	6.80	0.01	0.54	0.22	0.76	0.53	0.04	0.57	60.0	857	917	0.48	0.03	1.21	940
% Reduced	—	1%	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.65	0.71	0.08	1.24	< 0.005	0.10	0.04	0.14	0.10	0.01	0.10	9.93	142	152	0.08	0.01	0.20	156
Mit.	0.65	0.71	0.08	1.24	< 0.005	0.10	0.04	0.14	0.10	0.01	0.10	9.93	142	152	0.08	0.01	0.20	156
% Reduced	—	1%	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	75.0	250	550	250	—	—	100	—	—	55.0	—	—	—	—	—	—	—
Unmit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Mit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	75.0	250	550	250	—	—	100	—	—	55.0	—	—	—	—	—	—	—
Unmit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Mit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Exceeds (Annual)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	40.0	40.0	100	40.0	—	—	15.0	—	—	15.0	—	—	—	—	—	—	—

Unmit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Mit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.42	0.38	0.28	2.87	0.01	0.01	0.22	0.23	< 0.005	0.04	0.04	—	685	685	0.03	0.03	2.51	696
Area	14.1	14.2	0.27	17.5	0.03	2.34	—	2.34	2.33	—	2.33	250	106	356	0.23	0.02	—	367
Energy	0.01	< 0.005	0.06	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	164	164	0.01	< 0.005	—	165
Water	—	—	—	—	—	—	—	—	—	—	—	0.61	9.26	9.87	0.06	< 0.005	—	11.9
Waste	—	—	—	—	—	—	—	—	—	—	—	3.20	0.00	3.20	0.32	0.00	—	11.2
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.13	0.13
Total	14.5	14.6	0.62	20.4	0.04	2.35	0.22	2.58	2.34	0.04	2.38	254	964	1,218	0.66	0.05	2.63	1,251
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.41	0.38	0.31	2.70	0.01	0.01	0.22	0.23	< 0.005	0.04	0.04	—	655	655	0.03	0.03	0.06	664
Area	14.0	14.2	0.27	17.0	0.03	2.34	—	2.34	2.33	—	2.33	250	104	354	0.23	0.02	—	365
Energy	0.01	< 0.005	0.06	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	164	164	0.01	< 0.005	—	165
Water	—	—	—	—	—	—	—	—	—	—	—	0.61	9.26	9.87	0.06	< 0.005	—	11.9
Waste	—	—	—	—	—	—	—	—	—	—	—	3.20	0.00	3.20	0.32	0.00	—	11.2
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.13	0.13
Total	14.4	14.6	0.64	19.7	0.04	2.35	0.22	2.58	2.34	0.04	2.38	254	932	1,186	0.66	0.05	0.19	1,217
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.41	0.37	0.30	2.70	0.01	0.01	0.22	0.23	< 0.005	0.04	0.04	—	659	659	0.03	0.03	1.08	670

Area	3.17	3.54	0.06	4.07	0.01	0.53	—	0.53	0.52	—	0.52	56.2	24.1	80.2	0.05	< 0.005	—	82.7
Energy	0.01	< 0.005	0.06	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	164	164	0.01	< 0.005	—	165
Water	—	—	—	—	—	—	—	—	—	—	—	0.61	9.26	9.87	0.06	< 0.005	—	11.9
Waste	—	—	—	—	—	—	—	—	—	—	—	3.20	0.00	3.20	0.32	0.00	—	11.2
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.13	0.13
Total	3.58	3.91	0.43	6.80	0.01	0.54	0.22	0.76	0.53	0.04	0.57	60.0	857	917	0.48	0.03	1.21	940
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.07	0.07	0.06	0.49	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	109	109	0.01	< 0.005	0.18	111
Area	0.58	0.65	0.01	0.74	< 0.005	0.10	—	0.10	0.10	—	0.10	9.30	3.99	13.3	0.01	< 0.005	—	13.7
Energy	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	27.2	27.2	< 0.005	< 0.005	—	27.2
Water	—	—	—	—	—	—	—	—	—	—	—	0.10	1.53	1.63	0.01	< 0.005	—	1.97
Waste	—	—	—	—	—	—	—	—	—	—	—	0.53	0.00	0.53	0.05	0.00	—	1.85
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02
Total	0.65	0.71	0.08	1.24	< 0.005	0.10	0.04	0.14	0.10	0.01	0.10	9.93	142	152	0.08	0.01	0.20	156

2.6. Operations Emissions by Sector, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.42	0.38	0.28	2.87	0.01	0.01	0.22	0.23	< 0.005	0.04	0.04	—	685	685	0.03	0.03	2.51	696
Area	14.1	14.2	0.27	17.5	0.03	2.34	—	2.34	2.33	—	2.33	250	106	356	0.23	0.02	—	367
Energy	0.01	< 0.005	0.06	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	164	164	0.01	< 0.005	—	165
Water	—	—	—	—	—	—	—	—	—	—	—	0.61	9.26	9.87	0.06	< 0.005	—	11.9
Waste	—	—	—	—	—	—	—	—	—	—	—	3.20	0.00	3.20	0.32	0.00	—	11.2
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.13	0.13
Total	14.5	14.6	0.62	20.4	0.04	2.35	0.22	2.58	2.34	0.04	2.38	254	964	1,218	0.66	0.05	2.63	1,251

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.41	0.38	0.31	2.70	0.01	0.01	0.22	0.23	< 0.005	0.04	0.04	—	655	655	0.03	0.03	0.06	664
Area	14.0	14.2	0.27	17.0	0.03	2.34	—	2.34	2.33	—	2.33	250	104	354	0.23	0.02	—	365
Energy	0.01	< 0.005	0.06	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	164	164	0.01	< 0.005	—	165
Water	—	—	—	—	—	—	—	—	—	—	—	0.61	9.26	9.87	0.06	< 0.005	—	11.9
Waste	—	—	—	—	—	—	—	—	—	—	—	3.20	0.00	3.20	0.32	0.00	—	11.2
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.13	0.13
Total	14.4	14.5	0.64	19.7	0.04	2.35	0.22	2.58	2.34	0.04	2.38	254	932	1,186	0.66	0.05	0.19	1,217
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.41	0.37	0.30	2.70	0.01	0.01	0.22	0.23	< 0.005	0.04	0.04	—	659	659	0.03	0.03	1.08	670
Area	3.17	3.51	0.06	4.07	0.01	0.53	—	0.53	0.52	—	0.52	56.2	24.1	80.2	0.05	< 0.005	—	82.7
Energy	0.01	< 0.005	0.06	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	164	164	0.01	< 0.005	—	165
Water	—	—	—	—	—	—	—	—	—	—	—	0.61	9.26	9.87	0.06	< 0.005	—	11.9
Waste	—	—	—	—	—	—	—	—	—	—	—	3.20	0.00	3.20	0.32	0.00	—	11.2
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.13	0.13
Total	3.58	3.88	0.43	6.80	0.01	0.54	0.22	0.76	0.53	0.04	0.57	60.0	857	917	0.48	0.03	1.21	940
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.07	0.07	0.06	0.49	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	109	109	0.01	< 0.005	0.18	111
Area	0.58	0.64	0.01	0.74	< 0.005	0.10	—	0.10	0.10	—	0.10	9.30	3.99	13.3	0.01	< 0.005	—	13.7
Energy	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	27.2	27.2	< 0.005	< 0.005	—	27.2
Water	—	—	—	—	—	—	—	—	—	—	—	0.10	1.53	1.63	0.01	< 0.005	—	1.97
Waste	—	—	—	—	—	—	—	—	—	—	—	0.53	0.00	0.53	0.05	0.00	—	1.85
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02
Total	0.65	0.71	0.08	1.24	< 0.005	0.10	0.04	0.14	0.10	0.01	0.10	9.93	142	152	0.08	0.01	0.20	156

3. Construction Emissions Details

3.1. Site Preparation (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.34	3.65	36.0	32.9	0.05	1.60	—	1.60	1.47	—	1.47	—	5,296	5,296	0.21	0.04	—	5,314
Dust From Material Movemen:	—	—	—	—	—	—	19.7	19.7	—	10.1	10.1	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.07	0.04	< 0.005	< 0.005	1.39	1.39	< 0.005	0.14	0.14	—	10.7	10.7	< 0.005	< 0.005	< 0.005	11.2
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.49	0.45	< 0.005	0.02	—	0.02	0.02	—	0.02	—	72.5	72.5	< 0.005	< 0.005	—	72.8
Dust From Material Movemen:	—	—	—	—	—	—	0.27	0.27	—	0.14	0.14	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	0.15	0.15	< 0.005	< 0.005	< 0.005	0.15
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.09	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	12.0	12.0	< 0.005	< 0.005	—	12.1

Dust From Material Movemen:	—	—	—	—	—	—	0.05	0.05	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.02	0.02	< 0.005	< 0.005	< 0.005	0.03
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.07	0.78	0.00	0.00	0.15	0.15	0.00	0.04	0.04	—	164	164	0.01	0.01	0.02	167
Vendor	< 0.005	< 0.005	0.07	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	51.0	51.0	< 0.005	0.01	< 0.005	53.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.27	2.27	< 0.005	< 0.005	< 0.005	2.31
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.70	0.70	< 0.005	< 0.005	< 0.005	0.73
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.38	0.38	< 0.005	< 0.005	< 0.005	0.38
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.12	0.12	< 0.005	< 0.005	< 0.005	0.12
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.2. Site Preparation (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.34	3.65	36.0	32.9	0.05	1.60	—	1.60	1.47	—	1.47	—	5,296	5,296	0.21	0.04	—	5,314
Dust From Material Movemen:	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.07	0.04	< 0.005	< 0.005	0.35	0.35	< 0.005	0.04	0.04	—	10.7	10.7	< 0.005	< 0.005	< 0.005	11.2
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.49	0.45	< 0.005	0.02	—	0.02	0.02	—	0.02	—	72.5	72.5	< 0.005	< 0.005	—	72.8
Dust From Material Movemen:	—	—	—	—	—	—	0.11	0.11	—	0.05	0.05	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.15	0.15	< 0.005	< 0.005	< 0.005	0.15
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.09	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	12.0	12.0	< 0.005	< 0.005	—	12.1
Dust From Material Movemen:	—	—	—	—	—	—	0.02	0.02	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.02	0.02	< 0.005	< 0.005	< 0.005	0.03
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.07	0.78	0.00	0.00	0.15	0.15	0.00	0.04	0.04	—	164	164	0.01	0.01	0.02	167
Vendor	< 0.005	< 0.005	0.07	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	51.0	51.0	< 0.005	0.01	< 0.005	53.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.27	2.27	< 0.005	< 0.005	< 0.005	2.31
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.70	0.70	< 0.005	< 0.005	< 0.005	0.73
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.38	0.38	< 0.005	< 0.005	< 0.005	0.38
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.12	0.12	< 0.005	< 0.005	< 0.005	0.12
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Grading (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.26	1.90	18.2	18.8	0.03	0.84	—	0.84	0.77	—	0.77	—	2,958	2,958	0.12	0.02	—	2,969

Dust From Material Movemen	—	—	—	—	—	—	7.13	7.13	—	3.43	3.43	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.07	0.04	< 0.005	< 0.005	1.39	1.39	< 0.005	0.14	0.14	—	10.7	10.7	< 0.005	< 0.005	< 0.005	11.2
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.40	0.41	< 0.005	0.02	—	0.02	0.02	—	0.02	—	64.8	64.8	< 0.005	< 0.005	—	65.1
Dust From Material Movemen	—	—	—	—	—	—	0.16	0.16	—	0.08	0.08	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	< 0.005	—	0.23	0.23	< 0.005	< 0.005	< 0.005	0.25
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.07	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.7	10.7	< 0.005	< 0.005	—	10.8
Dust From Material Movemen	—	—	—	—	—	—	0.03	0.03	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	0.04	0.04	< 0.005	< 0.005	< 0.005	0.04
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.06	0.69	0.00	0.00	0.14	0.14	0.00	0.03	0.03	—	146	146	0.01	0.01	0.02	148
Vendor	< 0.005	< 0.005	0.07	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	51.0	51.0	< 0.005	0.01	< 0.005	53.1
Hauling	0.70	0.19	12.9	4.48	0.06	0.17	2.34	2.50	0.17	0.64	0.81	—	9,245	9,245	0.50	1.48	0.51	9,700

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.23	3.23	< 0.005	< 0.005	0.01	3.28
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.12	1.12	< 0.005	< 0.005	< 0.005	1.17
Hauling	0.02	< 0.005	0.28	0.10	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	203	203	0.01	0.03	0.19	213
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.54	0.54	< 0.005	< 0.005	< 0.005	0.54
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.18	0.18	< 0.005	< 0.005	< 0.005	0.19
Hauling	< 0.005	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	33.5	33.5	< 0.005	0.01	0.03	35.2

3.4. Grading (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.26	1.90	18.2	18.8	0.03	0.84	—	0.84	0.77	—	0.77	—	2,958	2,958	0.12	0.02	—	2,969
Dust From Material Movemen:	—	—	—	—	—	—	2.78	2.78	—	1.34	1.34	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.07	0.04	< 0.005	< 0.005	0.35	0.35	< 0.005	0.04	0.04	—	10.7	10.7	< 0.005	< 0.005	< 0.005	11.2
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.40	0.41	< 0.005	0.02	—	0.02	0.02	—	0.02	—	64.8	64.8	< 0.005	< 0.005	—	65.1

Dust From Material Movemen	—	—	—	—	—	—	0.06	0.06	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	0.23	0.23	< 0.005	< 0.005	< 0.005	0.25
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.07	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.7	10.7	< 0.005	< 0.005	—	10.8
Dust From Material Movemen	—	—	—	—	—	—	0.01	0.01	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.04	0.04	< 0.005	< 0.005	< 0.005	0.04
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.06	0.69	0.00	0.00	0.14	0.14	0.00	0.03	0.03	—	146	146	0.01	0.01	0.02	148
Vendor	< 0.005	< 0.005	0.07	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	51.0	51.0	< 0.005	0.01	< 0.005	53.1
Hauling	0.70	0.19	12.9	4.48	0.06	0.17	2.34	2.50	0.17	0.64	0.81	—	9,245	9,245	0.50	1.48	0.51	9,700
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.23	3.23	< 0.005	< 0.005	0.01	3.28
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.12	1.12	< 0.005	< 0.005	< 0.005	1.17
Hauling	0.02	< 0.005	0.28	0.10	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	203	203	0.01	0.03	0.19	213
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.54	0.54	< 0.005	< 0.005	< 0.005	0.54
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.18	0.18	< 0.005	< 0.005	< 0.005	0.19

Hauling	< 0.005	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	33.5	33.5	< 0.005	0.01	0.03	35.2

3.5. Building Construction (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.91	0.76	7.07	8.26	0.01	0.31	—	0.31	0.29	—	0.29	—	1,511	1,511	0.06	0.01	—	1,516
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.14	1.29	1.51	< 0.005	0.06	—	0.06	0.05	—	0.05	—	250	250	0.01	< 0.005	—	251
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.06	0.89	0.00	0.00	0.15	0.15	0.00	0.04	0.04	—	174	174	0.01	0.01	0.70	177
Vendor	< 0.005	< 0.005	0.07	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	50.9	50.9	< 0.005	0.01	0.13	53.2
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.07	0.78	0.00	0.00	0.15	0.15	0.00	0.04	0.04	—	164	164	0.01	0.01	0.02	167
Vendor	< 0.005	< 0.005	0.07	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	51.0	51.0	< 0.005	0.01	< 0.005	53.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.50	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	105	105	0.01	< 0.005	0.19	106
Vendor	< 0.005	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	32.1	32.1	< 0.005	< 0.005	0.04	33.5
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	17.3	17.3	< 0.005	< 0.005	0.03	17.6
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.32	5.32	< 0.005	< 0.005	0.01	5.55
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.6. Building Construction (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.91	0.76	7.07	8.26	0.01	0.31	—	0.31	0.29	—	0.29	—	1,511	1,511	0.06	0.01	—	1,516
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.14	1.29	1.51	< 0.005	0.06	—	0.06	0.05	—	0.05	—	250	250	0.01	< 0.005	—	251
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.06	0.89	0.00	0.00	0.15	0.15	0.00	0.04	0.04	—	174	174	0.01	0.01	0.70	177
Vendor	< 0.005	< 0.005	0.07	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	50.9	50.9	< 0.005	0.01	0.13	53.2
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.07	0.78	0.00	0.00	0.15	0.15	0.00	0.04	0.04	—	164	164	0.01	0.01	0.02	167

Vendor	< 0.005	< 0.005	0.07	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	51.0	51.0	< 0.005	0.01	< 0.005	53.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.50	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	105	105	0.01	< 0.005	0.19	106
Vendor	< 0.005	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	32.1	32.1	< 0.005	< 0.005	0.04	33.5
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	17.3	17.3	< 0.005	< 0.005	0.03	17.6
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.32	5.32	< 0.005	< 0.005	0.01	5.55
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Paving (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.91	0.76	6.87	8.89	0.01	0.33	—	0.33	0.30	—	0.30	—	1,351	1,351	0.05	0.01	—	1,355
Paving	—	0.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.04	0.04	0.34	0.44	< 0.005	0.02	—	0.02	0.01	—	0.01	—	66.6	66.6	< 0.005	< 0.005	—	66.8
Paving	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.06	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.0	11.0	< 0.005	< 0.005	—	11.1
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.07	0.87	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	183	183	0.01	0.01	0.02	185
Vendor	< 0.005	< 0.005	0.07	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	51.0	51.0	< 0.005	0.01	< 0.005	53.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	9.09	9.09	< 0.005	< 0.005	0.02	9.22
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.51	2.51	< 0.005	< 0.005	< 0.005	2.62
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.51	1.51	< 0.005	< 0.005	< 0.005	1.53
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.42	0.42	< 0.005	< 0.005	< 0.005	0.43
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Paving (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.91	0.76	6.87	8.89	0.01	0.33	—	0.33	0.30	—	0.30	—	1,351	1,351	0.05	0.01	—	1,355
Paving	—	0.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.04	0.34	0.44	< 0.005	0.02	—	0.02	0.01	—	0.01	—	66.6	66.6	< 0.005	< 0.005	—	66.8
Paving	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.06	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.0	11.0	< 0.005	< 0.005	—	11.1
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.07	0.87	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	183	183	0.01	0.01	0.02	185
Vendor	< 0.005	< 0.005	0.07	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	51.0	51.0	< 0.005	0.01	< 0.005	53.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	9.09	9.09	< 0.005	< 0.005	0.02	9.22
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.51	2.51	< 0.005	< 0.005	< 0.005	2.62
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.51	1.51	< 0.005	< 0.005	< 0.005	1.53
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.42	0.42	< 0.005	< 0.005	< 0.005	0.43
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Architectural Coating (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	7.48	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.04	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.58	6.58	< 0.005	< 0.005	—	6.61
Architectural Coatings	—	0.37	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.09	1.09	< 0.005	< 0.005	—	1.09
Architectural Coatings	—	0.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.41	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	89.6	89.6	< 0.005	< 0.005	0.01	90.8
Vendor	< 0.005	< 0.005	0.07	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	50.1	50.1	< 0.005	0.01	< 0.005	52.2
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.46	4.46	< 0.005	< 0.005	0.01	4.52
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.47	2.47	< 0.005	< 0.005	< 0.005	2.58

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.74	0.74	< 0.005	< 0.005	< 0.005	0.75
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.41	0.41	< 0.005	< 0.005	< 0.005	0.43
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Architectural Coating (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	1.37	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.04	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.58	6.58	< 0.005	< 0.005	—	6.61
Architectural Coatings	—	0.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.09	1.09	< 0.005	< 0.005	—	1.09
Architectural Coatings	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.41	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	89.6	89.6	< 0.005	< 0.005	0.01	90.8
Vendor	< 0.005	< 0.005	0.07	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	50.1	50.1	< 0.005	0.01	< 0.005	52.2
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.46	4.46	< 0.005	< 0.005	0.01	4.52
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.47	2.47	< 0.005	< 0.005	< 0.005	2.58
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.74	0.74	< 0.005	< 0.005	< 0.005	0.75
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.41	0.41	< 0.005	< 0.005	< 0.005	0.43
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.42	0.38	0.28	2.87	0.01	0.01	0.22	0.23	< 0.005	0.04	0.04	—	685	685	0.03	0.03	2.51	696
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.42	0.38	0.28	2.87	0.01	0.01	0.22	0.23	< 0.005	0.04	0.04	—	685	685	0.03	0.03	2.51	696
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.41	0.38	0.31	2.70	0.01	0.01	0.22	0.23	< 0.005	0.04	0.04	—	655	655	0.03	0.03	0.06	664
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.41	0.38	0.31	2.70	0.01	0.01	0.22	0.23	< 0.005	0.04	0.04	—	655	655	0.03	0.03	0.06	664

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.07	0.07	0.06	0.49	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	109	109	0.01	< 0.005	0.18	111
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.07	0.07	0.06	0.49	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	109	109	0.01	< 0.005	0.18	111

4.1.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.42	0.38	0.28	2.87	0.01	0.01	0.22	0.23	< 0.005	0.04	0.04	—	685	685	0.03	0.03	2.51	696
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.42	0.38	0.28	2.87	0.01	0.01	0.22	0.23	< 0.005	0.04	0.04	—	685	685	0.03	0.03	2.51	696
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	0.41	0.38	0.31	2.70	0.01	0.01	0.22	0.23	< 0.005	0.04	0.04	—	655	655	0.03	0.03	0.06	664
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.41	0.38	0.31	2.70	0.01	0.01	0.22	0.23	< 0.005	0.04	0.04	—	655	655	0.03	0.03	0.06	664
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.07	0.07	0.06	0.49	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	109	109	0.01	< 0.005	0.18	111
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.07	0.07	0.06	0.49	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	109	109	0.01	< 0.005	0.18	111

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	81.8	81.8	< 0.005	< 0.005	—	82.1
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	81.8	81.8	< 0.005	< 0.005	—	82.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	81.8	81.8	< 0.005	< 0.005	—	82.1
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	81.8	81.8	< 0.005	< 0.005	—	82.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	13.5	13.5	< 0.005	< 0.005	—	13.6
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	13.5	13.5	< 0.005	< 0.005	—	13.6

4.2.2. Electricity Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	81.8	81.8	< 0.005	< 0.005	—	82.1
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	81.8	81.8	< 0.005	< 0.005	—	82.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	81.8	81.8	< 0.005	< 0.005	—	82.1
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	81.8	81.8	< 0.005	< 0.005	—	82.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	13.5	13.5	< 0.005	< 0.005	—	13.6
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	13.5	13.5	< 0.005	< 0.005	—	13.6

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.01	< 0.005	0.06	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	82.3	82.3	0.01	< 0.005	—	82.5
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Total	0.01	< 0.005	0.06	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	82.3	82.3	0.01	< 0.005	—	82.5
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.01	< 0.005	0.06	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	82.3	82.3	0.01	< 0.005	—	82.5
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.01	< 0.005	0.06	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	82.3	82.3	0.01	< 0.005	—	82.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.6	13.6	< 0.005	< 0.005	—	13.7
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.6	13.6	< 0.005	< 0.005	—	13.7

4.2.4. Natural Gas Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.01	< 0.005	0.06	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	82.3	82.3	0.01	< 0.005	—	82.5
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.01	< 0.005	0.06	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	82.3	82.3	0.01	< 0.005	—	82.5
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.01	< 0.005	0.06	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	82.3	82.3	0.01	< 0.005	—	82.5
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.01	< 0.005	0.06	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	82.3	82.3	0.01	< 0.005	—	82.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.6	13.6	< 0.005	< 0.005	—	13.7
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.6	13.6	< 0.005	< 0.005	—	13.7

4.3. Area Emissions by Source

4.3.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	14.0	13.8	0.27	17.0	0.03	2.34	—	2.34	2.33	—	2.33	250	104	354	0.23	0.02	—	365
Consumer Products	—	0.38	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.05	0.05	< 0.005	0.51	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.37	1.37	< 0.005	< 0.005	—	1.37
Total	14.1	14.2	0.27	17.5	0.03	2.34	—	2.34	2.33	—	2.33	250	106	356	0.23	0.02	—	367
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	14.0	13.8	0.27	17.0	0.03	2.34	—	2.34	2.33	—	2.33	250	104	354	0.23	0.02	—	365
Consumer Products	—	0.38	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architect Coatings	—	0.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	14.0	14.2	0.27	17.0	0.03	2.34	—	2.34	2.33	—	2.33	250	104	354	0.23	0.02	—	365
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.57	0.56	0.01	0.70	< 0.005	0.10	—	0.10	0.10	—	0.10	9.30	3.88	13.2	0.01	< 0.005	—	13.6
Consumer Products	—	0.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	< 0.005	< 0.005	< 0.005	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.11	0.11	< 0.005	< 0.005	—	0.11
Total	0.58	0.65	0.01	0.74	< 0.005	0.10	—	0.10	0.10	—	0.10	9.30	3.99	13.3	0.01	< 0.005	—	13.7

4.3.1. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	14.0	13.8	0.27	17.0	0.03	2.34	—	2.34	2.33	—	2.33	250	104	354	0.23	0.02	—	365
Consumer Products	—	0.38	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.05	0.05	< 0.005	0.51	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.37	1.37	< 0.005	< 0.005	—	1.37

Total	14.1	14.2	0.27	17.5	0.03	2.34	—	2.34	2.33	—	2.33	250	106	356	0.23	0.02	—	367
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	14.0	13.8	0.27	17.0	0.03	2.34	—	2.34	2.33	—	2.33	250	104	354	0.23	0.02	—	365
Consumer Products	—	0.38	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	14.0	14.2	0.27	17.0	0.03	2.34	—	2.34	2.33	—	2.33	250	104	354	0.23	0.02	—	365
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.57	0.56	0.01	0.70	< 0.005	0.10	—	0.10	0.10	—	0.10	9.30	3.88	13.2	0.01	< 0.005	—	13.6
Consumer Products	—	0.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	< 0.005	< 0.005	< 0.005	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.11	0.11	< 0.005	< 0.005	—	0.11
Total	0.58	0.64	0.01	0.74	< 0.005	0.10	—	0.10	0.10	—	0.10	9.30	3.99	13.3	0.01	< 0.005	—	13.7

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.61	9.26	9.87	0.06	< 0.005	—	11.9
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.61	9.26	9.87	0.06	< 0.005	—	11.9
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.61	9.26	9.87	0.06	< 0.005	—	11.9
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.61	9.26	9.87	0.06	< 0.005	—	11.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.10	1.53	1.63	0.01	< 0.005	—	1.97
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.10	1.53	1.63	0.01	< 0.005	—	1.97

4.4.1. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.61	9.26	9.87	0.06	< 0.005	—	11.9
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.61	9.26	9.87	0.06	< 0.005	—	11.9
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.61	9.26	9.87	0.06	< 0.005	—	11.9
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.61	9.26	9.87	0.06	< 0.005	—	11.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.10	1.53	1.63	0.01	< 0.005	—	1.97
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.10	1.53	1.63	0.01	< 0.005	—	1.97

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	3.19	0.00	3.19	0.32	0.00	—	11.2
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.01	0.00	0.01	< 0.005	0.00	—	0.02

Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	3.20	0.00	3.20	0.32	0.00	—	11.2
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	3.19	0.00	3.19	0.32	0.00	—	11.2
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.01	0.00	0.01	< 0.005	0.00	—	0.02
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	3.20	0.00	3.20	0.32	0.00	—	11.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.53	0.00	0.53	0.05	0.00	—	1.85
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	< 0.005	0.00	< 0.005	< 0.005	0.00	—	< 0.005
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.53	0.00	0.53	0.05	0.00	—	1.85

4.5.1. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	3.19	0.00	3.19	0.32	0.00	—	11.2
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.01	0.00	0.01	< 0.005	0.00	—	0.02
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	3.20	0.00	3.20	0.32	0.00	—	11.2
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	3.19	0.00	3.19	0.32	0.00	—	11.2
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.01	0.00	0.01	< 0.005	0.00	—	0.02
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	3.20	0.00	3.20	0.32	0.00	—	11.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.53	0.00	0.53	0.05	0.00	—	1.85

Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	< 0.005	0.00	< 0.005	< 0.005	0.00	—	< 0.005
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.53	0.00	0.53	0.05	0.00	—	1.85

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.13	0.13
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.13	0.13
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.13	0.13
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.13	0.13
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02

4.6.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.13	0.13
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.13	0.13
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.13	0.13
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.13	0.13
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Remove	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	1/2/2024	1/8/2024	5.00	5.00	—
Grading	Grading	1/9/2024	1/18/2024	5.00	8.00	—
Building Construction	Building Construction	1/19/2024	12/5/2024	5.00	230	—
Paving	Paving	12/6/2024	12/31/2024	5.00	18.0	—
Architectural Coating	Architectural Coating	1/2/2025	1/27/2025	5.00	18.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Cement and Mortar Mixers	Diesel	Average	2.00	6.00	10.0	0.56
Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	6.00	89.0	0.36

Paving	Rollers	Diesel	Average	2.00	6.00	36.0	0.38
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Cement and Mortar Mixers	Diesel	Average	2.00	6.00	10.0	0.56
Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	6.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	6.00	36.0	0.38
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	18.0	12.0	LDA,LDT1,LDT2
Site Preparation	Vendor	2.00	7.63	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	4.00	0.25	HHDT
Grading	—	—	—	—
Grading	Worker	16.0	12.0	LDA,LDT1,LDT2
Grading	Vendor	2.00	7.63	HHDT,MHDT
Grading	Hauling	126	20.0	HHDT
Grading	Onsite truck	4.00	0.25	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	18.0	12.0	LDA,LDT1,LDT2
Building Construction	Vendor	2.00	7.63	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	0.00	—	HHDT
Paving	—	—	—	—
Paving	Worker	20.0	12.0	LDA,LDT1,LDT2
Paving	Vendor	2.00	7.63	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	0.00	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	10.0	12.0	LDA,LDT1,LDT2
Architectural Coating	Vendor	2.00	7.63	HHDT,MHDT

Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	0.00	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	18.0	12.0	LDA,LDT1,LDT2
Site Preparation	Vendor	2.00	7.63	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	4.00	0.25	HHDT
Grading	—	—	—	—
Grading	Worker	16.0	12.0	LDA,LDT1,LDT2
Grading	Vendor	2.00	7.63	HHDT,MHDT
Grading	Hauling	126	20.0	HHDT
Grading	Onsite truck	4.00	0.25	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	18.0	12.0	LDA,LDT1,LDT2
Building Construction	Vendor	2.00	7.63	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	0.00	—	HHDT
Paving	—	—	—	—
Paving	Worker	20.0	12.0	LDA,LDT1,LDT2
Paving	Vendor	2.00	7.63	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	0.00	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	10.0	12.0	LDA,LDT1,LDT2

Architectural Coating	Vendor	2.00	7.63	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	0.00	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	35,539	11,846	0.00	0.00	5,332

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	0.00	0.00	7.50	0.00	—
Grading	0.00	8,000	8.00	0.00	—
Paving	0.00	0.00	0.00	0.00	2.14

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Single Family Housing	0.10	0%

Other Asphalt Surfaces	0.97	100%
City Park	0.00	0%
Other Non-Asphalt Surfaces	1.07	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	0.00	540	0.03	< 0.005
2025	0.00	540	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Single Family Housing	90.0	90.0	90.0	32,850	811	811	811	295,950
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Single Family Housing	90.0	90.0	90.0	32,850	811	811	811	295,950
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

City Park	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	3
Gas Fireplaces	5
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	1
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.1.2. Mitigated

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	3
Gas Fireplaces	5
Propane Fireplaces	0
Electric Fireplaces	0

No Fireplaces	1
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
35538.75	11,846	0.00	0.00	5,332

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Single Family Housing	55,271	540	0.0330	0.0040	256,652

Other Asphalt Surfaces	0.00	540	0.0330	0.0040	0.00
City Park	0.00	540	0.0330	0.0040	0.00
Other Non-Asphalt Surfaces	0.00	540	0.0330	0.0040	0.00

5.11.2. Mitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Single Family Housing	55,271	540	0.0330	0.0040	256,652
Other Asphalt Surfaces	0.00	540	0.0330	0.0040	0.00
City Park	0.00	540	0.0330	0.0040	0.00
Other Non-Asphalt Surfaces	0.00	540	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	316,198	774,166
Other Asphalt Surfaces	0.00	0.00
City Park	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	316,198	774,166
Other Asphalt Surfaces	0.00	0.00
City Park	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	2.13	0.00
Other Asphalt Surfaces	0.00	0.00
City Park	0.01	0.00
Other Non-Asphalt Surfaces	0.00	0.00

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	2.13	0.00
Other Asphalt Surfaces	0.00	0.00
City Park	0.01	0.00
Other Non-Asphalt Surfaces	0.00	0.00

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
City Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0

City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
City Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00

8. User Changes to Default Data

Screen	Justification
Land Use	Project Description
Construction: Construction Phases	Default schedule lengths. No demo.
Construction: Trips and VMT	Even numbers
Operations: Vehicle Data	Traffic Study. Active open space modeled as park, no trip generation.
Characteristics: Utility Information	—

Appendix B

Health Risk Assessment Output File

Encinitas Sanctuary
Construction HRA - Off-site

Project Construction Emissions

Year	Unmitigated DPM tons/year	Mitigated DPM tons/year
2024	0.0600	0.0100
2025	0.0050	0.0050
Total	**0.065**	**0.015**
Total Lbs	**130.000**	**30.000**
Lbs/year	**122.079**	**28.172**
Lbs/hour	**0.06**	**0.01**

Conversions:

1 ton =	2,000	lb		
Construction =	8	hours/day	Project Construction:	279 active days
	2096	hours/year		1.06 years
	262	days/year		
	12	months		

AERMOD Assumptions

Source Name	Description	No. of Vol. Sources	Emission Rate g/s	Release Height m	Plume Height m	Plume Width m
SLINE1	Off-Road Equipment and Trucks		1.00	5.00	10.00	10.00

Receptor Grid

Grid Sizes	Spacing	
1 km x 1 km	20 m	

Meteorological Data

Station Name		Years	Lat	Long	Elev (m)
CRQ	Palomar Airport	2019-2021	33.130822	-117.272686	92

Source: SDAPCD 2020. Annual Air Quality Monitoring Network. https://www.sdapcd.org/content/dam/sdapcd/documents/monitoring/2020-Network-Report.pdf

Population

County	2021 Population
San Diego County	3,287,306

Source: State of California, Department of Finance. https://dof.ca.gov/forecasting/demographics/estimates-e1/

Other Model Assumption

Terrain Data	NED 1/3
Lakes Version	11.2
AERMOD Versio	22112

Encinitas Sanctuary - Health Risk Assessment Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Encinitas Sanctuary - Health Risk Assessment
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.20
Precipitation (days)	21.2
Location	33.043938631219575, -117.23784188923133
County	San Diego
City	Encinitas
Air District	San Diego County APCD
Air Basin	San Diego
TAZ	6216
EDFZ	12
Electric Utility	San Diego Gas & Electric
Gas Utility	San Diego Gas & Electric

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Single Family Housing	9.00	Dwelling Unit	2.46	17,550	42,385	0.00	25.0	—
Other Asphalt Surfaces	0.97	Acre	0.97	0.00	0.00	0.00	—	—

City Park	0.12	Acre	0.12	0.00	0.00	0.00	—	—
Other Non-Asphalt Surfaces	1.07	Acre	1.07	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-5	Use Advanced Engine Tiers
Construction	C-10-A	Water Exposed Surfaces
Construction	C-10-C	Water Unpaved Construction Roads
Construction	C-11	Limit Vehicle Speeds on Unpaved Roads
Construction	C-13	Use Low-VOC Paints for Construction
Area Sources	AS-2	Use Low-VOC Paints

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.32	1.10	10.4	12.6	0.02	0.46	< 0.005	0.47	0.43	< 0.005	0.43	—	2,298	2,298	0.09	0.02	< 0.005	2,306
Mit.	0.52	0.48	8.48	14.5	0.02	0.09	< 0.005	0.09	0.08	< 0.005	0.08	—	2,298	2,298	0.09	0.02	< 0.005	2,306
% Reduced	60%	57%	19%	-15%	—	81%	—	81%	80%	—	80%	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.34	7.48	36.0	33.0	0.05	1.60	21.0	22.6	1.47	10.2	11.7	—	5,310	5,310	0.22	0.08	0.01	5,329

Mit.	0.65	1.37	14.8	28.4	0.05	0.11	8.02	8.12	0.11	3.98	4.07	—	5,310	5,310	0.22	0.08	0.01	5,329
% Reduced	85%	82%	59%	14%	—	93%	62%	64%	93%	61%	65%	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.99	0.83	7.86	9.28	0.02	0.35	0.48	0.83	0.32	0.22	0.54	—	1,660	1,660	0.07	0.02	< 0.005	1,666
Mit.	0.38	0.35	6.13	10.4	0.02	0.06	0.18	0.24	0.06	0.08	0.15	—	1,660	1,660	0.07	0.02	< 0.005	1,666
% Reduced	62%	58%	22%	-12%	—	82%	62%	71%	81%	61%	73%	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.18	0.15	1.43	1.69	< 0.005	0.06	0.09	0.15	0.06	0.04	0.10	—	275	275	0.01	< 0.005	< 0.005	276
Mit.	0.07	0.06	1.12	1.90	< 0.005	0.01	0.03	0.04	0.01	0.02	0.03	—	275	275	0.01	< 0.005	< 0.005	276
% Reduced	62%	58%	22%	-12%	—	82%	62%	71%	81%	61%	73%	—	—	—	—	—	—	—
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	75.0	250	550	250	—	—	100	—	—	55.0	—	—	—	—	—	—	—
Unmit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Mit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	75.0	250	550	250	—	—	100	—	—	55.0	—	—	—	—	—	—	—
Unmit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Mit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Exceeds (Annual)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Threshol	—	40.0	40.0	100	40.0	—	—	15.0	—	—	15.0	—	—	—	—	—	—	—
Unmit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Mit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.32	1.10	10.4	12.6	0.02	0.46	< 0.005	0.47	0.43	< 0.005	0.43	—	2,298	2,298	0.09	0.02	< 0.005	2,306
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	4.34	3.65	36.0	33.0	0.05	1.60	21.0	22.6	1.47	10.2	11.7	—	5,310	5,310	0.22	0.08	0.01	5,329
2025	< 0.005	7.48	0.02	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.17	6.17	< 0.005	< 0.005	< 0.005	6.36
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.99	0.83	7.86	9.28	0.02	0.35	0.48	0.83	0.32	0.22	0.54	—	1,660	1,660	0.07	0.02	< 0.005	1,666
2025	< 0.005	0.37	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.30	0.30	< 0.005	< 0.005	< 0.005	0.31
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.18	0.15	1.43	1.69	< 0.005	0.06	0.09	0.15	0.06	0.04	0.10	—	275	275	0.01	< 0.005	< 0.005	276
2025	< 0.005	0.07	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.05	0.05	< 0.005	< 0.005	< 0.005	0.05

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.52	0.48	8.48	14.5	0.02	0.09	< 0.005	0.09	0.08	< 0.005	0.08	—	2,298	2,298	0.09	0.02	< 0.005	2,306
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.65	0.64	14.8	28.4	0.05	0.11	8.02	8.12	0.11	3.98	4.07	—	5,310	5,310	0.22	0.08	0.01	5,329
2025	< 0.005	1.37	0.02	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.17	6.17	< 0.005	< 0.005	< 0.005	6.36
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.38	0.35	6.13	10.4	0.02	0.06	0.18	0.24	0.06	0.08	0.15	—	1,660	1,660	0.07	0.02	< 0.005	1,666
2025	< 0.005	0.07	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.30	0.30	< 0.005	< 0.005	< 0.005	0.31
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.07	0.06	1.12	1.90	< 0.005	0.01	0.03	0.04	0.01	0.02	0.03	—	275	275	0.01	< 0.005	< 0.005	276
2025	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.05	0.05	< 0.005	< 0.005	< 0.005	0.05

3. Construction Emissions Details

3.1. Site Preparation (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.34	3.65	36.0	32.9	0.05	1.60	—	1.60	1.47	—	1.47	—	5,296	5,296	0.21	0.04	—	5,314

Dust From Material Movemen	—	—	—	—	—	—	19.7	19.7	—	10.1	10.1	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.07	0.04	< 0.005	< 0.005	1.39	1.39	< 0.005	0.14	0.14	—	10.7	10.7	< 0.005	< 0.005	< 0.005	11.2
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.49	0.45	< 0.005	0.02	—	0.02	0.02	—	0.02	—	72.5	72.5	< 0.005	< 0.005	—	72.8
Dust From Material Movemen	—	—	—	—	—	—	0.27	0.27	—	0.14	0.14	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	0.15	0.15	< 0.005	< 0.005	< 0.005	0.15
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.09	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	12.0	12.0	< 0.005	< 0.005	—	12.1
Dust From Material Movemen	—	—	—	—	—	—	0.05	0.05	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.02	0.02	< 0.005	< 0.005	< 0.005	0.03
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.84	3.84	< 0.005	< 0.005	< 0.005	4.03
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.05	0.05	< 0.005	< 0.005	< 0.005	0.06
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.01	0.01	< 0.005	< 0.005	< 0.005	0.01
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.2. Site Preparation (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.64	0.64	14.7	28.3	0.05	0.10	—	0.10	0.10	—	0.10	—	5,296	5,296	0.21	0.04	—	5,314
Dust From Material Movemen:	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.07	0.04	< 0.005	< 0.005	0.35	0.35	< 0.005	0.04	0.04	—	10.7	10.7	< 0.005	< 0.005	< 0.005	11.2
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.20	0.39	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	72.5	72.5	< 0.005	< 0.005	—	72.8

Dust From Material Movemen	—	—	—	—	—	—	0.11	0.11	—	0.05	0.05	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.15	0.15	< 0.005	< 0.005	< 0.005	0.15
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.04	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	12.0	12.0	< 0.005	< 0.005	—	12.1
Dust From Material Movemen	—	—	—	—	—	—	0.02	0.02	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.02	0.02	< 0.005	< 0.005	< 0.005	0.03
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.84	3.84	< 0.005	< 0.005	< 0.005	4.03
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.05	0.05	< 0.005	< 0.005	< 0.005	0.06
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.01	0.01	< 0.005	< 0.005	< 0.005	0.01

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Grading (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.26	1.90	18.2	18.8	0.03	0.84	—	0.84	0.77	—	0.77	—	2,958	2,958	0.12	0.02	—	2,969
Dust From Material Movemen	—	—	—	—	—	—	7.13	7.13	—	3.43	3.43	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.07	0.04	< 0.005	< 0.005	1.39	1.39	< 0.005	0.14	0.14	—	10.7	10.7	< 0.005	< 0.005	< 0.005	11.2
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.40	0.41	< 0.005	0.02	—	0.02	0.02	—	0.02	—	64.8	64.8	< 0.005	< 0.005	—	65.1
Dust From Material Movemen	—	—	—	—	—	—	0.16	0.16	—	0.08	0.08	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	< 0.005	—	0.23	0.23	< 0.005	< 0.005	< 0.005	0.25
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.07	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.7	10.7	< 0.005	< 0.005	—	10.8

Dust From Material Movemen	—	—	—	—	—	—	0.03	0.03	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	0.04	0.04	< 0.005	< 0.005	< 0.005	0.04
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.84	3.84	< 0.005	< 0.005	< 0.005	4.03
Hauling	0.15	0.08	2.12	1.41	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	337	337	0.06	0.05	0.01	354
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.08	0.08	< 0.005	< 0.005	< 0.005	0.09
Hauling	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.34	7.34	< 0.005	< 0.005	< 0.005	7.73
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.01	0.01	< 0.005	< 0.005	< 0.005	0.01
Hauling	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.22	1.22	< 0.005	< 0.005	< 0.005	1.28

3.4. Grading (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.49	0.47	10.0	17.8	0.03	0.08	—	0.08	0.08	—	0.08	—	2,958	2,958	0.12	0.02	—	2,969
Dust From Material Movemen:	—	—	—	—	—	—	2.78	2.78	—	1.34	1.34	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.07	0.04	< 0.005	< 0.005	0.35	0.35	< 0.005	0.04	0.04	—	10.7	10.7	< 0.005	< 0.005	< 0.005	11.2
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.22	0.39	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	64.8	64.8	< 0.005	< 0.005	—	65.1
Dust From Material Movemen:	—	—	—	—	—	—	0.06	0.06	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	0.23	0.23	< 0.005	< 0.005	< 0.005	0.25
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.04	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.7	10.7	< 0.005	< 0.005	—	10.8
Dust From Material Movemen:	—	—	—	—	—	—	0.01	0.01	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.04	0.04	< 0.005	< 0.005	< 0.005	0.04
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.84	3.84	< 0.005	< 0.005	< 0.005	4.03
Hauling	0.15	0.08	2.12	1.41	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	337	337	0.06	0.05	0.01	354
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.08	0.08	< 0.005	< 0.005	< 0.005	0.09
Hauling	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.34	7.34	< 0.005	< 0.005	< 0.005	7.73
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.01	0.01	< 0.005	< 0.005	< 0.005	0.01
Hauling	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.22	1.22	< 0.005	< 0.005	< 0.005	1.28

3.5. Building Construction (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.32	1.10	10.4	12.6	0.02	0.46	—	0.46	0.43	—	0.43	—	2,294	2,294	0.09	0.02	—	2,302
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.32	1.10	10.4	12.6	0.02	0.46	—	0.46	0.43	—	0.43	—	2,294	2,294	0.09	0.02	—	2,302
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.83	0.69	6.57	7.93	0.01	0.29	—	0.29	0.27	—	0.27	—	1,445	1,445	0.06	0.01	—	1,450
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	1.20	1.45	< 0.005	0.05	—	0.05	0.05	—	0.05	—	239	239	0.01	< 0.005	—	240
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.82	3.82	< 0.005	< 0.005	< 0.005	4.01
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.84	3.84	< 0.005	< 0.005	< 0.005	4.03
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.41	2.41	< 0.005	< 0.005	< 0.005	2.53
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.40	0.40	< 0.005	< 0.005	< 0.005	0.42
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.6. Building Construction (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.52	0.48	8.46	14.5	0.02	0.09	—	0.09	0.08	—	0.08	—	2,294	2,294	0.09	0.02	—	2,302
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.52	0.48	8.46	14.5	0.02	0.09	—	0.09	0.08	—	0.08	—	2,294	2,294	0.09	0.02	—	2,302
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.33	0.30	5.33	9.12	0.01	0.05	—	0.05	0.05	—	0.05	—	1,445	1,445	0.06	0.01	—	1,450

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.97	1.66	< 0.005	0.01	—	0.01	0.01	—	0.01	—	239	239	0.01	< 0.005	—	240
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.82	3.82	< 0.005	< 0.005	< 0.005	4.01
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.84	3.84	< 0.005	< 0.005	< 0.005	4.03
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.41	2.41	< 0.005	< 0.005	< 0.005	2.53
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.40	0.40	< 0.005	< 0.005	< 0.005	0.42
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Paving (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.91	0.76	6.87	8.89	0.01	0.33	—	0.33	0.30	—	0.30	—	1,351	1,351	0.05	0.01	—	1,355
Paving	—	0.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.04	0.34	0.44	< 0.005	0.02	—	0.02	0.01	—	0.01	—	66.6	66.6	< 0.005	< 0.005	—	66.8
Paving	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.06	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.0	11.0	< 0.005	< 0.005	—	11.1
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.84	3.84	< 0.005	< 0.005	< 0.005	4.03
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.19	0.19	< 0.005	< 0.005	< 0.005	0.20
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.03	0.03	< 0.005	< 0.005	< 0.005	0.03
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Paving (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.53	0.47	6.29	9.39	0.01	0.11	—	0.11	0.11	—	0.11	—	1,351	1,351	0.05	0.01	—	1,355
Paving	—	0.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.31	0.46	< 0.005	0.01	—	0.01	0.01	—	0.01	—	66.6	66.6	< 0.005	< 0.005	—	66.8
Paving	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.06	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.0	11.0	< 0.005	< 0.005	—	11.1
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.84	3.84	< 0.005	< 0.005	< 0.005	4.03
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.19	0.19	< 0.005	< 0.005	< 0.005	0.20
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.03	0.03	< 0.005	< 0.005	< 0.005	0.03
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Architectural Coating (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Architectural Coatings	—	7.48	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Architectural Coatings	—	0.37	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Architect Coatings	—	0.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.79	3.79	< 0.005	< 0.005	< 0.005	3.97
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.19	0.19	< 0.005	< 0.005	< 0.005	0.20
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.03	0.03	< 0.005	< 0.005	< 0.005	0.03
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Architectural Coating (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Architectural Coatings	—	1.37	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Architectural Coatings	—	0.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Architectural Coatings	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.79	3.79	< 0.005	< 0.005	< 0.005	3.97
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.19	0.19	< 0.005	< 0.005	< 0.005	0.20
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.03	0.03	< 0.005	< 0.005	< 0.005	0.03
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Remove	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	1/2/2024	1/8/2024	5.00	5.00	—
Grading	Grading	1/9/2024	1/18/2024	5.00	8.00	—
Building Construction	Building Construction	1/19/2024	12/5/2024	5.00	230	—
Paving	Paving	12/6/2024	12/31/2024	5.00	18.0	—
Architectural Coating	Architectural Coating	1/2/2025	1/27/2025	5.00	18.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29

Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Electric	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Cement and Mortar Mixers	Diesel	Average	2.00	6.00	10.0	0.56
Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	6.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	6.00	36.0	0.38
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Architectural Coating	Air Compressors	Electric	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Tier 4 Interim	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Grading	Graders	Diesel	Tier 4 Interim	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Tier 4 Interim	1.00	8.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	3.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Tier 4 Interim	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Tier 4 Interim	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Electric	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	3.00	7.00	84.0	0.37

Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Cement and Mortar Mixers	Diesel	Average	2.00	6.00	10.0	0.56
Paving	Pavers	Diesel	Tier 4 Interim	1.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 4 Interim	2.00	6.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	6.00	36.0	0.38
Paving	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	1.00	8.00	84.0	0.37
Architectural Coating	Air Compressors	Electric	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	0.00	12.0	LDA,LDT1,LDT2
Site Preparation	Vendor	2.00	0.25	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	4.00	0.25	HHDT
Grading	—	—	—	—
Grading	Worker	0.00	12.0	LDA,LDT1,LDT2
Grading	Vendor	2.00	0.25	HHDT,MHDT
Grading	Hauling	126	0.25	HHDT
Grading	Onsite truck	4.00	0.25	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	0.00	12.0	LDA,LDT1,LDT2
Building Construction	Vendor	2.00	0.25	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT

Building Construction	Onsite truck	0.00	—	HHDT
Paving	—	—	—	—
Paving	Worker	0.00	12.0	LDA,LDT1,LDT2
Paving	Vendor	2.00	0.25	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	0.00	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	0.00	12.0	LDA,LDT1,LDT2
Architectural Coating	Vendor	2.00	0.25	HHDT,MHDT
Architectural Coating	Hauling	0.00	18.0	HHDT
Architectural Coating	Onsite truck	0.00	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	0.00	12.0	LDA,LDT1,LDT2
Site Preparation	Vendor	2.00	0.25	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	4.00	0.25	HHDT
Grading	—	—	—	—
Grading	Worker	0.00	12.0	LDA,LDT1,LDT2
Grading	Vendor	2.00	0.25	HHDT,MHDT
Grading	Hauling	126	0.25	HHDT
Grading	Onsite truck	4.00	0.25	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	0.00	12.0	LDA,LDT1,LDT2
Building Construction	Vendor	2.00	0.25	HHDT,MHDT

Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	0.00	—	HHDT
Paving	—	—	—	—
Paving	Worker	0.00	12.0	LDA,LDT1,LDT2
Paving	Vendor	2.00	0.25	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	0.00	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	0.00	12.0	LDA,LDT1,LDT2
Architectural Coating	Vendor	2.00	0.25	HHDT,MHDT
Architectural Coating	Hauling	0.00	18.0	HHDT
Architectural Coating	Onsite truck	0.00	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	35,539	11,846	0.00	0.00	5,332

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	0.00	0.00	7.50	0.00	—

Grading	0.00	8,000	8.00	0.00	—
Paving	0.00	0.00	0.00	0.00	2.14

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Single Family Housing	0.10	0%
Other Asphalt Surfaces	0.97	100%
City Park	0.00	0%
Other Non-Asphalt Surfaces	1.07	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	61.8	540	0.03	< 0.005
2025	79.5	540	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	13.2	annual days of extreme heat
Extreme Precipitation	3.00	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth

Wildfire	2.14	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	0	0	0	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A

Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	1	1	1	2
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	40.0
AQ-PM	34.0
AQ-DPM	12.2
Drinking Water	40.8
Lead Risk Housing	16.8
Pesticides	61.4
Toxic Releases	13.2
Traffic	13.3

Effect Indicators	—
CleanUp Sites	0.00
Groundwater	3.32
Haz Waste Facilities/Generators	16.6
Impaired Water Bodies	90.1
Solid Waste	24.8
Sensitive Population	—
Asthma	6.94
Cardio-vascular	25.5
Low Birth Weights	13.9
Socioeconomic Factor Indicators	—
Education	6.95
Housing	24.9
Linguistic	0.00
Poverty	24.7
Unemployment	33.6

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	74.04080585
Employed	62.37649172
Median HI	82.97189786
Education	—
Bachelor's or higher	83.65199538
High school enrollment	100

Preschool enrollment	87.36045169
Transportation	—
Auto Access	93.63531374
Active commuting	32.51636084
Social	—
2-parent households	35.2239189
Voting	97.12562556
Neighborhood	—
Alcohol availability	88.22019761
Park access	53.4838958
Retail density	45.56653407
Supermarket access	55.4471962
Tree canopy	69.45977159
Housing	—
Homeownership	69.53676376
Housing habitability	84.53740536
Low-inc homeowner severe housing cost burden	80.05902733
Low-inc renter severe housing cost burden	71.52572822
Uncrowded housing	58.74502759
Health Outcomes	—
Insured adults	49.23649429
Arthritis	0.0
Asthma ER Admissions	93.6
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0

Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	76.7
Cognitively Disabled	70.6
Physically Disabled	80.2
Heart Attack ER Admissions	87.4
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	19.6
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	73.7
Elderly	42.0
English Speaking	92.8
Foreign-born	27.9
Outdoor Workers	56.9
Climate Change Adaptive Capacity	—
Impervious Surface Cover	69.2
Traffic Density	18.6

Traffic Access	23.0
Other Indices	—
Hardship	22.8
Other Decision Support	—
2016 Voting	98.0

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	5.00
Healthy Places Index Score for Project Location (b)	85.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Project Description
Construction: Construction Phases	Default schedule lengths. No demo.

Construction: Trips and VMT	Only diesel fueled vehicles
Operations: Vehicle Data	Traffic Study. Active open space modeled as park, no trip generation.
Characteristics: Utility Information	—

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** AERMOD View Ver. 11.2.0
** Lakes Environmental Software Inc.
** Date: 2/12/2023
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Construction.ADI
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**
**
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** AERMOD Control Pathway
**************************************
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   AVERTIME 1 PERIOD
   URBANOPT 3287306
   POLLUTID PM_10
   RUNORNOT RUN
   ERRORFIL "Sanctuary Construction.err"
CO FINISHED
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**************************************
** AERMOD Source Pathway
**************************************
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SO STARTING
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** Source ID - Type - X Coord. - Y Coord. **
** ------------------------------------------------------------------------
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** DESCRSRC
** PREFIX
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** Configuration = Adjacent
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LOCATION L0000204 VOLUME 477803.465 3656146.648 63.24
LOCATION L0000205 VOLUME 477800.903 3656136.982 63.01
LOCATION L0000206 VOLUME 477807.478 3656132.440 61.99
LOCATION L0000207 VOLUME 477812.957 3656136.735 60.97
LOCATION L0000208 VOLUME 477815.322 3656146.451 60.99
LOCATION L0000209 VOLUME 477817.687 3656156.167 60.29
LOCATION L0000210 VOLUME 477820.052 3656165.883 58.21
LOCATION L0000211 VOLUME 477813.592 3656168.943 60.03

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   LOCATION L0000212     VOLUME   477811.468 3656159.171 62.18
   LOCATION L0000213     VOLUME   477809.343 3656149.399 62.52
   LOCATION L0000214     VOLUME   477807.219 3656139.628 62.47
** End of LINE VOLUME Source ID = SLINE1
** Source Parameters **
** LINE VOLUME Source ID = SLINE1
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** ----------------------------------------------------------------------
   URBANSRC ALL
   SRCGROUP ALL
SO FINISHED
**
**************************************
** AERMOD Receptor Pathway
**************************************
**
**
RE STARTING
   INCLUDED "Sanctuary Construction.rou"
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE ..\McClellanPalomar_2019_2021_v22112.SFC
   PROFFILE ..\McClellanPalomar_2019_2021_v22112.PFL
   SURFDATA 3177 2019
   UAIRDATA 3190 2019
   PROFBASE 92.0 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
```

```
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
** Auto-Generated Plotfiles
   PLOTFILE 1 ALL 1ST "Sanctuary Construction.AD\01H1GALL.PLT" 31
   PLOTFILE PERIOD ALL "Sanctuary Construction.AD\PE00GALL.PLT" 32
   SUMMFILE "Sanctuary Construction.sum"
OU FINISHED


  *** Message Summary For AERMOD Model Setup ***

  --------- Summary of Total Messages --------

 A Total of            0 Fatal Error Message(s)
 A Total of            2 Warning Message(s)
 A Total of            0 Informational Message(s)


    ******** FATAL ERROR MESSAGES ********
               ***  NONE  ***


    ********   WARNING MESSAGES   ********
 ME W186     544       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used
     0.50
 ME W187     544       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET


 *********************************
 *** SETUP Finishes Successfully ***
 *********************************

 *** AERMOD - VERSION 22112  ***   *** C:\Users\enuno\OneDrive -
Dudek\Desktop\HARP2\HARP\Encinitas_Sanctua ***        02/12/23
 *** AERMET - VERSION  22112 ***   ***
                       ***        20:07:49

                                  PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                           ***     MODEL SETUP OPTIONS SUMMARY
 ***
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - -

 ** Model Options Selected:
      * Model Uses Regulatory DEFAULT Options
```

```
      * Model Is Setup For Calculation of Average CONCentration Values.
      * NO GAS DEPOSITION Data Provided.
      * NO PARTICLE DEPOSITION Data Provided.
      * Model Uses NO DRY DEPLETION. DDPLETE  =  F
      * Model Uses NO WET DEPLETION. WETDPLT  =  F
      * Stack-tip Downwash.
      * Model Accounts for ELEVated Terrain Effects.
      * Use Calms Processing Routine.
      * Use Missing Data Processing Routine.
      * No Exponential Decay.
      * Model Uses URBAN Dispersion Algorithm for the SBL for   214 Source(s),
        for Total of    1 Urban Area(s):
   Urban Population =   3287306.0 ;  Urban Roughness Length =  1.000 m
      * Urban Roughness Length of 1.0 Meter Used.
      * ADJ_U*   - Use ADJ_U* option for SBL in AERMET
      * CCVR_Sub - Meteorological data includes CCVR substitutions
      * TEMP_Sub - Meteorological data includes TEMP substitutions
      * Model Assumes No FLAGPOLE Receptor Heights.
      * The User Specified a Pollutant Type of: PM_10

 **Model Calculates  1 Short Term Average(s) of:   1-HR
     and Calculates PERIOD Averages

 **This Run Includes:    214 Source(s);       1 Source Group(s); and    1001
Receptor(s)

                with:      0 POINT(s), including
                           0 POINTCAP(s) and      0 POINTHOR(s)
                 and:    214 VOLUME source(s)
                 and:      0 AREA type source(s)
                 and:      0 LINE source(s)
                 and:      0 RLINE/RLINEXT source(s)
                 and:      0 OPENPIT source(s)
                 and:      0 BUOYANT LINE source(s) with a total of     0 line(s)
                 and:      0 SWPOINT source(s)


 **Model Set To Continue RUNning After the Setup Testing.

 **The AERMET Input Meteorological Data Version Date:  22112

 **Output Options Selected:
          Model Outputs Tables of PERIOD Averages by Receptor
          Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE
Keyword)
          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) =   92.00 ; 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 =   3.7 MB of RAM.

 **Input Runstream File: aermod.inp

 **Output Print File: aermod.out

 **Detailed Error/Message File: Sanctuary Construction.err

 **File for Summary of Results: Sanctuary Construction.sum

 *** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

                                                *** 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   0.46729E-02 478002.7 3656145.5   41.4   5.00   4.65
2.33   YES
 L0000002   0   0.46729E-02 477993.1 3656148.3   42.3   5.00   4.65
2.33   YES
 L0000003   0   0.46729E-02 477983.5 3656151.2   43.0   5.00   4.65
2.33   YES
 L0000004   0   0.46729E-02 477973.9 3656154.0   43.9   5.00   4.65
2.33   YES

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 L0000005         0   0.46729E-02  477964.3 3656156.8    44.8     5.00     4.65
2.33     YES
 L0000006         0   0.46729E-02  477954.7 3656159.7    45.5     5.00     4.65
2.33     YES
 L0000007         0   0.46729E-02  477945.1 3656162.5    46.6     5.00     4.65
2.33     YES
 L0000008         0   0.46729E-02  477935.6 3656165.3    47.7     5.00     4.65
2.33     YES
 L0000009         0   0.46729E-02  477926.0 3656168.1    48.8     5.00     4.65
2.33     YES
 L0000010         0   0.46729E-02  477916.4 3656171.0    49.9     5.00     4.65
2.33     YES
 L0000011         0   0.46729E-02  477906.8 3656173.8    50.6     5.00     4.65
2.33     YES
 L0000012         0   0.46729E-02  477897.2 3656176.6    51.3     5.00     4.65
2.33     YES
 L0000013         0   0.46729E-02  477887.6 3656179.4    51.8     5.00     4.65
2.33     YES
 L0000014         0   0.46729E-02  477878.0 3656182.3    52.8     5.00     4.65
2.33     YES
 L0000015         0   0.46729E-02  477868.4 3656185.1    53.8     5.00     4.65
2.33     YES
 L0000016         0   0.46729E-02  477858.8 3656187.9    54.7     5.00     4.65
2.33     YES
 L0000017         0   0.46729E-02  477849.2 3656190.8    55.9     5.00     4.65
2.33     YES
 L0000018         0   0.46729E-02  477839.6 3656193.6    56.9     5.00     4.65
2.33     YES
 L0000019         0   0.46729E-02  477830.0 3656196.4    57.5     5.00     4.65
2.33     YES
 L0000020         0   0.46729E-02  477820.5 3656199.2    58.3     5.00     4.65
2.33     YES
 L0000021         0   0.46729E-02  477810.9 3656202.1    59.5     5.00     4.65
2.33     YES
 L0000022         0   0.46729E-02  477801.3 3656204.9    60.6     5.00     4.65
2.33     YES
 L0000023         0   0.46729E-02  477791.7 3656207.7    61.6     5.00     4.65
2.33     YES
 L0000024         0   0.46729E-02  477782.1 3656210.6    62.6     5.00     4.65
2.33     YES
 L0000025         0   0.46729E-02  477772.5 3656213.4    63.3     5.00     4.65
2.33     YES
 L0000026         0   0.46729E-02  477762.9 3656216.2    64.1     5.00     4.65
2.33     YES
 L0000027         0   0.46729E-02  477753.3 3656219.0    64.8     5.00     4.65
2.33     YES
 L0000028         0   0.46729E-02  477743.7 3656221.9    65.6     5.00     4.65
2.33     YES
 L0000029         0   0.46729E-02  477734.1 3656224.7    66.2     5.00     4.65
2.33     YES
```

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 L0000030         0   0.46729E-02  477728.3 3656220.6    66.7     5.00     4.65
2.33     YES
 L0000031         0   0.46729E-02  477725.6 3656211.0    67.2     5.00     4.65
2.33     YES
 L0000032         0   0.46729E-02  477722.8 3656201.4    64.1     5.00     4.65
2.33     YES
 L0000033         0   0.46729E-02  477720.0 3656191.8    61.7     5.00     4.65
2.33     YES
 L0000034         0   0.46729E-02  477717.2 3656182.2    60.2     5.00     4.65
2.33     YES
 L0000035         0   0.46729E-02  477719.5 3656175.2    59.8     5.00     4.65
2.33     YES
 L0000036         0   0.46729E-02  477729.0 3656172.2    59.8     5.00     4.65
2.33     YES
 L0000037         0   0.46729E-02  477738.5 3656169.1    58.5     5.00     4.65
2.33     YES
 L0000038         0   0.46729E-02  477748.0 3656166.1    57.7     5.00     4.65
2.33     YES
 L0000039         0   0.46729E-02  477757.5 3656163.0    57.0     5.00     4.65
2.33     YES
 L0000040         0   0.46729E-02  477767.1 3656160.0    58.0     5.00     4.65
2.33     YES
 *** AERMOD - VERSION 22112  ***   *** C:\Users\enuno\OneDrive -
Dudek\Desktop\HARP2\HARP\Encinitas_Sanctua ***        02/12/23
 *** AERMET - VERSION  22112 ***   ***
                      ***        20:07:49

                                PAGE   3
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                                    *** 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
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 L0000041         0   0.46729E-02  477764.9 3656150.8    55.6     5.00     4.65
2.33     YES
 L0000042         0   0.46729E-02  477762.0 3656141.2    54.1     5.00     4.65
2.33     YES
 L0000043         0   0.46729E-02  477759.1 3656131.7    54.0     5.00     4.65
2.33     YES
 L0000044         0   0.46729E-02  477756.2 3656122.1    54.6     5.00     4.65
2.33     YES
```

L0000045	0	0.46729E-02	477756.1	3656114.0	53.3	5.00	4.65	2.33 YES
L0000046	0	0.46729E-02	477765.7	3656111.1	51.6	5.00	4.65	2.33 YES
L0000047	0	0.46729E-02	477775.2	3656108.1	50.7	5.00	4.65	2.33 YES
L0000048	0	0.46729E-02	477784.8	3656105.2	50.6	5.00	4.65	2.33 YES
L0000049	0	0.46729E-02	477794.3	3656102.2	50.9	5.00	4.65	2.33 YES
L0000050	0	0.46729E-02	477803.9	3656099.2	51.0	5.00	4.65	2.33 YES
L0000051	0	0.46729E-02	477813.4	3656096.3	51.2	5.00	4.65	2.33 YES
L0000052	0	0.46729E-02	477823.0	3656093.3	50.8	5.00	4.65	2.33 YES
L0000053	0	0.46729E-02	477832.5	3656090.4	49.9	5.00	4.65	2.33 YES
L0000054	0	0.46729E-02	477839.3	3656092.6	50.3	5.00	4.65	2.33 YES
L0000055	0	0.46729E-02	477842.0	3656102.2	52.3	5.00	4.65	2.33 YES
L0000056	0	0.46729E-02	477844.7	3656111.9	52.9	5.00	4.65	2.33 YES
L0000057	0	0.46729E-02	477847.4	3656121.5	53.1	5.00	4.65	2.33 YES
L0000058	0	0.46729E-02	477850.2	3656131.1	52.4	5.00	4.65	2.33 YES
L0000059	0	0.46729E-02	477852.9	3656140.7	52.3	5.00	4.65	2.33 YES
L0000060	0	0.46729E-02	477855.6	3656150.4	52.7	5.00	4.65	2.33 YES
L0000061	0	0.46729E-02	477858.4	3656160.0	53.1	5.00	4.65	2.33 YES
L0000062	0	0.46729E-02	477861.1	3656169.6	53.3	5.00	4.65	2.33 YES
L0000063	0	0.46729E-02	477863.8	3656179.2	53.6	5.00	4.65	2.33 YES
L0000064	0	0.46729E-02	477855.9	3656182.9	54.2	5.00	4.65	2.33 YES
L0000065	0	0.46729E-02	477846.3	3656185.6	55.7	5.00	4.65	2.33 YES
L0000066	0	0.46729E-02	477836.6	3656188.4	56.8	5.00	4.65	2.33 YES
L0000067	0	0.46729E-02	477827.0	3656191.2	57.5	5.00	4.65	2.33 YES
L0000068	0	0.46729E-02	477817.4	3656193.9	58.4	5.00	4.65	2.33 YES
L0000069	0	0.46729E-02	477807.8	3656196.7	59.6	5.00	4.65	2.33 YES

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0000070	0	0.46729E-02	477798.2	3656199.4	60.6	5.00	4.65	2.33	YES	
L0000071	0	0.46729E-02	477788.6	3656202.2	61.3	5.00	4.65	2.33	YES	
L0000072	0	0.46729E-02	477779.0	3656204.9	62.4	5.00	4.65	2.33	YES	
L0000073	0	0.46729E-02	477769.4	3656207.7	63.1	5.00	4.65	2.33	YES	
L0000074	0	0.46729E-02	477759.7	3656210.4	63.8	5.00	4.65	2.33	YES	
L0000075	0	0.46729E-02	477750.1	3656213.2	64.5	5.00	4.65	2.33	YES	
L0000076	0	0.46729E-02	477740.5	3656215.9	65.1	5.00	4.65	2.33	YES	
L0000077	0	0.46729E-02	477734.6	3656212.2	64.7	5.00	4.65	2.33	YES	
L0000078	0	0.46729E-02	477732.1	3656202.5	63.9	5.00	4.65	2.33	YES	
L0000079	0	0.46729E-02	477729.5	3656192.9	62.5	5.00	4.65	2.33	YES	
L0000080	0	0.46729E-02	477727.0	3656183.2	61.6	5.00	4.65	2.33	YES	
L0000081	0	0.46729E-02	477731.6	3656177.5	60.4	5.00	4.65	2.33	YES	
L0000082	0	0.46729E-02	477741.2	3656174.6	58.8	5.00	4.65	2.33	YES	
L0000083	0	0.46729E-02	477750.7	3656171.6	58.3	5.00	4.65	2.33	YES	
L0000084	0	0.46729E-02	477760.3	3656168.7	57.9	5.00	4.65	2.33	YES	

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 L0000085         0   0.46729E-02  477769.9 3656165.8    59.8     5.00     4.65
2.33     YES
 L0000086         0   0.46729E-02  477778.1 3656162.8    62.3     5.00     4.65
2.33     YES
 L0000087         0   0.46729E-02  477775.1 3656153.3    58.4     5.00     4.65
2.33     YES
 L0000088         0   0.46729E-02  477772.0 3656143.8    55.3     5.00     4.65
2.33     YES
 L0000089         0   0.46729E-02  477769.0 3656134.3    55.3     5.00     4.65
2.33     YES
 L0000090         0   0.46729E-02  477765.9 3656124.7    54.0     5.00     4.65
2.33     YES
 L0000091         0   0.46729E-02  477767.6 3656117.7    52.5     5.00     4.65
2.33     YES
 L0000092         0   0.46729E-02  477777.2 3656114.9    51.3     5.00     4.65
2.33     YES
 L0000093         0   0.46729E-02  477786.8 3656112.1    52.4     5.00     4.65
2.33     YES
 L0000094         0   0.46729E-02  477796.4 3656109.3    53.6     5.00     4.65
2.33     YES
 L0000095         0   0.46729E-02  477806.0 3656106.5    53.7     5.00     4.65
2.33     YES
 L0000096         0   0.46729E-02  477815.6 3656103.7    53.2     5.00     4.65
2.33     YES
 L0000097         0   0.46729E-02  477825.2 3656100.9    53.0     5.00     4.65
2.33     YES
 L0000098         0   0.46729E-02  477833.5 3656100.3    53.1     5.00     4.65
2.33     YES
 L0000099         0   0.46729E-02  477835.9 3656110.0    52.7     5.00     4.65
2.33     YES
 L0000100         0   0.46729E-02  477838.3 3656119.7    54.2     5.00     4.65
2.33     YES
 L0000101         0   0.46729E-02  477840.8 3656129.4    54.1     5.00     4.65
2.33     YES
 L0000102         0   0.46729E-02  477843.2 3656139.1    53.6     5.00     4.65
2.33     YES
 L0000103         0   0.46729E-02  477845.7 3656148.8    53.4     5.00     4.65
2.33     YES
 L0000104         0   0.46729E-02  477848.1 3656158.5    54.0     5.00     4.65
2.33     YES
 L0000105         0   0.46729E-02  477850.5 3656168.2    54.4     5.00     4.65
2.33     YES
 L0000106         0   0.46729E-02  477851.1 3656176.8    54.6     5.00     4.65
2.33     YES
 L0000107         0   0.46729E-02  477841.5 3656179.6    55.8     5.00     4.65
2.33     YES
 L0000108         0   0.46729E-02  477831.9 3656182.4    56.8     5.00     4.65
2.33     YES
 L0000109         0   0.46729E-02  477822.2 3656185.1    57.7     5.00     4.65
2.33     YES
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 L0000110         0   0.46729E-02  477812.6 3656187.9    58.8     5.00     4.65
2.33     YES
 L0000111         0   0.46729E-02  477803.0 3656190.7    59.8     5.00     4.65
2.33     YES
 L0000112         0   0.46729E-02  477793.4 3656193.4    60.7     5.00     4.65
2.33     YES
 L0000113         0   0.46729E-02  477783.8 3656196.2    61.5     5.00     4.65
2.33     YES
 L0000114         0   0.46729E-02  477774.2 3656199.0    62.4     5.00     4.65
2.33     YES
 L0000115         0   0.46729E-02  477764.6 3656201.8    63.0     5.00     4.65
2.33     YES
 L0000116         0   0.46729E-02  477755.0 3656204.5    63.8     5.00     4.65
2.33     YES
 L0000117         0   0.46729E-02  477745.4 3656207.3    64.1     5.00     4.65
2.33     YES
 L0000118         0   0.46729E-02  477740.1 3656202.8    63.6     5.00     4.65
2.33     YES
 L0000119         0   0.46729E-02  477737.9 3656193.1    61.7     5.00     4.65
2.33     YES
 L0000120         0   0.46729E-02  477738.0 3656184.6    60.4     5.00     4.65
2.33     YES
↟ *** AERMOD - VERSION 22112  ***   *** C:\Users\enuno\OneDrive -
Dudek\Desktop\HARP2\HARP\Encinitas_Sanctua ***        02/12/23
 *** AERMET - VERSION  22112 ***   ***
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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                                    *** 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
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 L0000121         0   0.46729E-02  477747.6 3656181.7    59.7     5.00     4.65
2.33     YES
 L0000122         0   0.46729E-02  477757.2 3656178.8    59.9     5.00     4.65
2.33     YES
 L0000123         0   0.46729E-02  477766.7 3656175.9    60.2     5.00     4.65
2.33     YES
 L0000124         0   0.46729E-02  477776.3 3656173.0    62.2     5.00     4.65
2.33     YES
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 L0000125         0   0.46729E-02  477785.9 3656170.1    63.8     5.00     4.65
2.33     YES
 L0000126         0   0.46729E-02  477788.7 3656163.8    64.3     5.00     4.65
2.33     YES
 L0000127         0   0.46729E-02  477785.5 3656154.3    62.4     5.00     4.65
2.33     YES
 L0000128         0   0.46729E-02  477782.3 3656144.8    59.1     5.00     4.65
2.33     YES
 L0000129         0   0.46729E-02  477779.1 3656135.3    55.4     5.00     4.65
2.33     YES
 L0000130         0   0.46729E-02  477775.9 3656125.9    53.1     5.00     4.65
2.33     YES
 L0000131         0   0.46729E-02  477781.2 3656121.0    53.3     5.00     4.65
2.33     YES
 L0000132         0   0.46729E-02  477790.9 3656118.5    55.1     5.00     4.65
2.33     YES
 L0000133         0   0.46729E-02  477800.6 3656116.0    56.1     5.00     4.65
2.33     YES
 L0000134         0   0.46729E-02  477810.3 3656113.4    55.8     5.00     4.65
2.33     YES
 L0000135         0   0.46729E-02  477819.9 3656110.9    53.3     5.00     4.65
2.33     YES
 L0000136         0   0.46729E-02  477827.5 3656111.9    53.3     5.00     4.65
2.33     YES
 L0000137         0   0.46729E-02  477829.9 3656121.6    55.0     5.00     4.65
2.33     YES
 L0000138         0   0.46729E-02  477832.3 3656131.3    55.8     5.00     4.65
2.33     YES
 L0000139         0   0.46729E-02  477834.8 3656141.0    55.2     5.00     4.65
2.33     YES
 L0000140         0   0.46729E-02  477837.2 3656150.8    54.4     5.00     4.65
2.33     YES
 L0000141         0   0.46729E-02  477839.6 3656160.5    54.8     5.00     4.65
2.33     YES
 L0000142         0   0.46729E-02  477842.0 3656170.2    55.3     5.00     4.65
2.33     YES
 L0000143         0   0.46729E-02  477834.2 3656174.0    56.3     5.00     4.65
2.33     YES
 L0000144         0   0.46729E-02  477824.6 3656176.9    57.2     5.00     4.65
2.33     YES
 L0000145         0   0.46729E-02  477815.0 3656179.8    58.5     5.00     4.65
2.33     YES
 L0000146         0   0.46729E-02  477805.5 3656182.7    59.3     5.00     4.65
2.33     YES
 L0000147         0   0.46729E-02  477795.9 3656185.6    61.6     5.00     4.65
2.33     YES
 L0000148         0   0.46729E-02  477786.3 3656188.5    61.8     5.00     4.65
2.33     YES
 L0000149         0   0.46729E-02  477776.8 3656191.4    61.9     5.00     4.65
2.33     YES
```

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 L0000150         0   0.46729E-02  477767.2 3656194.3    62.1     5.00     4.65
2.33     YES
 L0000151         0   0.46729E-02  477757.6 3656197.2    62.9     5.00     4.65
2.33     YES
 L0000152         0   0.46729E-02  477748.0 3656200.1    63.1     5.00     4.65
2.33     YES
 L0000153         0   0.46729E-02  477744.7 3656191.2    60.9     5.00     4.65
2.33     YES
 L0000154         0   0.46729E-02  477753.1 3656187.7    61.4     5.00     4.65
2.33     YES
 L0000155         0   0.46729E-02  477762.7 3656184.8    61.3     5.00     4.65
2.33     YES
 L0000156         0   0.46729E-02  477772.3 3656182.0    61.0     5.00     4.65
2.33     YES
 L0000157         0   0.46729E-02  477781.8 3656179.1    62.4     5.00     4.65
2.33     YES
 L0000158         0   0.46729E-02  477791.4 3656176.2    63.3     5.00     4.65
2.33     YES
 L0000159         0   0.46729E-02  477799.0 3656172.3    62.8     5.00     4.65
2.33     YES
 L0000160         0   0.46729E-02  477795.9 3656162.8    64.9     5.00     4.65
2.33     YES
 *** AERMOD - VERSION 22112  ***   *** C:\Users\enuno\OneDrive -
Dudek\Desktop\HARP2\HARP\Encinitas_Sanctua ***        02/12/23
 *** AERMET - VERSION  22112 ***   ***
                      ***        20:07:49

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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                                    *** 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
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 L0000161         0   0.46729E-02  477792.7 3656153.4    64.2     5.00     4.65
2.33     YES
 L0000162         0   0.46729E-02  477789.6 3656143.9    62.3     5.00     4.65
2.33     YES
 L0000163         0   0.46729E-02  477786.4 3656134.4    58.1     5.00     4.65
2.33     YES
 L0000164         0   0.46729E-02  477786.9 3656126.8    56.2     5.00     4.65
2.33     YES
```

L0000165	0	0.46729E-02	477796.5	3656124.0	58.1	5.00	4.65	2.33 YES
L0000166	0	0.46729E-02	477806.1	3656121.2	57.8	5.00	4.65	2.33 YES
L0000167	0	0.46729E-02	477815.7	3656118.4	56.4	5.00	4.65	2.33 YES
L0000168	0	0.46729E-02	477821.0	3656123.0	56.3	5.00	4.65	2.33 YES
L0000169	0	0.46729E-02	477823.3	3656132.7	57.4	5.00	4.65	2.33 YES
L0000170	0	0.46729E-02	477825.6	3656142.4	57.5	5.00	4.65	2.33 YES
L0000171	0	0.46729E-02	477827.9	3656152.1	56.7	5.00	4.65	2.33 YES
L0000172	0	0.46729E-02	477830.3	3656161.9	55.6	5.00	4.65	2.33 YES
L0000173	0	0.46729E-02	477833.1	3656171.4	56.2	5.00	4.65	2.33 YES
L0000174	0	0.46729E-02	477823.6	3656174.3	57.2	5.00	4.65	2.33 YES
L0000175	0	0.46729E-02	477814.0	3656177.1	58.9	5.00	4.65	2.33 YES
L0000176	0	0.46729E-02	477804.4	3656179.9	60.0	5.00	4.65	2.33 YES
L0000177	0	0.46729E-02	477794.8	3656182.7	62.4	5.00	4.65	2.33 YES
L0000178	0	0.46729E-02	477785.2	3656185.5	62.2	5.00	4.65	2.33 YES
L0000179	0	0.46729E-02	477775.6	3656188.2	61.7	5.00	4.65	2.33 YES
L0000180	0	0.46729E-02	477766.0	3656191.0	61.8	5.00	4.65	2.33 YES
L0000181	0	0.46729E-02	477756.4	3656193.8	62.4	5.00	4.65	2.33 YES
L0000182	0	0.46729E-02	477752.6	3656191.5	62.0	5.00	4.65	2.33 YES
L0000183	0	0.46729E-02	477762.3	3656188.7	61.8	5.00	4.65	2.33 YES
L0000184	0	0.46729E-02	477771.9	3656186.0	61.3	5.00	4.65	2.33 YES
L0000185	0	0.46729E-02	477781.5	3656183.2	62.0	5.00	4.65	2.33 YES
L0000186	0	0.46729E-02	477791.1	3656180.4	62.8	5.00	4.65	2.33 YES
L0000187	0	0.46729E-02	477800.7	3656177.7	61.4	5.00	4.65	2.33 YES
L0000188	0	0.46729E-02	477808.2	3656173.8	60.5	5.00	4.65	2.33 YES
L0000189	0	0.46729E-02	477804.9	3656164.4	63.1	5.00	4.65	2.33 YES

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 L0000190         0   0.46729E-02  477801.6 3656154.9    63.7     5.00     4.65
2.33     YES
 L0000191         0   0.46729E-02  477798.4 3656145.5    63.8     5.00     4.65
2.33     YES
 L0000192         0   0.46729E-02  477795.1 3656136.0    62.4     5.00     4.65
2.33     YES
 L0000193         0   0.46729E-02  477797.5 3656129.6    60.9     5.00     4.65
2.33     YES
 L0000194         0   0.46729E-02  477807.2 3656127.2    60.3     5.00     4.65
2.33     YES
 L0000195         0   0.46729E-02  477816.2 3656125.9    58.1     5.00     4.65
2.33     YES
 L0000196         0   0.46729E-02  477818.3 3656135.7    59.0     5.00     4.65
2.33     YES
 L0000197         0   0.46729E-02  477820.4 3656145.4    59.3     5.00     4.65
2.33     YES
 L0000198         0   0.46729E-02  477822.6 3656155.2    58.7     5.00     4.65
2.33     YES
 L0000199         0   0.46729E-02  477824.7 3656165.0    57.1     5.00     4.65
2.33     YES
 L0000200         0   0.46729E-02  477821.5 3656171.6    57.4     5.00     4.65
2.33     YES
 *** AERMOD - VERSION 22112  ***   *** C:\Users\enuno\OneDrive -
Dudek\Desktop\HARP2\HARP\Encinitas_Sanctua ***        02/12/23
 *** AERMET - VERSION  22112 ***   ***
                      ***        20:07:49

                                 PAGE   7
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                                    *** 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
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 L0000201         0   0.46729E-02  477811.9 3656174.4    59.7     5.00     4.65
2.33     YES
 L0000202         0   0.46729E-02  477808.6 3656166.0    61.9     5.00     4.65
2.33     YES
 L0000203         0   0.46729E-02  477806.0 3656156.3    63.1     5.00     4.65
2.33     YES
 L0000204         0   0.46729E-02  477803.5 3656146.6    63.2     5.00     4.65
2.33     YES
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 L0000205         0   0.46729E-02  477800.9 3656137.0    63.0     5.00     4.65
2.33     YES
 L0000206         0   0.46729E-02  477807.5 3656132.4    62.0     5.00     4.65
2.33     YES
 L0000207         0   0.46729E-02  477813.0 3656136.7    61.0     5.00     4.65
2.33     YES
 L0000208         0   0.46729E-02  477815.3 3656146.5    61.0     5.00     4.65
2.33     YES
 L0000209         0   0.46729E-02  477817.7 3656156.2    60.3     5.00     4.65
2.33     YES
 L0000210         0   0.46729E-02  477820.1 3656165.9    58.2     5.00     4.65
2.33     YES
 L0000211         0   0.46729E-02  477813.6 3656168.9    60.0     5.00     4.65
2.33     YES
 L0000212         0   0.46729E-02  477811.5 3656159.2    62.2     5.00     4.65
2.33     YES
 L0000213         0   0.46729E-02  477809.3 3656149.4    62.5     5.00     4.65
2.33     YES
 L0000214         0   0.46729E-02  477807.2 3656139.6    62.5     5.00     4.65
2.33     YES
 *** AERMOD - VERSION 22112  ***   *** C:\Users\enuno\OneDrive -
Dudek\Desktop\HARP2\HARP\Encinitas_Sanctua ***        02/12/23
 *** AERMET - VERSION  22112 ***   ***
                       ***        20:07:49

                                  PAGE   8
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                          *** SOURCE IDs DEFINING SOURCE GROUPS ***

 SRCGROUP ID                                          SOURCE IDs
 -----------                                          ----------


  ALL        L0000001    , L0000002    , L0000003    , L0000004    , L0000005    ,
L0000006    , L0000007    , L0000008    ,

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L0000022    , L0000023    , L0000024    ,

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 *** AERMOD - VERSION 22112  ***   *** C:\Users\enuno\OneDrive -
Dudek\Desktop\HARP2\HARP\Encinitas_Sanctua ***        02/12/23
 *** AERMET - VERSION  22112 ***   ***
                      ***       20:07:49

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*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID | SOURCE IDs

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L0000169 , L0000170 , L0000171 , L0000172 , L0000173 , L0000174 , L0000175 , L0000176 ,

L0000177 , L0000178 , L0000179 , L0000180 , L0000181 , L0000182 , L0000183 , L0000184 ,

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L0000201 , L0000202 , L0000203 , L0000204 , L0000205 , L0000206 , L0000207 , L0000208 ,

L0000209 , L0000210 , L0000211 , L0000212 , L0000213 , L0000214 ,

*** SOURCE IDs DEFINED AS URBAN SOURCES ***

URBAN ID | URBAN POP | SOURCE IDs

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L0000009 , L0000010 , L0000011 , L0000012 , L0000013 ,

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L0000142    , L0000143    , L0000144    ,
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                                          *** SOURCE IDs DEFINED AS URBAN SOURCES
***

  URBAN ID   URBAN POP   SOURCE IDs
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L0000166   , L0000167   , L0000168   ,

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L0000174   , L0000175   , L0000176   ,

             L0000177   , L0000178   , L0000179   , L0000180   , L0000181   ,
L0000182   , L0000183   , L0000184   ,

             L0000185   , L0000186   , L0000187   , L0000188   , L0000189   ,
L0000190   , L0000191   , L0000192   ,

             L0000193   , L0000194   , L0000195   , L0000196   , L0000197   ,
L0000198   , L0000199   , L0000200   ,

             L0000201   , L0000202   , L0000203   , L0000204   , L0000205   ,
L0000206   , L0000207   , L0000208   ,

             L0000209   , L0000210   , L0000211   , L0000212   , L0000213   ,
L0000214   ,

                                              *** DISCRETE CARTESIAN RECEPTORS ***

(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(477841.4, 3656223.1, 58.1, 101.8, 0.0); (477884.1, 3656215.5, 53.8, 101.8, 0.0);
(477799.2, 3656239.3, 64.5, 101.8, 0.0); (477767.8, 3656252.2, 67.7, 101.8, 0.0);
(477881.3, 3656161.0, 51.0, 101.8, 0.0); (477928.7, 3656143.0, 47.4, 101.8, 0.0);
(477877.6, 3656112.6, 48.3, 101.8, 0.0); (477859.2, 3656047.8, 44.6, 101.8, 0.0);
(477843.2, 3656065.2, 45.2, 101.8, 0.0); (477822.8, 3656055.8, 44.3, 101.8, 0.0);
(477769.7, 3656067.2, 48.8, 101.8, 0.0); (477723.9, 3656083.2, 53.5, 101.8, 0.0);
(477686.8, 3656091.9, 59.4, 101.8, 0.0); (477657.5, 3656112.9, 63.1, 101.8, 0.0);
(477613.0, 3656131.6, 68.3, 101.8, 0.0); (477697.8, 3656267.2, 74.5, 101.8, 0.0);
(477941.0, 3656208.1, 48.6, 101.8, 0.0); (477968.5, 3656121.7, 42.2, 101.8, 0.0);
(477930.0, 3656071.4, 43.5, 101.8, 0.0); (477930.0, 3656071.4, 43.5, 101.8, 0.0);
(477909.1, 3656026.2, 41.4, 101.8, 0.0); (477551.5, 3656176.3, 93.3, 93.3, 0.0);
(477556.6, 3656194.0, 93.9, 95.0, 0.0); (477563.6, 3656214.0, 95.0, 95.0, 0.0);
(477568.4, 3656233.3, 96.2, 97.5, 0.0); (477575.8, 3656249.8, 97.4, 97.4, 0.0);
(477732.0, 3656324.5, 75.3, 101.8, 0.0); (477771.2, 3656319.9, 70.2, 101.8, 0.0);
(477799.3, 3656302.3, 65.6, 101.8, 0.0); (477848.0, 3656278.8, 60.4, 101.8, 0.0);
(477855.4, 3656304.0, 60.6, 101.8, 0.0); (477662.3, 3656312.4, 92.0, 101.8, 0.0);
(477646.7, 3656291.6, 91.9, 101.8, 0.0); (477595.9, 3656279.2, 97.1, 98.8, 0.0);
(477601.7, 3656295.7, 98.5, 98.5, 0.0); (477613.1, 3656310.2, 98.7, 98.7, 0.0);
(477616.8, 3656345.2, 99.4, 99.4, 0.0); (477618.0, 3656360.6, 100.3, 100.3, 0.0);
(477656.6, 3656372.5, 101.0, 101.0, 0.0); (477693.6, 3656356.7, 93.9, 101.8, 0.0);
(477826.1, 3656362.0, 63.8, 101.8, 0.0); (477760.6, 3656385.5, 76.8, 101.8, 0.0);
(477685.6, 3656397.6, 101.4, 101.4, 0.0); (477529.1, 3656164.5, 93.0, 93.0, 0.0);
(477507.5, 3656168.0, 93.0, 93.0, 0.0); (477912.2, 3656272.0, 52.7, 101.8, 0.0);
(477898.4, 3656260.3, 52.6, 101.8, 0.0); (477991.8,

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3655938.1,      56.8,     101.1,       0.0);
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3655838.2,      49.2,      99.1,       0.0);
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3656082.1,      82.2,      95.0,       0.0);
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3656261.0,      95.6,      98.4,       0.0);
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3656296.2,      98.4,      98.4,       0.0);
     ( 477553.6, 3656327.2,      98.8,      98.8,       0.0);         ( 477555.5,
3656350.3,      99.0,      99.0,       0.0);
     ( 477800.3, 3656428.1,      67.9,     101.8,       0.0);         ( 477875.9,
3656385.2,      61.4,     101.8,       0.0);
     ( 477831.0, 3656391.6,      64.4,     101.8,       0.0);         ( 477898.3,
3656364.1,      57.8,     101.8,       0.0);
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     ( 478012.9, 3656438.4,      44.4,     101.8,       0.0);         ( 477838.1,
3656479.3,      63.7,     101.8,       0.0);
     ( 477877.1, 3656481.3,      58.7,     101.8,       0.0);         ( 477858.6,
3656540.2,      63.1,     101.8,       0.0);
     ( 477797.1, 3656557.5,      68.4,     101.8,       0.0);         ( 477980.9,
3656506.2,      48.3,     101.8,       0.0);
     ( 478021.8, 3656533.1,      45.1,     102.0,       0.0);         ( 478071.8,
3656518.4,      41.2,     101.8,       0.0);
     ( 478101.2, 3656514.6,      40.4,     101.8,       0.0);         ( 478071.1,
3656478.7,      40.7,     101.8,       0.0);
     ( 478062.2, 3656435.8,      40.2,     101.8,       0.0);         ( 478019.9,
3656485.1,      44.3,     101.8,       0.0);
     ( 477516.5, 3656525.0,      97.4,      97.4,       0.0);         ( 477145.8,
3655768.7,      72.7,     101.0,       0.0);
     ( 477163.4, 3655768.7,      69.6,     101.0,       0.0);         ( 477181.1,
3655768.7,      69.1,     101.0,       0.0);
     ( 477198.8, 3655768.7,      68.8,     101.0,       0.0);         ( 477216.5,
3655768.7,      69.3,      98.8,       0.0);
     ( 477357.8, 3655768.7,      54.8,     100.5,       0.0);         ( 477393.1,
3655768.7,      54.9,      97.6,       0.0);
 *** AERMOD - VERSION 22112  ***   *** C:\Users\enuno\OneDrive -
Dudek\Desktop\HARP2\HARP\Encinitas_Sanctua ***        02/12/23
 *** AERMET - VERSION  22112 ***   ***
                       ***        20:07:49

                                  PAGE  13
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*
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*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(477410.8, 3655768.7, 54.3, 97.6, 0.0); (477428.5, 3655768.7, 47.7, 100.5, 0.0);
(477145.8, 3655796.4, 72.3, 101.0, 0.0); (477163.4, 3655796.4, 70.0, 101.0, 0.0);
(477181.1, 3655796.4, 69.3, 101.0, 0.0); (477198.8, 3655796.4, 69.2, 101.0, 0.0);
(477216.5, 3655796.4, 69.5, 98.8, 0.0); (477340.1, 3655796.4, 56.0, 100.5, 0.0);
(477393.1, 3655796.4, 56.6, 97.6, 0.0); (477410.8, 3655796.4, 55.4, 97.6, 0.0);
(477428.5, 3655796.4, 53.1, 97.6, 0.0); (477145.8, 3655824.2, 71.0, 101.1, 0.0);
(477163.4, 3655824.2, 70.1, 101.0, 0.0); (477181.1, 3655824.2, 69.6, 101.0, 0.0);
(477198.8, 3655824.2, 69.5, 100.4, 0.0); (477216.5, 3655824.2, 69.8, 98.8, 0.0);
(477304.8, 3655824.2, 59.2, 100.3, 0.0); (477322.5, 3655824.2, 58.3, 99.0, 0.0);
(477393.1, 3655824.2, 57.3, 97.6, 0.0); (477410.8, 3655824.2, 57.6, 97.5, 0.0);
(477428.5, 3655824.2, 57.4, 93.2, 0.0); (477145.8, 3655852.0, 71.1, 101.1, 0.0);
(477163.4, 3655852.0, 70.1, 101.0, 0.0); (477181.1, 3655852.0, 69.8, 101.0, 0.0);
(477198.8, 3655852.0, 70.2, 99.0, 0.0); (477287.1, 3655852.0, 62.1, 99.0, 0.0);
(477304.8, 3655852.0, 61.0, 98.8, 0.0); (477340.1, 3655852.0, 59.0, 97.6, 0.0);
(477357.8, 3655852.0, 58.6, 97.6, 0.0); (477375.5, 3655852.0, 58.0, 97.6, 0.0);
(477428.5, 3655852.0, 57.9, 94.8, 0.0); (477145.8, 3655879.8, 71.1, 101.1, 0.0);
(477163.4, 3655879.8, 70.7, 100.8, 0.0); (477181.1, 3655879.8, 70.8, 99.3, 0.0);
(477269.5, 3655879.8, 64.9, 98.8, 0.0); (477322.5, 3655879.8, 62.1, 97.6, 0.0);
(477340.1, 3655879.8, 61.9, 97.6, 0.0); (477357.8, 3655879.8, 60.4, 97.6, 0.0);
(477375.5, 3655879.8, 58.0, 97.6, 0.0); (477393.1, 3655879.8, 58.1, 97.6, 0.0);
(477428.5, 3655879.8, 58.0, 97.5, 0.0); (477446.2, 3655879.8, 58.7, 97.5, 0.0);
(477463.8, 3655879.8, 56.0, 98.8, 0.0); (477481.5, 3655879.8, 54.3, 98.8, 0.0);
(477499.2, 3655879.8, 53.2, 99.1, 0.0); (477145.8,

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3655907.6,      71.8,     100.7,       0.0);
     ( 477163.4, 3655907.6,      71.5,      99.6,       0.0);         ( 477181.1,
3655907.6,      71.0,      99.3,       0.0);
     ( 477251.8, 3655907.6,      67.9,      97.6,       0.0);         ( 477304.8,
3655907.6,      65.0,      97.6,       0.0);
     ( 477322.5, 3655907.6,      64.3,      97.6,       0.0);         ( 477340.1,
3655907.6,      65.4,      91.0,       0.0);
     ( 477357.8, 3655907.6,      66.3,      91.0,       0.0);         ( 477375.5,
3655907.6,      61.3,      94.8,       0.0);
     ( 477393.1, 3655907.6,      58.7,      98.2,       0.0);         ( 477428.5,
3655907.6,      58.8,      98.7,       0.0);
     ( 477446.2, 3655907.6,      59.3,      98.7,       0.0);         ( 477463.8,
3655907.6,      59.5,      98.7,       0.0);
     ( 477481.5, 3655907.6,      56.7,      98.8,       0.0);         ( 477499.2,
3655907.6,      54.2,     100.7,       0.0);
     ( 477234.1, 3655935.3,      70.2,      97.6,       0.0);         ( 477287.1,
3655935.3,      67.8,      88.5,       0.0);
     ( 477304.8, 3655935.3,      66.6,      91.0,       0.0);         ( 477322.5,
3655935.3,      67.8,      91.0,       0.0);
     ( 477340.1, 3655935.3,      72.7,      88.4,       0.0);         ( 477357.8,
3655935.3,      74.2,      88.4,       0.0);
     ( 477375.5, 3655935.3,      66.8,      93.2,       0.0);         ( 477393.1,
3655935.3,      60.4,      98.3,       0.0);
     ( 477410.8, 3655935.3,      60.5,      98.7,       0.0);         ( 477446.2,
3655935.3,      61.4,      98.7,       0.0);
     ( 477463.8, 3655935.3,      61.9,      98.8,       0.0);         ( 477481.5,
3655935.3,      59.3,      98.8,       0.0);
     ( 477499.2, 3655935.3,      56.7,     100.7,       0.0);         ( 477216.5,
3655963.1,      72.2,      97.5,       0.0);
     ( 477269.5, 3655963.1,      69.9,      88.5,       0.0);         ( 477287.1,
3655963.1,      69.4,      91.0,       0.0);
     ( 477304.8, 3655963.1,      72.4,      88.5,       0.0);         ( 477322.5,
3655963.1,      75.1,      88.4,       0.0);
     ( 477340.1, 3655963.1,      74.4,      88.5,       0.0);         ( 477357.8,
3655963.1,      75.4,      88.4,       0.0);
     ( 477375.5, 3655963.1,      71.0,      91.0,       0.0);         ( 477393.1,
3655963.1,      63.8,      98.2,       0.0);
     ( 477410.8, 3655963.1,      62.5,      98.7,       0.0);         ( 477463.8,
3655963.1,      63.4,      98.8,       0.0);
     ( 477481.5, 3655963.1,      64.1,      98.8,       0.0);         ( 477499.2,
3655963.1,      59.2,     100.7,       0.0);
     ( 477251.8, 3655990.9,      72.6,      88.4,       0.0);         ( 477269.5,
3655990.9,      71.6,      88.5,       0.0);
     ( 477287.1, 3655990.9,      74.8,      88.4,       0.0);         ( 477304.8,
3655990.9,      79.6,      83.2,       0.0);
 *** AERMOD - VERSION 22112  ***   *** C:\Users\enuno\OneDrive -
Dudek\Desktop\HARP2\HARP\Encinitas_Sanctua ***        02/12/23
 *** AERMET - VERSION  22112 ***   ***
                      ***       20:07:49
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(477322.5, 3655990.9, 81.5, 83.2, 0.0); (477340.1, 3655990.9, 81.7, 83.4, 0.0);
(477357.8, 3655990.9, 81.8, 83.4, 0.0); (477375.5, 3655990.9, 74.3, 91.0, 0.0);
(477393.1, 3655990.9, 68.6, 94.8, 0.0); (477410.8, 3655990.9, 63.8, 98.8, 0.0);
(477428.5, 3655990.9, 64.6, 98.8, 0.0); (477481.5, 3655990.9, 66.0, 98.8, 0.0);
(477499.2, 3655990.9, 62.7, 100.5, 0.0); (477269.5, 3656018.7, 78.5, 88.3, 0.0);
(477287.1, 3656018.7, 82.1, 82.1, 0.0); (477304.8, 3656018.7, 82.9, 82.9, 0.0);
(477322.5, 3656018.7, 82.9, 82.9, 0.0); (477340.1, 3656018.7, 83.2, 83.2, 0.0);
(477357.8, 3656018.7, 83.2, 83.2, 0.0); (477375.5, 3656018.7, 82.4, 88.4, 0.0);
(477393.1, 3656018.7, 76.9, 91.0, 0.0); (477410.8, 3656018.7, 70.4, 96.0, 0.0);
(477428.5, 3656018.7, 71.6, 95.0, 0.0); (477481.5, 3656018.7, 68.0, 98.8, 0.0);
(477499.2, 3656018.7, 67.8, 98.8, 0.0); (477145.8, 3656046.5, 80.5, 81.5, 0.0);
(477163.4, 3656046.5, 81.3, 81.3, 0.0); (477181.1, 3656046.5, 81.3, 81.3, 0.0);
(477198.8, 3656046.5, 81.2, 81.2, 0.0); (477216.5, 3656046.5, 81.1, 81.1, 0.0);
(477269.5, 3656046.5, 81.5, 81.5, 0.0); (477287.1, 3656046.5, 81.7, 81.7, 0.0);
(477304.8, 3656046.5, 81.8, 88.3, 0.0); (477322.5, 3656046.5, 82.1, 88.4, 0.0);
(477340.1, 3656046.5, 82.8, 88.4, 0.0); (477357.8, 3656046.5, 83.2, 88.4, 0.0);
(477375.5, 3656046.5, 83.3, 88.5, 0.0); (477393.1, 3656046.5, 78.0, 93.2, 0.0);
(477410.8, 3656046.5, 75.9, 94.8, 0.0); (477428.5, 3656046.5, 72.3, 98.2, 0.0);
(477446.2, 3656046.5, 70.2, 98.8, 0.0); (477499.2, 3656046.5, 70.1, 98.8, 0.0);
(477145.8, 3656074.2, 81.5, 81.5, 0.0); (477163.4, 3656074.2, 80.9, 80.9, 0.0);
(477181.1, 3656074.2, 80.6, 80.6, 0.0); (477198.8, 3656074.2, 80.6, 80.6, 0.0);
(477216.5, 3656074.2, 81.2, 81.2, 0.0); (477234.1,

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3656074.2,      81.2,      81.6,       0.0);
     ( 477287.1, 3656074.2,      80.8,      88.4,       0.0);         ( 477304.8,
3656074.2,      81.8,      88.4,       0.0);
     ( 477322.5, 3656074.2,      82.5,      88.4,       0.0);         ( 477340.1,
3656074.2,      84.4,      88.4,       0.0);
     ( 477357.8, 3656074.2,      87.1,      88.3,       0.0);         ( 477375.5,
3656074.2,      88.3,      88.3,       0.0);
     ( 477393.1, 3656074.2,      85.3,      88.5,       0.0);         ( 477410.8,
3656074.2,      77.8,      94.8,       0.0);
     ( 477428.5, 3656074.2,      76.9,      94.8,       0.0);         ( 477446.2,
3656074.2,      74.1,      98.7,       0.0);
     ( 477463.8, 3656074.2,      70.3,      99.1,       0.0);         ( 477481.5,
3656074.2,      70.5,      99.1,       0.0);
     ( 477499.2, 3656074.2,      70.7,      99.1,       0.0);         ( 477145.8,
3656102.0,      80.8,      80.8,       0.0);
     ( 477163.4, 3656102.0,      80.7,      80.7,       0.0);         ( 477181.1,
3656102.0,      81.4,      81.4,       0.0);
     ( 477198.8, 3656102.0,      81.5,      81.5,       0.0);         ( 477216.5,
3656102.0,      82.0,      82.0,       0.0);
     ( 477234.1, 3656102.0,      82.2,      82.2,       0.0);         ( 477287.1,
3656102.0,      81.2,      88.4,       0.0);
     ( 477304.8, 3656102.0,      81.6,      88.4,       0.0);         ( 477322.5,
3656102.0,      86.6,      88.3,       0.0);
     ( 477340.1, 3656102.0,      88.1,      88.1,       0.0);         ( 477357.8,
3656102.0,      88.2,      88.2,       0.0);
     ( 477375.5, 3656102.0,      88.3,      88.3,       0.0);         ( 477393.1,
3656102.0,      88.1,      88.1,       0.0);
     ( 477410.8, 3656102.0,      83.8,      91.1,       0.0);         ( 477428.5,
3656102.0,      87.5,      91.0,       0.0);
     ( 477446.2, 3656102.0,      78.5,      98.2,       0.0);         ( 477463.8,
3656102.0,      71.8,      99.1,       0.0);
     ( 477481.5, 3656102.0,      73.3,      99.1,       0.0);         ( 477499.2,
3656102.0,      74.3,      99.1,       0.0);
     ( 477145.8, 3656129.8,      81.4,      81.4,       0.0);         ( 477163.4,
3656129.8,      81.7,      81.7,       0.0);
     ( 477181.1, 3656129.8,      81.8,      81.8,       0.0);         ( 477198.8,
3656129.8,      81.3,      81.3,       0.0);
     ( 477216.5, 3656129.8,      81.5,      85.4,       0.0);         ( 477234.1,
3656129.8,      82.3,      82.3,       0.0);
     ( 477251.8, 3656129.8,      82.7,      85.2,       0.0);         ( 477375.5,
3656129.8,      87.9,      87.9,       0.0);
     ( 477393.1, 3656129.8,      88.3,      91.0,       0.0);         ( 477410.8,
3656129.8,      90.5,      91.0,       0.0);
     ( 477428.5, 3656129.8,      84.3,      94.8,       0.0);         ( 477446.2,
3656129.8,      82.1,      94.8,       0.0);
     ( 477463.8, 3656129.8,      78.1,      98.8,       0.0);         ( 477481.5,
3656129.8,      83.3,      96.0,       0.0);
 *** AERMOD - VERSION 22112  ***   *** C:\Users\enuno\OneDrive -
Dudek\Desktop\HARP2\HARP\Encinitas_Sanctua ***        02/12/23
 *** AERMET - VERSION  22112 ***   ***
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(477499.2, 3656129.8, 82.7, 98.2, 0.0); (477145.8, 3656157.6, 81.9, 83.2, 0.0);
(477163.4, 3656157.6, 83.5, 83.5, 0.0); (477181.1, 3656157.6, 83.0, 84.1, 0.0);
(477198.8, 3656157.6, 82.4, 86.2, 0.0); (477216.5, 3656157.6, 82.6, 86.4, 0.0);
(477234.1, 3656157.6, 83.8, 85.5, 0.0); (477251.8, 3656157.6, 85.1, 85.1, 0.0);
(477357.8, 3656157.6, 88.1, 91.0, 0.0); (477375.5, 3656157.6, 88.8, 91.1, 0.0);
(477393.1, 3656157.6, 90.7, 90.7, 0.0); (477410.8, 3656157.6, 91.0, 91.0, 0.0);
(477428.5, 3656157.6, 90.5, 90.5, 0.0); (477446.2, 3656157.6, 90.3, 90.3, 0.0);
(477463.8, 3656157.6, 89.0, 93.5, 0.0); (477481.5, 3656157.6, 90.6, 93.3, 0.0);
(477499.2, 3656157.6, 93.0, 93.0, 0.0); (477163.4, 3656185.4, 84.1, 84.2, 0.0);
(477181.1, 3656185.4, 84.1, 84.1, 0.0); (477198.8, 3656185.4, 84.8, 84.8, 0.0);
(477216.5, 3656185.4, 85.9, 85.9, 0.0); (477234.1, 3656185.4, 86.2, 86.2, 0.0);
(477251.8, 3656185.4, 86.1, 86.1, 0.0); (477269.5, 3656185.4, 86.0, 86.0, 0.0);
(477446.2, 3656185.4, 90.7, 94.8, 0.0); (477463.8, 3656185.4, 90.9, 94.8, 0.0);
(477481.5, 3656185.4, 92.8, 93.3, 0.0); (477499.2, 3656185.4, 93.1, 93.1, 0.0);
(477145.8, 3656213.1, 84.0, 84.0, 0.0); (477198.8, 3656213.1, 85.3, 85.3, 0.0);
(477216.5, 3656213.1, 86.4, 86.4, 0.0); (477234.1, 3656213.1, 86.7, 87.5, 0.0);
(477251.8, 3656213.1, 87.2, 87.2, 0.0); (477269.5, 3656213.1, 87.2, 87.2, 0.0);
(477410.8, 3656213.1, 91.5, 91.5, 0.0); (477428.5, 3656213.1, 91.4, 94.2, 0.0);
(477446.2, 3656213.1, 91.8, 94.8, 0.0); (477463.8, 3656213.1, 93.7, 94.4, 0.0);
(477481.5, 3656213.1, 94.6, 94.8, 0.0); (477499.2, 3656213.1, 93.8, 93.8, 0.0);
(477145.8, 3656240.9, 84.2, 85.5, 0.0); (477163.4,

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3656240.9,      85.2,      85.2,       0.0);
     ( 477181.1, 3656240.9,      85.9,      85.9,       0.0);         ( 477234.1,
3656240.9,      87.5,      87.5,       0.0);
     ( 477251.8, 3656240.9,      88.1,      88.1,       0.0);         ( 477269.5,
3656240.9,      88.6,      88.6,       0.0);
     ( 477287.1, 3656240.9,      88.3,      88.3,       0.0);         ( 477304.8,
3656240.9,      88.3,      88.3,       0.0);
     ( 477446.2, 3656240.9,      93.9,      93.9,       0.0);         ( 477463.8,
3656240.9,      94.1,      94.1,       0.0);
     ( 477481.5, 3656240.9,      94.1,      94.1,       0.0);         ( 477499.2,
3656240.9,      94.4,      94.4,       0.0);
     ( 477145.8, 3656268.7,      84.5,      84.5,       0.0);         ( 477163.4,
3656268.7,      85.5,      85.5,       0.0);
     ( 477181.1, 3656268.7,      86.6,      86.6,       0.0);         ( 477198.8,
3656268.7,      87.3,      87.3,       0.0);
     ( 477216.5, 3656268.7,      87.5,      87.5,       0.0);         ( 477269.5,
3656268.7,      89.2,      89.2,       0.0);
     ( 477287.1, 3656268.7,      89.7,      89.7,       0.0);         ( 477322.5,
3656268.7,      89.0,      89.0,       0.0);
     ( 477340.1, 3656268.7,      89.1,      89.1,       0.0);         ( 477463.8,
3656268.7,      93.8,      93.8,       0.0);
     ( 477481.5, 3656268.7,      94.0,      94.0,       0.0);         ( 477499.2,
3656268.7,      94.7,      98.1,       0.0);
     ( 477163.4, 3656296.5,      85.4,      85.4,       0.0);         ( 477181.1,
3656296.5,      86.2,      86.2,       0.0);
     ( 477198.8, 3656296.5,      86.9,      89.0,       0.0);         ( 477216.5,
3656296.5,      88.6,      89.4,       0.0);
     ( 477234.1, 3656296.5,      89.4,      89.4,       0.0);         ( 477251.8,
3656296.5,      89.5,      89.5,       0.0);
     ( 477304.8, 3656296.5,      89.9,      89.9,       0.0);         ( 477322.5,
3656296.5,      89.8,      89.8,       0.0);
     ( 477340.1, 3656296.5,      90.1,      90.1,       0.0);         ( 477357.8,
3656296.5,      90.0,      90.0,       0.0);
     ( 477481.5, 3656296.5,      94.1,      98.0,       0.0);         ( 477499.2,
3656296.5,      94.6,      98.5,       0.0);
     ( 477145.8, 3656324.3,      87.5,      87.5,       0.0);         ( 477198.8,
3656324.3,      88.3,      88.3,       0.0);
     ( 477216.5, 3656324.3,      89.1,      89.1,       0.0);         ( 477234.1,
3656324.3,      89.6,      89.6,       0.0);
     ( 477251.8, 3656324.3,      89.6,      89.6,       0.0);         ( 477269.5,
3656324.3,      89.9,      89.9,       0.0);
     ( 477287.1, 3656324.3,      90.4,      90.4,       0.0);         ( 477304.8,
3656324.3,      90.3,      90.3,       0.0);
     ( 477322.5, 3656324.3,      90.7,      90.7,       0.0);         ( 477340.1,
3656324.3,      91.0,      91.0,       0.0);
     ( 477357.8, 3656324.3,      90.9,      90.9,       0.0);         ( 477375.5,
3656324.3,      90.6,      90.6,       0.0);
     ( 477481.5, 3656324.3,      94.4,      94.4,       0.0);         ( 477499.2,
3656324.3,      94.7,      98.5,       0.0);
 *** AERMOD - VERSION 22112  ***   *** C:\Users\enuno\OneDrive -
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*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

(477114.7, 3655983.8, 73.7, 99.6, 0.0); (477201.6, 3656328.3, 88.6, 88.6, 0.0);
(477226.3, 3656328.3, 89.1, 89.1, 0.0); (477250.9, 3656328.3, 89.6, 89.6, 0.0);
(477275.6, 3656328.3, 90.5, 90.5, 0.0); (477300.3, 3656328.3, 90.3, 90.3, 0.0);
(477325.0, 3656328.3, 90.6, 90.6, 0.0); (477349.7, 3656328.3, 91.0, 91.0, 0.0);
(477374.3, 3656328.3, 90.8, 90.8, 0.0); (477497.7, 3656328.3, 94.7, 98.5, 0.0);
(477522.4, 3656328.3, 96.6, 98.5, 0.0); (477547.1, 3656328.3, 98.8, 98.8, 0.0);
(477621.1, 3656328.3, 99.1, 99.1, 0.0); (477645.8, 3656328.3, 95.7, 101.8, 0.0);
(477152.2, 3656345.0, 87.3, 87.3, 0.0); (477201.6, 3656345.0, 88.4, 88.4, 0.0);
(477226.3, 3656345.0, 89.1, 89.1, 0.0); (477250.9, 3656345.0, 89.6, 89.6, 0.0);
(477275.6, 3656345.0, 90.3, 90.3, 0.0); (477300.3, 3656345.0, 90.5, 90.5, 0.0);
(477325.0, 3656345.0, 90.6, 90.6, 0.0); (477349.7, 3656345.0, 91.1, 91.1, 0.0);
(477374.3, 3656345.0, 91.2, 91.2, 0.0); (477497.7, 3656345.0, 94.6, 94.6, 0.0);
(477522.4, 3656345.0, 95.5, 99.1, 0.0); (477547.1, 3656345.0, 98.8, 98.8, 0.0);
(477571.8, 3656345.0, 98.9, 98.9, 0.0); (477596.5, 3656345.0, 99.0, 99.0, 0.0);
(477621.1, 3656345.0, 99.5, 100.6, 0.0); (477645.8, 3656345.0, 100.6, 100.6, 0.0);
(477325.0, 3656361.7, 90.3, 90.3, 0.0); (477349.7, 3656361.7, 91.1, 91.1, 0.0);
(477374.3, 3656361.7, 91.6, 91.6, 0.0); (477497.7, 3656361.7, 95.5, 95.5, 0.0);
(477522.4, 3656361.7, 96.2, 99.0, 0.0); (477547.1, 3656361.7, 99.0, 99.0, 0.0);
(477571.8, 3656361.7, 99.1, 99.1, 0.0); (477596.5, 3656361.7, 98.8, 100.0, 0.0);
(477621.1, 3656361.7, 100.4, 100.4, 0.0); (477645.8,

```
3656361.7,     100.8,     100.8,       0.0);
     ( 477325.0, 3656378.4,      90.4,      90.4,       0.0);         ( 477349.7,
3656378.4,      90.7,      90.7,       0.0);
     ( 477374.3, 3656378.4,      92.0,      92.0,       0.0);         ( 477497.7,
3656378.4,      95.5,      95.5,       0.0);
     ( 477522.4, 3656378.4,      96.2,     100.0,       0.0);         ( 477547.1,
3656378.4,      99.1,      99.1,       0.0);
     ( 477596.5, 3656378.4,      98.9,     100.6,       0.0);         ( 477621.1,
3656378.4,     100.5,     100.5,       0.0);
     ( 477645.8, 3656378.4,     101.0,     101.0,       0.0);         ( 477152.2,
3656395.1,      87.3,      87.3,       0.0);
     ( 477176.9, 3656395.1,      88.1,      88.1,       0.0);         ( 477201.6,
3656395.1,      88.8,      88.8,       0.0);
     ( 477226.3, 3656395.1,      89.3,      89.3,       0.0);         ( 477250.9,
3656395.1,      89.6,      89.6,       0.0);
     ( 477275.6, 3656395.1,      90.2,      90.2,       0.0);         ( 477300.3,
3656395.1,      90.5,      90.5,       0.0);
     ( 477325.0, 3656395.1,      90.6,      90.6,       0.0);         ( 477349.7,
3656395.1,      90.9,      92.4,       0.0);
     ( 477374.3, 3656395.1,      92.2,      92.2,       0.0);         ( 477448.4,
3656395.1,      94.6,      94.6,       0.0);
     ( 477497.7, 3656395.1,      95.1,      96.8,       0.0);         ( 477522.4,
3656395.1,      96.7,     100.0,       0.0);
     ( 477547.1, 3656395.1,      98.4,     100.0,       0.0);         ( 477571.8,
3656395.1,      99.7,      99.7,       0.0);
     ( 477596.5, 3656395.1,     100.0,     100.0,       0.0);         ( 477621.1,
3656395.1,     100.7,     100.7,       0.0);
     ( 477645.8, 3656395.1,     101.1,     101.1,       0.0);         ( 477152.2,
3656411.8,      88.4,      88.4,       0.0);
     ( 477176.9, 3656411.8,      88.5,      88.5,       0.0);         ( 477201.6,
3656411.8,      88.8,      88.8,       0.0);
     ( 477226.3, 3656411.8,      89.1,      89.1,       0.0);         ( 477250.9,
3656411.8,      89.9,      89.9,       0.0);
     ( 477275.6, 3656411.8,      90.3,      90.3,       0.0);         ( 477300.3,
3656411.8,      90.9,      90.9,       0.0);
     ( 477325.0, 3656411.8,      91.4,      91.4,       0.0);         ( 477349.7,
3656411.8,      91.9,      91.9,       0.0);
     ( 477374.3, 3656411.8,      92.2,      92.2,       0.0);         ( 477423.7,
3656411.8,      94.0,      94.0,       0.0);
     ( 477448.4, 3656411.8,      94.5,      94.5,       0.0);         ( 477497.7,
3656411.8,      95.3,      96.5,       0.0);
     ( 477522.4, 3656411.8,      96.7,     100.0,       0.0);         ( 477547.1,
3656411.8,      97.6,     100.7,       0.0);
     ( 477571.8, 3656411.8,     100.0,     100.0,       0.0);         ( 477596.5,
3656411.8,     100.1,     100.1,       0.0);
     ( 477621.1, 3656411.8,     100.8,     100.8,       0.0);         ( 477645.8,
3656411.8,     101.0,     101.0,       0.0);
     ( 477152.2, 3656428.5,      88.0,      88.0,       0.0);         ( 477176.9,
3656428.5,      88.1,      91.4,       0.0);
     ( 477201.6, 3656428.5,      88.5,      91.8,       0.0);         ( 477226.3,
```

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

     (477250.9, 3656428.5,   89.7,   89.7,   0.0);   (477275.6,
3656428.5,   90.0,   90.0,   0.0);
     (477300.3, 3656428.5,   90.8,   90.8,   0.0);   (477325.0,
3656428.5,   91.2,   91.2,   0.0);
     (477349.7, 3656428.5,   91.6,   91.6,   0.0);   (477374.3,
3656428.5,   92.0,   92.0,   0.0);
     (477497.7, 3656428.5,   95.4,   95.4,   0.0);   (477522.4,
3656428.5,   96.4,   96.4,   0.0);
     (477547.1, 3656428.5,   97.2,   100.7,   0.0);   (477571.8,
3656428.5,   100.6,   100.6,   0.0);
     (477596.5, 3656428.5,   100.4,   100.4,   0.0);   (477621.1,
3656428.5,   99.9,   99.9,   0.0);
     (477645.8, 3656428.5,   100.8,   100.8,   0.0);   (477497.7,
3656445.2,   95.6,   95.6,   0.0);
     (477522.4, 3656445.2,   96.3,   96.3,   0.0);   (477547.1,
3656445.2,   97.0,   100.7,   0.0);
     (477571.8, 3656445.2,   100.6,   100.6,   0.0);   (477596.5,
3656445.2,   100.3,   100.3,   0.0);
     (477621.1, 3656445.2,   99.5,   100.7,   0.0);   (477645.8,
3656445.2,   100.1,   100.1,   0.0);
     (477152.2, 3656461.9,   89.8,   89.8,   0.0);   (477497.7,
3656461.9,   96.2,   96.2,   0.0);
     (477522.4, 3656461.9,   96.7,   96.7,   0.0);   (477547.1,
3656461.9,   97.1,   100.7,   0.0);
     (477571.8, 3656461.9,   100.4,   100.4,   0.0);   (477596.5,
3656461.9,   100.2,   100.2,   0.0);
     (477621.1, 3656461.9,   99.2,   99.2,   0.0);   (477645.8,
3656461.9,   99.4,   99.4,   0.0);
     (477152.2, 3656478.6,   89.9,   89.9,   0.0);   (477497.7,
3656478.6,   96.3,   96.3,   0.0);
     (477522.4, 3656478.6,   96.7,   98.4,   0.0);   (477547.1,
3656478.6,   97.3,   100.5,   0.0);
     (477571.8, 3656478.6,   98.8,   100.6,   0.0);   (477596.5,
3656478.6,   100.1,   100.1,   0.0);
     (477621.1, 3656478.6,   99.0,   99.0,   0.0);   (477645.8,
3656478.6,   99.2,   99.2,   0.0);
     (477152.2, 3656495.3,   89.7,   89.7,   0.0);   (477497.7,

```
3656495.3,      96.6,      96.6,       0.0);
     ( 477522.4, 3656495.3,      98.0,      98.0,       0.0);         ( 477547.1,
3656495.3,      98.4,      98.4,       0.0);
     ( 477571.8, 3656495.3,      98.9,     100.4,       0.0);         ( 477596.5,
3656495.3,     100.1,     100.1,       0.0);
     ( 477621.1, 3656495.3,      98.8,      98.8,       0.0);         ( 477645.8,
3656495.3,      99.0,      99.0,       0.0);
     ( 477152.2, 3656512.0,      89.8,      89.8,       0.0);         ( 477176.9,
3656512.0,      90.1,      92.4,       0.0);
     ( 477300.3, 3656512.0,      93.3,      93.3,       0.0);         ( 477325.0,
3656512.0,      93.7,      93.7,       0.0);
     ( 477349.7, 3656512.0,      93.7,      93.7,       0.0);         ( 477374.3,
3656512.0,      93.7,      93.7,       0.0);
     ( 477399.0, 3656512.0,      93.6,      93.6,       0.0);         ( 477522.4,
3656512.0,      97.7,      97.7,       0.0);
     ( 477547.1, 3656512.0,      98.3,      98.3,       0.0);         ( 477571.8,
3656512.0,      98.7,     100.2,       0.0);
     ( 477596.5, 3656512.0,      99.9,      99.9,       0.0);         ( 477621.1,
3656512.0,      99.2,      99.2,       0.0);
     ( 477645.8, 3656512.0,      99.1,      99.5,       0.0);         ( 477176.9,
3656528.7,      91.3,      92.3,       0.0);
     ( 477300.3, 3656528.7,      93.1,      93.1,       0.0);         ( 477325.0,
3656528.7,      93.7,      93.7,       0.0);
     ( 477349.7, 3656528.7,      93.7,      93.7,       0.0);         ( 477374.3,
3656528.7,      93.7,      93.7,       0.0);
     ( 477399.0, 3656528.7,      93.7,      93.7,       0.0);         ( 477522.4,
3656528.7,      97.6,      97.6,       0.0);
     ( 477547.1, 3656528.7,      97.9,      97.9,       0.0);         ( 477571.8,
3656528.7,      98.5,      98.5,       0.0);
     ( 477596.5, 3656528.7,      98.5,     100.0,       0.0);         ( 477621.1,
3656528.7,      98.1,      99.9,       0.0);
     ( 477645.8, 3656528.7,      98.2,      98.2,       0.0);         ( 477176.9,
3656545.4,      92.3,      92.3,       0.0);
     ( 477300.3, 3656545.4,      93.2,      93.2,       0.0);         ( 477325.0,
3656545.4,      93.7,      93.7,       0.0);
     ( 477349.7, 3656545.4,      93.5,      93.5,       0.0);         ( 477374.3,
3656545.4,      93.3,      93.3,       0.0);
     ( 477399.0, 3656545.4,      93.7,      93.7,       0.0);         ( 477423.7,
3656545.4,      94.3,      94.3,       0.0);
     ( 477522.4, 3656545.4,      97.6,      97.6,       0.0);         ( 477547.1,
3656545.4,      98.0,      98.0,       0.0);
     ( 477571.8, 3656545.4,      98.6,      98.6,       0.0);         ( 477596.5,
3656545.4,      97.6,      98.6,       0.0);
     ( 477621.1, 3656545.4,      97.4,      97.4,       0.0);         ( 477645.8,
3656545.4,      97.7,      97.7,       0.0);
     ( 477176.9, 3656562.1,      92.0,      92.0,       0.0);         ( 477300.3,
3656562.1,      93.2,      93.2,       0.0);
     ( 477325.0, 3656562.1,      93.6,      93.6,       0.0);         ( 477349.7,
3656562.1,      93.7,      93.7,       0.0);
     ( 477374.3, 3656562.1,      93.7,      93.7,       0.0);         ( 477399.0,
```

3656562.1,   93.7,   93.7,   0.0);
     (477423.7, 3656562.1,   93.7,   98.5,   0.0);   (477522.4,
3656562.1,   97.9,   97.9,   0.0);

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                  (METERS)

     (477547.1, 3656562.1,   98.3,   98.3,   0.0);   (477571.8,
3656562.1,   98.6,   98.8,   0.0);
     (477596.5, 3656562.1,   97.3,   97.3,   0.0);   (477621.1,
3656562.1,   96.6,   96.6,   0.0);
     (477645.8, 3656562.1,   97.3,   97.3,   0.0);   (477176.9,
3656578.8,   92.3,   92.3,   0.0);
     (477201.6, 3656578.8,   92.3,   92.3,   0.0);   (477325.0,
3656578.8,   93.5,   93.5,   0.0);
     (477349.7, 3656578.8,   93.7,   93.7,   0.0);   (477374.3,
3656578.8,   93.7,   93.7,   0.0);
     (477399.0, 3656578.8,   93.6,   93.6,   0.0);   (477423.7,
3656578.8,   93.7,   99.0,   0.0);
     (477547.1, 3656578.8,   98.4,   98.4,   0.0);   (477571.8,
3656578.8,   97.8,   97.8,   0.0);
     (477596.5, 3656578.8,   97.4,   97.4,   0.0);   (477621.1,
3656578.8,   96.4,   96.4,   0.0);
     (477645.8, 3656578.8,   97.1,   97.1,   0.0);   (477201.6,
3656595.5,   92.5,   94.5,   0.0);
     (477547.1, 3656595.5,   98.4,   98.4,   0.0);   (477571.8,
3656595.5,   97.8,   97.8,   0.0);
     (477596.5, 3656595.5,   96.9,   96.9,   0.0);   (477621.1,
3656595.5,   96.8,   96.8,   0.0);
     (477645.8, 3656595.5,   97.1,   97.1,   0.0);   (477152.2,
3656612.2,   94.0,   96.8,   0.0);
     (477201.6, 3656612.2,   94.5,   94.5,   0.0);   (477547.1,
3656612.2,   98.5,   98.5,   0.0);
     (477571.8, 3656612.2,   97.6,   97.6,   0.0);   (477596.5,
3656612.2,   96.8,   96.8,   0.0);
     (477621.1, 3656612.2,   97.3,   97.3,   0.0);   (477645.8,
3656612.2,   97.3,   97.3,   0.0);
     (477152.2, 3656628.9,   95.0,   95.0,   0.0);   (477201.6,
3656628.9,   94.7,   96.0,   0.0);
     (477547.1, 3656628.9,   98.2,   98.2,   0.0);   (477571.8,
3656628.9,   98.1,   99.0,   0.0);
     (477596.5, 3656628.9,   97.6,   97.6,   0.0);   (477621.1,

```
3656628.9,      97.3,      97.3,       0.0);
     ( 477645.8, 3656628.9,      97.8,      97.8,       0.0);         ( 477152.2,
3656645.6,      95.0,      95.0,       0.0);
     ( 477226.3, 3656645.6,      96.2,      96.2,       0.0);         ( 477250.9,
3656645.6,      97.8,      97.8,       0.0);
     ( 477571.8, 3656645.6,      99.1,      99.1,       0.0);         ( 477596.5,
3656645.6,      97.9,      97.9,       0.0);
     ( 477621.1, 3656645.6,      97.0,      97.0,       0.0);         ( 477645.8,
3656645.6,      97.9,      97.9,       0.0);
     ( 477152.2, 3656662.3,      95.2,     100.5,       0.0);         ( 477176.9,
3656662.3,      95.1,     100.5,       0.0);
     ( 477226.3, 3656662.3,      96.5,      97.4,       0.0);         ( 477250.9,
3656662.3,      97.7,      99.5,       0.0);
     ( 477275.6, 3656662.3,      99.6,      99.6,       0.0);         ( 477300.3,
3656662.3,      99.2,      99.2,       0.0);
     ( 477571.8, 3656662.3,      99.4,      99.4,       0.0);         ( 477596.5,
3656662.3,      97.9,      97.9,       0.0);
     ( 477621.1, 3656662.3,      97.2,      97.2,       0.0);         ( 477645.8,
3656662.3,      97.8,      97.8,       0.0);
     ( 477421.2, 3656372.6,      93.2,      93.2,       0.0);         ( 477559.3,
3656388.3,      99.6,      99.6,       0.0);
     ( 477319.9, 3656674.0,      99.5,      99.5,       0.0);         ( 477344.0,
3656677.8,     100.0,     100.0,       0.0);
     ( 477368.1, 3656684.5,     100.3,     100.3,       0.0);         ( 477396.7,
3656689.1,     100.5,     100.5,       0.0);
     ( 477431.4, 3656698.9,     100.8,     100.8,       0.0);         ( 477571.5,
3656690.6,      99.8,      99.8,       0.0);
     ( 477603.9, 3656690.6,      97.8,      97.8,       0.0);         ( 477657.4,
3656687.6,      97.8,      97.8,       0.0);
     ( 477758.4, 3656642.8,      73.7,     101.8,       0.0);         ( 477748.6,
3656612.3,      70.4,     102.0,       0.0);
     ( 477888.1, 3655990.0,      38.6,     101.8,       0.0);         ( 477889.4,
3655769.8,      25.8,     101.8,       0.0);
     ( 477434.1, 3655867.7,      58.0,      96.0,       0.0);         ( 477466.7,
3655808.8,      48.5,      98.8,       0.0);
     ( 477495.5, 3655776.1,      44.6,      98.8,       0.0);         ( 477449.8,
3655743.6,      43.7,     101.0,       0.0);
     ( 477442.4, 3655709.8,      43.0,     101.0,       0.0);         ( 477442.4,
3655666.8,      41.9,     101.0,       0.0);
     ( 477505.3, 3655671.8,      38.8,     100.9,       0.0);         ( 477564.5,
3655701.9,      43.6,      96.2,       0.0);
     ( 477601.8, 3655648.8,      38.8,      95.0,       0.0);         ( 477621.8,
3655648.8,      37.0,      97.5,       0.0);
     ( 477641.8, 3655648.8,      34.2,      98.8,       0.0);         ( 477661.8,
3655648.8,      33.5,      98.8,       0.0);
     ( 477681.8, 3655648.8,      32.0,      98.8,       0.0);         ( 477701.8,
3655648.8,      33.4,      98.8,       0.0);
     ( 477721.8, 3655648.8,      34.8,      97.6,       0.0);         ( 477941.8,
3655648.8,      17.6,     101.8,       0.0);
     ( 477961.8, 3655648.8,      17.4,     101.8,       0.0);         ( 477981.8,
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3655648.8,   19.4,   101.8,   0.0);
     (478001.8, 3655648.8,   17.6,   101.8,   0.0);   (477601.8,
3655668.8,   39.7,   97.5,   0.0);
     (477621.8, 3655668.8,   37.9,   98.0,   0.0);   (477641.8,
3655668.8,   35.6,   98.8,   0.0);

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                  (METERS)

     (477661.8, 3655668.8,   34.6,   98.8,   0.0);   (477681.8,
3655668.8,   33.9,   98.8,   0.0);
     (477701.8, 3655668.8,   34.4,   98.8,   0.0);   (477721.8,
3655668.8,   34.8,   98.8,   0.0);
     (477941.8, 3655668.8,   20.6,   101.8,   0.0);   (477961.8,
3655668.8,   20.2,   101.8,   0.0);
     (477981.8, 3655668.8,   20.3,   101.8,   0.0);   (478001.8,
3655668.8,   19.1,   101.8,   0.0);
     (477601.8, 3655688.8,   40.8,   97.6,   0.0);   (477621.8,
3655688.8,   38.6,   98.8,   0.0);
     (477641.8, 3655688.8,   37.8,   98.8,   0.0);   (477721.8,
3655688.8,   37.6,   98.7,   0.0);
     (477921.8, 3655688.8,   20.5,   101.8,   0.0);   (477941.8,
3655688.8,   20.6,   101.8,   0.0);
     (477961.8, 3655688.8,   20.6,   101.8,   0.0);   (477981.8,
3655688.8,   20.3,   101.8,   0.0);
     (478001.8, 3655688.8,   20.0,   101.8,   0.0);   (477601.8,
3655708.8,   42.0,   98.0,   0.0);
     (477621.8, 3655708.8,   41.0,   98.7,   0.0);   (477641.8,
3655708.8,   40.6,   98.8,   0.0);
     (477721.8, 3655708.8,   38.8,   98.8,   0.0);   (477941.8,
3655708.8,   22.2,   101.8,   0.0);
     (477961.8, 3655708.8,   22.3,   101.8,   0.0);   (477981.8,
3655708.8,   21.5,   101.8,   0.0);
     (478001.8, 3655708.8,   21.4,   101.8,   0.0);   (477601.8,
3655728.8,   44.3,   97.6,   0.0);
     (477621.8, 3655728.8,   44.1,   97.6,   0.0);   (477641.8,
3655728.8,   40.8,   98.8,   0.0);
     (477721.8, 3655728.8,   38.8,   100.5,   0.0);   (477941.8,
3655728.8,   22.9,   101.8,   0.0);
     (477961.8, 3655728.8,   22.7,   101.8,   0.0);   (477981.8,
3655728.8,   21.7,   101.8,   0.0);
     (478001.8, 3655728.8,   21.6,   101.8,   0.0);   (477601.8,

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3655748.8,      46.4,      97.6,       0.0);
     ( 477761.8, 3655748.8,      36.4,     101.8,       0.0);         ( 477821.8,
3655748.8,      30.2,     101.8,       0.0);
     ( 477841.8, 3655748.8,      28.0,     101.8,       0.0);         ( 477861.8,
3655748.8,      26.4,     101.8,       0.0);
     ( 477881.8, 3655748.8,      25.8,     101.8,       0.0);         ( 477901.8,
3655748.8,      24.7,     101.8,       0.0);
     ( 477941.8, 3655748.8,      22.9,     101.8,       0.0);         ( 477961.8,
3655748.8,      22.9,     101.8,       0.0);
     ( 477981.8, 3655748.8,      22.5,     101.8,       0.0);         ( 478001.8,
3655748.8,      21.8,     101.8,       0.0);
     ( 477601.8, 3655768.8,      48.5,      97.6,       0.0);         ( 477761.8,
3655768.8,      38.3,     101.8,       0.0);
     ( 477821.8, 3655768.8,      30.5,     101.8,       0.0);         ( 477841.8,
3655768.8,      28.2,     101.8,       0.0);
     ( 477861.8, 3655768.8,      28.0,     101.8,       0.0);         ( 477881.8,
3655768.8,      25.9,     101.8,       0.0);
     ( 477901.8, 3655768.8,      25.5,     101.8,       0.0);         ( 477941.8,
3655768.8,      23.8,     101.8,       0.0);
     ( 477961.8, 3655768.8,      23.9,     101.8,       0.0);         ( 477981.8,
3655768.8,      22.9,     101.8,       0.0);
     ( 478001.8, 3655768.8,      22.1,     101.8,       0.0);         ( 477601.8,
3655788.8,      51.9,      96.2,       0.0);
     ( 477761.8, 3655788.8,      37.9,     101.8,       0.0);         ( 477821.8,
3655788.8,      30.5,     101.8,       0.0);
     ( 477841.8, 3655788.8,      29.6,     101.8,       0.0);         ( 477861.8,
3655788.8,      28.9,     101.8,       0.0);
     ( 477881.8, 3655788.8,      27.4,     101.8,       0.0);         ( 477901.8,
3655788.8,      27.2,     101.8,       0.0);
     ( 477941.8, 3655788.8,      25.3,     101.8,       0.0);         ( 477961.8,
3655788.8,      24.1,     101.8,       0.0);
     ( 477981.8, 3655788.8,      24.0,     101.8,       0.0);         ( 478001.8,
3655788.8,      23.3,     101.8,       0.0);
     ( 477601.8, 3655808.8,      52.9,      97.5,       0.0);         ( 477761.8,
3655808.8,      39.3,     101.8,       0.0);
     ( 477781.8, 3655808.8,      37.1,     101.8,       0.0);         ( 477801.8,
3655808.8,      34.2,     101.8,       0.0);
     ( 477821.8, 3655808.8,      32.5,     101.8,       0.0);         ( 477841.8,
3655808.8,      31.7,     101.8,       0.0);
     ( 477861.8, 3655808.8,      29.7,     101.8,       0.0);         ( 477881.8,
3655808.8,      28.6,     101.8,       0.0);
     ( 477901.8, 3655808.8,      27.3,     101.8,       0.0);         ( 477941.8,
3655808.8,      26.4,     101.8,       0.0);
     ( 477961.8, 3655808.8,      25.8,     101.8,       0.0);         ( 477981.8,
3655808.8,      26.4,     101.8,       0.0);
     ( 478001.8, 3655808.8,      24.0,     101.8,       0.0);         ( 477601.8,
3655828.8,      55.1,      97.5,       0.0);
     ( 477621.8, 3655828.8,      58.0,      93.4,       0.0);         ( 477641.8,
3655828.8,      55.5,      96.5,       0.0);
     ( 477661.8, 3655828.8,      57.8,      93.2,       0.0);         ( 477681.8,
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3655828.8,   58.8,   71.0,   0.0);
     (477701.8, 3655828.8,   57.8,   71.0,   0.0);   (477721.8,
3655828.8,   53.2,   97.4,   0.0);
     (477741.8, 3655828.8,   45.2,   101.8,   0.0);   (477761.8,
3655828.8,   41.1,   101.8,   0.0);
     (477781.8, 3655828.8,   38.2,   101.8,   0.0);   (477801.8,
3655828.8,   35.2,   101.8,   0.0);

                                                *** DISCRETE CARTESIAN RECEPTORS ***
                                               (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                          (METERS)

     (477821.8, 3655828.8,   33.5,   101.8,   0.0);   (477841.8,
3655828.8,   32.7,   101.8,   0.0);
     (477861.8, 3655828.8,   30.4,   101.8,   0.0);   (477881.8,
3655828.8,   28.9,   101.8,   0.0);
     (477901.8, 3655828.8,   28.1,   101.8,   0.0);   (477921.8,
3655828.8,   28.0,   101.8,   0.0);
     (477941.8, 3655828.8,   27.4,   101.8,   0.0);   (477961.8,
3655828.8,   26.4,   101.8,   0.0);
     (477981.8, 3655828.8,   26.5,   101.8,   0.0);   (478001.8,
3655828.8,   25.2,   101.8,   0.0);
     (477601.8, 3655848.8,   57.9,   96.5,   0.0);   (477621.8,
3655848.8,   59.2,   93.9,   0.0);
     (477641.8, 3655848.8,   60.0,   93.2,   0.0);   (477661.8,
3655848.8,   59.0,   93.4,   0.0);
     (477681.8, 3655848.8,   59.3,   93.2,   0.0);   (477701.8,
3655848.8,   58.9,   93.2,   0.0);
     (477721.8, 3655848.8,   54.0,   97.5,   0.0);   (477741.8,
3655848.8,   46.1,   101.8,   0.0);
     (477761.8, 3655848.8,   41.8,   101.8,   0.0);   (477781.8,
3655848.8,   39.4,   101.8,   0.0);
     (477801.8, 3655848.8,   38.6,   101.8,   0.0);   (477821.8,
3655848.8,   35.6,   101.8,   0.0);
     (477841.8, 3655848.8,   33.3,   101.8,   0.0);   (477861.8,
3655848.8,   30.4,   101.8,   0.0);
     (477881.8, 3655848.8,   29.9,   101.8,   0.0);   (477901.8,
3655848.8,   29.0,   101.8,   0.0);
     (477921.8, 3655848.8,   28.7,   101.8,   0.0);   (477941.8,
3655848.8,   28.1,   101.8,   0.0);
     (477961.8, 3655848.8,   27.5,   101.8,   0.0);   (477981.8,
3655848.8,   26.7,   101.8,   0.0);
     (478001.8, 3655848.8,   26.0,   101.8,   0.0);   (477601.8,

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3655868.8,      58.4,      97.6,       0.0);
     ( 477621.8, 3655868.8,      60.5,      95.0,       0.0);         ( 477641.8,
3655868.8,      60.8,      93.9,       0.0);
     ( 477661.8, 3655868.8,      60.6,      93.9,       0.0);         ( 477681.8,
3655868.8,      61.2,      93.2,       0.0);
     ( 477701.8, 3655868.8,      59.7,      93.4,       0.0);         ( 477721.8,
3655868.8,      51.9,     101.1,       0.0);
     ( 477741.8, 3655868.8,      44.3,     101.8,       0.0);         ( 477761.8,
3655868.8,      41.3,     101.8,       0.0);
     ( 477781.8, 3655868.8,      41.0,     101.8,       0.0);         ( 477801.8,
3655868.8,      39.7,     101.8,       0.0);
     ( 477821.8, 3655868.8,      36.1,     101.8,       0.0);         ( 477841.8,
3655868.8,      33.4,     101.8,       0.0);
     ( 477861.8, 3655868.8,      32.1,     101.8,       0.0);         ( 477881.8,
3655868.8,      30.1,     101.8,       0.0);
     ( 477901.8, 3655868.8,      30.1,     101.8,       0.0);         ( 477921.8,
3655868.8,      29.8,     101.8,       0.0);
     ( 477941.8, 3655868.8,      28.8,     101.8,       0.0);         ( 477961.8,
3655868.8,      28.9,     101.8,       0.0);
     ( 477981.8, 3655868.8,      27.7,     101.8,       0.0);         ( 478001.8,
3655868.8,      27.2,     101.8,       0.0);
     ( 477601.8, 3655888.8,      57.4,      98.8,       0.0);         ( 477621.8,
3655888.8,      61.0,      97.5,       0.0);
     ( 477641.8, 3655888.8,      63.9,      93.2,       0.0);         ( 477661.8,
3655888.8,      63.7,      93.2,       0.0);
     ( 477681.8, 3655888.8,      59.3,      97.5,       0.0);         ( 477701.8,
3655888.8,      52.6,     101.8,       0.0);
     ( 477721.8, 3655888.8,      47.5,     101.8,       0.0);         ( 477741.8,
3655888.8,      44.8,     101.8,       0.0);
     ( 477761.8, 3655888.8,      41.6,     101.8,       0.0);         ( 477781.8,
3655888.8,      40.4,     101.8,       0.0);
     ( 477801.8, 3655888.8,      39.9,     101.8,       0.0);         ( 477821.8,
3655888.8,      38.3,     101.8,       0.0);
     ( 477841.8, 3655888.8,      34.2,     101.8,       0.0);         ( 477861.8,
3655888.8,      33.7,     101.8,       0.0);
     ( 477881.8, 3655888.8,      31.8,     101.8,       0.0);         ( 477901.8,
3655888.8,      31.4,     101.8,       0.0);
     ( 477921.8, 3655888.8,      30.5,     101.8,       0.0);         ( 477941.8,
3655888.8,      30.2,     101.8,       0.0);
     ( 477961.8, 3655888.8,      30.3,     101.8,       0.0);         ( 477981.8,
3655888.8,      28.8,     101.8,       0.0);
     ( 478001.8, 3655888.8,      28.5,     101.8,       0.0);         ( 477601.8,
3655908.8,      58.6,      98.8,       0.0);
     ( 477621.8, 3655908.8,      60.6,      98.8,       0.0);         ( 477641.8,
3655908.8,      64.5,      95.0,       0.0);
     ( 477661.8, 3655908.8,      64.7,      93.4,       0.0);         ( 477681.8,
3655908.8,      61.4,      97.5,       0.0);
     ( 477701.8, 3655908.8,      54.1,     101.8,       0.0);         ( 477721.8,
3655908.8,      49.0,     101.8,       0.0);
     ( 477741.8, 3655908.8,      46.4,     101.8,       0.0);         ( 477761.8,
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3655908.8,   46.5,   101.8,   0.0);
     (477781.8, 3655908.8,   42.7,   101.8,   0.0);   (477801.8,
3655908.8,   40.7,   101.8,   0.0);
     (477821.8, 3655908.8,   40.3,   101.8,   0.0);   (477841.8,
3655908.8,   36.1,   101.8,   0.0);
     (477861.8, 3655908.8,   34.4,   101.8,   0.0);   (477881.8,
3655908.8,   32.8,   101.8,   0.0);
     (477901.8, 3655908.8,   32.1,   101.8,   0.0);   (477921.8,
3655908.8,   31.6,   101.8,   0.0);

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                (METERS)

     (477941.8, 3655908.8,   31.0,   101.8,   0.0);   (477961.8,
3655908.8,   31.1,   101.8,   0.0);
     (477981.8, 3655908.8,   30.1,   101.8,   0.0);   (478001.8,
3655908.8,   29.7,   101.8,   0.0);
     (477601.8, 3655928.8,   59.2,   100.5,   0.0);   (477621.8,
3655928.8,   62.2,   98.8,   0.0);
     (477641.8, 3655928.8,   67.8,   93.2,   0.0);   (477661.8,
3655928.8,   70.2,   70.2,   0.0);
     (477681.8, 3655928.8,   66.1,   93.4,   0.0);   (477701.8,
3655928.8,   61.2,   98.8,   0.0);
     (477721.8, 3655928.8,   50.2,   101.8,   0.0);   (477741.8,
3655928.8,   47.1,   101.8,   0.0);
     (477761.8, 3655928.8,   47.2,   101.8,   0.0);   (477781.8,
3655928.8,   45.4,   101.8,   0.0);
     (477801.8, 3655928.8,   42.3,   101.8,   0.0);   (477821.8,
3655928.8,   41.9,   101.8,   0.0);
     (477841.8, 3655928.8,   38.6,   101.8,   0.0);   (477861.8,
3655928.8,   35.3,   101.8,   0.0);
     (477881.8, 3655928.8,   34.7,   101.8,   0.0);   (477901.8,
3655928.8,   33.6,   101.8,   0.0);
     (477921.8, 3655928.8,   32.5,   101.8,   0.0);   (477941.8,
3655928.8,   31.9,   101.8,   0.0);
     (477961.8, 3655928.8,   32.0,   101.8,   0.0);   (477981.8,
3655928.8,   31.2,   101.8,   0.0);
     (478001.8, 3655928.8,   30.8,   101.8,   0.0);   (477601.8,
3655948.8,   61.2,   100.5,   0.0);
     (477621.8, 3655948.8,   64.3,   98.8,   0.0);   (477641.8,
3655948.8,   70.3,   93.2,   0.0);
     (477661.8, 3655948.8,   70.9,   70.9,   0.0);   (477681.8,

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3655948.8,      69.6,      71.0,       0.0);
     ( 477701.8, 3655948.8,      62.2,      98.8,       0.0);         ( 477721.8,
3655948.8,      52.3,     101.8,       0.0);
     ( 477741.8, 3655948.8,      49.3,     101.8,       0.0);         ( 477761.8,
3655948.8,      48.2,     101.8,       0.0);
     ( 477781.8, 3655948.8,      46.7,     101.8,       0.0);         ( 477801.8,
3655948.8,      43.0,     101.8,       0.0);
     ( 477821.8, 3655948.8,      41.7,     101.8,       0.0);         ( 477841.8,
3655948.8,      39.0,     101.8,       0.0);
     ( 477861.8, 3655948.8,      36.4,     101.8,       0.0);         ( 477881.8,
3655948.8,      35.6,     101.8,       0.0);
     ( 477901.8, 3655948.8,      34.7,     101.8,       0.0);         ( 477921.8,
3655948.8,      34.6,     101.8,       0.0);
     ( 477941.8, 3655948.8,      33.2,     101.8,       0.0);         ( 477961.8,
3655948.8,      32.9,     101.8,       0.0);
     ( 477981.8, 3655948.8,      32.8,     101.8,       0.0);         ( 478001.8,
3655948.8,      32.0,     101.8,       0.0);
     ( 477601.8, 3655968.8,      62.7,     100.5,       0.0);         ( 477621.8,
3655968.8,      66.1,      98.8,       0.0);
     ( 477641.8, 3655968.8,      69.8,      96.2,       0.0);         ( 477661.8,
3655968.8,      70.9,      93.2,       0.0);
     ( 477681.8, 3655968.8,      70.8,      70.8,       0.0);         ( 477701.8,
3655968.8,      63.0,     100.5,       0.0);
     ( 477721.8, 3655968.8,      54.3,     101.8,       0.0);         ( 477741.8,
3655968.8,      55.3,     101.8,       0.0);
     ( 477761.8, 3655968.8,      51.9,     101.8,       0.0);         ( 477781.8,
3655968.8,      48.1,     101.8,       0.0);
     ( 477801.8, 3655968.8,      43.8,     101.8,       0.0);         ( 477821.8,
3655968.8,      40.9,     101.8,       0.0);
     ( 477841.8, 3655968.8,      40.0,     101.8,       0.0);         ( 477861.8,
3655968.8,      37.6,     101.8,       0.0);
     ( 477881.8, 3655968.8,      38.2,     101.8,       0.0);         ( 477901.8,
3655968.8,      35.7,     101.8,       0.0);
     ( 477921.8, 3655968.8,      35.7,     101.8,       0.0);         ( 477941.8,
3655968.8,      34.9,     101.8,       0.0);
     ( 477961.8, 3655968.8,      34.2,     101.8,       0.0);         ( 477981.8,
3655968.8,      33.9,     101.8,       0.0);
     ( 478001.8, 3655968.8,      32.4,     101.8,       0.0);         ( 477601.8,
3655988.8,      68.4,      98.8,       0.0);
     ( 477621.8, 3655988.8,      70.0,      97.6,       0.0);         ( 477641.8,
3655988.8,      70.4,      97.5,       0.0);
     ( 477661.8, 3655988.8,      70.8,      96.5,       0.0);         ( 477681.8,
3655988.8,      70.5,      96.2,       0.0);
     ( 477701.8, 3655988.8,      62.3,     101.8,       0.0);         ( 477721.8,
3655988.8,      58.4,     101.8,       0.0);
     ( 477741.8, 3655988.8,      54.3,     101.8,       0.0);         ( 477761.8,
3655988.8,      53.0,     101.8,       0.0);
     ( 477781.8, 3655988.8,      46.2,     101.8,       0.0);         ( 477801.8,
3655988.8,      44.0,     101.8,       0.0);
     ( 477821.8, 3655988.8,      41.0,     101.8,       0.0);         ( 477841.8,
```

3655988.8,   40.8,   101.8,   0.0);
     (477861.8, 3655988.8,   39.5,   101.8,   0.0);   (477881.8,
3655988.8,   38.5,   101.8,   0.0);
     (477901.8, 3655988.8,   38.4,   101.8,   0.0);   (477921.8,
3655988.8,   36.4,   101.8,   0.0);
     (477941.8, 3655988.8,   36.3,   101.8,   0.0);   (477961.8,
3655988.8,   35.4,   101.8,   0.0);
     (477981.8, 3655988.8,   34.8,   101.8,   0.0);   (478001.8,
3655988.8,   33.2,   101.8,   0.0);
     (477601.8, 3656008.8,   70.6,   98.8,   0.0);   (477621.8,
3656008.8,   72.2,   97.6,   0.0);

                                                *** DISCRETE CARTESIAN RECEPTORS ***
                                               (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                          (METERS)

     (477641.8, 3656008.8,   70.6,   98.7,   0.0);   (477661.8,
3656008.8,   67.8,   98.9,   0.0);
     (477681.8, 3656008.8,   67.2,   100.5,   0.0);   (477701.8,
3656008.8,   62.5,   101.8,   0.0);
     (477721.8, 3656008.8,   57.7,   101.8,   0.0);   (477741.8,
3656008.8,   53.0,   101.8,   0.0);
     (477761.8, 3656008.8,   48.2,   101.8,   0.0);   (477781.8,
3656008.8,   44.7,   101.8,   0.0);
     (477801.8, 3656008.8,   44.0,   101.8,   0.0);   (477821.8,
3656008.8,   41.5,   101.8,   0.0);
     (477841.8, 3656008.8,   41.0,   101.8,   0.0);   (477861.8,
3656008.8,   39.9,   101.8,   0.0);
     (477881.8, 3656008.8,   39.8,   101.8,   0.0);   (477901.8,
3656008.8,   41.0,   101.8,   0.0);
     (477921.8, 3656008.8,   39.9,   101.8,   0.0);   (477941.8,
3656008.8,   37.4,   101.8,   0.0);
     (477961.8, 3656008.8,   36.1,   101.8,   0.0);   (477981.8,
3656008.8,   35.5,   101.8,   0.0);
     (478001.8, 3656008.8,   34.1,   101.8,   0.0);   (477601.8,
3656028.8,   73.6,   98.7,   0.0);
     (477621.8, 3656028.8,   74.8,   97.5,   0.0);   (477641.8,
3656028.8,   72.4,   98.8,   0.0);
     (477661.8, 3656028.8,   67.1,   101.5,   0.0);   (477681.8,
3656028.8,   64.5,   101.8,   0.0);
     (477701.8, 3656028.8,   62.8,   101.8,   0.0);   (477721.8,
3656028.8,   54.9,   101.8,   0.0);
     (477741.8, 3656028.8,   52.1,   101.8,   0.0);   (477761.8,

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3656028.8,      48.2,     101.8,       0.0);
     ( 477781.8, 3656028.8,      46.6,     101.8,       0.0);         ( 477801.8,
3656028.8,      43.6,     101.8,       0.0);
     ( 477821.8, 3656028.8,      43.1,     101.8,       0.0);         ( 477841.8,
3656028.8,      42.0,     101.8,       0.0);
     ( 477861.8, 3656028.8,      42.9,     101.8,       0.0);         ( 477881.8,
3656028.8,      43.1,     101.8,       0.0);
     ( 477901.8, 3656028.8,      41.3,     101.8,       0.0);         ( 477921.8,
3656028.8,      41.3,     101.8,       0.0);
     ( 477941.8, 3656028.8,      38.3,     101.8,       0.0);         ( 477961.8,
3656028.8,      37.5,     101.8,       0.0);
     ( 477981.8, 3656028.8,      36.1,     101.8,       0.0);         ( 478001.8,
3656028.8,      36.3,     101.8,       0.0);
     ( 477601.8, 3656048.8,      79.1,      95.0,       0.0);         ( 477621.8,
3656048.8,      80.0,      93.2,       0.0);
     ( 477641.8, 3656048.8,      72.8,      98.8,       0.0);         ( 477661.8,
3656048.8,      64.5,     101.8,       0.0);
     ( 477681.8, 3656048.8,      62.4,     101.8,       0.0);         ( 477701.8,
3656048.8,      57.7,     101.8,       0.0);
     ( 477721.8, 3656048.8,      53.9,     101.8,       0.0);         ( 477741.8,
3656048.8,      51.3,     101.8,       0.0);
     ( 477761.8, 3656048.8,      48.9,     101.8,       0.0);         ( 477781.8,
3656048.8,      47.6,     101.8,       0.0);
     ( 477801.8, 3656048.8,      45.0,     101.8,       0.0);         ( 477821.8,
3656048.8,      44.3,     101.8,       0.0);
     ( 477841.8, 3656048.8,      44.6,     101.8,       0.0);         ( 477861.8,
3656048.8,      44.7,     101.8,       0.0);
     ( 477881.8, 3656048.8,      44.4,     101.8,       0.0);         ( 477901.8,
3656048.8,      42.4,     101.8,       0.0);
     ( 477921.8, 3656048.8,      41.8,     101.8,       0.0);         ( 477941.8,
3656048.8,      40.5,     101.8,       0.0);
     ( 477961.8, 3656048.8,      39.4,     101.8,       0.0);         ( 477981.8,
3656048.8,      37.2,     101.8,       0.0);
     ( 478001.8, 3656048.8,      37.0,     101.8,       0.0);         ( 477912.7,
3655638.2,      17.5,     101.8,       0.0);
     ( 477940.8, 3655629.9,      16.9,     101.8,       0.0);         ( 477970.9,
3655616.9,      16.3,     101.8,       0.0);
     ( 477725.9, 3655737.7,      38.8,     101.1,       0.0);         ( 477803.8,
3655735.0,      32.1,     101.8,       0.0);
     ( 478027.8, 3656091.0,      37.2,     101.8,       0.0);         ( 478041.4,
3656113.3,      37.5,     101.8,       0.0);
     ( 478061.0, 3656112.3,      36.5,     101.8,       0.0);         ( 478037.0,
3656044.8,      34.3,     101.8,       0.0);
     ( 478025.6, 3656015.9,      33.2,     101.8,       0.0);         ( 478021.2,
3655996.8,      32.4,     101.8,       0.0);
     ( 478014.7, 3655971.3,      32.5,     101.8,       0.0);         ( 478067.5,
3656028.4,      32.2,     101.8,       0.0);
     ( 478072.4, 3656050.2,      32.3,     101.8,       0.0);         ( 478061.0,
3656005.0,      31.6,     101.8,       0.0);
     ( 478059.3, 3655962.6,      29.1,     101.8,       0.0);         ( 478151.3,
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3656029.0,   33.6,   101.8,   0.0);
     (478160.6, 3656063.3,   33.4,   101.8,   0.0);   (478204.1,
3656046.4,   32.4,   101.8,   0.0);
     (478192.1, 3656007.7,   33.2,   101.8,   0.0);   (478130.1,
3655980.5,   32.7,   101.8,   0.0);
     (478178.5, 3655965.8,   30.9,   101.8,   0.0);   (478105.6,
3655906.5,   25.5,   101.8,   0.0);
     (478186.1, 3655923.9,   29.1,   101.8,   0.0);   (478197.6,
3656141.6,   32.3,   101.8,   0.0);
     (478219.9, 3656168.9,   30.6,   101.8,   0.0);   (478080.5,
3656204.2,   36.5,   101.8,   0.0);
     (478080.5, 3656204.2,   36.5,   101.8,   0.0);   (478290.7,
3655984.3,   35.5,   35.5,   0.0);

                                          *** DISCRETE CARTESIAN RECEPTORS ***
                                        (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
                                                  (METERS)

     (478302.1, 3656030.6,   31.8,   35.5,   0.0);   (478226.9,
3655930.2,   34.0,   34.0,   0.0);
     (478267.4, 3655927.0,   34.0,   34.0,   0.0);   (478303.5,
3655891.7,   30.0,   34.0,   0.0);
     (478316.9, 3655920.0,   31.8,   31.8,   0.0);   (478169.0,
3655874.3,   29.4,   101.8,   0.0);
     (478202.9, 3655862.9,   34.3,   34.3,   0.0);   (478245.7,
3655855.5,   31.2,   34.4,   0.0);
     (478039.2, 3655857.4,   25.7,   101.8,   0.0);   (478104.6,
3655853.0,   23.2,   101.8,   0.0);
     (478114.5, 3655865.6,   23.2,   101.8,   0.0);

                                        *** 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
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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 URBAN ADJ_U*

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file: ..\McClellanPalomar_2019_2021_v22112.SFC
Met Version: 22112
Profile file: ..\McClellanPalomar_2019_2021_v22112.PFL

Surface format: FREE

Profile format: FREE

Surface station no.: 3177 Upper air station no.: 3190
Name: UNKNOWN Name: UNKNOWN

Year: 2019 Year: 2019

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
19	01	01	1	01	-6.7	0.101	-9.000	-9.000	-999.	77.	13.9	0.03	0.93	1.00	1.57	25.	7.9	280.3	2.0
19	01	01	1	02	-8.6	0.115	-9.000	-9.000	-999.	94.	15.9	0.03	0.93	1.00	1.79	35.	7.9	279.8	2.0
19	01	01	1	03	-16.3	0.162	-9.000	-9.000	-999.	156.	28.8	0.03	0.93	1.00	2.45	31.	7.9	279.2	2.0
19	01	01	1	04	-8.4	0.114	-9.000	-9.000	-999.	93.	15.6	0.03	0.93	1.00	1.77	41.	7.9	278.1	2.0
19	01	01	1	05	-13.0	0.143	-9.000	-9.000	-999.	129.	22.4	0.03	0.93	1.00	2.18	30.	7.9	279.2	2.0
19	01	01	1	06	-12.3	0.139	-9.000	-9.000	-999.	124.	21.2	0.03	0.93	1.00	2.10	24.	7.9	278.8	2.0
19	01	01	1	07	-13.6	0.146	-9.000	-9.000	-999.	134.	23.5	0.03	0.93	1.00	2.20	6.	7.9	279.8	2.0
19	01	01	1	08	-15.9	0.231	-9.000	-9.000	-999.	267.	69.9	0.03	0.93	0.50	3.42	40.	7.9	280.9	2.0
19	01	01	1	09	30.2	0.206	0.499	0.005	148.	225.	-26.1	0.03	0.93	0.29	2.61	41.	7.9	283.1	2.0
19	01	01	1	10	77.6	0.226	0.818	0.005	254.	258.	-13.4	0.03	0.93	0.22	2.67	7.	7.9	284.8	2.0
19	01	01	1	11	110.3	0.226	1.328	0.005	763.	257.	-9.4	0.03	0.93	0.20	2.57	17.	7.9	286.4	2.0
19	01	01	1	12	125.8	0.231	1.462	0.005	892.	267.	-8.8	0.03	0.93	0.19	2.62	2.	7.9	287.0	2.0
19	01	01	1	13	123.8	0.281	1.512	0.005	1004.	358.	-16.1	0.03	0.93	0.19	3.35	353.	7.9	287.5	2.0
19	01	01	1	14	104.6	0.245	1.470	0.005	1090.	292.	-12.7	0.03	0.93	0.20	2.88	7.	7.9	288.8	2.0
19	01	01	1	15	68.4	0.246	1.295	0.005	1142.	293.	-19.6	0.03	0.93	0.23	3.07	64.	7.9	288.8	2.0
19	01	01	1	16	18.1	0.311	0.835	0.005	1153.	416.	-149.4	0.03	0.93	0.32	4.29	87.	7.9	287.0	2.0
19	01	01	1	17	-24.0	0.270	-9.000	-9.000	-999.	337.	79.9	0.03	0.93	0.60	3.93	114.	7.9	285.3	2.0
19	01	01	1	18	-6.3	0.099	-9.000	-9.000	-999.	106.	13.6	0.03	0.93	1.00	1.53	116.	7.9	283.8	2.0
19	01	01	1	19	-6.7	0.101	-9.000	-9.000	-999.	78.	14.0	0.03	0.93	1.00	1.57	98.	7.9	282.0	2.0
19	01	01	1	20	-3.4	0.072	-9.000	-9.000	-999.	47.	10.0	0.03	0.93	1.00	1.11	98.	7.9	279.8	2.0
19	01	01	1	21	-5.6	0.092	-9.000	-9.000	-999.	67.	12.5	0.03	0.93	1.00	1.43	25.	7.9	279.8	2.0
19	01	01	1	22	-7.2	0.105	-9.000	-9.000	-999.	81.	14.3	0.03	0.93	1.00	1.64	39.	7.9	279.2	2.0
19	01	01	1	23	-16.3	0.161	-9.000	-9.000	-999.	155.	28.5	0.03	0.93						

```
1.00    2.44   49.    7.9  279.2    2.0
 19 01 01   1 24  -25.8  0.257 -9.000 -9.000 -999.  312.     72.5  0.03   0.93
1.00    3.83   69.    7.9  280.3    2.0


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 19 01 01 01    7.9 1   25.    1.57   280.4   99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
 *** AERMOD - VERSION 22112  ***   *** C:\Users\enuno\OneDrive -
Dudek\Desktop\HARP2\HARP\Encinitas_Sanctua ***        02/12/23
 *** AERMET - VERSION  22112 ***   ***
                      ***        20:07:49

                                 PAGE  26
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                              *** THE PERIOD ( 26304 HRS) AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP: ALL      ***
                                 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 PM_10    IN MICROGRAMS/M**3
                  **

       X-COORD (M)   Y-COORD (M)        CONC                        X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - -
         477841.42    3656223.07      115.52956                      477884.09
3656215.48       89.62244
         477799.16    3656239.28       98.20028                      477767.77
3656252.20       65.97859
         477881.27    3656161.04      120.33617                      477928.70
3656143.00       62.93393
         477877.59    3656112.60       79.61011                      477859.22
3656047.80       31.41328
         477843.19    3656065.17       45.31192                      477822.81
3656055.81       40.97960
         477769.69    3656067.17       51.28035                      477723.93
```

3656083.21 54.19800
477686.85 3656091.89 46.08254 477657.45
3656112.94 40.90543
477613.02 3656131.64 28.67759 477697.85
3656267.16 24.93509
477940.95 3656208.14 54.51933 477968.46
3656121.68 36.09533
477929.95 3656071.37 27.76962 477929.95
3656071.37 27.76962
477909.12 3656026.18 18.93892 477551.47
3656176.31 9.34258
477556.58 3656193.99 8.84121 477563.65
3656214.04 8.37640
477568.37 3656233.30 7.90522 477575.84
3656249.80 7.69611
477732.03 3656324.49 15.99171 477771.22
3656319.93 22.13452
477799.28 3656302.26 34.27402 477848.01
3656278.80 46.67013
477855.40 3656303.97 33.81916 477662.28
3656312.36 9.70187
477646.69 3656291.64 9.97104 477595.93
3656279.18 7.63166
477601.71 3656295.67 7.32616 477613.11
3656310.25 7.34192
477616.82 3656345.21 6.46049 477618.05
3656360.60 6.07361
477656.63 3656372.50 6.52155 477693.56
3656356.70 7.92045
477826.11 3656362.04 19.32786 477760.56
3656385.54 9.61297
477685.56 3656397.61 5.87157 477529.12
3656164.51 8.60320
477507.50 3656168.05 7.50138 477912.17
3656272.01 37.29926
477898.42 3656260.31 45.18783 477991.80
3656212.32 33.09127
477524.85 3656024.54 13.81775 477517.81
3655938.11 8.75580
477507.57 3655899.06 7.04295 477512.69
3655838.24 5.30048
477570.95 3655927.23 9.28308 477586.31
3655965.64 12.26027
477585.03 3656041.82 16.10065 477594.63
3656082.15 15.44710
477556.22 3655822.24 5.27664 477568.39
3655878.57 7.08343
477543.42 3655763.34 4.04211 477533.71
3656261.02 5.95551
477515.67 3656264.72 5.42885 477538.79

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3656296.18        5.34579
         477553.60    3656327.17        5.12666                       477555.45
3656350.29        4.80407
         477800.31    3656428.13       10.67540                       477875.86
3656385.24       15.79367
         477831.04    3656391.64       15.10739                       477898.26
3656364.11       18.14635
         477933.48    3656357.07       17.12227                       477932.20
3656435.18       10.59870
         478012.87    3656438.38        8.33199                       477838.08
3656479.35        8.92075
         477877.14    3656481.27        9.13065                       477858.57
3656540.18        6.67508
         477797.10    3656557.46        5.48400                       477980.86
3656506.24        6.86821
         478021.83    3656533.14        5.68216                       478071.77
3656518.41        5.33091
         478101.22    3656514.57        5.08878                       478071.13
3656478.71        6.09311
 *** AERMOD - VERSION 22112  ***   *** C:\Users\enuno\OneDrive -
Dudek\Desktop\HARP2\HARP\Encinitas_Sanctua ***        02/12/23
 *** AERMET - VERSION  22112 ***   ***
                      ***        20:07:49

                                 PAGE  27
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                              *** THE PERIOD ( 26304 HRS) AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP: ALL      ***
                                 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 PM_10    IN MICROGRAMS/M**3
                    **

       X-COORD (M)   Y-COORD (M)        CONC                        X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - -
         478062.17    3656435.82        7.26588                       478019.91
3656485.12        6.76067
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         477516.52    3656524.97        2.67607                    477145.77
3655768.66        3.18454
         477163.44    3655768.66        3.27649                    477181.11
3655768.66        3.32850
         477198.78    3655768.66        3.38049                    477216.45
3655768.66        3.44199
         477357.81    3655768.66        3.59007                    477393.15
3655768.66        3.74636
         477410.82    3655768.66        3.81088                    477428.49
3655768.66        3.70993
         477145.77    3655796.44        3.41809                    477163.44
3655796.44        3.51315
         477181.11    3655796.44        3.57883                    477198.78
3655796.44        3.64475
         477216.45    3655796.44        3.71191                    477340.14
3655796.44        3.84862
         477393.15    3655796.44        4.13615                    477410.82
3655796.44        4.19053
         477428.49    3655796.44        4.22726                    477145.77
3655824.22        3.67013
         477163.44    3655824.22        3.75739                    477181.11
3655824.22        3.83603
         477198.78    3655824.22        3.91876                    477216.45
3655824.22        3.99782
         477304.80    3655824.22        4.11739                    477322.47
3655824.22        4.16817
         477393.15    3655824.22        4.54406                    477410.82
3655824.22        4.67220
         477428.49    3655824.22        4.77379                    477145.77
3655852.00        3.89611
         477163.44    3655852.00        4.00049                    477181.11
3655852.00        4.09743
         477198.78    3655852.00        4.19741                    477287.13
3655852.00        4.46650
         477304.80    3655852.00        4.54496                    477340.14
3655852.00        4.70213
         477357.81    3655852.00        4.80871                    477375.48
3655852.00        4.88816
         477428.49    3655852.00        5.29300                    477145.77
3655879.78        4.10750
         477163.44    3655879.78        4.22870                    477181.11
3655879.78        4.34321
         477269.46    3655879.78        4.79318                    477322.47
3655879.78        5.11598
         477340.14    3655879.78        5.26480                    477357.81
3655879.78        5.35457
         477375.48    3655879.78        5.34764                    477393.15
3655879.78        5.53412
         477428.49    3655879.78        5.86577                    477446.16
3655879.78        6.11046
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         477463.83    3655879.78        6.11998                       477481.50
3655879.78        6.22116
         477499.17    3655879.78        6.35689                       477145.77
3655907.56        4.28011
         477163.44    3655907.56        4.41953                       477181.11
3655907.56        4.56786
         477251.79    3655907.56        5.12955                       477304.80
3655907.56        5.48828
         477322.47    3655907.56        5.63409                       477340.14
3655907.56        5.87185
         477357.81    3655907.56        6.08622                       477375.48
3655907.56        6.08822
         477393.15    3655907.56        6.13186                       477428.49
3655907.56        6.57936
         477446.16    3655907.56        6.84944                       477463.83
3655907.56        7.09283
         477481.50    3655907.56        7.10665                       477499.17
3655907.56        7.19383
         477234.12    3655935.34        5.29215                       477287.13
3655935.34        5.82541
         477304.80    3655935.34        5.94392                       477322.47
3655935.34        6.25708
         477340.14    3655935.34        6.34563                       477357.81
3655935.34        6.39291
         477375.48    3655935.34        6.89310                       477393.15
3655935.34        6.82952
         477410.82    3655935.34        7.11403                       477446.16
3655935.34        7.76934
 *** AERMOD - VERSION 22112  ***   *** C:\Users\enuno\OneDrive -
Dudek\Desktop\HARP2\HARP\Encinitas_Sanctua ***        02/12/23
 *** AERMET - VERSION  22112 ***   ***
                      ***        20:07:49

                                 PAGE  28
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                             *** THE PERIOD ( 26304 HRS) AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP: ALL      ***
                                 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
***
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** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
477463.83	3655935.34	8.08618	477481.50	3655935.34	8.23128
477499.17	3655935.34	8.29058	477216.45	3655963.12	5.23206
477269.46	3655963.12	5.95409	477287.13	3655963.12	6.20071
477304.80	3655963.12	6.33600	477322.47	3655963.12	6.32842
477340.14	3655963.12	6.63760	477357.81	3655963.12	6.76696
477375.48	3655963.12	7.49035	477393.15	3655963.12	7.63960
477410.82	3655963.12	7.90392	477463.83	3655963.12	9.10443
477481.50	3655963.12	9.51894	477499.17	3655963.12	9.64363
477251.79	3655990.90	5.78484	477269.46	3655990.90	6.08839
477287.13	3655990.90	6.12675	477304.80	3655990.90	5.82382
477322.47	3655990.90	5.79713	477340.14	3655990.90	6.00642
477357.81	3655990.90	6.22868	477375.48	3655990.90	7.64078
477393.15	3655990.90	8.46897	477410.82	3655990.90	8.62356
477428.49	3655990.90	9.10280	477481.50	3655990.90	10.64405
477499.17	3655990.90	11.11027	477269.46	3656018.68	5.55502
477287.13	3656018.68	5.35746	477304.80	3656018.68	5.49816
477322.47	3656018.68	5.75041	477340.14	3656018.68	5.97203
477357.81	3656018.68	6.23447	477375.48	3656018.68	6.66298
477393.15	3656018.68	7.96945	477410.82	3656018.68	9.36885
477428.49	3656018.68	9.72772	477481.50	3656018.68	11.78880
477499.17	3656018.68	12.46949	477145.77	3656046.46	3.82780
477163.44	3656046.46	3.92485	477181.11		

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3656046.46        4.10369
         477198.78    3656046.46        4.29260                        477216.45
3656046.46        4.50314
         477269.46    3656046.46        5.11828                        477287.13
3656046.46        5.35288
         477304.80    3656046.46        5.60360                        477322.47
3656046.46        5.83536
         477340.14    3656046.46        6.04229                        477357.81
3656046.46        6.29775
         477375.48    3656046.46        6.61233                        477393.15
3656046.46        7.96189
         477410.82    3656046.46        8.84182                        477428.49
3656046.46       10.06892
         477446.16    3656046.46       11.01068                        477499.17
3656046.46       13.34665
         477145.77    3656074.24        3.58338                        477163.44
3656074.24        3.78581
         477181.11    3656074.24        3.98251                        477198.78
3656074.24        4.16288
         477216.45    3656074.24        4.30551                        477234.12
3656074.24        4.50609
         477287.13    3656074.24        5.28344                        477304.80
3656074.24        5.43172
         477322.47    3656074.24        5.62558                        477340.14
3656074.24        5.65656
         477357.81    3656074.24        5.62865                        477375.48
3656074.24        5.81720
         477393.15    3656074.24        6.57691                        477410.82
3656074.24        8.43909
         477428.49    3656074.24        9.20398                        477446.16
3656074.24       10.51239
         477463.83    3656074.24       12.06182                        477481.50
3656074.24       12.93023
         477499.17    3656074.24       13.89536                        477145.77
3656102.02        3.44277
         477163.44    3656102.02        3.60075                        477181.11
3656102.02        3.70247
 *** AERMOD - VERSION 22112  ***   *** C:\Users\enuno\OneDrive -
Dudek\Desktop\HARP2\HARP\Encinitas_Sanctua ***        02/12/23
 *** AERMET - VERSION  22112 ***   ***
                       ***        20:07:49

                                  PAGE  29
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                               *** THE PERIOD ( 26304 HRS) AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP: ALL       ***
                                   INCLUDING SOURCE(S):     L0000001    , L0000002
, L0000003    , L0000004    , L0000005    ,
                 L0000006    , L0000007    , L0000008    , L0000009    , L0000010
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, L0000011    , L0000012    , L0000013    ,
                L0000014    , L0000015    , L0000016    , L0000017    , L0000018
, L0000019    , L0000020    , L0000021    ,
                L0000022    , L0000023    , L0000024    , L0000025    , L0000026
, L0000027    , L0000028    ,  . . .      ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                       ** CONC OF PM_10    IN MICROGRAMS/M**3
                 **

       X-COORD (M)   Y-COORD (M)        CONC                        X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - -
         477198.78    3656102.02        3.85962                       477216.45
3656102.02        3.98913
         477234.12    3656102.02        4.16008                       477287.13
3656102.02        4.95738
         477304.80    3656102.02        5.17857                       477322.47
3656102.02        4.82510
         477340.14    3656102.02        4.93109                       477357.81
3656102.02        5.21835
         477375.48    3656102.02        5.54278                       477393.15
3656102.02        5.91822
         477410.82    3656102.02        6.95689                       477428.49
3656102.02        6.84149
         477446.16    3656102.02        9.18600                       477463.83
3656102.02       11.70692
         477481.50    3656102.02       12.25911                       477499.17
3656102.02       12.93592
         477145.77    3656129.80        3.19786                       477163.44
3656129.80        3.30877
         477181.11    3656129.80        3.44465                       477198.78
3656129.80        3.63774
         477216.45    3656129.80        3.79267                       477234.12
3656129.80        3.89362
         477251.79    3656129.80        4.03828                       477375.48
3656129.80        5.18435
         477393.15    3656129.80        5.48277                       477410.82
3656129.80        5.65159
         477428.49    3656129.80        6.86201                       477446.16
3656129.80        7.82685
         477463.83    3656129.80        9.48366                       477481.50
3656129.80        8.80511
         477499.17    3656129.80        9.71863                       477145.77
3656157.58        2.97594
         477163.44    3656157.58        2.97677                       477181.11
3656157.58        3.13774
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         477198.78    3656157.58        3.32046                        477216.45
3656157.58        3.45060
         477234.12    3656157.58        3.49313                        477251.79
3656157.58        3.53332
         477357.81    3656157.58        4.46802                        477375.48
3656157.58        4.67296
         477393.15    3656157.58        4.80791                        477410.82
3656157.58        5.11955
         477428.49    3656157.58        5.53381                        477446.16
3656157.58        5.97936
         477463.83    3656157.58        6.58947                        477481.50
3656157.58        7.00264
         477499.17    3656157.58        7.48489                        477163.44
3656185.36        2.76287
         477181.11    3656185.36        2.86532                        477198.78
3656185.36        2.93287
         477216.45    3656185.36        2.97057                        477234.12
3656185.36        3.07518
         477251.79    3656185.36        3.21117                        477269.46
3656185.36        3.37345
         477446.16    3656185.36        5.37786                        477463.83
3656185.36        5.77852
         477481.50    3656185.36        6.13453                        477499.17
3656185.36        6.67369
         477145.77    3656213.14        2.52693                        477198.78
3656213.14        2.73382
         477216.45    3656213.14        2.76730                        477234.12
3656213.14        2.85907
         477251.79    3656213.14        2.94319                        477269.46
3656213.14        3.07030
         477410.82    3656213.14        4.26194                        477428.49
3656213.14        4.54619
         477446.16    3656213.14        4.84451                        477463.83
3656213.14        5.09859
         477481.50    3656213.14        5.47200                        477499.17
3656213.14        5.97156
         477145.77    3656240.92        2.40456                        477163.44
3656240.92        2.43158
         477181.11    3656240.92        2.47775                        477234.12
3656240.92        2.66879
         477251.79    3656240.92        2.73996                        477269.46
3656240.92        2.82259
         477287.13    3656240.92        2.96592                        477304.80
3656240.92        3.10462
         477446.16    3656240.92        4.39456                        477463.83
3656240.92        4.69905
 *** AERMOD - VERSION 22112  ***   *** C:\Users\enuno\OneDrive -
Dudek\Desktop\HARP2\HARP\Encinitas_Sanctua ***        02/12/23
 *** AERMET - VERSION  22112 ***   ***
                       ***       20:07:49
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 *** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (26304 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
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 PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
477481.50	3656240.92	5.05529	477499.17	3656240.92	5.44403
477145.77	3656268.70	2.30141	477163.44	3656268.70	2.32721
477181.11	3656268.70	2.34671	477198.78	3656268.70	2.39176
477216.45	3656268.70	2.46666	477269.46	3656268.70	2.67142
477287.13	3656268.70	2.75322	477322.47	3656268.70	3.05265
477340.14	3656268.70	3.19308	477463.83	3656268.70	4.39751
477481.50	3656268.70	4.69371	477499.17	3656268.70	5.01590
477163.44	3656296.48	2.25864	477181.11	3656296.48	2.29455
477198.78	3656296.48	2.33629	477216.45	3656296.48	2.32862
477234.12	3656296.48	2.37091	477251.79	3656296.48	2.45770
477304.80	3656296.48	2.75374	477322.47	3656296.48	2.88345
477340.14	3656296.48	2.99263	477357.81	3656296.48	3.14265
477481.50	3656296.48	4.34642	477499.17		

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3656296.48        4.62207
         477145.77    3656324.26        2.02102                   477198.78
3656324.26        2.19182
         477216.45    3656324.26        2.22919                   477234.12
3656324.26        2.28549
         477251.79    3656324.26        2.36833                   477269.46
3656324.26        2.44643
         477287.13    3656324.26        2.51393                   477304.80
3656324.26        2.62236
         477322.47    3656324.26        2.70941                   477340.14
3656324.26        2.81268
         477357.81    3656324.26        2.94087                   477375.48
3656324.26        3.08912
         477481.50    3656324.26        4.00187                   477499.17
3656324.26        4.24782
         477114.73    3655983.83        4.15891                   477201.58
3656328.31        2.18151
         477226.26    3656328.31        2.26291                   477250.94
3656328.31        2.35653
         477275.62    3656328.31        2.43337                   477300.30
3656328.31        2.57821
         477324.98    3656328.31        2.71150                   477349.66
3656328.31        2.85733
         477374.34    3656328.31        3.04511                   477497.74
3656328.31        4.17582
         477522.42    3656328.31        4.52069                   477547.10
3656328.31        4.96398
         477621.14    3656328.31        7.09215                   477645.82
3656328.31        8.08213
         477152.22    3656345.01        2.01362                   477201.58
3656345.01        2.15121
         477226.26    3656345.01        2.21968                   477250.94
3656345.01        2.30312
         477275.62    3656345.01        2.38336                   477300.30
3656345.01        2.50091
         477324.98    3656345.01        2.63584                   477349.66
3656345.01        2.76042
         477374.34    3656345.01        2.91619                   477497.74
3656345.01        3.98330
         477522.42    3656345.01        4.33205                   477547.10
3656345.01        4.71276
         477571.78    3656345.01        5.25235                   477596.46
3656345.01        5.88657
         477621.14    3656345.01        6.59423                   477645.82
3656345.01        7.32085
         477324.98    3656361.71        2.56699                   477349.66
3656361.71        2.66741
         477374.34    3656361.71        2.79358                   477497.74
3656361.71        3.78313
         477522.42    3656361.71        4.12069                   477547.10
```

 *** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

                               *** THE PERIOD (26304 HRS) AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP: ALL   ***
                                   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 PM_10   IN MICROGRAMS/M**3
                  **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)
Y-COORD (M)   CONC
 -
- -
         477324.98   3656378.41   2.48111   477349.66
3656378.41   2.59246
         477374.34   3656378.41   2.67506   477497.74
3656378.41   3.62938
         477522.42   3656378.41   3.94601   477547.10
3656378.41   4.27939
         477596.46   3656378.41   5.21042   477621.14
3656378.41   5.68523
         477645.82   3656378.41   6.13777   477152.22
3656395.11   1.90261
         477176.90   3656395.11   1.94328   477201.58
3656395.11   1.99549
         477226.26   3656395.11   2.05526   477250.94
3656395.11   2.12920
         477275.62   3656395.11   2.19407   477300.30
3656395.11   2.28417

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         477324.98    3656395.11        2.38794                    477349.66
3656395.11        2.49708
         477374.34    3656395.11        2.57178                    477448.38
3656395.11        3.01168
         477497.74    3656395.11        3.50358                    477522.42
3656395.11        3.77632
         477547.10    3656395.11        4.09808                    477571.78
3656395.11        4.46983
         477596.46    3656395.11        4.88032                    477621.14
3656395.11        5.27885
         477645.82    3656395.11        5.62635                    477152.22
3656411.81        1.81584
         477176.90    3656411.81        1.88168                    477201.58
3656411.81        1.94217
         477226.26    3656411.81        2.00716                    477250.94
3656411.81        2.05628
         477275.62    3656411.81        2.12583                    477300.30
3656411.81        2.19334
         477324.98    3656411.81        2.27509                    477349.66
3656411.81        2.36923
         477374.34    3656411.81        2.48364                    477423.70
3656411.81        2.73302
         477448.38    3656411.81        2.91428                    477497.74
3656411.81        3.37309
         477522.42    3656411.81        3.62621                    477547.10
3656411.81        3.92774
         477571.78    3656411.81        4.23207                    477596.46
3656411.81        4.58127
         477621.14    3656411.81        4.90143                    477645.82
3656411.81        5.16467
         477152.22    3656428.51        1.78803                    477176.90
3656428.51        1.85119
         477201.58    3656428.51        1.90629                    477226.26
3656428.51        1.95307
         477250.94    3656428.51        2.00340                    477275.62
3656428.51        2.07290
         477300.30    3656428.51        2.13163                    477324.98
3656428.51        2.21002
         477349.66    3656428.51        2.30684                    477374.34
3656428.51        2.41878
         477497.74    3656428.51        3.25174                    477522.42
3656428.51        3.49046
         477547.10    3656428.51        3.75695                    477571.78
3656428.51        3.99856
         477596.46    3656428.51        4.29601                    477621.14
3656428.51        4.56437
         477645.82    3656428.51        4.75061                    477497.74
3656445.21        3.13031
         477522.42    3656445.21        3.35228                    477547.10
3656445.21        3.58971
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         477571.78    3656445.21        3.78376                       477596.46
3656445.21        4.03068
         477621.14    3656445.21        4.24766                       477645.82
3656445.21        4.38308
         477152.22    3656461.91        1.63337                       477497.74
3656461.91        3.00206
         477522.42    3656461.91        3.20657                       477547.10
3656461.91        3.41926
         477571.78    3656461.91        3.58099                       477596.46
3656461.91        3.78353
         477621.14    3656461.91        3.95609                       477645.82
3656461.91        4.05464
         477152.22    3656478.61        1.58654                       477497.74
3656478.61        2.89021
 *** AERMOD - VERSION 22112  ***   *** C:\Users\enuno\OneDrive -
Dudek\Desktop\HARP2\HARP\Encinitas_Sanctua ***        02/12/23
 *** AERMET - VERSION  22112 ***   ***
                       ***        20:07:49

                                  PAGE  32
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                               *** THE PERIOD ( 26304 HRS) AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP: ALL       ***
                                  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 PM_10    IN MICROGRAMS/M**3
                  **

       X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
         477522.42    3656478.61        3.07281                       477547.10
3656478.61        3.25193
         477571.78    3656478.61        3.40923                       477596.46
3656478.61        3.55067
         477621.14    3656478.61        3.68927                       477645.82
3656478.61        3.75251
         477152.22    3656495.31        1.55388                       477497.74
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3656495.31        2.77633
         477522.42    3656495.31        2.91612                    477547.10
3656495.31        3.07703
         477571.78    3656495.31        3.22325                    477596.46
3656495.31        3.33445
         477621.14    3656495.31        3.44305                    477645.82
3656495.31        3.48242
         477152.22    3656512.01        1.51143                    477176.90
3656512.01        1.55129
         477300.30    3656512.01        1.78153                    477324.98
3656512.01        1.86215
         477349.66    3656512.01        1.96328                    477374.34
3656512.01        2.07244
         477399.02    3656512.01        2.19743                    477522.42
3656512.01        2.79753
         477547.10    3656512.01        2.93062                    477571.78
3656512.01        3.05145
         477596.46    3656512.01        3.13389                    477621.14
3656512.01        3.20813
         477645.82    3656512.01        3.23282                    477176.90
3656528.71        1.47581
         477300.30    3656528.71        1.75333                    477324.98
3656528.71        1.82607
         477349.66    3656528.71        1.92290                    477374.34
3656528.71        2.02800
         477399.02    3656528.71        2.14103                    477522.42
3656528.71        2.67908
         477547.10    3656528.71        2.79554                    477571.78
3656528.71        2.89085
         477596.46    3656528.71        2.96822                    477621.14
3656528.71        3.01911
         477645.82    3656528.71        3.02493                    477176.90
3656545.41        1.41383
         477300.30    3656545.41        1.71858                    477324.98
3656545.41        1.79148
         477349.66    3656545.41        1.88879                    477374.34
3656545.41        1.99480
         477399.02    3656545.41        2.08779                    477423.70
3656545.41        2.18065
         477522.42    3656545.41        2.56303                    477547.10
3656545.41        2.65929
         477571.78    3656545.41        2.73365                    477596.46
3656545.41        2.80932
         477621.14    3656545.41        2.84202                    477645.82
3656545.41        2.83384
         477176.90    3656562.11        1.39514                    477300.30
3656562.11        1.68929
         477324.98    3656562.11        1.76003                    477349.66
3656562.11        1.84487
         477374.34    3656562.11        1.93829                    477399.02
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3656562.11        2.03587
         477423.70    3656562.11        2.13816                       477522.42
3656562.11        2.44613
         477547.10    3656562.11        2.52576                       477571.78
3656562.11        2.58802
         477596.46    3656562.11        2.65495                       477621.14
3656562.11        2.68469
         477645.82    3656562.11        2.65911                       477176.90
3656578.81        1.36400
         477201.58    3656578.81        1.41673                       477324.98
3656578.81        1.72796
         477349.66    3656578.81        1.80652                       477374.34
3656578.81        1.89417
         477399.02    3656578.81        1.98793                       477423.70
3656578.81        2.07809
         477547.10    3656578.81        2.40268                       477571.78
3656578.81        2.46641
         477596.46    3656578.81        2.50350                       477621.14
3656578.81        2.52875
         477645.82    3656578.81        2.49761                       477201.58
3656595.51        1.39037
         477547.10    3656595.51        2.28635                       477571.78
3656595.51        2.33789
 *** AERMOD - VERSION 22112  ***   *** C:\Users\enuno\OneDrive -
Dudek\Desktop\HARP2\HARP\Encinitas_Sanctua ***        02/12/23
 *** AERMET - VERSION  22112 ***   ***
                      ***        20:07:49

                                 PAGE  33
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                               *** THE PERIOD ( 26304 HRS) AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP: ALL       ***
                                   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 PM_10    IN MICROGRAMS/M**3
                  **

       X-COORD (M)   Y-COORD (M)        CONC                          X-COORD (M)
Y-COORD (M)        CONC
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 - - -
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         477434.08    3655867.73        5.66411                        477466.74
3655808.81        4.45552
         477495.55    3655776.15        3.97049                        477449.77
3655743.56        3.39078
         477442.36    3655709.78        3.03077                        477442.36
3655666.75        2.66591
         477505.29    3655671.84        2.75749                        477564.51
3655701.92        3.27273
         477601.81    3655648.79        2.73429                        477621.81
3655648.79        2.71930
         477641.81    3655648.79        2.68449                        477661.81
3655648.79        2.68976
         477681.81    3655648.79        2.67808                        477701.81
3655648.79        2.71712
         477721.81    3655648.79        2.75536                        477941.81
3655648.79        2.38740
         477961.81    3655648.79        2.35402                        477981.81
3655648.79        2.33309
         478001.81    3655648.79        2.28336                        477601.81
3655668.79        2.92213
         477621.81    3655668.79        2.90890                        477641.81
3655668.79        2.88157
         477661.81    3655668.79        2.88127                        477681.81
3655668.79        2.88736
         477701.81    3655668.79        2.91344                        477721.81
3655668.79        2.93369
         477941.81    3655668.79        2.56067                        477961.81
3655668.79        2.52046
         477981.81    3655668.79        2.48151                        478001.81
3655668.79        2.42933
         477601.81    3655688.79        3.13743                        477621.81
3655688.79        3.11117
 *** AERMOD - VERSION 22112  ***   *** C:\Users\enuno\OneDrive -
Dudek\Desktop\HARP2\HARP\Encinitas_Sanctua ***        02/12/23
 *** AERMET - VERSION  22112 ***   ***
                      ***        20:07:49

                                 PAGE  34
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                 *** THE PERIOD ( 26304 HRS) AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP: ALL     ***
                                 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 PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
477641.81	3655688.79	3.12124	477721.81	3655688.79	3.20026
477921.81	3655688.79	2.76572	477941.81	3655688.79	2.72816
477961.81	3655688.79	2.68504	477981.81	3655688.79	2.63757
478001.81	3655688.79	2.58635	477601.81	3655708.79	3.38121
477621.81	3655708.79	3.39001	477641.81	3655708.79	3.41429
477721.81	3655708.79	3.45971	477941.81	3655708.79	2.92865
477961.81	3655708.79	2.88046	477981.81	3655708.79	2.81967
478001.81	3655708.79	2.76255	477601.81	3655728.79	3.69111
477621.81	3655728.79	3.73133	477641.81	3655728.79	3.66117
477721.81	3655728.79	3.71516	477941.81	3655728.79	3.14326
477961.81	3655728.79	3.08413	477981.81	3655728.79	3.01266
478001.81	3655728.79	2.94626	477601.81	3655748.79	4.03477
477761.81	3655748.79	3.94612	477821.81	3655748.79	3.75454
477841.81	3655748.79	3.68684	477861.81	3655748.79	3.62719
477881.81	3655748.79	3.57737	477901.81	3655748.79	3.51318
477941.81	3655748.79	3.37589	477961.81	3655748.79	3.30835
477981.81	3655748.79	3.23238	478001.81	3655748.79	3.14961
477601.81	3655768.79	4.43118	477761.81	3655768.79	4.33808
477821.81	3655768.79	4.07426	477841.81	3655768.79	3.99839
477861.81	3655768.79	3.95431	477881.81		

3655768.79   3.87048
         477901.81   3655768.79   3.80751   477941.81
3655768.79   3.64632
         477961.81   3655768.79   3.56866   477981.81
3655768.79   3.47365
         478001.81   3655768.79   3.37650   477601.81
3655788.79   4.92981
         477761.81   3655788.79   4.69969   477821.81
3655788.79   4.43140
         477841.81   3655788.79   4.37541   477861.81
3655788.79   4.31399
         477881.81   3655788.79   4.22855   477901.81
3655788.79   4.15482
         477941.81   3655788.79   3.96141   477961.81
3655788.79   3.85258
         477981.81   3655788.79   3.75145   478001.81
3655788.79   3.63918
         477601.81   3655808.79   5.38738   477761.81
3655808.79   5.19243
         477781.81   3655808.79   5.10068   477801.81
3655808.79   4.97751
         477821.81   3655808.79   4.89831   477841.81
3655808.79   4.83390
         477861.81   3655808.79   4.72863   477881.81
3655808.79   4.63432
         477901.81   3655808.79   4.52771   477941.81
3655808.79   4.31438
         477961.81   3655808.79   4.19331   477981.81
3655808.79   4.08411
         478001.81   3655808.79   3.92803   477601.81
3655828.79   5.94880
         477621.81   3655828.79   6.12547   477641.81
3655828.79   6.20487
         477661.81   3655828.79   6.32701   477681.81
3655828.79   6.37859
         477701.81   3655828.79   6.48558   477721.81
3655828.79   6.48799
         477741.81   3655828.79   6.03358   477761.81
3655828.79   5.80224
         477781.81   3655828.79   5.64994   477801.81
3655828.79   5.50846

 *** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

                              *** THE PERIOD (26304 HRS) AVERAGE CONCENTRATION

VALUES FOR SOURCE GROUP: ALL ***
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 PM_10 IN MICROGRAMS/M**3
**

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
477821.81	3655828.79	5.41424	477841.81	3655828.79	5.33918
477861.81	3655828.79	5.20501	477881.81	3655828.79	5.08581
477901.81	3655828.79	4.96774	477921.81	3655828.79	4.85197
477941.81	3655828.79	4.71499	477961.81	3655828.79	4.56323
477981.81	3655828.79	4.42363	478001.81	3655828.79	4.25821
477601.81	3655848.79	6.58900	477621.81	3655848.79	6.73112
477641.81	3655848.79	6.83134	477661.81	3655848.79	6.95380
477681.81	3655848.79	7.03428	477701.81	3655848.79	7.13232
477721.81	3655848.79	7.22029	477741.81	3655848.79	6.73214
477761.81	3655848.79	6.45184	477781.81	3655848.79	6.31213
477801.81	3655848.79	6.25385	477821.81	3655848.79	6.06950
477841.81	3655848.79	5.91587	477861.81	3655848.79	5.74806
477881.81	3655848.79	5.62866	477901.81	3655848.79	5.48375
477921.81	3655848.79	5.33668	477941.81	3655848.79	5.17039
477961.81	3655848.79	4.99596	477981.81	3655848.79	4.81144

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         478001.81    3655848.79        4.62648                    477601.81
3655868.79        7.27845
         477621.81    3655868.79        7.42619                    477641.81
3655868.79        7.54611
         477661.81    3655868.79        7.66956                    477681.81
3655868.79        7.72853
         477701.81    3655868.79        7.90324                    477721.81
3655868.79        7.91076
         477741.81    3655868.79        7.32294                    477761.81
3655868.79        7.13132
         477781.81    3655868.79        7.13067                    477801.81
3655868.79        7.02156
         477821.81    3655868.79        6.77421                    477841.81
3655868.79        6.58701
         477861.81    3655868.79        6.43454                    477881.81
3655868.79        6.24604
         477901.81    3655868.79        6.08942                    477921.81
3655868.79        5.90911
         477941.81    3655868.79        5.69570                    477961.81
3655868.79        5.49920
         477981.81    3655868.79        5.26708                    478001.81
3655868.79        5.05190
         477601.81    3655888.79        8.01420                    477621.81
3655888.79        8.25619
         477641.81    3655888.79        8.19241                    477661.81
3655888.79        8.30654
         477681.81    3655888.79        8.77768                    477701.81
3655888.79        8.79062
         477721.81    3655888.79        8.42157                    477741.81
3655888.79        8.24168
         477761.81    3655888.79        8.01333                    477781.81
3655888.79        7.94822
         477801.81    3655888.79        7.88962                    477821.81
3655888.79        7.72398
         477841.81    3655888.79        7.41766                    477861.81
3655888.79        7.26022
         477881.81    3655888.79        7.02383                    477901.81
3655888.79        6.81510
         477921.81    3655888.79        6.56939                    477941.81
3655888.79        6.32409
         477961.81    3655888.79        6.08138                    477981.81
3655888.79        5.79428
         478001.81    3655888.79        5.53996                    477601.81
3655908.79        8.98875
         477621.81    3655908.79        9.25158                    477641.81
3655908.79        9.14046
         477661.81    3655908.79        9.22138                    477681.81
3655908.79        9.76791
         477701.81    3655908.79       10.04817                    477721.81
3655908.79        9.69139
```

 *** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

                               *** THE PERIOD (26304 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL   ***
                                   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 PM_10   IN MICROGRAMS/M**3
                  **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)   Y-COORD (M)   CONC
 - - -

```
3655928.79       10.93523
         477761.81    3655928.79       11.07874                    477781.81
3655928.79       10.88203
         477801.81    3655928.79       10.45930                    477821.81
3655928.79       10.32700
         477841.81    3655928.79        9.86024                    477861.81
3655928.79        9.41735
         477881.81    3655928.79        9.09627                    477901.81
3655928.79        8.71395
         477921.81    3655928.79        8.30877                    477941.81
3655928.79        7.90861
         477961.81    3655928.79        7.52893                    477981.81
3655928.79        7.12569
         478001.81    3655928.79        6.74856                    477601.81
3655948.79       11.41160
         477621.81    3655948.79       11.55928                    477641.81
3655948.79       10.35191
         477661.81    3655948.79       10.19060                    477681.81
3655948.79       10.60475
         477701.81    3655948.79       12.96261                    477721.81
3655948.79       13.29279
         477741.81    3655948.79       13.03970                    477761.81
3655948.79       13.01450
         477781.81    3655948.79       12.83275                    477801.81
3655948.79       12.22666
         477821.81    3655948.79       11.93009                    477841.81
3655948.79       11.43338
         477861.81    3655948.79       10.92404                    477881.81
3655948.79       10.48047
         477901.81    3655948.79        9.98628                    477921.81
3655948.79        9.50814
         477941.81    3655948.79        8.95864                    477961.81
3655948.79        8.46359
         477981.81    3655948.79        7.99226                    478001.81
3655948.79        7.51587
         477601.81    3655968.79       12.89651                    477621.81
3655968.79       12.88439
         477641.81    3655968.79       12.06993                    477661.81
3655968.79       11.79532
         477681.81    3655968.79       11.85848                    477701.81
3655968.79       14.96549
         477721.81    3655968.79       15.87888                    477741.81
3655968.79       16.42906
         477761.81    3655968.79       16.20895                    477781.81
3655968.79       15.44731
         477801.81    3655968.79       14.52110                    477821.81
3655968.79       13.94376
         477841.81    3655968.79       13.51920                    477861.81
3655968.79       12.85918
         477881.81    3655968.79       12.35215                    477901.81
```

 *** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

                               *** THE PERIOD (26304 HRS) AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP: ALL   ***
                                   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 PM_10   IN MICROGRAMS/M**3
                  **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)
Y-COORD (M)   CONC
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- -
         477661.81   3655988.79   13.82169   477681.81
3655988.79   14.05576
         477701.81   3655988.79   17.95101   477721.81
3655988.79   19.12160
         477741.81   3655988.79   19.54388   477761.81
3655988.79   19.76364
         477781.81   3655988.79   17.98018   477801.81
3655988.79   17.48349
         477821.81   3655988.79   16.76796   477841.81
3655988.79   16.27323
         477861.81   3655988.79   15.45881   477881.81
3655988.79   14.57221

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         477901.81    3655988.79       13.71017                    477921.81
3655988.79       12.69138
         477941.81    3655988.79       11.85570                    477961.81
3655988.79       11.00499
         477981.81    3655988.79       10.23564                    478001.81
3655988.79        9.47386
         477601.81    3656008.79       14.99352                    477621.81
3656008.79       14.80733
         477641.81    3656008.79       15.97686                    477661.81
3656008.79       17.87252
         477681.81    3656008.79       18.67231                    477701.81
3656008.79       21.57638
         477721.81    3656008.79       23.24616                    477741.81
3656008.79       23.54804
         477761.81    3656008.79       22.41915                    477781.81
3656008.79       21.67597
         477801.81    3656008.79       21.56905                    477821.81
3656008.79       20.76571
         477841.81    3656008.79       19.97036                    477861.81
3656008.79       18.81587
         477881.81    3656008.79       17.62083                    477901.81
3656008.79       16.55862
         477921.81    3656008.79       15.22790                    477941.81
3656008.79       13.85480
         477961.81    3656008.79       12.72697                    477981.81
3656008.79       11.73871
         478001.81    3656008.79       10.78912                    477601.81
3656028.79       15.65463
         477621.81    3656028.79       15.73042                    477641.81
3656028.79       17.69735
         477661.81    3656028.79       21.58558                    477681.81
3656028.79       24.16704
         477701.81    3656028.79       26.28099                    477721.81
3656028.79       28.32590
         477741.81    3656028.79       29.04639                    477761.81
3656028.79       28.30215
         477781.81    3656028.79       28.31469                    477801.81
3656028.79       27.49160
         477821.81    3656028.79       26.86498                    477841.81
3656028.79       25.46134
         477861.81    3656028.79       23.96787                    477881.81
3656028.79       22.18344
         477901.81    3656028.79       20.03707                    477921.81
3656028.79       18.35470
         477941.81    3656028.79       16.43231                    477961.81
3656028.79       14.97715
         477981.81    3656028.79       13.61454                    478001.81
3656028.79       12.51514
         477601.81    3656048.79       14.86318                    477621.81
3656048.79       15.36656
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         477641.81    3656048.79       20.32187                       477661.81
3656048.79       27.13190
         477681.81    3656048.79       30.29011                       477701.81
3656048.79       33.25175
         477721.81    3656048.79       35.25210                       477741.81
3656048.79       36.83808
         477761.81    3656048.79       37.44321                       477781.81
3656048.79       38.25303
         477801.81    3656048.79       37.42808                       477821.81
3656048.79       36.41694
         477841.81    3656048.79       34.40307                       477861.81
3656048.79       31.48135
         477881.81    3656048.79       28.35294                       477901.81
3656048.79       25.05908
         477921.81    3656048.79       22.44218                       477941.81
3656048.79       20.03280
         477961.81    3656048.79       17.95969                       477981.81
3656048.79       16.01747
 *** AERMOD - VERSION 22112  ***   *** C:\Users\enuno\OneDrive -
Dudek\Desktop\HARP2\HARP\Encinitas_Sanctua ***        02/12/23
 *** AERMET - VERSION  22112 ***   ***
                      ***        20:07:49

                                 PAGE  38
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                               *** THE PERIOD ( 26304 HRS) AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP: ALL       ***
                                   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 PM_10    IN MICROGRAMS/M**3
                  **

      X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - -
         478001.81    3656048.79       14.52343                     477912.66
3655638.19       2.35217
         477940.84    3655629.86        2.25461                     477970.87
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3655616.86        2.12817
         477725.92    3655737.71        3.84127                        477803.76
3655734.98        3.61937
         478027.75    3656091.03       17.20500                        478041.36
3656113.34       18.50043
         478060.95    3656112.26       15.96941                        478037.00
3656044.76       11.78256
         478025.57    3656015.90       10.25137                        478021.21
3655996.85        9.25279
         478014.68    3655971.27        8.17720                        478067.48
3656028.42        9.30243
         478072.38    3656050.20       10.27388                        478060.95
3656005.02        8.37538
         478059.32    3655962.56        6.70966                        478151.32
3656028.97        6.92394
         478160.57    3656063.26        7.66125                        478204.12
3656046.39        6.13871
         478192.14    3656007.74        5.59250                        478130.09
3655980.52        6.00808
         478178.53    3655965.82        4.90932                        478105.59
3655906.49        4.60602
         478186.15    3655923.91        4.11524                        478197.58
3656141.65        8.13733
         478219.90    3656168.87        7.56627                        478080.55
3656204.25       16.71251
         478080.55    3656204.25       16.71251                        478290.67
3655984.33        4.06478
         478302.10    3656030.60        4.35744                        478226.86
3655930.20        3.95635
         478267.37    3655927.05        3.58841                        478303.55
3655891.66        2.94570
         478316.92    3655919.97        3.12970                        478169.04
3655874.35        3.64743
         478202.87    3655862.94        3.40372                        478245.74
3655855.47        3.00649
         478039.25    3655857.38        4.44128                        478104.58
3655853.02        3.78556
         478114.48    3655865.62        3.86905

 *** AERMOD - VERSION 22112  ***   *** C:\Users\enuno\OneDrive -
Dudek\Desktop\HARP2\HARP\Encinitas_Sanctua ***        02/12/23
 *** AERMET - VERSION  22112 ***   ***
                       ***        20:07:49

                                  PAGE  39
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                               *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  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 PM_10    IN MICROGRAMS/M**3
                  **

      X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)
Y-COORD (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - -
        477841.42   3656223.07      357.02372  (19120715)                477884.09
3656215.48      327.28187  (19120715)
        477799.16   3656239.28      354.20775  (21011718)                477767.77
3656252.20      378.61645  (21122316)
        477881.27   3656161.04      371.38200  (20063007)                477928.70
3656143.00      238.75388  (21010516)
        477877.59   3656112.60      350.49111  (19051018)                477859.22
3656047.80      215.97511  (19121518)
        477843.19   3656065.17      346.06877  (19120716)                477822.81
3656055.81      399.45051  (19120716)
        477769.69   3656067.17      285.10621  (19120616)                477723.93
3656083.21      358.26493  (19120616)
        477686.85   3656091.89      239.82765  (19120616)                477657.45
3656112.94      232.48407  (21011422)
        477613.02   3656131.64      224.46664  (19121221)                477697.85
3656267.16      307.85388  (21022320)
        477940.95   3656208.14      206.36539  (19021217)                477968.46
3656121.68      171.18326  (21010516)
        477929.95   3656071.37      186.52200  (19051018)                477929.95
3656071.37      186.52200  (19051018)
        477909.12   3656026.18      152.33865  (19020718)                477551.47
3656176.31      155.81269  (20022519)
        477556.58   3656193.99      162.13256  (21052506)                477563.65
3656214.04      166.25871  (21012103)
        477568.37   3656233.30      170.31173  (20022423)                477575.84
3656249.80      175.57376  (20021008)
        477732.03   3656324.49      234.32481  (19120722)                477771.22
3656319.93      245.21408  (20120720)
        477799.28   3656302.26      233.33795  (19120718)                477848.01
3656278.80      229.23914  (20012318)
        477855.40   3656303.97      196.07991  (20012318)                477662.28
3656312.36      199.24611  (20063006)
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3656279.18      178.80631  (20101707)
        477601.71   3656295.67      174.87296  (20042606)                477613.11
3656310.25      172.76929  (20100201)
        477616.82   3656345.21      159.83202  (20063006)                477618.05
3656360.60      155.21809  (20063006)
        477656.63   3656372.50      155.90364  (19102120)                477693.56
3656356.70      168.30348  (19012719)
        477826.11   3656362.04      165.83303  (19010818)                477760.56
3656385.54      175.13106  (19033121)
        477685.56   3656397.61      144.36332  (21120824)                477529.12
3656164.51      143.90367  (20022519)
        477507.50   3656168.05      136.38263  (20022519)                477912.17
3656272.01      191.16836  (20101417)
        477898.42   3656260.31      222.06479  (20101417)                477991.80
3656212.32      139.44207  (19011618)
        477524.85   3656024.54      132.76476  (20022718)                477517.81
3655938.11       83.23917  (21122921)
        477507.57   3655899.06       72.60747  (21011706)                477512.69
3655838.24       65.07313  (19120616)
        477570.95   3655927.23      102.98457  (19120616)                477586.31
3655965.64      121.27368  (20020122)
        477585.03   3656041.82      170.22242  (21011322)                477594.63
3656082.15      161.96247  (21011721)
        477556.22   3655822.24       62.59251  (19121718)                477568.39
3655878.57       83.15030  (19120616)
        477543.42   3655763.34       52.16485  (19120702)                477533.71
3656261.02      150.10256  (20021008)
        477515.67   3656264.72      141.57865  (20021008)                477538.79
3656296.18      147.15532  (20101707)
        477553.60   3656327.17      141.17271  (20042606)                477555.45
3656350.29      134.78636  (20122220)
        477800.31   3656428.13      144.31481  (21010808)                477875.86
3656385.24      134.17633  (20012318)
        477831.04   3656391.64      146.47328  (19010818)                477898.26
3656364.11      127.32071  (21120119)
        477933.48   3656357.07      121.85032  (20101417)                477932.20
3656435.18       83.12894  (21120119)
        478012.87   3656438.38       68.47693  (20021118)                477838.08
3656479.35      104.55948  (19010818)
        477877.14   3656481.27       87.03677  (20122119)                477858.57
3656540.18       81.68345  (20120917)
        477797.10   3656557.46       99.49078  (21010808)                477980.86
3656506.24       62.06840  (21120119)
        478021.83   3656533.14       55.35194  (21120119)                478071.77
3656518.41       50.08208  (20021118)
        478101.22   3656514.57       49.08547  (19013019)                478071.13
3656478.71       55.44662  (19013019)
 *** AERMOD - VERSION 22112  ***   *** C:\Users\enuno\OneDrive -
Dudek\Desktop\HARP2\HARP\Encinitas_Sanctua ***        02/12/23
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

                             *** THE   1ST HIGHEST 1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP: ALL   ***
                                 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 PM_10   IN MICROGRAMS/M**3
                  **

      X-COORD (M) Y-COORD (M)   CONC   (YYMMDDHH)   X-COORD (M)
Y-COORD (M)   CONC   (YYMMDDHH)
 - - -

3655824.22 60.36188 (20122022)
477198.78 3655824.22 61.86266 (19011102) 477216.45
3655824.22 63.92903 (19011923)
477304.80 3655824.22 48.96110 (19120704) 477322.47
3655824.22 48.58412 (21011723)
477393.15 3655824.22 52.82242 (20020122) 477410.82
3655824.22 55.25450 (20020122)
477428.49 3655824.22 56.83554 (21011706) 477145.77
3655852.00 61.22099 (19012619)
477163.44 3655852.00 61.21562 (20020120) 477181.11
3655852.00 62.27432 (20020120)
477198.78 3655852.00 64.89922 (20122022) 477287.13
3655852.00 55.12698 (21011421)
477304.80 3655852.00 54.57803 (21011421) 477340.14
3655852.00 53.66521 (19120704)
477357.81 3655852.00 54.51279 (19120704) 477375.48
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3655879.78 62.27906 (20013021)
477163.44 3655879.78 63.74328 (19012619) 477181.11
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477269.46 3655879.78 60.16151 (20022718) 477322.47
3655879.78 60.72350 (21011421)
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3655935.34 73.77059 (20022521)
477304.80 3655935.34 71.85267 (20022521) 477322.47

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3655990.90       92.26985  (21011804)
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3656018.68       89.44163  (20120218)
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3656018.68       91.26341  (21021923)
        477322.47   3656018.68       94.12273  (20021721)              477340.14
3656018.68       96.49132  (20021721)
        477357.81   3656018.68       98.68377  (21011804)              477375.48
3656018.68      103.04571  (21011804)
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3656018.68      111.44744  (20010320)
        477428.49   3656018.68      117.26112  (20012601)              477481.50
3656018.68      123.23543  (19120123)
        477499.17   3656018.68      128.04739  (19012619)              477145.77
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        477198.78   3656046.46       79.73079  (21012102)              477216.45
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        477269.46   3656046.46       89.57912  (20121818)              477287.13
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        477304.80   3656046.46       94.96946  (20120218)              477322.47
3656046.46       97.67170  (20120218)
        477340.14   3656046.46       99.72553  (20120218)              477357.81
3656046.46      101.63219  (20120218)
        477375.48   3656046.46      104.38463  (19011822)              477393.15
3656046.46      112.63312  (21120601)
        477410.82   3656046.46      117.33409  (20013123)              477428.49
3656046.46      121.45814  (20013123)
        477446.16   3656046.46      124.78268  (21012107)              477499.17
3656046.46      141.28238  (19121307)
        477145.77   3656074.24       75.06067  (19021219)              477163.44
3656074.24       77.19260  (19021219)
        477181.11   3656074.24       79.35966  (19021219)              477198.78
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        477216.45   3656074.24       83.66562  (19012904)              477234.12
3656074.24       86.08821  (19012904)
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        477322.47   3656074.24       98.13910  (19120602)                477340.14
3656074.24       99.17250  (20120521)
        477357.81   3656074.24       98.90849  (20120521)                477375.48
3656074.24       99.94432  (20121818)
        477393.15   3656074.24      107.17955  (20121818)                477410.82
3656074.24      120.76006  (20120218)
        477428.49   3656074.24      126.56589  (20120218)                477446.16
3656074.24      132.55138  (20120218)
        477463.83   3656074.24      134.11072  (21011521)                477481.50
3656074.24      140.68664  (20011521)
        477499.17   3656074.24      147.69058  (19012322)                477145.77
3656102.02       75.95453  (19011824)
        477163.44   3656102.02       77.97834  (19011824)                477181.11
3656102.02       79.83060  (19011824)
🡅 *** AERMOD - VERSION 22112  ***   *** C:\Users\enuno\OneDrive -
Dudek\Desktop\HARP2\HARP\Encinitas_Sanctua ***        02/12/23
 *** AERMET - VERSION  22112 ***   ***
                       ***        20:07:49

                                  PAGE  42
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                              *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  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 PM_10    IN MICROGRAMS/M**3
                   **

      X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)
Y-COORD (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
        477198.78   3656102.02       81.83786  (19011824)                477216.45
3656102.02       83.64163  (19011824)
        477234.12   3656102.02       85.66200  (20011822)                477287.13
3656102.02       94.70650  (20011822)
        477304.80   3656102.02       97.76954  (19021219)                477322.47
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3656102.02       96.39968  (19011922)
        477340.14   3656102.02       97.44572  (19011922)                477357.81
3656102.02      100.22140  (19011922)
        477375.48   3656102.02      103.06941  (19011922)                477393.15
3656102.02      106.09369  (19011922)
        477410.82   3656102.02      115.65673  (19011922)                477428.49
3656102.02      113.89222  (20121624)
        477446.16   3656102.02      131.55015  (19120602)                477463.83
3656102.02      140.22199  (21022321)
        477481.50   3656102.02      147.55524  (21010708)                477499.17
3656102.02      154.36607  (21010708)
        477145.77   3656129.80       75.68418  (21012101)                477163.44
3656129.80       77.48186  (21012101)
        477181.11   3656129.80       79.42509  (21012101)                477198.78
3656129.80       81.86603  (20011520)
        477216.45   3656129.80       84.42059  (20011520)                477234.12
3656129.80       86.89163  (20011520)
        477251.79   3656129.80       89.44306  (20011520)                477375.48
3656129.80      104.50263  (20011520)
        477393.15   3656129.80      107.34737  (20012121)                477410.82
3656129.80      108.02959  (20012121)
        477428.49   3656129.80      120.83209  (20012121)                477446.16
3656129.80      128.79694  (20012121)
        477463.83   3656129.80      140.78089  (19011824)                477481.50
3656129.80      136.87353  (19011922)
        477499.17   3656129.80      144.22187  (19011922)                477145.77
3656157.58       75.89592  (20022519)
        477163.44   3656157.58       77.59008  (20022519)                477181.11
3656157.58       79.91446  (20022519)
        477198.78   3656157.58       82.39361  (20022519)                477216.45
3656157.58       84.72130  (20022519)
        477234.12   3656157.58       86.52482  (20022519)                477251.79
3656157.58       88.03966  (20022519)
        477357.81   3656157.58      101.50282  (20022519)                477375.48
3656157.58      103.82469  (20022519)
        477393.15   3656157.58      104.86187  (20022519)                477410.82
3656157.58      108.51240  (20021522)
        477428.49   3656157.58      113.38899  (20021522)                477446.16
3656157.58      118.28010  (20021522)
        477463.83   3656157.58      124.94627  (20021522)                477481.50
3656157.58      128.29277  (20021522)
        477499.17   3656157.58      132.08592  (20021522)                477163.44
3656185.36       76.18518  (20120420)
        477181.11   3656185.36       78.35400  (20120420)                477198.78
3656185.36       80.32653  (20120420)
        477216.45   3656185.36       81.98337  (20120420)                477234.12
3656185.36       84.19454  (20120420)
        477251.79   3656185.36       86.73342  (20120420)                477269.46
3656185.36       89.56267  (20120420)
        477446.16   3656185.36      121.91230  (21071906)                477463.83
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3656185.36      126.72377  (21071906)
        477481.50   3656185.36      130.16198  (21071906)                477499.17
3656185.36      135.86932  (21071906)
        477145.77   3656213.14       74.51705  (19022803)                477198.78
3656213.14       80.48277  (21052506)
        477216.45   3656213.14       82.35957  (21052506)                477234.12
3656213.14       84.61021  (21052506)
        477251.79   3656213.14       86.77712  (21052506)                477269.46
3656213.14       89.34471  (21052506)
        477410.82   3656213.14      108.99744  (21052506)                477428.49
3656213.14      112.64610  (21052506)
        477446.16   3656213.14      117.64629  (21012103)                477463.83
3656213.14      121.84407  (21012103)
        477481.50   3656213.14      127.80709  (21012103)                477499.17
3656213.14      135.15893  (21012103)
        477145.77   3656240.92       73.13972  (20120721)                477163.44
3656240.92       74.83817  (20120721)
        477181.11   3656240.92       76.65563  (20120721)                477234.12
3656240.92       82.37018  (20120721)
        477251.79   3656240.92       84.66943  (21012103)                477269.46
3656240.92       87.15686  (21012103)
        477287.13   3656240.92       90.34657  (21012103)                477304.80
3656240.92       93.41345  (21012103)
        477446.16   3656240.92      117.43870  (19022622)                477463.83
3656240.92      122.58528  (19022622)
 *** AERMOD - VERSION 22112  ***   *** C:\Users\enuno\OneDrive -
Dudek\Desktop\HARP2\HARP\Encinitas_Sanctua ***        02/12/23
 *** AERMET - VERSION  22112 ***   ***
                      ***        20:07:49

                                   PAGE  43
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                               *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                   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 PM_10    IN MICROGRAMS/M**3
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      X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)
Y-COORD (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
        477481.50   3656240.92      127.96802  (19022622)               477499.17
3656240.92      134.14289  (21022319)
        477145.77   3656268.70       74.75637  (21010408)               477163.44
3656268.70       76.10997  (21010408)
        477181.11   3656268.70       77.19498  (21010408)               477198.78
3656268.70       78.41946  (21010408)
        477216.45   3656268.70       80.05765  (21012103)               477269.46
3656268.70       86.21438  (19022622)
        477287.13   3656268.70       88.71030  (19022622)               477322.47
3656268.70       95.26559  (19022622)
        477340.14   3656268.70       98.00964  (19022622)               477463.83
3656268.70      120.40451  (21010603)
        477481.50   3656268.70      127.27759  (20021008)               477499.17
3656268.70      134.59211  (20021008)
        477163.44   3656296.48       75.90877  (20010618)               477181.11
3656296.48       77.38396  (20010618)
        477198.78   3656296.48       78.73551  (19022622)               477216.45
3656296.48       79.59508  (19022622)
        477234.12   3656296.48       80.66993  (19022622)               477251.79
3656296.48       83.03043  (21022319)
        477304.80   3656296.48       90.39304  (20022423)               477322.47
3656296.48       93.25249  (20022423)
        477340.14   3656296.48       95.43538  (21120603)               477357.81
3656296.48       98.54257  (21120603)
        477481.50   3656296.48      123.03056  (19012720)               477499.17
3656296.48      126.67304  (19022420)
        477145.77   3656324.26       71.46831  (20012804)               477198.78
3656324.26       77.28291  (20022423)
        477216.45   3656324.26       78.67943  (20022423)               477234.12
3656324.26       80.03780  (20022423)
        477251.79   3656324.26       82.19186  (21120603)               477269.46
3656324.26       84.01488  (21010603)
        477287.13   3656324.26       85.96425  (21010603)               477304.80
3656324.26       89.45832  (20021008)
        477322.47   3656324.26       92.59925  (20021008)               477340.14
3656324.26       95.45703  (20021008)
        477357.81   3656324.26       98.07499  (20021008)               477375.48
3656324.26      100.55509  (19012720)
        477481.50   3656324.26      122.74737  (20101707)               477499.17
3656324.26      127.14104  (20101707)
        477114.73   3655983.83       66.22941  (20120218)               477201.58
3656328.31       77.28431  (20022423)
        477226.26   3656328.31       79.43324  (21120603)               477250.94
3656328.31       81.83906  (21120603)
        477275.62   3656328.31       84.18091  (21010603)               477300.30
3656328.31       89.10804  (20021008)
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        477324.98   3656328.31       93.22157  (20021008)                477349.66
3656328.31       96.23349  (20021008)
        477374.34   3656328.31      100.09314  (19012720)                477497.74
3656328.31      125.13059  (20101707)
        477522.42   3656328.31      128.93677  (20022902)                477547.10
3656328.31      138.37396  (21120823)
        477621.14   3656328.31      169.84568  (21022223)                477645.82
3656328.31      182.27270  (20063006)
        477152.22   3656345.01       72.28458  (21011518)                477201.58
3656345.01       76.28574  (21120603)
        477226.26   3656345.01       78.82341  (20021008)                477250.94
3656345.01       82.77388  (20021008)
        477275.62   3656345.01       85.82285  (20021008)                477300.30
3656345.01       88.49149  (20021008)
        477324.98   3656345.01       91.20817  (19012720)                477349.66
3656345.01       94.17895  (19012720)
        477374.34   3656345.01       95.86011  (19012720)                477497.74
3656345.01      118.86487  (21022222)
        477522.42   3656345.01      125.48211  (21120823)                477547.10
3656345.01      134.06464  (20042606)
        477571.78   3656345.01      140.99085  (20100201)                477596.46
3656345.01      151.10283  (20020721)
        477621.14   3656345.01      163.15235  (20063006)                477645.82
3656345.01      170.02751  (21020924)
        477324.98   3656361.71       88.89489  (19012720)                477349.66
3656361.71       90.03160  (19022420)
        477374.34   3656361.71       95.15686  (20101707)                477497.74
3656361.71      115.48333  (21120823)
        477522.42   3656361.71      122.67262  (20042606)                477547.10
3656361.71      128.72331  (20122220)
        477571.78   3656361.71      136.81346  (20021904)                477596.46
3656361.71      144.13494  (21022320)
        477621.14   3656361.71      154.74256  (20063006)                477645.82
3656361.71      160.10007  (20022901)
 *** AERMOD - VERSION 22112  ***   *** C:\Users\enuno\OneDrive -
Dudek\Desktop\HARP2\HARP\Encinitas_Sanctua ***        02/12/23
 *** AERMET - VERSION  22112 ***   ***
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                                   PAGE  44
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                               *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                   INCLUDING SOURCE(S):     L0000001    , L0000002
, L0000003    , L0000004    , L0000005    ,
                  L0000006    , L0000007    , L0000008    , L0000009    , L0000010
, L0000011    , L0000012    , L0000013    ,
                  L0000014    , L0000015    , L0000016    , L0000017    , L0000018
, L0000019    , L0000020    , L0000021    ,
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                L0000022    , L0000023    , L0000024    , L0000025    , L0000026
, L0000027    , L0000028    ,  . . .      ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                       ** CONC OF PM_10    IN MICROGRAMS/M**3
                  **

      X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)
Y-COORD (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -
        477324.98   3656378.41       85.42916  (20101707)               477349.66
3656378.41       92.55644  (20101707)
        477374.34   3656378.41       97.01550  (20101707)               477497.74
3656378.41      113.71094  (20042606)
        477522.42   3656378.41      117.75087  (20100201)               477547.10
3656378.41      124.08699  (20021904)
        477596.46   3656378.41      141.18196  (20063006)               477621.14
3656378.41      145.68596  (21020924)
        477645.82   3656378.41      151.27248  (19012924)               477152.22
3656395.11       72.31428  (20021008)
        477176.90   3656395.11       73.18130  (20021008)               477201.58
3656395.11       74.81353  (19012720)
        477226.26   3656395.11       76.60799  (19012720)               477250.94
3656395.11       77.52727  (19022420)
        477275.62   3656395.11       79.32075  (19022420)               477300.30
3656395.11       83.02820  (20101707)
        477324.98   3656395.11       89.04803  (20101707)               477349.66
3656395.11       93.16513  (20101707)
        477374.34   3656395.11       93.77399  (20101707)               477448.38
3656395.11      100.53755  (20042606)
        477497.74   3656395.11      109.37025  (19102519)               477522.42
3656395.11      112.93167  (20020721)
        477547.10   3656395.11      120.60119  (21022320)               477571.78
3656395.11      127.11930  (20063006)
        477596.46   3656395.11      132.66908  (20063006)               477621.14
3656395.11      137.95500  (20022901)
        477645.82   3656395.11      141.84478  (19102120)               477152.22
3656411.81       69.47529  (19012720)
        477176.90   3656411.81       71.47025  (19012720)               477201.58
3656411.81       72.56240  (19012720)
        477226.26   3656411.81       74.64006  (19022420)               477250.94
3656411.81       75.39758  (19022420)
        477275.62   3656411.81       80.68719  (20101707)               477300.30
3656411.81       85.16869  (20101707)
        477324.98   3656411.81       87.93399  (20101707)               477349.66
3656411.81       88.89455  (20013119)
        477374.34   3656411.81       90.84459  (20013119)               477423.70
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3656411.81       94.91168  (20042606)
        477448.38   3656411.81       99.97184  (20042606)                477497.74
3656411.81      104.04432  (20100201)
        477522.42   3656411.81      111.24967  (20020721)                477547.10
3656411.81      115.56080  (21022223)
        477571.78   3656411.81      123.99342  (20063006)                477596.46
3656411.81      126.86939  (21020924)
        477621.14   3656411.81      131.80365  (19012924)                477645.82
3656411.81      132.46625  (19092524)
        477152.22   3656428.51       68.06852  (21021101)                477176.90
3656428.51       70.16102  (19022420)
        477201.58   3656428.51       71.66003  (19022420)                477226.26
3656428.51       73.59856  (20101707)
        477250.94   3656428.51       78.44666  (20101707)                477275.62
3656428.51       82.22355  (20101707)
        477300.30   3656428.51       83.93994  (20101707)                477324.98
3656428.51       85.03025  (20013119)
        477349.66   3656428.51       86.27638  (20013119)                477374.34
3656428.51       89.25130  (21022222)
        477497.74   3656428.51      104.30934  (20020721)                477522.42
3656428.51      108.48111  (21022223)
        477547.10   3656428.51      115.59940  (20063006)                477571.78
3656428.51      115.74396  (20063006)
        477596.46   3656428.51      120.86581  (19121304)                477621.14
3656428.51      124.30498  (19102120)
        477645.82   3656428.51      127.85008  (21011020)                477497.74
3656445.21      101.60458  (21022223)
        477522.42   3656445.21      106.51321  (20063006)                477547.10
3656445.21      112.09958  (20063006)
        477571.78   3656445.21      112.42401  (21020924)                477596.46
3656445.21      116.02328  (19012924)
        477621.14   3656445.21      117.52751  (21120222)                477645.82
3656445.21      121.47568  (19012719)
        477152.22   3656461.91       64.78740  (19040901)                477497.74
3656461.91       97.66991  (21022223)
        477522.42   3656461.91      105.78894  (20063006)                477547.10
3656461.91      104.62854  (20063006)
        477571.78   3656461.91      107.59298  (19121304)                477596.46
3656461.91      111.02956  (19012924)
        477621.14   3656461.91      111.52070  (21011020)                477645.82
3656461.91      115.33165  (19012719)
        477152.22   3656478.61       67.08812  (20101707)                477497.74
3656478.61       98.83822  (20063006)
 *** AERMOD - VERSION 22112  ***   *** C:\Users\enuno\OneDrive -
Dudek\Desktop\HARP2\HARP\Encinitas_Sanctua ***        02/12/23
 *** AERMET - VERSION  22112 ***   ***
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                                  PAGE  45
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*
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*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***

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 PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
477522.42	3656478.61	101.64677	(20063006)	477547.10	3656478.61	101.44820	(21020924)
477571.78	3656478.61	103.28946	(19012924)	477596.46	3656478.61	105.68871	(21120222)
477621.14	3656478.61	108.63088	(21011020)	477645.82	3656478.61	109.75978	(21120824)
477152.22	3656495.31	67.41782	(20101707)	477497.74	3656495.31	97.18056	(20063006)
477522.42	3656495.31	94.28056	(20012122)	477547.10	3656495.31	97.28624	(20022901)
477571.78	3656495.31	100.10360	(19012924)	477596.46	3656495.31	100.00476	(19092524)
477621.14	3656495.31	104.53384	(19012719)	477645.82	3656495.31	105.49786	(21120824)
477152.22	3656512.01	65.46621	(20101707)	477176.90	3656512.01	66.35036	(20013119)
477300.30	3656512.01	74.19822	(20042606)	477324.98	3656512.01	74.77842	(20042606)
477349.66	3656512.01	76.66332	(20100201)	477374.34	3656512.01	77.35701	(20050701)
477399.02	3656512.01	82.10022	(20020721)	477522.42	3656512.01	92.43438	(21020924)
477547.10	3656512.01	93.95875	(20022901)	477571.78	3656512.01	95.82921	(19102120)
477596.46	3656512.01	97.04414	(21011020)	477621.14	3656512.01	100.03392	(19012719)
477645.82	3656512.01	100.65312	(21020304)	477176.90	3656528.71	63.86439	(20013119)

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        477300.30   3656528.71       72.09858  (20042606)               477324.98
3656528.71       73.27172  (19102519)
        477349.66   3656528.71       74.34008  (20100201)               477374.34
3656528.71       77.61378  (20020721)
        477399.02   3656528.71       80.57665  (20020721)               477522.42
3656528.71       89.30698  (20022901)
        477547.10   3656528.71       91.41043  (19012924)               477571.78
3656528.71       91.54300  (21120222)
        477596.46   3656528.71       94.76386  (21011020)               477621.14
3656528.71       95.06256  (21120824)
        477645.82   3656528.71       98.04951  (19120722)               477176.90
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        477300.30   3656545.41       70.60712  (19102519)               477324.98
3656545.41       71.47383  (20100201)
        477349.66   3656545.41       73.54703  (20020721)               477374.34
3656545.41       77.41202  (20020721)
        477399.02   3656545.41       79.47957  (21022223)               477423.70
3656545.41       81.50205  (20063006)
        477522.42   3656545.41       86.73313  (20022901)               477547.10
3656545.41       88.20710  (19102120)
        477571.78   3656545.41       87.92106  (21100303)               477596.46
3656545.41       92.62199  (19012719)
        477621.14   3656545.41       92.57571  (21120824)               477645.82
3656545.41       95.07604  (19120722)
        477176.90   3656562.11       62.20181  (21022222)               477300.30
3656562.11       69.06495  (20100201)
        477324.98   3656562.11       69.52777  (20020721)               477349.66
3656562.11       73.72319  (20020721)
        477374.34   3656562.11       75.68417  (21022223)               477399.02
3656562.11       77.01833  (21022223)
        477423.70   3656562.11       83.04134  (20063006)               477522.42
3656562.11       84.04112  (19012924)
        477547.10   3656562.11       84.35421  (19102120)               477571.78
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        477596.46   3656562.11       89.55813  (19012719)               477621.14
3656562.11       89.30728  (21120824)
        477645.82   3656562.11       91.50076  (19120722)               477176.90
3656578.81       60.79022  (20042606)
        477201.58   3656578.81       63.53072  (20042606)               477324.98
3656578.81       70.47970  (20020721)
        477349.66   3656578.81       71.94230  (20020721)               477374.34
3656578.81       74.37370  (21022223)
        477399.02   3656578.81       78.03404  (20063006)               477423.70
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        477547.10   3656578.81       81.41726  (19092524)               477571.78
3656578.81       84.79000  (19012719)
        477596.46   3656578.81       85.35525  (19012719)               477621.14
3656578.81       86.90618  (21020304)
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                                *** THE   1ST HIGHEST 1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP: ALL   ***
                                   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 PM_10   IN MICROGRAMS/M**3
                  **

      X-COORD (M) Y-COORD (M)   CONC   (YYMMDDHH)   X-COORD (M)
Y-COORD (M)   CONC   (YYMMDDHH)
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        477645.82   3656595.51   83.19332 (19012319)   477152.22
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        477201.58   3656612.21   59.67187 (19102519)   477547.10
3656612.21   77.53360 (21011020)
        477571.78   3656612.21   80.61004 (19012719)   477596.46
3656612.21   80.31368 (21120824)
        477621.14   3656612.21   82.53846 (19120722)   477645.82
3656612.21   81.53197 (19122420)
        477152.22   3656628.91   56.66108 (20042606)   477201.58
3656628.91   58.55096 (20100201)
        477547.10   3656628.91   76.69930 (19012719)   477571.78
3656628.91   76.90885 (19012719)
        477596.46   3656628.91   77.37180 (21020304)   477621.14
3656628.91   79.80603 (19120722)
        477645.82   3656628.91   79.58649 (19122420)   477152.22
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        477226.26   3656645.61   56.61177 (20020721)   477250.94

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3656645.61       77.46000  (19122420)
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        477226.26   3656662.31       57.52138  (20020721)                477250.94
3656662.31       58.57128  (20020721)
        477275.62   3656662.31       59.06177  (21022223)                477300.30
3656662.31       59.62374  (21022223)
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3656662.31       75.20571  (19122420)
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3656677.77       64.17960  (20063006)
        477368.09   3656684.55       61.55696  (20012122)                477396.72
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        477431.37   3656698.86       62.86895  (19012924)                477571.50
3656690.58       68.28704  (21020304)
        477603.90   3656690.58       70.74507  (19120722)                477657.39
3656687.56       72.20413  (20010318)
        477758.40   3656642.79       91.00778  (21021323)                477748.60
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        477434.08   3655867.73       62.30723  (21122921)                477466.74
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        477442.36   3655709.78       40.10152  (19123102)                477442.36
3655666.75       36.74224  (19121718)
        477505.29   3655671.84       38.24947  (19120702)                477564.51
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        477641.81   3655648.79       38.85420  (21011507)                477661.81
3655648.79       38.81101  (21011507)
        477681.81   3655648.79       39.25237  (19020320)                477701.81
3655648.79       39.50970  (19020320)
        477721.81   3655648.79       40.42324  (20122923)                477941.81
3655648.79       36.01571  (19122503)
        477961.81   3655648.79       35.82914  (19021804)                477981.81
3655648.79       35.46702  (21022821)
        478001.81   3655648.79       35.13640  (21022821)                477601.81
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        477621.81   3655728.79       50.26271  (20010623)               477641.81
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        477761.81   3655748.79       53.38613  (19012607)               477821.81
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3655748.79       58.85339  (19120716)
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        477981.81   3655748.79       44.85007  (21022821)               478001.81
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        477981.81   3655788.79       49.00029  (20012920)               478001.81
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        477601.81   3655808.79       67.50774  (20010607)               477761.81
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3655828.79       73.50710  (19120716)
 *** AERMOD - VERSION 22112  ***   *** C:\Users\enuno\OneDrive -
Dudek\Desktop\HARP2\HARP\Encinitas_Sanctua ***        02/12/23
 *** AERMET - VERSION  22112 ***   ***
                      ***        20:07:49

                                  PAGE  48
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                               *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  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 PM_10    IN MICROGRAMS/M**3
                  **

      X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)
Y-COORD (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - -
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3655828.79       62.26402  (21022821)
        477941.81   3655828.79       60.20485  (21022821)                477961.81
3655828.79       56.91033  (20012920)
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        477641.81   3655848.79       91.63388  (20010607)                477661.81
3655848.79       91.30491  (20010621)
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        477761.81   3655848.79       76.16212  (20122923)                477781.81
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        477801.81   3655848.79       84.18039  (19120716)                477821.81
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        477841.81   3655848.79       94.41988  (19120716)                477861.81
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3655848.79       63.58911  (20012920)
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        477701.81   3655868.79      103.68562  (20010623)                477721.81
3655868.79       91.30323  (21011507)
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        477981.81   3655868.79       64.36861  (19121518)                478001.81
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3655888.79       90.24809  (19020320)
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3655888.79       80.17856  (21022821)
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3655888.79       71.56992  (21120303)
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3655908.79      101.14403  (19120616)
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3655908.79      123.06464  (20120802)
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 *** AERMOD - VERSION 22112  ***   *** C:\Users\enuno\OneDrive -
Dudek\Desktop\HARP2\HARP\Encinitas_Sanctua ***        02/12/23
 *** AERMET - VERSION  22112 ***   ***
                       ***        20:07:49

                                  PAGE  49
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                               *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  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 PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
477741.81	3655908.79	99.81458	(19020320)	477761.81	3655908.79	101.37197	(20122923)
477781.81	3655908.79	98.48465	(19012607)	477801.81	3655908.79	119.12691	(19120716)
477821.81	3655908.79	134.96479	(19120716)	477841.81	3655908.79	128.36934	(19120716)
477861.81	3655908.79	109.09813	(19120716)	477881.81	3655908.79	89.13777	(19021804)
477901.81	3655908.79	87.06144	(21022821)	477921.81	3655908.79	81.53497	(20012920)
477941.81	3655908.79	77.32016	(19121518)	477961.81	3655908.79	77.82821	(19121518)
477981.81	3655908.79	74.93213	(19121518)	478001.81	3655908.79	69.61225	(19121518)
477601.81	3655928.79	114.71747	(19120616)	477621.81	3655928.79	120.94479	(19012423)
477641.81	3655928.79	142.81660	(19020322)	477661.81	3655928.79	158.24642	(21011418)
477681.81	3655928.79	144.38717	(20122419)	477701.81	3655928.79	134.78080	(20010621)
477721.81	3655928.79	111.64119	(21011507)	477741.81	3655928.79	109.05752	(19020320)
477761.81	3655928.79	111.21153	(19121607)	477781.81	3655928.79	111.14142	(19012607)
477801.81	3655928.79	137.00578	(19120716)	477821.81	3655928.79	154.40740	(19120716)
477841.81	3655928.79	145.53099	(19120716)	477861.81	3655928.79	118.50997	(19120716)
477881.81	3655928.79	98.59998	(21022821)	477901.81	3655928.79	94.12021	(21022821)
477921.81	3655928.79	87.59738	(21120303)	477941.81	3655928.79	86.87555	(19121518)
477961.81	3655928.79	84.53547	(19121518)	477981.81	3655928.79	78.75891	(19121518)
478001.81	3655928.79	73.59967	(19020718)	477601.81	3655948.79	124.69056	(19120616)
477621.81	3655948.79	133.14182	(20022806)	477641.81	3655948.79	159.75504	(21011308)
477661.81	3655948.79	166.75474	(21011418)	477681.81	3655948.79	170.11788	(21011418)
477701.81	3655948.79	147.54854	(20010621)	477721.81	3655948.79	126.36764	(20010623)

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        477741.81   3655948.79      124.33439  (21011507)               477761.81
3655948.79      124.09067  (19020320)
        477781.81   3655948.79      128.41800  (19120716)               477801.81
3655948.79      157.17292  (19120716)
        477821.81   3655948.79      173.77859  (19120716)               477841.81
3655948.79      162.84663  (19120716)
        477861.81   3655948.79      129.00011  (19120716)               477881.81
3655948.79      109.31012  (21022821)
        477901.81   3655948.79      101.96281  (20012920)               477921.81
3655948.79       97.58297  (19121518)
        477941.81   3655948.79       96.11211  (19121518)               477961.81
3655948.79       90.02972  (19121518)
        477981.81   3655948.79       83.39260  (19020718)               478001.81
3655948.79       79.30562  (19010918)
        477601.81   3655968.79      129.58260  (20020122)               477621.81
3655968.79      146.13661  (20022801)
        477641.81   3655968.79      166.57551  (20021420)               477661.81
3655968.79      174.80471  (21122108)
        477681.81   3655968.79      182.97264  (21011418)               477701.81
3655968.79      162.62448  (20120802)
        477721.81   3655968.79      143.22946  (20010623)               477741.81
3655968.79      150.93545  (21011507)
        477761.81   3655968.79      147.79314  (19020320)               477781.81
3655968.79      150.84919  (19120716)
        477801.81   3655968.79      181.73659  (19120716)               477821.81
3655968.79      196.88326  (19120716)
        477841.81   3655968.79      184.49617  (19120716)               477861.81
3655968.79      140.49943  (19120716)
        477881.81   3655968.79      120.96071  (21022821)               477901.81
3655968.79      111.19862  (21120303)
        477921.81   3655968.79      110.37689  (19121518)               477941.81
3655968.79      104.15281  (19121518)
        477961.81   3655968.79       95.54020  (19020718)               477981.81
3655968.79       90.27785  (19010918)
        478001.81   3655968.79       87.35999  (19010918)               477601.81
3655988.79      156.86193  (19121020)
        477621.81   3655988.79      169.38455  (21011722)               477641.81
3655988.79      176.54235  (21011408)
 *** AERMOD - VERSION 22112  ***   *** C:\Users\enuno\OneDrive -
Dudek\Desktop\HARP2\HARP\Encinitas_Sanctua ***        02/12/23
 *** AERMET - VERSION  22112 ***   ***
                      ***        20:07:49

                                 PAGE  50
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                             *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                 INCLUDING SOURCE(S):     L0000001    , L0000002
, L0000003    , L0000004    , L0000005    ,
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                 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 PM_10    IN MICROGRAMS/M**3
                  **

      X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)
Y-COORD (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
        477661.81   3655988.79      184.40888  (21011308)               477681.81
3655988.79      192.72363  (21122108)
        477701.81   3655988.79      176.02715  (20120802)               477721.81
3655988.79      169.09959  (20010621)
        477741.81   3655988.79      163.88513  (21011507)               477761.81
3655988.79      167.42769  (19020320)
        477781.81   3655988.79      168.07687  (19120716)               477801.81
3655988.79      210.67936  (19120716)
        477821.81   3655988.79      228.10696  (19120716)               477841.81
3655988.79      210.65888  (19120716)
        477861.81   3655988.79      153.16130  (19120716)               477881.81
3655988.79      133.34230  (20012920)
        477901.81   3655988.79      128.01435  (19121518)               477921.81
3655988.79      122.07128  (19121518)
        477941.81   3655988.79      111.18401  (19020718)               477961.81
3655988.79      104.08074  (19010918)
        477981.81   3655988.79       99.93743  (19010918)               478001.81
3655988.79       93.52563  (19012101)
        477601.81   3656008.79      168.23898  (19012724)               477621.81
3656008.79      174.58790  (20021321)
        477641.81   3656008.79      185.72367  (21011408)               477661.81
3656008.79      186.48701  (21122102)
        477681.81   3656008.79      195.68228  (19120616)               477701.81
3656008.79      204.49761  (19120616)
        477721.81   3656008.79      187.44026  (19120616)               477741.81
3656008.79      179.39666  (19010516)
        477761.81   3656008.79      170.43843  (21011507)               477781.81
3656008.79      193.23333  (19120716)
        477801.81   3656008.79      247.03127  (19120716)               477821.81
3656008.79      268.35107  (19120716)
        477841.81   3656008.79      242.38924  (19120716)               477861.81
3656008.79      164.89590  (19120716)
        477881.81   3656008.79      149.40042  (19121518)               477901.81
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3656008.79      146.15405  (19121518)
        477921.81   3656008.79      132.15990  (19020718)               477941.81
3656008.79      122.00519  (19010918)
        477961.81   3656008.79      115.77694  (19010918)               477981.81
3656008.79      107.38406  (19012101)
        478001.81   3656008.79       98.50945  (21022119)               477601.81
3656028.79      171.99755  (21120720)
        477621.81   3656028.79      175.83461  (19121818)               477641.81
3656028.79      190.11158  (21120122)
        477661.81   3656028.79      193.03763  (19120616)               477681.81
3656028.79      229.63742  (19120616)
        477701.81   3656028.79      250.87888  (19120616)               477721.81
3656028.79      249.32740  (19120616)
        477741.81   3656028.79      211.73300  (19120616)               477761.81
3656028.79      194.23603  (19010516)
        477781.81   3656028.79      236.06626  (19120716)               477801.81
3656028.79      293.58090  (19120716)
        477821.81   3656028.79      319.64101  (19120716)               477841.81
3656028.79      282.25888  (19120716)
        477861.81   3656028.79      185.99664  (20012920)               477881.81
3656028.79      177.35096  (19121518)
        477901.81   3656028.79      160.27111  (19121518)               477921.81
3656028.79      146.32144  (19010918)
        477941.81   3656028.79      136.37002  (19010918)               477961.81
3656028.79      124.80085  (19012101)
        477981.81   3656028.79      113.17614  (19121517)               478001.81
3656028.79      104.95210  (19021621)
        477601.81   3656048.79      166.12684  (20050706)               477621.81
3656048.79      171.03499  (20050706)
        477641.81   3656048.79      197.25096  (20021922)               477661.81
3656048.79      201.06684  (19012623)
        477681.81   3656048.79      244.42464  (19120616)               477701.81
3656048.79      293.28243  (19120616)
        477721.81   3656048.79      308.91606  (19120616)               477741.81
3656048.79      284.22484  (19120616)
        477761.81   3656048.79      227.55429  (19120616)               477781.81
3656048.79      287.74186  (19120716)
        477801.81   3656048.79      352.87346  (19120716)               477821.81
3656048.79      379.21449  (19120716)
        477841.81   3656048.79      328.02668  (19120716)               477861.81
3656048.79      218.25521  (19121518)
        477881.81   3656048.79      201.23754  (19121518)               477901.81
3656048.79      183.93709  (20101317)
        477921.81   3656048.79      165.97226  (20101317)               477941.81
3656048.79      147.22940  (19012101)
        477961.81   3656048.79      133.02423  (19021621)               477981.81
3656048.79      120.69281  (19021621)
 *** AERMOD - VERSION 22112  ***   *** C:\Users\enuno\OneDrive -
Dudek\Desktop\HARP2\HARP\Encinitas_Sanctua ***        02/12/23
 *** AERMET - VERSION  22112 ***   ***
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
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 PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
478001.81	3656048.79	111.24314	(19051018)	477912.66	3655638.19	36.88980	(19122503)
477940.84	3655629.86	34.85400	(19122503)	477970.87	3655616.86	33.11067	(19021804)
477725.92	3655737.71	51.53426	(19121607)	477803.76	3655734.98	50.09219	(20012922)
478027.75	3656091.03	112.93349	(21010516)	478041.36	3656113.34	116.73637	(21010516)
478060.95	3656112.26	105.63987	(21010516)	478037.00	3656044.76	93.45976	(19012024)
478025.57	3656015.90	92.33023	(19021621)	478021.21	3655996.85	88.63970	(21022119)
478014.68	3655971.27	84.87525	(19010918)	478067.48	3656028.42	80.73802	(19012024)
478072.38	3656050.20	82.31855	(21022218)	478060.95	3656005.02	79.23345	(19021621)
478059.32	3655962.56	72.08433	(21022119)	478151.32	3656028.97	62.00318	(21022218)
478160.57	3656063.26	63.68391	(21022020)	478204.12	3656046.39	54.45546	(21022020)
478192.14	3656007.74	53.61575	(21022218)	478130.09	3655980.52	61.28876	(20121517)
478178.53	3655965.82	52.08643	(19012024)	478105.59	3655906.49	56.42746	(19012101)

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        478186.15   3655923.91       48.51667  (19021621)                478197.58
3656141.65       63.78489  (19122616)
        478219.90   3656168.87       56.25595  (20021718)                478080.55
3656204.25       94.75893  (19012919)
        478080.55   3656204.25       94.75893  (19012919)                478290.67
3655984.33       41.64636  (21022218)
        478302.10   3656030.60       41.46112  (21022020)                478226.86
3655930.20       45.12350  (20121517)
        478267.37   3655927.05       41.32477  (19012024)                478303.55
3655891.66       35.85103  (20121517)
        478316.92   3655919.97       36.39554  (19012024)                478169.04
3655874.35       46.32792  (21022119)
        478202.87   3655862.94       43.52206  (21022119)                478245.74
3655855.47       38.87353  (19021621)
        478039.25   3655857.38       55.61219  (21122606)                478104.58
3655853.02       48.46024  (19010918)
        478114.48   3655865.62       50.26189  (19010918)

1 *** AERMOD - VERSION 22112  ***   *** C:\Users\enuno\OneDrive -
Dudek\Desktop\HARP2\HARP\Encinitas_Sanctua ***        02/12/23
 *** AERMET - VERSION  22112 ***   ***
                      ***        20:07:49

                                 PAGE  52
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                      *** THE SUMMARY OF MAXIMUM PERIOD ( 26304
HRS) RESULTS ***


                                   ** CONC OF PM_10    IN MICROGRAMS/M**3
             **


                      NETWORK
GROUP ID                      AVERAGE CONC                RECEPTOR  (XR, YR, ZELEV,
ZHILL, ZFLAG)  OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -

ALL       1ST HIGHEST VALUE IS     120.33617 AT (  477881.27,  3656161.04,    51.04,
  101.79,    0.00)  DC
          2ND HIGHEST VALUE IS     115.52956 AT (  477841.42,  3656223.07,    58.09,
  101.79,    0.00)  DC
          3RD HIGHEST VALUE IS      98.20028 AT (  477799.16,  3656239.28,    64.46,
  101.79,    0.00)  DC
          4TH HIGHEST VALUE IS      89.62244 AT (  477884.09,  3656215.48,    53.76,
  101.79,    0.00)  DC
          5TH HIGHEST VALUE IS      79.61011 AT (  477877.59,  3656112.60,    48.29,
  101.79,    0.00)  DC
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         6TH HIGHEST VALUE IS      65.97859 AT (  477767.77,  3656252.20,    67.73,
  101.79,    0.00)  DC
         7TH HIGHEST VALUE IS      62.93393 AT (  477928.70,  3656143.00,    47.44,
  101.79,    0.00)  DC
         8TH HIGHEST VALUE IS      54.51933 AT (  477940.95,  3656208.14,    48.61,
  101.79,    0.00)  DC
         9TH HIGHEST VALUE IS      54.19800 AT (  477723.93,  3656083.21,    53.51,
  101.79,    0.00)  DC
        10TH HIGHEST VALUE IS      51.28035 AT (  477769.69,  3656067.17,    48.84,
  101.79,    0.00)  DC


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
🡅 *** AERMOD - VERSION 22112  ***   *** C:\Users\enuno\OneDrive -
Dudek\Desktop\HARP2\HARP\Encinitas_Sanctua ***        02/12/23
 *** AERMET - VERSION  22112 ***   ***
                       ***        20:07:49

                                  PAGE  53
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                                *** THE SUMMARY OF HIGHEST  1-HR
RESULTS ***


                                   ** CONC OF PM_10    IN MICROGRAMS/M**3
              **

                                                        DATE
                                          NETWORK
GROUP ID                          AVERAGE CONC     (YYMMDDHH)            RECEPTOR
(XR, YR, ZELEV, ZHILL, ZFLAG)    OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -

ALL      HIGH   1ST HIGH VALUE IS     399.45051  ON 19120716: AT (  477822.81,
3656055.81,    44.35,   101.79,    0.00)  DC


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
🡅 *** AERMOD - VERSION 22112  ***   *** C:\Users\enuno\OneDrive -
Dudek\Desktop\HARP2\HARP\Encinitas_Sanctua ***        02/12/23
 *** AERMET - VERSION  22112 ***   ***
                       ***        20:07:49
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** Message Summary : AERMOD Model Execution ***

 --------- Summary of Total Messages --------

A Total of   0 Fatal Error Message(s)
A Total of   2 Warning Message(s)
A Total of   1272 Informational Message(s)

A Total of   26304 Hours Were Processed

A Total of   701 Calm Hours Identified

A Total of   571 Missing Hours Identified (2.17 Percent)

   ******** FATAL ERROR MESSAGES ********
              *** NONE ***

   ********   WARNING MESSAGES   ********
ME W186   544   MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used
    0.50
ME W187   544   MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET

   ****
   *** AERMOD Finishes Successfully ***
   ****

HARP2 - HRACalc (dated 22118) 2/21/2023 1:29:17 PM - Output Log

GLCs loaded successfully
Pollutants loaded successfully
Pathway receptors loaded successfully
****
RISK SCENARIO SETTINGS

Receptor Type: Resident
Scenario: All
Calculation Method: HighEnd

****
EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: -0.25
Total Exposure Duration: 1.06

Exposure Duration Bin Distribution
3rd Trimester Bin: 0.25
0<2 Years Bin: 1.06
2<9 Years Bin: 0
2<16 Years Bin: 0
16<30 Years Bin: 0
16 to 70 Years Bin: 0

****
PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True
Soil: False
Dermal: False
Mother's milk: False
Water: False
Fish: False
Homegrown crops: False
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

****
INHALATION

Daily breathing rate: RMP

Worker Adjustment Factors
Worker adjustment factors enabled: NO

Fraction at time at home
3rd Trimester to 16 years: ON
16 years to 70 years: ON

****
TIER 2 SETTINGS

Tier2 adjustments were used in this assessment. Please see the input file for details.
Tier2 - What was changed: ED or start age changed
Calculating cancer risk
Cancer risk breakdown by pollutant and receptor saved to: C:\Users\enuno\OneDrive - Dudek\Desktop\HARP2\HARP\Encinitas_Sanctuary\Sactuary Harp\ENCINITAS SANCTUARY CONSTRUCTION UNMIT\hra\Sanctuary_Const_Unmit_FAH_AdjCancerRisk.csv
Cancer risk total by receptor saved to: C:\Users\enuno\OneDrive - Dudek\Desktop\HARP2\HARP\Encinitas_Sanctuary\Sactuary Harp\ENCINITAS SANCTUARY CONSTRUCTION UNMIT\hra\Sanctuary_Const_Unmit_FAH_AdjCancerRiskSumByRec.csv
Calculating chronic risk
Chronic risk breakdown by pollutant and receptor saved to: C:\Users\enuno\OneDrive - Dudek\Desktop\HARP2\HARP\Encinitas_Sanctuary\Sactuary Harp\ENCINITAS SANCTUARY CONSTRUCTION UNMIT\hra\Sanctuary_Const_Unmit_FAH_AdjNCChronicRisk.csv
Chronic risk total by receptor saved to: C:\Users\enuno\OneDrive - Dudek\Desktop\HARP2\HARP\Encinitas_Sanctuary\Sactuary Harp\ENCINITAS SANCTUARY CONSTRUCTION UNMIT\hra\Sanctuary_Const_Unmit_FAH_AdjNCChronicRiskSumByRec.csv
Calculating acute risk
Acute risk breakdown by pollutant and receptor saved to: C:\Users\enuno\OneDrive - Dudek\Desktop\HARP2\HARP\Encinitas_Sanctuary\Sactuary Harp\ENCINITAS SANCTUARY CONSTRUCTION UNMIT\hra\Sanctuary_Const_Unmit_FAH_AdjNCAcuteRisk.csv
Acute risk total by receptor saved to: C:\Users\enuno\OneDrive - Dudek\Desktop\HARP2\HARP\Encinitas_Sanctuary\Sactuary Harp\ENCINITAS SANCTUARY CONSTRUCTION UNMIT\hra\Sanctuary_Const_Unmit_FAH_AdjNCAcuteRiskSumByRec.csv
HRA ran successfully

*HARP - HRACalc v22118 2/21/2023 1:29:17 PM - Cancer Risk - Input File: C:\Users\enuno\OneDrive - Dudek\Desktop\HARP2\HARP\Encinitas_Sanctuary\Sactuary Harp\ENCINITAS SANCTUARY CONSTRUCTION UNMIT\hra\Sanctuary_(

REC	GRP	NETID	X	Y	RISK_SUM	SCENARIO	INH_RISK	SOIL_RISK	DERMAL_R	MMILK_RIS	WATER_RI	FISH_RISK	CROP_RISK	BEEF_RISK	DAIRY_RISI	PIG_RISK	CHICKEN_F	EGG_RISK
5	ALL		477881.3	3656161	3.37E-05	1.06YrCanc	3.37E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1	ALL		477841.4	3656223	3.24E-05	1.06YrCanc	3.24E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
3	ALL		477799.2	3656239	2.75E-05	1.06YrCanc	2.75E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2	ALL		477884.1	3656215	2.51E-05	1.06YrCanc	2.51E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
7	ALL		477877.6	3656113	2.23E-05	1.06YrCanc	2.23E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
4	ALL		477767.8	3656252	1.85E-05	1.06YrCanc	1.85E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
6	ALL		477928.7	3656143	1.76E-05	1.06YrCanc	1.76E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
17	ALL		477941	3656208	1.53E-05	1.06YrCanc	1.53E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
12	ALL		477723.9	3656083	1.52E-05	1.06YrCanc	1.52E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
11	ALL		477769.7	3656067	1.44E-05	1.06YrCanc	1.44E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
30	ALL		477848	3656279	1.31E-05	1.06YrCanc	1.31E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
13	ALL		477686.9	3656092	1.29E-05	1.06YrCanc	1.29E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
9	ALL		477843.2	3656065	1.27E-05	1.06YrCanc	1.27E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
47	ALL		477898.4	3656260	1.27E-05	1.06YrCanc	1.27E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
10	ALL		477822.8	3656056	1.15E-05	1.06YrCanc	1.15E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
14	ALL		477657.5	3656113	1.15E-05	1.06YrCanc	1.15E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
950	ALL		477781.8	3656049	1.07E-05	1.06YrCanc	1.07E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
949	ALL		477761.8	3656049	1.05E-05	1.06YrCanc	1.05E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
951	ALL		477801.8	3656049	1.05E-05	1.06YrCanc	1.05E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
46	ALL		477912.2	3656272	1.04E-05	1.06YrCanc	1.04E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
948	ALL		477741.8	3656049	1.03E-05	1.06YrCanc	1.03E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
952	ALL		477821.8	3656049	1.02E-05	1.06YrCanc	1.02E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
18	ALL		477968.5	3656122	1.01E-05	1.06YrCanc	1.01E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
947	ALL		477721.8	3656049	9.88E-06	1.06YrCanc	9.88E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
953	ALL		477841.8	3656049	9.64E-06	1.06YrCanc	9.64E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
29	ALL		477799.3	3656302	9.60E-06	1.06YrCanc	9.60E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
31	ALL		477855.4	3656304	9.47E-06	1.06YrCanc	9.47E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
946	ALL		477701.8	3656049	9.32E-06	1.06YrCanc	9.32E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
48	ALL		477991.8	3656212	9.27E-06	1.06YrCanc	9.27E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
954	ALL		477861.8	3656049	8.82E-06	1.06YrCanc	8.82E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8	ALL		477859.2	3656048	8.80E-06	1.06YrCanc	8.80E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
945	ALL		477681.8	3656049	8.49E-06	1.06YrCanc	8.49E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
927	ALL		477741.8	3656029	8.14E-06	1.06YrCanc	8.14E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15	ALL		477613	3656132	8.03E-06	1.06YrCanc	8.03E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
955	ALL		477881.8	3656049	7.94E-06	1.06YrCanc	7.94E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
926	ALL		477721.8	3656029	7.94E-06	1.06YrCanc	7.94E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
929	ALL		477781.8	3656029	7.93E-06	1.06YrCanc	7.93E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
928	ALL		477761.8	3656029	7.93E-06	1.06YrCanc	7.93E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
19	ALL		477930	3656071	7.78E-06	1.06YrCanc	7.78E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
20	ALL		477930	3656071	7.78E-06	1.06YrCanc	7.78E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
930	ALL		477801.8	3656029	7.70E-06	1.06YrCanc	7.70E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
944	ALL		477661.8	3656049	7.60E-06	1.06YrCanc	7.60E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
931	ALL		477821.8	3656029	7.53E-06	1.06YrCanc	7.53E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
925	ALL		477701.8	3656029	7.36E-06	1.06YrCanc	7.36E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
932	ALL		477841.8	3656029	7.13E-06	1.06YrCanc	7.13E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
956	ALL		477901.8	3656049	7.02E-06	1.06YrCanc	7.02E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
16	ALL		477697.9	3656267	6.99E-06	1.06YrCanc	6.99E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
924	ALL		477681.8	3656029	6.77E-06	1.06YrCanc	6.77E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
933	ALL		477861.8	3656029	6.71E-06	1.06YrCanc	6.71E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
906	ALL		477741.8	3656009	6.60E-06	1.06YrCanc	6.60E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
905	ALL		477721.8	3656009	6.51E-06	1.06YrCanc	6.51E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
957	ALL		477921.8	3656049	6.29E-06	1.06YrCanc	6.29E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
907	ALL		477761.8	3656009	6.28E-06	1.06YrCanc	6.28E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
934	ALL		477881.8	3656029	6.21E-06	1.06YrCanc	6.21E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
28	ALL		477771.2	3656320	6.20E-06	1.06YrCanc	6.20E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
908	ALL		477781.8	3656009	6.07E-06	1.06YrCanc	6.07E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
923	ALL		477661.8	3656029	6.05E-06	1.06YrCanc	6.05E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
904	ALL		477701.8	3656009	6.04E-06	1.06YrCanc	6.04E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
909	ALL		477801.8	3656009	6.04E-06	1.06YrCanc	6.04E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
910	ALL		477821.8	3656009	5.82E-06	1.06YrCanc	5.82E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

943	ALL	477641.8	3656049	5.69E-06	1.06YrCanc	5.69E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
935	ALL	477901.8	3656029	5.61E-06	1.06YrCanc	5.61E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
958	ALL	477941.8	3656049	5.61E-06	1.06YrCanc	5.61E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
911	ALL	477841.8	3656009	5.59E-06	1.06YrCanc	5.59E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
886	ALL	477761.8	3655989	5.54E-06	1.06YrCanc	5.54E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
885	ALL	477741.8	3655989	5.48E-06	1.06YrCanc	5.48E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
41	ALL	477826.1	3656362	5.41E-06	1.06YrCanc	5.41E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
884	ALL	477721.8	3655989	5.36E-06	1.06YrCanc	5.36E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
21	ALL	477909.1	3656026	5.31E-06	1.06YrCanc	5.31E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
912	ALL	477861.8	3656009	5.27E-06	1.06YrCanc	5.27E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
903	ALL	477681.8	3656009	5.23E-06	1.06YrCanc	5.23E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
968	ALL	478041.4	3656113	5.18E-06	1.06YrCanc	5.18E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
936	ALL	477921.8	3656029	5.14E-06	1.06YrCanc	5.14E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
68	ALL	477898.3	3656364	5.08E-06	1.06YrCanc	5.08E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
887	ALL	477781.8	3655989	5.04E-06	1.06YrCanc	5.04E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
959	ALL	477961.8	3656049	5.03E-06	1.06YrCanc	5.03E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
883	ALL	477701.8	3655989	5.03E-06	1.06YrCanc	5.03E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
902	ALL	477661.8	3656009	5.01E-06	1.06YrCanc	5.01E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
922	ALL	477641.8	3656029	4.96E-06	1.06YrCanc	4.96E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
913	ALL	477881.8	3656009	4.94E-06	1.06YrCanc	4.94E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
888	ALL	477801.8	3655989	4.90E-06	1.06YrCanc	4.90E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
967	ALL	478027.8	3656091	4.82E-06	1.06YrCanc	4.82E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
69	ALL	477933.5	3656357	4.80E-06	1.06YrCanc	4.80E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
889	ALL	477821.8	3655989	4.70E-06	1.06YrCanc	4.70E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
988	ALL	478080.6	3656204	4.68E-06	1.06YrCanc	4.68E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
989	ALL	478080.6	3656204	4.68E-06	1.06YrCanc	4.68E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
914	ALL	477901.8	3656009	4.64E-06	1.06YrCanc	4.64E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
937	ALL	477941.8	3656029	4.60E-06	1.06YrCanc	4.60E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
864	ALL	477741.8	3655969	4.60E-06	1.06YrCanc	4.60E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
890	ALL	477841.8	3655989	4.56E-06	1.06YrCanc	4.56E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
865	ALL	477761.8	3655969	4.54E-06	1.06YrCanc	4.54E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
55	ALL	477585	3656042	4.51E-06	1.06YrCanc	4.51E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
960	ALL	477981.8	3656049	4.49E-06	1.06YrCanc	4.49E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
27	ALL	477732	3656324	4.48E-06	1.06YrCanc	4.48E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
901	ALL	477641.8	3656009	4.48E-06	1.06YrCanc	4.48E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
969	ALL	478061	3656112	4.47E-06	1.06YrCanc	4.47E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
863	ALL	477721.8	3655969	4.45E-06	1.06YrCanc	4.45E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
66	ALL	477875.9	3656385	4.42E-06	1.06YrCanc	4.42E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
921	ALL	477621.8	3656029	4.41E-06	1.06YrCanc	4.41E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
920	ALL	477601.8	3656029	4.39E-06	1.06YrCanc	4.39E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
891	ALL	477861.8	3655989	4.33E-06	1.06YrCanc	4.33E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
866	ALL	477781.8	3655969	4.33E-06	1.06YrCanc	4.33E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
56	ALL	477594.6	3656082	4.33E-06	1.06YrCanc	4.33E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
942	ALL	477621.8	3656049	4.30E-06	1.06YrCanc	4.30E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
915	ALL	477921.8	3656009	4.27E-06	1.06YrCanc	4.27E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
67	ALL	477831	3656392	4.23E-06	1.06YrCanc	4.23E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
899	ALL	477601.8	3656009	4.20E-06	1.06YrCanc	4.20E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
938	ALL	477961.8	3656029	4.20E-06	1.06YrCanc	4.20E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
862	ALL	477701.8	3655969	4.19E-06	1.06YrCanc	4.19E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
941	ALL	477601.8	3656049	4.16E-06	1.06YrCanc	4.16E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
900	ALL	477621.8	3656009	4.15E-06	1.06YrCanc	4.15E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
892	ALL	477881.8	3655989	4.08E-06	1.06YrCanc	4.08E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
961	ALL	478001.8	3656049	4.07E-06	1.06YrCanc	4.07E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
867	ALL	477801.8	3655969	4.07E-06	1.06YrCanc	4.07E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
607	ALL	477888.1	3655990	4.05E-06	1.06YrCanc	4.05E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
882	ALL	477681.8	3655989	3.94E-06	1.06YrCanc	3.94E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
868	ALL	477821.8	3655969	3.91E-06	1.06YrCanc	3.91E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
237	ALL	477499.2	3656074	3.89E-06	1.06YrCanc	3.89E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
916	ALL	477941.8	3656009	3.88E-06	1.06YrCanc	3.88E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
881	ALL	477661.8	3655989	3.87E-06	1.06YrCanc	3.87E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
49	ALL	477524.9	3656025	3.87E-06	1.06YrCanc	3.87E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
880	ALL	477641.8	3655989	3.87E-06	1.06YrCanc	3.87E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

878	ALL	477601.8	3655989	3.86E-06	1.06YrCanc	3.86E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
893	ALL	477901.8	3655989	3.84E-06	1.06YrCanc	3.84E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
879	ALL	477621.8	3655989	3.83E-06	1.06YrCanc	3.83E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
939	ALL	477981.8	3656029	3.81E-06	1.06YrCanc	3.81E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
869	ALL	477841.8	3655969	3.79E-06	1.06YrCanc	3.79E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
218	ALL	477499.2	3656046	3.74E-06	1.06YrCanc	3.74E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
842	ALL	477721.8	3655949	3.72E-06	1.06YrCanc	3.72E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
843	ALL	477741.8	3655949	3.65E-06	1.06YrCanc	3.65E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
844	ALL	477761.8	3655949	3.65E-06	1.06YrCanc	3.65E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
841	ALL	477701.8	3655949	3.63E-06	1.06YrCanc	3.63E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
256	ALL	477499.2	3656102	3.62E-06	1.06YrCanc	3.62E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
236	ALL	477481.5	3656074	3.62E-06	1.06YrCanc	3.62E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
857	ALL	477601.8	3655969	3.61E-06	1.06YrCanc	3.61E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
858	ALL	477621.8	3655969	3.61E-06	1.06YrCanc	3.61E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
870	ALL	477861.8	3655969	3.60E-06	1.06YrCanc	3.60E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
845	ALL	477781.8	3655949	3.60E-06	1.06YrCanc	3.60E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
917	ALL	477961.8	3656009	3.57E-06	1.06YrCanc	3.57E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
894	ALL	477921.8	3655989	3.56E-06	1.06YrCanc	3.56E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
940	ALL	478001.8	3656029	3.51E-06	1.06YrCanc	3.51E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
201	ALL	477499.2	3656019	3.49E-06	1.06YrCanc	3.49E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
871	ALL	477881.8	3655969	3.46E-06	1.06YrCanc	3.46E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
54	ALL	477586.3	3655966	3.43E-06	1.06YrCanc	3.43E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
255	ALL	477481.5	3656102	3.43E-06	1.06YrCanc	3.43E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
846	ALL	477801.8	3655949	3.43E-06	1.06YrCanc	3.43E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
859	ALL	477641.8	3655969	3.38E-06	1.06YrCanc	3.38E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
235	ALL	477463.8	3656074	3.38E-06	1.06YrCanc	3.38E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
847	ALL	477821.8	3655949	3.34E-06	1.06YrCanc	3.34E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
861	ALL	477681.8	3655969	3.32E-06	1.06YrCanc	3.32E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
895	ALL	477941.8	3655989	3.32E-06	1.06YrCanc	3.32E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
860	ALL	477661.8	3655969	3.30E-06	1.06YrCanc	3.30E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
200	ALL	477481.5	3656019	3.30E-06	1.06YrCanc	3.30E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
970	ALL	478037	3656045	3.30E-06	1.06YrCanc	3.30E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
918	ALL	477981.8	3656009	3.29E-06	1.06YrCanc	3.29E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
254	ALL	477463.8	3656102	3.28E-06	1.06YrCanc	3.28E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
872	ALL	477901.8	3655969	3.24E-06	1.06YrCanc	3.24E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
837	ALL	477621.8	3655949	3.24E-06	1.06YrCanc	3.24E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
848	ALL	477841.8	3655949	3.20E-06	1.06YrCanc	3.20E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
836	ALL	477601.8	3655949	3.20E-06	1.06YrCanc	3.20E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
820	ALL	477701.8	3655929	3.18E-06	1.06YrCanc	3.18E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
821	ALL	477721.8	3655929	3.14E-06	1.06YrCanc	3.14E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
189	ALL	477499.2	3655991	3.11E-06	1.06YrCanc	3.11E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
823	ALL	477761.8	3655929	3.10E-06	1.06YrCanc	3.10E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
217	ALL	477446.2	3656046	3.08E-06	1.06YrCanc	3.08E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
896	ALL	477961.8	3655989	3.08E-06	1.06YrCanc	3.08E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
822	ALL	477741.8	3655929	3.06E-06	1.06YrCanc	3.06E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
873	ALL	477921.8	3655969	3.06E-06	1.06YrCanc	3.06E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
849	ALL	477861.8	3655949	3.06E-06	1.06YrCanc	3.06E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
824	ALL	477781.8	3655929	3.05E-06	1.06YrCanc	3.05E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
919	ALL	478001.8	3656009	3.02E-06	1.06YrCanc	3.02E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
65	ALL	477800.3	3656428	2.99E-06	1.06YrCanc	2.99E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
188	ALL	477481.5	3655991	2.98E-06	1.06YrCanc	2.98E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
840	ALL	477681.8	3655949	2.97E-06	1.06YrCanc	2.97E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
70	ALL	477932.2	3656435	2.97E-06	1.06YrCanc	2.97E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
234	ALL	477446.2	3656074	2.95E-06	1.06YrCanc	2.95E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
850	ALL	477881.8	3655949	2.94E-06	1.06YrCanc	2.94E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
825	ALL	477801.8	3655929	2.93E-06	1.06YrCanc	2.93E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
816	ALL	477621.8	3655929	2.91E-06	1.06YrCanc	2.91E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
838	ALL	477641.8	3655949	2.90E-06	1.06YrCanc	2.90E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
826	ALL	477821.8	3655929	2.89E-06	1.06YrCanc	2.89E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
819	ALL	477681.8	3655929	2.88E-06	1.06YrCanc	2.88E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
975	ALL	478072.4	3656050	2.88E-06	1.06YrCanc	2.88E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
874	ALL	477941.8	3655969	2.87E-06	1.06YrCanc	2.87E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

971	ALL	478025.6	3656016	2.87E-06	1.06YrCanc	2.87E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
897	ALL	477981.8	3655989	2.87E-06	1.06YrCanc	2.87E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
839	ALL	477661.8	3655949	2.85E-06	1.06YrCanc	2.85E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
815	ALL	477601.8	3655929	2.83E-06	1.06YrCanc	2.83E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
216	ALL	477428.5	3656046	2.82E-06	1.06YrCanc	2.82E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
799	ALL	477701.8	3655909	2.81E-06	1.06YrCanc	2.81E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
851	ALL	477901.8	3655949	2.80E-06	1.06YrCanc	2.80E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
33	ALL	477646.7	3656292	2.79E-06	1.06YrCanc	2.79E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
827	ALL	477841.8	3655929	2.76E-06	1.06YrCanc	2.76E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
798	ALL	477681.8	3655909	2.74E-06	1.06YrCanc	2.74E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
199	ALL	477428.5	3656019	2.73E-06	1.06YrCanc	2.73E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
271	ALL	477499.2	3656130	2.72E-06	1.06YrCanc	2.72E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
32	ALL	477662.3	3656312	2.72E-06	1.06YrCanc	2.72E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
800	ALL	477721.8	3655909	2.72E-06	1.06YrCanc	2.72E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
817	ALL	477641.8	3655929	2.71E-06	1.06YrCanc	2.71E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
176	ALL	477499.2	3655963	2.70E-06	1.06YrCanc	2.70E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
42	ALL	477760.6	3656386	2.69E-06	1.06YrCanc	2.69E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
875	ALL	477961.8	3655969	2.69E-06	1.06YrCanc	2.69E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
802	ALL	477761.8	3655909	2.69E-06	1.06YrCanc	2.69E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
175	ALL	477481.5	3655963	2.67E-06	1.06YrCanc	2.67E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
852	ALL	477921.8	3655949	2.66E-06	1.06YrCanc	2.66E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
801	ALL	477741.8	3655909	2.66E-06	1.06YrCanc	2.66E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
269	ALL	477463.8	3656130	2.66E-06	1.06YrCanc	2.66E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
898	ALL	478001.8	3655989	2.65E-06	1.06YrCanc	2.65E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
828	ALL	477861.8	3655929	2.64E-06	1.06YrCanc	2.64E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
198	ALL	477410.8	3656019	2.62E-06	1.06YrCanc	2.62E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
22	ALL	477551.5	3656176	2.62E-06	1.06YrCanc	2.62E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
974	ALL	478067.5	3656028	2.61E-06	1.06YrCanc	2.61E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
53	ALL	477571	3655927	2.60E-06	1.06YrCanc	2.60E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
972	ALL	478021.2	3655997	2.59E-06	1.06YrCanc	2.59E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
795	ALL	477621.8	3655909	2.59E-06	1.06YrCanc	2.59E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
797	ALL	477661.8	3655909	2.58E-06	1.06YrCanc	2.58E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
803	ALL	477781.8	3655909	2.58E-06	1.06YrCanc	2.58E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
233	ALL	477428.5	3656074	2.58E-06	1.06YrCanc	2.58E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
253	ALL	477446.2	3656102	2.57E-06	1.06YrCanc	2.57E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
796	ALL	477641.8	3655909	2.56E-06	1.06YrCanc	2.56E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
73	ALL	477877.1	3656481	2.56E-06	1.06YrCanc	2.56E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
174	ALL	477463.8	3655963	2.55E-06	1.06YrCanc	2.55E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
187	ALL	477428.5	3655991	2.55E-06	1.06YrCanc	2.55E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
829	ALL	477881.8	3655929	2.55E-06	1.06YrCanc	2.55E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
818	ALL	477661.8	3655929	2.54E-06	1.06YrCanc	2.54E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
876	ALL	477981.8	3655969	2.52E-06	1.06YrCanc	2.52E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
804	ALL	477801.8	3655909	2.52E-06	1.06YrCanc	2.52E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
794	ALL	477601.8	3655909	2.52E-06	1.06YrCanc	2.52E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
853	ALL	477941.8	3655949	2.51E-06	1.06YrCanc	2.51E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
72	ALL	477838.1	3656479	2.50E-06	1.06YrCanc	2.50E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
805	ALL	477821.8	3655909	2.49E-06	1.06YrCanc	2.49E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
215	ALL	477410.8	3656046	2.48E-06	1.06YrCanc	2.48E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
23	ALL	477556.6	3656194	2.48E-06	1.06YrCanc	2.48E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
270	ALL	477481.5	3656130	2.47E-06	1.06YrCanc	2.47E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
778	ALL	477701.8	3655889	2.46E-06	1.06YrCanc	2.46E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
777	ALL	477681.8	3655889	2.46E-06	1.06YrCanc	2.46E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
50	ALL	477517.8	3655938	2.45E-06	1.06YrCanc	2.45E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
830	ALL	477901.8	3655929	2.44E-06	1.06YrCanc	2.44E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
186	ALL	477410.8	3655991	2.42E-06	1.06YrCanc	2.42E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
44	ALL	477529.1	3656165	2.41E-06	1.06YrCanc	2.41E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
806	ALL	477841.8	3655909	2.38E-06	1.06YrCanc	2.38E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
185	ALL	477393.2	3655991	2.37E-06	1.06YrCanc	2.37E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
854	ALL	477961.8	3655949	2.37E-06	1.06YrCanc	2.37E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
232	ALL	477410.8	3656074	2.36E-06	1.06YrCanc	2.36E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
779	ALL	477721.8	3655889	2.36E-06	1.06YrCanc	2.36E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
877	ALL	478001.8	3655969	2.35E-06	1.06YrCanc	2.35E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

24	ALL	477563.7	3656214	2.35E-06	1.06YrCanc	2.35E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
976	ALL	478061	3656005	2.35E-06	1.06YrCanc	2.35E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
71	ALL	478012.9	3656438	2.33E-06	1.06YrCanc	2.33E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
831	ALL	477921.8	3655929	2.33E-06	1.06YrCanc	2.33E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
776	ALL	477661.8	3655889	2.33E-06	1.06YrCanc	2.33E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
163	ALL	477499.2	3655935	2.32E-06	1.06YrCanc	2.32E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
774	ALL	477621.8	3655889	2.31E-06	1.06YrCanc	2.31E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
780	ALL	477741.8	3655889	2.31E-06	1.06YrCanc	2.31E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
162	ALL	477481.5	3655935	2.31E-06	1.06YrCanc	2.31E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
807	ALL	477861.8	3655909	2.30E-06	1.06YrCanc	2.30E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
775	ALL	477641.8	3655889	2.30E-06	1.06YrCanc	2.30E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
973	ALL	478014.7	3655971	2.29E-06	1.06YrCanc	2.29E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
986	ALL	478197.6	3656142	2.28E-06	1.06YrCanc	2.28E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
161	ALL	477463.8	3655935	2.27E-06	1.06YrCanc	2.27E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
374	ALL	477645.8	3656328	2.26E-06	1.06YrCanc	2.26E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
773	ALL	477601.8	3655889	2.25E-06	1.06YrCanc	2.25E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
781	ALL	477761.8	3655889	2.24E-06	1.06YrCanc	2.24E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
855	ALL	477981.8	3655949	2.24E-06	1.06YrCanc	2.24E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
197	ALL	477393.2	3656019	2.23E-06	1.06YrCanc	2.23E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
214	ALL	477393.2	3656046	2.23E-06	1.06YrCanc	2.23E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
782	ALL	477781.8	3655889	2.23E-06	1.06YrCanc	2.23E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
808	ALL	477881.8	3655909	2.22E-06	1.06YrCanc	2.22E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
40	ALL	477693.6	3656357	2.22E-06	1.06YrCanc	2.22E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
758	ALL	477721.8	3655869	2.22E-06	1.06YrCanc	2.22E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
832	ALL	477941.8	3655929	2.22E-06	1.06YrCanc	2.22E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
25	ALL	477568.4	3656233	2.21E-06	1.06YrCanc	2.21E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
173	ALL	477410.8	3655963	2.21E-06	1.06YrCanc	2.21E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
757	ALL	477701.8	3655869	2.21E-06	1.06YrCanc	2.21E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
783	ALL	477801.8	3655889	2.21E-06	1.06YrCanc	2.21E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
268	ALL	477446.2	3656130	2.19E-06	1.06YrCanc	2.19E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
160	ALL	477446.2	3655935	2.18E-06	1.06YrCanc	2.18E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
756	ALL	477681.8	3655869	2.17E-06	1.06YrCanc	2.17E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
784	ALL	477821.8	3655889	2.16E-06	1.06YrCanc	2.16E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
26	ALL	477575.8	3656250	2.16E-06	1.06YrCanc	2.16E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
755	ALL	477661.8	3655869	2.15E-06	1.06YrCanc	2.15E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
809	ALL	477901.8	3655909	2.15E-06	1.06YrCanc	2.15E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
979	ALL	478160.6	3656063	2.15E-06	1.06YrCanc	2.15E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
184	ALL	477375.5	3655991	2.14E-06	1.06YrCanc	2.14E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
172	ALL	477393.2	3655963	2.14E-06	1.06YrCanc	2.14E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
34	ALL	477595.9	3656279	2.14E-06	1.06YrCanc	2.14E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
987	ALL	478219.9	3656169	2.12E-06	1.06YrCanc	2.12E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
754	ALL	477641.8	3655869	2.11E-06	1.06YrCanc	2.11E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
833	ALL	477961.8	3655929	2.11E-06	1.06YrCanc	2.11E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
856	ALL	478001.8	3655949	2.11E-06	1.06YrCanc	2.11E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
45	ALL	477507.5	3656168	2.10E-06	1.06YrCanc	2.10E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
171	ALL	477375.5	3655963	2.10E-06	1.06YrCanc	2.10E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
287	ALL	477499.2	3656158	2.10E-06	1.06YrCanc	2.10E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
753	ALL	477621.8	3655869	2.08E-06	1.06YrCanc	2.08E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
785	ALL	477841.8	3655889	2.08E-06	1.06YrCanc	2.08E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
810	ALL	477921.8	3655909	2.06E-06	1.06YrCanc	2.06E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
36	ALL	477613.1	3656310	2.06E-06	1.06YrCanc	2.06E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
35	ALL	477601.7	3656296	2.05E-06	1.06YrCanc	2.05E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
759	ALL	477741.8	3655869	2.05E-06	1.06YrCanc	2.05E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
390	ALL	477645.8	3656345	2.05E-06	1.06YrCanc	2.05E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
752	ALL	477601.8	3655869	2.04E-06	1.06YrCanc	2.04E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
81	ALL	478062.2	3656436	2.04E-06	1.06YrCanc	2.04E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
786	ALL	477861.8	3655889	2.03E-06	1.06YrCanc	2.03E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
737	ALL	477721.8	3655849	2.02E-06	1.06YrCanc	2.02E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
150	ALL	477499.2	3655908	2.02E-06	1.06YrCanc	2.02E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
736	ALL	477701.8	3655849	2.00E-06	1.06YrCanc	2.00E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
760	ALL	477761.8	3655869	2.00E-06	1.06YrCanc	2.00E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
761	ALL	477781.8	3655869	2.00E-06	1.06YrCanc	2.00E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

834	ALL	477981.8	3655929	2.00E-06	1.06YrCanc	2.00E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
159	ALL	477410.8	3655935	1.99E-06	1.06YrCanc	1.99E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
149	ALL	477481.5	3655908	1.99E-06	1.06YrCanc	1.99E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
148	ALL	477463.8	3655908	1.99E-06	1.06YrCanc	1.99E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
373	ALL	477621.1	3656328	1.99E-06	1.06YrCanc	1.99E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
58	ALL	477568.4	3655879	1.98E-06	1.06YrCanc	1.98E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
811	ALL	477941.8	3655909	1.97E-06	1.06YrCanc	1.97E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
51	ALL	477507.6	3655899	1.97E-06	1.06YrCanc	1.97E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
735	ALL	477681.8	3655849	1.97E-06	1.06YrCanc	1.97E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
787	ALL	477881.8	3655889	1.97E-06	1.06YrCanc	1.97E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
762	ALL	477801.8	3655869	1.97E-06	1.06YrCanc	1.97E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
286	ALL	477481.5	3656158	1.96E-06	1.06YrCanc	1.96E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
251	ALL	477410.8	3656102	1.95E-06	1.06YrCanc	1.95E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
734	ALL	477661.8	3655849	1.95E-06	1.06YrCanc	1.95E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
978	ALL	478151.3	3656029	1.94E-06	1.06YrCanc	1.94E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
157	ALL	477375.5	3655935	1.93E-06	1.06YrCanc	1.93E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
76	ALL	477980.9	3656506	1.92E-06	1.06YrCanc	1.92E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
267	ALL	477428.5	3656130	1.92E-06	1.06YrCanc	1.92E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
147	ALL	477446.2	3655908	1.92E-06	1.06YrCanc	1.92E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
252	ALL	477428.5	3656102	1.92E-06	1.06YrCanc	1.92E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
733	ALL	477641.8	3655849	1.91E-06	1.06YrCanc	1.91E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
158	ALL	477393.2	3655935	1.91E-06	1.06YrCanc	1.91E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
788	ALL	477901.8	3655889	1.91E-06	1.06YrCanc	1.91E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
763	ALL	477821.8	3655869	1.90E-06	1.06YrCanc	1.90E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
170	ALL	477357.8	3655963	1.90E-06	1.06YrCanc	1.90E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
82	ALL	478019.9	3656485	1.89E-06	1.06YrCanc	1.89E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
835	ALL	478001.8	3655929	1.89E-06	1.06YrCanc	1.89E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
812	ALL	477961.8	3655909	1.89E-06	1.06YrCanc	1.89E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
738	ALL	477741.8	3655849	1.89E-06	1.06YrCanc	1.89E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
732	ALL	477621.8	3655849	1.89E-06	1.06YrCanc	1.89E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
977	ALL	478059.3	3655963	1.88E-06	1.06YrCanc	1.88E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
400	ALL	477645.8	3656362	1.88E-06	1.06YrCanc	1.88E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
74	ALL	477858.6	3656540	1.87E-06	1.06YrCanc	1.87E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
298	ALL	477499.2	3656185	1.87E-06	1.06YrCanc	1.87E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
196	ALL	477375.5	3656019	1.87E-06	1.06YrCanc	1.87E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
169	ALL	477340.1	3655963	1.86E-06	1.06YrCanc	1.86E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
213	ALL	477375.5	3656046	1.85E-06	1.06YrCanc	1.85E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
389	ALL	477621.1	3656345	1.85E-06	1.06YrCanc	1.85E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
285	ALL	477463.8	3656158	1.85E-06	1.06YrCanc	1.85E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
731	ALL	477601.8	3655849	1.85E-06	1.06YrCanc	1.85E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
764	ALL	477841.8	3655869	1.85E-06	1.06YrCanc	1.85E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
146	ALL	477428.5	3655908	1.84E-06	1.06YrCanc	1.84E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
231	ALL	477393.2	3656074	1.84E-06	1.06YrCanc	1.84E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
789	ALL	477921.8	3655889	1.84E-06	1.06YrCanc	1.84E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
39	ALL	477656.6	3656373	1.83E-06	1.06YrCanc	1.83E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
716	ALL	477721.8	3655829	1.82E-06	1.06YrCanc	1.82E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
715	ALL	477701.8	3655829	1.82E-06	1.06YrCanc	1.82E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
37	ALL	477616.8	3656345	1.81E-06	1.06YrCanc	1.81E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
739	ALL	477761.8	3655849	1.81E-06	1.06YrCanc	1.81E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
765	ALL	477861.8	3655869	1.80E-06	1.06YrCanc	1.80E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
813	ALL	477981.8	3655909	1.80E-06	1.06YrCanc	1.80E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
156	ALL	477357.8	3655935	1.79E-06	1.06YrCanc	1.79E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
714	ALL	477681.8	3655829	1.79E-06	1.06YrCanc	1.79E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
135	ALL	477499.2	3655880	1.78E-06	1.06YrCanc	1.78E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
155	ALL	477340.1	3655935	1.78E-06	1.06YrCanc	1.78E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
167	ALL	477304.8	3655963	1.78E-06	1.06YrCanc	1.78E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
168	ALL	477322.5	3655963	1.77E-06	1.06YrCanc	1.77E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
713	ALL	477661.8	3655829	1.77E-06	1.06YrCanc	1.77E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
790	ALL	477941.8	3655889	1.77E-06	1.06YrCanc	1.77E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
740	ALL	477781.8	3655849	1.77E-06	1.06YrCanc	1.77E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
212	ALL	477357.8	3656046	1.76E-06	1.06YrCanc	1.76E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
154	ALL	477322.5	3655935	1.75E-06	1.06YrCanc	1.75E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

741	ALL	477801.8	3655849	1.75E-06	1.06YrCanc	1.75E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
766	ALL	477881.8	3655869	1.75E-06	1.06YrCanc	1.75E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
195	ALL	477357.8	3656019	1.75E-06	1.06YrCanc	1.75E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
183	ALL	477357.8	3655991	1.74E-06	1.06YrCanc	1.74E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
134	ALL	477481.5	3655880	1.74E-06	1.06YrCanc	1.74E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
712	ALL	477641.8	3655829	1.74E-06	1.06YrCanc	1.74E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
166	ALL	477287.1	3655963	1.74E-06	1.06YrCanc	1.74E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
980	ALL	478204.1	3656046	1.72E-06	1.06YrCanc	1.72E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
409	ALL	477645.8	3656378	1.72E-06	1.06YrCanc	1.72E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
297	ALL	477481.5	3656185	1.72E-06	1.06YrCanc	1.72E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
145	ALL	477393.2	3655908	1.72E-06	1.06YrCanc	1.72E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
179	ALL	477287.1	3655991	1.72E-06	1.06YrCanc	1.72E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
711	ALL	477621.8	3655829	1.72E-06	1.06YrCanc	1.72E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
133	ALL	477463.8	3655880	1.71E-06	1.06YrCanc	1.71E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
399	ALL	477621.1	3656362	1.71E-06	1.06YrCanc	1.71E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
132	ALL	477446.2	3655880	1.71E-06	1.06YrCanc	1.71E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
814	ALL	478001.8	3655909	1.71E-06	1.06YrCanc	1.71E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
80	ALL	478071.1	3656479	1.71E-06	1.06YrCanc	1.71E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
767	ALL	477901.8	3655869	1.71E-06	1.06YrCanc	1.71E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
144	ALL	477375.5	3655908	1.71E-06	1.06YrCanc	1.71E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
178	ALL	477269.5	3655991	1.71E-06	1.06YrCanc	1.71E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
143	ALL	477357.8	3655908	1.71E-06	1.06YrCanc	1.71E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
791	ALL	477961.8	3655889	1.70E-06	1.06YrCanc	1.70E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
38	ALL	477618.1	3656361	1.70E-06	1.06YrCanc	1.70E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
742	ALL	477821.8	3655849	1.70E-06	1.06YrCanc	1.70E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
211	ALL	477340.1	3656046	1.69E-06	1.06YrCanc	1.69E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
717	ALL	477741.8	3655829	1.69E-06	1.06YrCanc	1.69E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
982	ALL	478130.1	3655981	1.68E-06	1.06YrCanc	1.68E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
182	ALL	477340.1	3655991	1.68E-06	1.06YrCanc	1.68E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
284	ALL	477446.2	3656158	1.68E-06	1.06YrCanc	1.68E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
194	ALL	477340.1	3656019	1.67E-06	1.06YrCanc	1.67E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
310	ALL	477499.2	3656213	1.67E-06	1.06YrCanc	1.67E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
60	ALL	477533.7	3656261	1.67E-06	1.06YrCanc	1.67E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
165	ALL	477269.5	3655963	1.67E-06	1.06YrCanc	1.67E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
710	ALL	477601.8	3655829	1.67E-06	1.06YrCanc	1.67E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
153	ALL	477304.8	3655935	1.67E-06	1.06YrCanc	1.67E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
250	ALL	477393.2	3656102	1.66E-06	1.06YrCanc	1.66E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
743	ALL	477841.8	3655849	1.66E-06	1.06YrCanc	1.66E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
768	ALL	477921.8	3655869	1.66E-06	1.06YrCanc	1.66E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
388	ALL	477596.5	3656345	1.65E-06	1.06YrCanc	1.65E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
142	ALL	477340.1	3655908	1.65E-06	1.06YrCanc	1.65E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
43	ALL	477685.6	3656398	1.64E-06	1.06YrCanc	1.64E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
131	ALL	477428.5	3655880	1.64E-06	1.06YrCanc	1.64E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
210	ALL	477322.5	3656046	1.63E-06	1.06YrCanc	1.63E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
152	ALL	477287.1	3655935	1.63E-06	1.06YrCanc	1.63E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
180	ALL	477304.8	3655991	1.63E-06	1.06YrCanc	1.63E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
230	ALL	477375.5	3656074	1.63E-06	1.06YrCanc	1.63E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
718	ALL	477761.8	3655829	1.63E-06	1.06YrCanc	1.63E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
181	ALL	477322.5	3655991	1.62E-06	1.06YrCanc	1.62E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
792	ALL	477981.8	3655889	1.62E-06	1.06YrCanc	1.62E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
177	ALL	477251.8	3655991	1.62E-06	1.06YrCanc	1.62E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
296	ALL	477463.8	3656185	1.62E-06	1.06YrCanc	1.62E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
193	ALL	477322.5	3656019	1.61E-06	1.06YrCanc	1.61E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
744	ALL	477861.8	3655849	1.61E-06	1.06YrCanc	1.61E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
769	ALL	477941.8	3655869	1.60E-06	1.06YrCanc	1.60E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
408	ALL	477621.1	3656378	1.59E-06	1.06YrCanc	1.59E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
77	ALL	478021.8	3656533	1.59E-06	1.06YrCanc	1.59E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
609	ALL	477434.1	3655868	1.59E-06	1.06YrCanc	1.59E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
228	ALL	477340.1	3656074	1.58E-06	1.06YrCanc	1.58E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
266	ALL	477410.8	3656130	1.58E-06	1.06YrCanc	1.58E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
719	ALL	477781.8	3655829	1.58E-06	1.06YrCanc	1.58E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
141	ALL	477322.5	3655908	1.58E-06	1.06YrCanc	1.58E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

229	ALL	477357.8	3656074	1.58E-06	1.06YrCanc	1.58E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
745	ALL	477881.8	3655849	1.58E-06	1.06YrCanc	1.58E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
427	ALL	477645.8	3656395	1.58E-06	1.06YrCanc	1.58E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
227	ALL	477322.5	3656074	1.58E-06	1.06YrCanc	1.58E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
209	ALL	477304.8	3656046	1.57E-06	1.06YrCanc	1.57E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
981	ALL	478192.1	3656008	1.57E-06	1.06YrCanc	1.57E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
190	ALL	477269.5	3656019	1.56E-06	1.06YrCanc	1.56E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
249	ALL	477375.5	3656102	1.55E-06	1.06YrCanc	1.55E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
398	ALL	477596.5	3656362	1.55E-06	1.06YrCanc	1.55E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
793	ALL	478001.8	3655889	1.55E-06	1.06YrCanc	1.55E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
130	ALL	477393.2	3655880	1.55E-06	1.06YrCanc	1.55E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
283	ALL	477428.5	3656158	1.55E-06	1.06YrCanc	1.55E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
720	ALL	477801.8	3655829	1.54E-06	1.06YrCanc	1.54E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
770	ALL	477961.8	3655869	1.54E-06	1.06YrCanc	1.54E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
192	ALL	477304.8	3656019	1.54E-06	1.06YrCanc	1.54E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
140	ALL	477304.8	3655908	1.54E-06	1.06YrCanc	1.54E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
75	ALL	477797.1	3656557	1.54E-06	1.06YrCanc	1.54E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
746	ALL	477901.8	3655849	1.54E-06	1.06YrCanc	1.54E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
265	ALL	477393.2	3656130	1.54E-06	1.06YrCanc	1.54E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
309	ALL	477481.5	3656213	1.53E-06	1.06YrCanc	1.53E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
322	ALL	477499.2	3656241	1.53E-06	1.06YrCanc	1.53E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
226	ALL	477304.8	3656074	1.52E-06	1.06YrCanc	1.52E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
61	ALL	477515.7	3656265	1.52E-06	1.06YrCanc	1.52E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
721	ALL	477821.8	3655829	1.52E-06	1.06YrCanc	1.52E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
697	ALL	477601.8	3655809	1.51E-06	1.06YrCanc	1.51E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
295	ALL	477446.2	3656185	1.51E-06	1.06YrCanc	1.51E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
191	ALL	477287.1	3656019	1.50E-06	1.06YrCanc	1.50E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
128	ALL	477357.8	3655880	1.50E-06	1.06YrCanc	1.50E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
208	ALL	477287.1	3656046	1.50E-06	1.06YrCanc	1.50E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
129	ALL	477375.5	3655880	1.50E-06	1.06YrCanc	1.50E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
62	ALL	477538.8	3656296	1.50E-06	1.06YrCanc	1.50E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
722	ALL	477841.8	3655829	1.50E-06	1.06YrCanc	1.50E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
747	ALL	477921.8	3655849	1.50E-06	1.06YrCanc	1.50E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
78	ALL	478071.8	3656518	1.49E-06	1.06YrCanc	1.49E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
52	ALL	477512.7	3655838	1.48E-06	1.06YrCanc	1.48E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
121	ALL	477428.5	3655852	1.48E-06	1.06YrCanc	1.48E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
151	ALL	477234.1	3655935	1.48E-06	1.06YrCanc	1.48E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
225	ALL	477287.1	3656074	1.48E-06	1.06YrCanc	1.48E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
426	ALL	477621.1	3656395	1.48E-06	1.06YrCanc	1.48E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
57	ALL	477556.2	3655822	1.48E-06	1.06YrCanc	1.48E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
771	ALL	477981.8	3655869	1.48E-06	1.06YrCanc	1.48E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
127	ALL	477340.1	3655880	1.47E-06	1.06YrCanc	1.47E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
387	ALL	477571.8	3656345	1.47E-06	1.06YrCanc	1.47E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
164	ALL	477216.5	3655963	1.47E-06	1.06YrCanc	1.47E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
248	ALL	477357.8	3656102	1.46E-06	1.06YrCanc	1.46E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
407	ALL	477596.5	3656378	1.46E-06	1.06YrCanc	1.46E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
723	ALL	477861.8	3655829	1.46E-06	1.06YrCanc	1.46E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
698	ALL	477761.8	3655809	1.45E-06	1.06YrCanc	1.45E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
264	ALL	477375.5	3656130	1.45E-06	1.06YrCanc	1.45E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
245	ALL	477304.8	3656102	1.45E-06	1.06YrCanc	1.45E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
748	ALL	477941.8	3655849	1.45E-06	1.06YrCanc	1.45E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
446	ALL	477645.8	3656412	1.45E-06	1.06YrCanc	1.45E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
139	ALL	477251.8	3655908	1.44E-06	1.06YrCanc	1.44E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
63	ALL	477553.6	3656327	1.44E-06	1.06YrCanc	1.44E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
282	ALL	477410.8	3656158	1.43E-06	1.06YrCanc	1.43E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
207	ALL	477269.5	3656046	1.43E-06	1.06YrCanc	1.43E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
126	ALL	477322.5	3655880	1.43E-06	1.06YrCanc	1.43E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
699	ALL	477781.8	3655809	1.43E-06	1.06YrCanc	1.43E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
308	ALL	477463.8	3656213	1.43E-06	1.06YrCanc	1.43E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
79	ALL	478101.2	3656515	1.43E-06	1.06YrCanc	1.43E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
724	ALL	477881.8	3655829	1.42E-06	1.06YrCanc	1.42E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
321	ALL	477481.5	3656241	1.42E-06	1.06YrCanc	1.42E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

772	ALL	478001.8	3655869	1.42E-06	1.06YrCanc	1.42E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
334	ALL	477499.2	3656269	1.41E-06	1.06YrCanc	1.41E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
749	ALL	477961.8	3655849	1.40E-06	1.06YrCanc	1.40E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
397	ALL	477571.8	3656362	1.39E-06	1.06YrCanc	1.39E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
700	ALL	477801.8	3655809	1.39E-06	1.06YrCanc	1.39E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
725	ALL	477901.8	3655829	1.39E-06	1.06YrCanc	1.39E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
372	ALL	477547.1	3656328	1.39E-06	1.06YrCanc	1.39E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
244	ALL	477287.1	3656102	1.39E-06	1.06YrCanc	1.39E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
247	ALL	477340.1	3656102	1.38E-06	1.06YrCanc	1.38E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
686	ALL	477601.8	3655789	1.38E-06	1.06YrCanc	1.38E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
983	ALL	478178.5	3655966	1.38E-06	1.06YrCanc	1.38E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
445	ALL	477621.1	3656412	1.37E-06	1.06YrCanc	1.37E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
701	ALL	477821.8	3655809	1.37E-06	1.06YrCanc	1.37E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
120	ALL	477375.5	3655852	1.37E-06	1.06YrCanc	1.37E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
425	ALL	477596.5	3656395	1.37E-06	1.06YrCanc	1.37E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
726	ALL	477921.8	3655829	1.36E-06	1.06YrCanc	1.36E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
307	ALL	477446.2	3656213	1.36E-06	1.06YrCanc	1.36E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
702	ALL	477841.8	3655809	1.35E-06	1.06YrCanc	1.35E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
246	ALL	477322.5	3656102	1.35E-06	1.06YrCanc	1.35E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
750	ALL	477981.8	3655849	1.35E-06	1.06YrCanc	1.35E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
119	ALL	477357.8	3655852	1.35E-06	1.06YrCanc	1.35E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
281	ALL	477393.2	3656158	1.35E-06	1.06YrCanc	1.35E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
64	ALL	477555.5	3656350	1.35E-06	1.06YrCanc	1.35E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
125	ALL	477269.5	3655880	1.34E-06	1.06YrCanc	1.34E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
111	ALL	477428.5	3655824	1.34E-06	1.06YrCanc	1.34E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
463	ALL	477645.8	3656429	1.33E-06	1.06YrCanc	1.33E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
703	ALL	477861.8	3655809	1.32E-06	1.06YrCanc	1.32E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
727	ALL	477941.8	3655829	1.32E-06	1.06YrCanc	1.32E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
386	ALL	477547.1	3656345	1.32E-06	1.06YrCanc	1.32E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
118	ALL	477340.1	3655852	1.32E-06	1.06YrCanc	1.32E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
687	ALL	477761.8	3655789	1.32E-06	1.06YrCanc	1.32E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
320	ALL	477463.8	3656241	1.32E-06	1.06YrCanc	1.32E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
333	ALL	477481.5	3656269	1.31E-06	1.06YrCanc	1.31E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
280	ALL	477375.5	3656158	1.31E-06	1.06YrCanc	1.31E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
110	ALL	477410.8	3655824	1.31E-06	1.06YrCanc	1.31E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
704	ALL	477881.8	3655809	1.30E-06	1.06YrCanc	1.30E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
751	ALL	478001.8	3655849	1.30E-06	1.06YrCanc	1.30E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
346	ALL	477499.2	3656296	1.29E-06	1.06YrCanc	1.29E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
984	ALL	478105.6	3655906	1.29E-06	1.06YrCanc	1.29E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
444	ALL	477596.5	3656412	1.28E-06	1.06YrCanc	1.28E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
138	ALL	477181.1	3655908	1.28E-06	1.06YrCanc	1.28E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
462	ALL	477621.1	3656429	1.28E-06	1.06YrCanc	1.28E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
728	ALL	477961.8	3655829	1.28E-06	1.06YrCanc	1.28E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
306	ALL	477428.5	3656213	1.27E-06	1.06YrCanc	1.27E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
117	ALL	477304.8	3655852	1.27E-06	1.06YrCanc	1.27E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
109	ALL	477393.2	3655824	1.27E-06	1.06YrCanc	1.27E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
705	ALL	477901.8	3655809	1.27E-06	1.06YrCanc	1.27E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
371	ALL	477522.4	3656328	1.27E-06	1.06YrCanc	1.27E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
224	ALL	477234.1	3656074	1.26E-06	1.06YrCanc	1.26E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
206	ALL	477216.5	3656046	1.26E-06	1.06YrCanc	1.26E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
396	ALL	477547.1	3656362	1.26E-06	1.06YrCanc	1.26E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
424	ALL	477571.8	3656395	1.25E-06	1.06YrCanc	1.25E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
279	ALL	477357.8	3656158	1.25E-06	1.06YrCanc	1.25E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
116	ALL	477287.1	3655852	1.25E-06	1.06YrCanc	1.25E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
610	ALL	477466.7	3655809	1.25E-06	1.06YrCanc	1.25E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
999	ALL	478039.3	3655857	1.24E-06	1.06YrCanc	1.24E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
675	ALL	477601.8	3655769	1.24E-06	1.06YrCanc	1.24E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
688	ALL	477821.8	3655789	1.24E-06	1.06YrCanc	1.24E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
729	ALL	477981.8	3655829	1.24E-06	1.06YrCanc	1.24E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
137	ALL	477163.4	3655908	1.24E-06	1.06YrCanc	1.24E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
332	ALL	477463.8	3656269	1.23E-06	1.06YrCanc	1.23E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
319	ALL	477446.2	3656241	1.23E-06	1.06YrCanc	1.23E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

470	ALL	477645.8	3656445	1.23E-06	1.06YrCanc	1.23E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
689	ALL	477841.8	3655789	1.23E-06	1.06YrCanc	1.23E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
991	ALL	478302.1	3656031	1.22E-06	1.06YrCanc	1.22E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
596	ALL	477559.3	3656388	1.22E-06	1.06YrCanc	1.22E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
345	ALL	477481.5	3656296	1.22E-06	1.06YrCanc	1.22E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
124	ALL	477181.1	3655880	1.22E-06	1.06YrCanc	1.22E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
676	ALL	477761.8	3655769	1.22E-06	1.06YrCanc	1.22E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
385	ALL	477522.4	3656345	1.21E-06	1.06YrCanc	1.21E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
706	ALL	477941.8	3655809	1.21E-06	1.06YrCanc	1.21E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
690	ALL	477861.8	3655789	1.21E-06	1.06YrCanc	1.21E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
223	ALL	477216.5	3656074	1.21E-06	1.06YrCanc	1.21E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
461	ALL	477596.5	3656429	1.20E-06	1.06YrCanc	1.20E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
205	ALL	477198.8	3656046	1.20E-06	1.06YrCanc	1.20E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
136	ALL	477145.8	3655908	1.20E-06	1.06YrCanc	1.20E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
406	ALL	477547.1	3656378	1.20E-06	1.06YrCanc	1.20E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
305	ALL	477410.8	3656213	1.19E-06	1.06YrCanc	1.19E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
730	ALL	478001.8	3655829	1.19E-06	1.06YrCanc	1.19E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
360	ALL	477499.2	3656324	1.19E-06	1.06YrCanc	1.19E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
469	ALL	477621.1	3656445	1.19E-06	1.06YrCanc	1.19E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
443	ALL	477571.8	3656412	1.19E-06	1.06YrCanc	1.19E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
123	ALL	477163.4	3655880	1.18E-06	1.06YrCanc	1.18E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
691	ALL	477881.8	3655789	1.18E-06	1.06YrCanc	1.18E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
101	ALL	477428.5	3655796	1.18E-06	1.06YrCanc	1.18E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
115	ALL	477198.8	3655852	1.18E-06	1.06YrCanc	1.18E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
707	ALL	477961.8	3655809	1.17E-06	1.06YrCanc	1.17E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
100	ALL	477410.8	3655796	1.17E-06	1.06YrCanc	1.17E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
370	ALL	477497.7	3656328	1.17E-06	1.06YrCanc	1.17E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
606	ALL	477748.6	3656612	1.17E-06	1.06YrCanc	1.17E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
108	ALL	477322.5	3655824	1.17E-06	1.06YrCanc	1.17E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
222	ALL	477198.8	3656074	1.17E-06	1.06YrCanc	1.17E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
243	ALL	477234.1	3656102	1.17E-06	1.06YrCanc	1.17E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
361	ALL	477114.7	3655984	1.17E-06	1.06YrCanc	1.17E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
692	ALL	477901.8	3655789	1.16E-06	1.06YrCanc	1.16E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
99	ALL	477393.2	3655796	1.16E-06	1.06YrCanc	1.16E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
395	ALL	477522.4	3656362	1.15E-06	1.06YrCanc	1.15E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
107	ALL	477304.8	3655824	1.15E-06	1.06YrCanc	1.15E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
985	ALL	478186.2	3655924	1.15E-06	1.06YrCanc	1.15E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
122	ALL	477145.8	3655880	1.15E-06	1.06YrCanc	1.15E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
204	ALL	477181.1	3656046	1.15E-06	1.06YrCanc	1.15E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
423	ALL	477547.1	3656395	1.15E-06	1.06YrCanc	1.15E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
114	ALL	477181.1	3655852	1.15E-06	1.06YrCanc	1.15E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
708	ALL	477981.8	3655809	1.14E-06	1.06YrCanc	1.14E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
677	ALL	477821.8	3655769	1.14E-06	1.06YrCanc	1.14E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
990	ALL	478290.7	3655984	1.14E-06	1.06YrCanc	1.14E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
478	ALL	477645.8	3656462	1.14E-06	1.06YrCanc	1.14E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
59	ALL	477543.4	3655763	1.13E-06	1.06YrCanc	1.13E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
263	ALL	477251.8	3656130	1.13E-06	1.06YrCanc	1.13E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
664	ALL	477601.8	3655749	1.13E-06	1.06YrCanc	1.13E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
468	ALL	477596.5	3656445	1.13E-06	1.06YrCanc	1.13E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
359	ALL	477481.5	3656324	1.12E-06	1.06YrCanc	1.12E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
113	ALL	477163.4	3655852	1.12E-06	1.06YrCanc	1.12E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
460	ALL	477571.8	3656429	1.12E-06	1.06YrCanc	1.12E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
678	ALL	477841.8	3655769	1.12E-06	1.06YrCanc	1.12E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
106	ALL	477216.5	3655824	1.12E-06	1.06YrCanc	1.12E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
242	ALL	477216.5	3656102	1.12E-06	1.06YrCanc	1.12E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
384	ALL	477497.7	3656345	1.12E-06	1.06YrCanc	1.12E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
221	ALL	477181.1	3656074	1.12E-06	1.06YrCanc	1.12E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
611	ALL	477495.6	3655776	1.11E-06	1.06YrCanc	1.11E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
693	ALL	477941.8	3655789	1.11E-06	1.06YrCanc	1.11E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
992	ALL	478226.9	3655930	1.11E-06	1.06YrCanc	1.11E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
477	ALL	477621.1	3656462	1.11E-06	1.06YrCanc	1.11E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
679	ALL	477861.8	3655769	1.11E-06	1.06YrCanc	1.11E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

405	ALL	477522.4	3656378	1.11E-06	1.06YrCanc	1.11E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
665	ALL	477761.8	3655749	1.11E-06	1.06YrCanc	1.11E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
709	ALL	478001.8	3655809	1.10E-06	1.06YrCanc	1.10E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
442	ALL	477547.1	3656412	1.10E-06	1.06YrCanc	1.10E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
203	ALL	477163.4	3656046	1.10E-06	1.06YrCanc	1.10E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
105	ALL	477198.8	3655824	1.10E-06	1.06YrCanc	1.10E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
112	ALL	477145.8	3655852	1.09E-06	1.06YrCanc	1.09E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
262	ALL	477234.1	3656130	1.09E-06	1.06YrCanc	1.09E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
680	ALL	477881.8	3655769	1.08E-06	1.06YrCanc	1.08E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1001	ALL	478114.5	3655866	1.08E-06	1.06YrCanc	1.08E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
608	ALL	477889.4	3655770	1.08E-06	1.06YrCanc	1.08E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
241	ALL	477198.8	3656102	1.08E-06	1.06YrCanc	1.08E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
694	ALL	477961.8	3655789	1.08E-06	1.06YrCanc	1.08E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
98	ALL	477340.1	3655796	1.08E-06	1.06YrCanc	1.08E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
965	ALL	477725.9	3655738	1.08E-06	1.06YrCanc	1.08E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
104	ALL	477181.1	3655824	1.07E-06	1.06YrCanc	1.07E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
202	ALL	477145.8	3656046	1.07E-06	1.06YrCanc	1.07E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
91	ALL	477410.8	3655769	1.07E-06	1.06YrCanc	1.07E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
681	ALL	477901.8	3655769	1.07E-06	1.06YrCanc	1.07E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
261	ALL	477216.5	3656130	1.06E-06	1.06YrCanc	1.06E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
220	ALL	477163.4	3656074	1.06E-06	1.06YrCanc	1.06E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1000	ALL	478104.6	3655853	1.06E-06	1.06YrCanc	1.06E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
467	ALL	477571.8	3656445	1.06E-06	1.06YrCanc	1.06E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
476	ALL	477596.5	3656462	1.06E-06	1.06YrCanc	1.06E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
394	ALL	477497.7	3656362	1.06E-06	1.06YrCanc	1.06E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
422	ALL	477522.4	3656395	1.06E-06	1.06YrCanc	1.06E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
103	ALL	477163.4	3655824	1.05E-06	1.06YrCanc	1.05E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
459	ALL	477547.1	3656429	1.05E-06	1.06YrCanc	1.05E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
666	ALL	477821.8	3655749	1.05E-06	1.06YrCanc	1.05E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
486	ALL	477645.8	3656479	1.05E-06	1.06YrCanc	1.05E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
695	ALL	477981.8	3655789	1.05E-06	1.06YrCanc	1.05E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
90	ALL	477393.2	3655769	1.05E-06	1.06YrCanc	1.05E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
657	ALL	477621.8	3655729	1.05E-06	1.06YrCanc	1.05E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
659	ALL	477721.8	3655729	1.04E-06	1.06YrCanc	1.04E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
97	ALL	477216.5	3655796	1.04E-06	1.06YrCanc	1.04E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
92	ALL	477428.5	3655769	1.04E-06	1.06YrCanc	1.04E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
240	ALL	477181.1	3656102	1.04E-06	1.06YrCanc	1.04E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
656	ALL	477601.8	3655729	1.03E-06	1.06YrCanc	1.03E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
485	ALL	477621.1	3656479	1.03E-06	1.06YrCanc	1.03E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
667	ALL	477841.8	3655749	1.03E-06	1.06YrCanc	1.03E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
102	ALL	477145.8	3655824	1.03E-06	1.06YrCanc	1.03E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
658	ALL	477641.8	3655729	1.03E-06	1.06YrCanc	1.03E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
996	ALL	478169	3655874	1.02E-06	1.06YrCanc	1.02E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
682	ALL	477941.8	3655769	1.02E-06	1.06YrCanc	1.02E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
96	ALL	477198.8	3655796	1.02E-06	1.06YrCanc	1.02E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
696	ALL	478001.8	3655789	1.02E-06	1.06YrCanc	1.02E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
260	ALL	477198.8	3656130	1.02E-06	1.06YrCanc	1.02E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
404	ALL	477497.7	3656378	1.02E-06	1.06YrCanc	1.02E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
668	ALL	477861.8	3655749	1.02E-06	1.06YrCanc	1.02E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
441	ALL	477522.4	3656412	1.02E-06	1.06YrCanc	1.02E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
966	ALL	477803.8	3655735	1.01E-06	1.06YrCanc	1.01E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
239	ALL	477163.4	3656102	1.01E-06	1.06YrCanc	1.01E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
89	ALL	477357.8	3655769	1.01E-06	1.06YrCanc	1.01E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
466	ALL	477547.1	3656445	1.01E-06	1.06YrCanc	1.01E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
993	ALL	478267.4	3655927	1.01E-06	1.06YrCanc	1.01E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
219	ALL	477145.8	3656074	1.00E-06	1.06YrCanc	1.00E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
475	ALL	477571.8	3656462	1.00E-06	1.06YrCanc	1.00E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
95	ALL	477181.1	3655796	1.00E-06	1.06YrCanc	1.00E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
669	ALL	477881.8	3655749	1.00E-06	1.06YrCanc	1.00E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
683	ALL	477961.8	3655769	1.00E-06	1.06YrCanc	1.00E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
484	ALL	477596.5	3656479	9.95E-07	1.06YrCanc	9.95E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
278	ALL	477251.8	3656158	9.90E-07	1.06YrCanc	9.90E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

670	ALL	477901.8	3655749	9.84E-07	1.06YrCanc	9.84E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
94	ALL	477163.4	3655796	9.84E-07	1.06YrCanc	9.84E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
421	ALL	477497.7	3656395	9.82E-07	1.06YrCanc	9.82E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
277	ALL	477234.1	3656158	9.79E-07	1.06YrCanc	9.79E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
458	ALL	477522.4	3656429	9.78E-07	1.06YrCanc	9.78E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
494	ALL	477645.8	3656495	9.76E-07	1.06YrCanc	9.76E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
684	ALL	477981.8	3655769	9.73E-07	1.06YrCanc	9.73E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
651	ALL	477721.8	3655709	9.69E-07	1.06YrCanc	9.69E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
276	ALL	477216.5	3656158	9.67E-07	1.06YrCanc	9.67E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
259	ALL	477181.1	3656130	9.65E-07	1.06YrCanc	9.65E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
493	ALL	477621.1	3656495	9.65E-07	1.06YrCanc	9.65E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
238	ALL	477145.8	3656102	9.64E-07	1.06YrCanc	9.64E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
88	ALL	477216.5	3655769	9.64E-07	1.06YrCanc	9.64E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
474	ALL	477547.1	3656462	9.58E-07	1.06YrCanc	9.58E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
605	ALL	477758.4	3656643	9.58E-07	1.06YrCanc	9.58E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
93	ALL	477145.8	3655796	9.58E-07	1.06YrCanc	9.58E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
650	ALL	477641.8	3655709	9.57E-07	1.06YrCanc	9.57E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
483	ALL	477571.8	3656479	9.55E-07	1.06YrCanc	9.55E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
997	ALL	478202.9	3655863	9.54E-07	1.06YrCanc	9.54E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
612	ALL	477449.8	3655744	9.50E-07	1.06YrCanc	9.50E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
649	ALL	477621.8	3655709	9.50E-07	1.06YrCanc	9.50E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
648	ALL	477601.8	3655709	9.47E-07	1.06YrCanc	9.47E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
87	ALL	477198.8	3655769	9.47E-07	1.06YrCanc	9.47E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
685	ALL	478001.8	3655769	9.46E-07	1.06YrCanc	9.46E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
671	ALL	477941.8	3655749	9.46E-07	1.06YrCanc	9.46E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
294	ALL	477269.5	3656185	9.45E-07	1.06YrCanc	9.45E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
440	ALL	477497.7	3656412	9.45E-07	1.06YrCanc	9.45E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
465	ALL	477522.4	3656445	9.39E-07	1.06YrCanc	9.39E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
492	ALL	477596.5	3656495	9.34E-07	1.06YrCanc	9.34E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
86	ALL	477181.1	3655769	9.32E-07	1.06YrCanc	9.32E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
275	ALL	477198.8	3656158	9.30E-07	1.06YrCanc	9.30E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
258	ALL	477163.4	3656130	9.27E-07	1.06YrCanc	9.27E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
672	ALL	477961.8	3655749	9.27E-07	1.06YrCanc	9.27E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
85	ALL	477163.4	3655769	9.18E-07	1.06YrCanc	9.18E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
616	ALL	477564.5	3655702	9.17E-07	1.06YrCanc	9.17E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
482	ALL	477547.1	3656479	9.11E-07	1.06YrCanc	9.11E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
457	ALL	477497.7	3656429	9.11E-07	1.06YrCanc	9.11E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
507	ALL	477645.8	3656512	9.06E-07	1.06YrCanc	9.06E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
673	ALL	477981.8	3655749	9.06E-07	1.06YrCanc	9.06E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
491	ALL	477571.8	3656495	9.03E-07	1.06YrCanc	9.03E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
293	ALL	477251.8	3656185	9.00E-07	1.06YrCanc	9.00E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
506	ALL	477621.1	3656512	8.99E-07	1.06YrCanc	8.99E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
473	ALL	477522.4	3656462	8.98E-07	1.06YrCanc	8.98E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
642	ALL	477721.8	3655689	8.97E-07	1.06YrCanc	8.97E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
257	ALL	477145.8	3656130	8.96E-07	1.06YrCanc	8.96E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
331	ALL	477340.1	3656269	8.95E-07	1.06YrCanc	8.95E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
84	ALL	477145.8	3655769	8.92E-07	1.06YrCanc	8.92E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
674	ALL	478001.8	3655749	8.82E-07	1.06YrCanc	8.82E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
660	ALL	477941.8	3655729	8.81E-07	1.06YrCanc	8.81E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
344	ALL	477357.8	3656296	8.80E-07	1.06YrCanc	8.80E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
274	ALL	477181.1	3656158	8.79E-07	1.06YrCanc	8.79E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
639	ALL	477601.8	3655689	8.79E-07	1.06YrCanc	8.79E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
505	ALL	477596.5	3656512	8.78E-07	1.06YrCanc	8.78E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
464	ALL	477497.7	3656445	8.77E-07	1.06YrCanc	8.77E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
995	ALL	478316.9	3655920	8.77E-07	1.06YrCanc	8.77E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
641	ALL	477641.8	3655689	8.74E-07	1.06YrCanc	8.74E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
640	ALL	477621.8	3655689	8.72E-07	1.06YrCanc	8.72E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
318	ALL	477304.8	3656241	8.70E-07	1.06YrCanc	8.70E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
358	ALL	477375.5	3656324	8.65E-07	1.06YrCanc	8.65E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
661	ALL	477961.8	3655729	8.64E-07	1.06YrCanc	8.64E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
490	ALL	477547.1	3656495	8.62E-07	1.06YrCanc	8.62E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
292	ALL	477234.1	3656185	8.62E-07	1.06YrCanc	8.62E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

481	ALL	477522.4	3656479	8.61E-07	1.06YrCanc	8.61E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
304	ALL	477269.5	3656213	8.60E-07	1.06YrCanc	8.60E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
330	ALL	477322.5	3656269	8.55E-07	1.06YrCanc	8.55E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
504	ALL	477571.8	3656512	8.55E-07	1.06YrCanc	8.55E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
369	ALL	477374.3	3656328	8.53E-07	1.06YrCanc	8.53E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
613	ALL	477442.4	3655710	8.49E-07	1.06YrCanc	8.49E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
519	ALL	477645.8	3656529	8.47E-07	1.06YrCanc	8.47E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
518	ALL	477621.1	3656529	8.46E-07	1.06YrCanc	8.46E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
662	ALL	477981.8	3655729	8.44E-07	1.06YrCanc	8.44E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
420	ALL	477448.4	3656395	8.44E-07	1.06YrCanc	8.44E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
998	ALL	478245.7	3655855	8.42E-07	1.06YrCanc	8.42E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
472	ALL	477497.7	3656462	8.41E-07	1.06YrCanc	8.41E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
343	ALL	477340.1	3656296	8.38E-07	1.06YrCanc	8.38E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
595	ALL	477421.2	3656373	8.37E-07	1.06YrCanc	8.37E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
273	ALL	477163.4	3656158	8.34E-07	1.06YrCanc	8.34E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
272	ALL	477145.8	3656158	8.34E-07	1.06YrCanc	8.34E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
291	ALL	477216.5	3656185	8.32E-07	1.06YrCanc	8.32E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
517	ALL	477596.5	3656529	8.32E-07	1.06YrCanc	8.32E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
317	ALL	477287.1	3656241	8.31E-07	1.06YrCanc	8.31E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
663	ALL	478001.8	3655729	8.25E-07	1.06YrCanc	8.25E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
994	ALL	478303.6	3655892	8.25E-07	1.06YrCanc	8.25E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
303	ALL	477251.8	3656213	8.25E-07	1.06YrCanc	8.25E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
357	ALL	477357.8	3656324	8.24E-07	1.06YrCanc	8.24E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
634	ALL	477721.8	3655669	8.22E-07	1.06YrCanc	8.22E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
290	ALL	477198.8	3656185	8.22E-07	1.06YrCanc	8.22E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
503	ALL	477547.1	3656512	8.21E-07	1.06YrCanc	8.21E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
652	ALL	477941.8	3655709	8.20E-07	1.06YrCanc	8.20E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
628	ALL	477601.8	3655669	8.19E-07	1.06YrCanc	8.19E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
383	ALL	477374.3	3656345	8.17E-07	1.06YrCanc	8.17E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
489	ALL	477522.4	3656495	8.17E-07	1.06YrCanc	8.17E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
439	ALL	477448.4	3656412	8.16E-07	1.06YrCanc	8.16E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
633	ALL	477701.8	3655669	8.16E-07	1.06YrCanc	8.16E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
629	ALL	477621.8	3655669	8.15E-07	1.06YrCanc	8.15E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
516	ALL	477571.8	3656529	8.10E-07	1.06YrCanc	8.10E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
480	ALL	477497.7	3656479	8.10E-07	1.06YrCanc	8.10E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
632	ALL	477681.8	3655669	8.09E-07	1.06YrCanc	8.09E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
342	ALL	477322.5	3656296	8.08E-07	1.06YrCanc	8.08E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
630	ALL	477641.8	3655669	8.07E-07	1.06YrCanc	8.07E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
631	ALL	477661.8	3655669	8.07E-07	1.06YrCanc	8.07E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
653	ALL	477961.8	3655709	8.07E-07	1.06YrCanc	8.07E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
289	ALL	477181.1	3656185	8.03E-07	1.06YrCanc	8.03E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
302	ALL	477234.1	3656213	8.01E-07	1.06YrCanc	8.01E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
368	ALL	477349.7	3656328	8.00E-07	1.06YrCanc	8.00E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
531	ALL	477621.1	3656545	7.96E-07	1.06YrCanc	7.96E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
532	ALL	477645.8	3656545	7.94E-07	1.06YrCanc	7.94E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
316	ALL	477269.5	3656241	7.91E-07	1.06YrCanc	7.91E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
654	ALL	477981.8	3655709	7.90E-07	1.06YrCanc	7.90E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
356	ALL	477340.1	3656324	7.88E-07	1.06YrCanc	7.88E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
530	ALL	477596.5	3656545	7.87E-07	1.06YrCanc	7.87E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
502	ALL	477522.4	3656512	7.84E-07	1.06YrCanc	7.84E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
515	ALL	477547.1	3656529	7.83E-07	1.06YrCanc	7.83E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
393	ALL	477374.3	3656362	7.83E-07	1.06YrCanc	7.83E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
488	ALL	477497.7	3656495	7.78E-07	1.06YrCanc	7.78E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
301	ALL	477216.5	3656213	7.75E-07	1.06YrCanc	7.75E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
643	ALL	477921.8	3655689	7.75E-07	1.06YrCanc	7.75E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
288	ALL	477163.4	3656185	7.74E-07	1.06YrCanc	7.74E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
655	ALL	478001.8	3655709	7.74E-07	1.06YrCanc	7.74E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
382	ALL	477349.7	3656345	7.73E-07	1.06YrCanc	7.73E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
615	ALL	477505.3	3655672	7.73E-07	1.06YrCanc	7.73E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
623	ALL	477721.8	3655649	7.72E-07	1.06YrCanc	7.72E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
341	ALL	477304.8	3656296	7.71E-07	1.06YrCanc	7.71E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
329	ALL	477287.1	3656269	7.71E-07	1.06YrCanc	7.71E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

315	ALL	477251.8	3656241	7.68E-07	1.06YrCanc	7.68E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
617	ALL	477601.8	3655649	7.66E-07	1.06YrCanc	7.66E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
300	ALL	477198.8	3656213	7.66E-07	1.06YrCanc	7.66E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
529	ALL	477571.8	3656545	7.66E-07	1.06YrCanc	7.66E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
438	ALL	477423.7	3656412	7.66E-07	1.06YrCanc	7.66E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
644	ALL	477941.8	3655689	7.64E-07	1.06YrCanc	7.64E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
618	ALL	477621.8	3655649	7.62E-07	1.06YrCanc	7.62E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
622	ALL	477701.8	3655649	7.61E-07	1.06YrCanc	7.61E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
367	ALL	477325	3656328	7.60E-07	1.06YrCanc	7.60E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
355	ALL	477322.5	3656324	7.59E-07	1.06YrCanc	7.59E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
620	ALL	477661.8	3655649	7.54E-07	1.06YrCanc	7.54E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
645	ALL	477961.8	3655689	7.52E-07	1.06YrCanc	7.52E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
544	ALL	477621.1	3656562	7.52E-07	1.06YrCanc	7.52E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
619	ALL	477641.8	3655649	7.52E-07	1.06YrCanc	7.52E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
514	ALL	477522.4	3656529	7.51E-07	1.06YrCanc	7.51E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
621	ALL	477681.8	3655649	7.50E-07	1.06YrCanc	7.50E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
83	ALL	477516.5	3656525	7.50E-07	1.06YrCanc	7.50E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
403	ALL	477374.3	3656378	7.49E-07	1.06YrCanc	7.49E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
328	ALL	477269.5	3656269	7.48E-07	1.06YrCanc	7.48E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
314	ALL	477234.1	3656241	7.48E-07	1.06YrCanc	7.48E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
392	ALL	477349.7	3656362	7.47E-07	1.06YrCanc	7.47E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
614	ALL	477442.4	3655667	7.47E-07	1.06YrCanc	7.47E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
528	ALL	477547.1	3656545	7.45E-07	1.06YrCanc	7.45E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
545	ALL	477645.8	3656562	7.45E-07	1.06YrCanc	7.45E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
543	ALL	477596.5	3656562	7.44E-07	1.06YrCanc	7.44E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
646	ALL	477981.8	3655689	7.39E-07	1.06YrCanc	7.39E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
381	ALL	477325	3656345	7.38E-07	1.06YrCanc	7.38E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
354	ALL	477304.8	3656324	7.35E-07	1.06YrCanc	7.35E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
402	ALL	477349.7	3656378	7.26E-07	1.06YrCanc	7.26E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
542	ALL	477571.8	3656562	7.25E-07	1.06YrCanc	7.25E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
647	ALL	478001.8	3655689	7.25E-07	1.06YrCanc	7.25E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
366	ALL	477300.3	3656328	7.22E-07	1.06YrCanc	7.22E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
419	ALL	477374.3	3656395	7.20E-07	1.06YrCanc	7.20E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
391	ALL	477325	3656362	7.19E-07	1.06YrCanc	7.19E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
527	ALL	477522.4	3656545	7.18E-07	1.06YrCanc	7.18E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
635	ALL	477941.8	3655669	7.17E-07	1.06YrCanc	7.17E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
556	ALL	477621.1	3656579	7.08E-07	1.06YrCanc	7.08E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
299	ALL	477145.8	3656213	7.08E-07	1.06YrCanc	7.08E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
541	ALL	477547.1	3656562	7.08E-07	1.06YrCanc	7.08E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
636	ALL	477961.8	3655669	7.06E-07	1.06YrCanc	7.06E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
353	ALL	477287.1	3656324	7.04E-07	1.06YrCanc	7.04E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
555	ALL	477596.5	3656579	7.01E-07	1.06YrCanc	7.01E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
380	ALL	477300.3	3656345	7.01E-07	1.06YrCanc	7.01E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
557	ALL	477645.8	3656579	7.00E-07	1.06YrCanc	7.00E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
418	ALL	477349.7	3656395	7.00E-07	1.06YrCanc	7.00E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
437	ALL	477374.3	3656412	6.96E-07	1.06YrCanc	6.96E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
637	ALL	477981.8	3655669	6.95E-07	1.06YrCanc	6.95E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
401	ALL	477325	3656378	6.95E-07	1.06YrCanc	6.95E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
313	ALL	477181.1	3656241	6.94E-07	1.06YrCanc	6.94E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
327	ALL	477216.5	3656269	6.91E-07	1.06YrCanc	6.91E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
554	ALL	477571.8	3656579	6.91E-07	1.06YrCanc	6.91E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
340	ALL	477251.8	3656296	6.89E-07	1.06YrCanc	6.89E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
352	ALL	477269.5	3656324	6.85E-07	1.06YrCanc	6.85E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
540	ALL	477522.4	3656562	6.85E-07	1.06YrCanc	6.85E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
365	ALL	477275.6	3656328	6.82E-07	1.06YrCanc	6.82E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
312	ALL	477163.4	3656241	6.81E-07	1.06YrCanc	6.81E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
638	ALL	478001.8	3655669	6.81E-07	1.06YrCanc	6.81E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
456	ALL	477374.3	3656429	6.78E-07	1.06YrCanc	6.78E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
311	ALL	477145.8	3656241	6.74E-07	1.06YrCanc	6.74E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
553	ALL	477547.1	3656579	6.73E-07	1.06YrCanc	6.73E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
326	ALL	477198.8	3656269	6.70E-07	1.06YrCanc	6.70E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
417	ALL	477325	3656395	6.69E-07	1.06YrCanc	6.69E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

624	ALL	477941.8	3655649	6.69E-07	1.06YrCanc	6.69E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
379	ALL	477275.6	3656345	6.68E-07	1.06YrCanc	6.68E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
561	ALL	477596.5	3656596	6.65E-07	1.06YrCanc	6.65E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
562	ALL	477621.1	3656596	6.65E-07	1.06YrCanc	6.65E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
339	ALL	477234.1	3656296	6.64E-07	1.06YrCanc	6.64E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
436	ALL	477349.7	3656412	6.64E-07	1.06YrCanc	6.64E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
351	ALL	477251.8	3656324	6.63E-07	1.06YrCanc	6.63E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
364	ALL	477250.9	3656328	6.60E-07	1.06YrCanc	6.60E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
625	ALL	477961.8	3655649	6.59E-07	1.06YrCanc	6.59E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
962	ALL	477912.7	3655638	6.59E-07	1.06YrCanc	6.59E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
563	ALL	477645.8	3656596	6.58E-07	1.06YrCanc	6.58E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
325	ALL	477181.1	3656269	6.57E-07	1.06YrCanc	6.57E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
560	ALL	477571.8	3656596	6.55E-07	1.06YrCanc	6.55E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
337	ALL	477198.8	3656296	6.55E-07	1.06YrCanc	6.55E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
626	ALL	477981.8	3655649	6.54E-07	1.06YrCanc	6.54E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
338	ALL	477216.5	3656296	6.52E-07	1.06YrCanc	6.52E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
324	ALL	477163.4	3656269	6.52E-07	1.06YrCanc	6.52E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
455	ALL	477349.7	3656429	6.46E-07	1.06YrCanc	6.46E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
378	ALL	477250.9	3656345	6.45E-07	1.06YrCanc	6.45E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
323	ALL	477145.8	3656269	6.45E-07	1.06YrCanc	6.45E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
336	ALL	477181.1	3656296	6.43E-07	1.06YrCanc	6.43E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
559	ALL	477547.1	3656596	6.41E-07	1.06YrCanc	6.41E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
350	ALL	477234.1	3656324	6.40E-07	1.06YrCanc	6.40E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
416	ALL	477300.3	3656395	6.40E-07	1.06YrCanc	6.40E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
627	ALL	478001.8	3655649	6.40E-07	1.06YrCanc	6.40E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
435	ALL	477325	3656412	6.37E-07	1.06YrCanc	6.37E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
363	ALL	477226.3	3656328	6.34E-07	1.06YrCanc	6.34E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
335	ALL	477163.4	3656296	6.33E-07	1.06YrCanc	6.33E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
963	ALL	477940.8	3655630	6.32E-07	1.06YrCanc	6.32E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
568	ALL	477596.5	3656612	6.30E-07	1.06YrCanc	6.30E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
569	ALL	477621.1	3656612	6.25E-07	1.06YrCanc	6.25E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
349	ALL	477216.5	3656324	6.25E-07	1.06YrCanc	6.25E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
567	ALL	477571.8	3656612	6.23E-07	1.06YrCanc	6.23E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
377	ALL	477226.3	3656345	6.22E-07	1.06YrCanc	6.22E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
454	ALL	477325	3656429	6.19E-07	1.06YrCanc	6.19E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
570	ALL	477645.8	3656612	6.18E-07	1.06YrCanc	6.18E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
501	ALL	477399	3656512	6.16E-07	1.06YrCanc	6.16E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
415	ALL	477275.6	3656395	6.15E-07	1.06YrCanc	6.15E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
434	ALL	477300.3	3656412	6.14E-07	1.06YrCanc	6.14E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
348	ALL	477198.8	3656324	6.14E-07	1.06YrCanc	6.14E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
362	ALL	477201.6	3656328	6.11E-07	1.06YrCanc	6.11E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
526	ALL	477423.7	3656545	6.11E-07	1.06YrCanc	6.11E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
566	ALL	477547.1	3656612	6.10E-07	1.06YrCanc	6.10E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
376	ALL	477201.6	3656345	6.03E-07	1.06YrCanc	6.03E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
513	ALL	477399	3656529	6.00E-07	1.06YrCanc	6.00E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
539	ALL	477423.7	3656562	5.99E-07	1.06YrCanc	5.99E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
453	ALL	477300.3	3656429	5.97E-07	1.06YrCanc	5.97E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
414	ALL	477250.9	3656395	5.96E-07	1.06YrCanc	5.96E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
964	ALL	477970.9	3655617	5.96E-07	1.06YrCanc	5.96E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
433	ALL	477275.6	3656412	5.96E-07	1.06YrCanc	5.96E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
575	ALL	477596.5	3656629	5.92E-07	1.06YrCanc	5.92E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
576	ALL	477621.1	3656629	5.90E-07	1.06YrCanc	5.90E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
574	ALL	477571.8	3656629	5.88E-07	1.06YrCanc	5.88E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
525	ALL	477399	3656545	5.85E-07	1.06YrCanc	5.85E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
573	ALL	477547.1	3656629	5.83E-07	1.06YrCanc	5.83E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
552	ALL	477423.7	3656579	5.82E-07	1.06YrCanc	5.82E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
577	ALL	477645.8	3656629	5.81E-07	1.06YrCanc	5.81E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
452	ALL	477275.6	3656429	5.81E-07	1.06YrCanc	5.81E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
500	ALL	477374.3	3656512	5.81E-07	1.06YrCanc	5.81E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
432	ALL	477250.9	3656412	5.76E-07	1.06YrCanc	5.76E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
413	ALL	477226.3	3656395	5.76E-07	1.06YrCanc	5.76E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
538	ALL	477399	3656562	5.70E-07	1.06YrCanc	5.70E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

512	ALL	477374.3	3656529	5.68E-07	1.06YrCanc	5.68E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
347	ALL	477145.8	3656324	5.66E-07	1.06YrCanc	5.66E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
375	ALL	477152.2	3656345	5.64E-07	1.06YrCanc	5.64E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
431	ALL	477226.3	3656412	5.62E-07	1.06YrCanc	5.62E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
451	ALL	477250.9	3656429	5.61E-07	1.06YrCanc	5.61E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
583	ALL	477621.1	3656646	5.60E-07	1.06YrCanc	5.60E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
582	ALL	477596.5	3656646	5.60E-07	1.06YrCanc	5.60E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
412	ALL	477201.6	3656395	5.59E-07	1.06YrCanc	5.59E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
524	ALL	477374.3	3656545	5.59E-07	1.06YrCanc	5.59E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
551	ALL	477399	3656579	5.57E-07	1.06YrCanc	5.57E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
581	ALL	477571.8	3656646	5.55E-07	1.06YrCanc	5.55E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
499	ALL	477349.7	3656512	5.50E-07	1.06YrCanc	5.50E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
584	ALL	477645.8	3656646	5.49E-07	1.06YrCanc	5.49E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
450	ALL	477226.3	3656429	5.47E-07	1.06YrCanc	5.47E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
411	ALL	477176.9	3656395	5.44E-07	1.06YrCanc	5.44E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
430	ALL	477201.6	3656412	5.44E-07	1.06YrCanc	5.44E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
537	ALL	477374.3	3656562	5.43E-07	1.06YrCanc	5.43E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
511	ALL	477349.7	3656529	5.39E-07	1.06YrCanc	5.39E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
449	ALL	477201.6	3656429	5.34E-07	1.06YrCanc	5.34E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
410	ALL	477152.2	3656395	5.33E-07	1.06YrCanc	5.33E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
592	ALL	477596.5	3656662	5.31E-07	1.06YrCanc	5.31E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
550	ALL	477374.3	3656579	5.31E-07	1.06YrCanc	5.31E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
593	ALL	477621.1	3656662	5.30E-07	1.06YrCanc	5.30E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
523	ALL	477349.7	3656545	5.29E-07	1.06YrCanc	5.29E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
429	ALL	477176.9	3656412	5.27E-07	1.06YrCanc	5.27E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
591	ALL	477571.8	3656662	5.26E-07	1.06YrCanc	5.26E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
498	ALL	477325	3656512	5.22E-07	1.06YrCanc	5.22E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
594	ALL	477645.8	3656662	5.20E-07	1.06YrCanc	5.20E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
448	ALL	477176.9	3656429	5.19E-07	1.06YrCanc	5.19E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
536	ALL	477349.7	3656562	5.17E-07	1.06YrCanc	5.17E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
510	ALL	477325	3656529	5.12E-07	1.06YrCanc	5.12E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
428	ALL	477152.2	3656412	5.09E-07	1.06YrCanc	5.09E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
549	ALL	477349.7	3656579	5.06E-07	1.06YrCanc	5.06E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
522	ALL	477325	3656545	5.02E-07	1.06YrCanc	5.02E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
447	ALL	477152.2	3656429	5.01E-07	1.06YrCanc	5.01E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
497	ALL	477300.3	3656512	4.99E-07	1.06YrCanc	4.99E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
535	ALL	477325	3656562	4.93E-07	1.06YrCanc	4.93E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
509	ALL	477300.3	3656529	4.91E-07	1.06YrCanc	4.91E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
603	ALL	477603.9	3656691	4.87E-07	1.06YrCanc	4.87E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
548	ALL	477325	3656579	4.84E-07	1.06YrCanc	4.84E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
602	ALL	477571.5	3656691	4.83E-07	1.06YrCanc	4.83E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
521	ALL	477300.3	3656545	4.81E-07	1.06YrCanc	4.81E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
604	ALL	477657.4	3656688	4.78E-07	1.06YrCanc	4.78E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
534	ALL	477300.3	3656562	4.73E-07	1.06YrCanc	4.73E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
471	ALL	477152.2	3656462	4.58E-07	1.06YrCanc	4.58E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
479	ALL	477152.2	3656479	4.44E-07	1.06YrCanc	4.44E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
487	ALL	477152.2	3656495	4.35E-07	1.06YrCanc	4.35E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
496	ALL	477176.9	3656512	4.35E-07	1.06YrCanc	4.35E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
601	ALL	477431.4	3656699	4.33E-07	1.06YrCanc	4.33E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
495	ALL	477152.2	3656512	4.23E-07	1.06YrCanc	4.23E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
600	ALL	477396.7	3656689	4.23E-07	1.06YrCanc	4.23E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
508	ALL	477176.9	3656529	4.13E-07	1.06YrCanc	4.13E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
599	ALL	477368.1	3656685	4.10E-07	1.06YrCanc	4.10E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
598	ALL	477344	3656678	4.00E-07	1.06YrCanc	4.00E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
547	ALL	477201.6	3656579	3.97E-07	1.06YrCanc	3.97E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
520	ALL	477176.9	3656545	3.96E-07	1.06YrCanc	3.96E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
533	ALL	477176.9	3656562	3.91E-07	1.06YrCanc	3.91E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
597	ALL	477319.9	3656674	3.90E-07	1.06YrCanc	3.90E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
558	ALL	477201.6	3656596	3.90E-07	1.06YrCanc	3.90E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
590	ALL	477300.3	3656662	3.85E-07	1.06YrCanc	3.85E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
546	ALL	477176.9	3656579	3.82E-07	1.06YrCanc	3.82E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
565	ALL	477201.6	3656612	3.69E-07	1.06YrCanc	3.69E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

580	ALL	477250.9	3656646	3.69E-07	1.06YrCanc	3.69E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
589	ALL	477275.6	3656662	3.68E-07	1.06YrCanc	3.68E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
572	ALL	477201.6	3656629	3.63E-07	1.06YrCanc	3.63E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
588	ALL	477250.9	3656662	3.63E-07	1.06YrCanc	3.63E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
579	ALL	477226.3	3656646	3.63E-07	1.06YrCanc	3.63E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
587	ALL	477226.3	3656662	3.55E-07	1.06YrCanc	3.55E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
564	ALL	477152.2	3656612	3.44E-07	1.06YrCanc	3.44E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
586	ALL	477176.9	3656662	3.37E-07	1.06YrCanc	3.37E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
571	ALL	477152.2	3656629	3.33E-07	1.06YrCanc	3.33E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
578	ALL	477152.2	3656646	3.29E-07	1.06YrCanc	3.29E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
585	ALL	477152.2	3656662	3.23E-07	1.06YrCanc	3.23E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

HARP2 - HRACalc (dated 22118) 2/20/2023 3:01:43 PM - Output Log

GLCs loaded successfully
Pollutants loaded successfully
Pathway receptors loaded successfully
****
RISK SCENARIO SETTINGS

Receptor Type: Resident
Scenario: All
Calculation Method: HighEnd

****
EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: -0.25
Total Exposure Duration: 1.06

Exposure Duration Bin Distribution
3rd Trimester Bin: 0.25
0<2 Years Bin: 1.06
2<9 Years Bin: 0
2<16 Years Bin: 0
16<30 Years Bin: 0
16 to 70 Years Bin: 0

****
PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True
Soil: False
Dermal: False
Mother's milk: False
Water: False
Fish: False
Homegrown crops: False
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

****
INHALATION

Daily breathing rate: RMP

Worker Adjustment Factors
Worker adjustment factors enabled: NO

Fraction at time at home
3rd Trimester to 16 years: ON
16 years to 70 years: ON

****
TIER 2 SETTINGS

Tier2 adjustments were used in this assessment. Please see the input file for details.
Tier2 - What was changed: ED or start age changed
Calculating cancer risk
Cancer risk breakdown by pollutant and receptor saved to: C:\Users\enuno\OneDrive - Dudek\Desktop\HARP2\HARP\Encinitas_Sanctuary\Sactuary Harp\SANCTUARY CONST MIT\hra\Sanctuary_Const_mit_FAH_AdjCancerRisk.csv
Cancer risk total by receptor saved to: C:\Users\enuno\OneDrive - Dudek\Desktop\HARP2\HARP\Encinitas_Sanctuary\Sactuary Harp\SANCTUARY CONST MIT\hra\Sanctuary_Const_mit_FAH_AdjCancerRiskSumByRec.csv
Calculating chronic risk
Chronic risk breakdown by pollutant and receptor saved to: C:\Users\enuno\OneDrive - Dudek\Desktop\HARP2\HARP\Encinitas_Sanctuary\Sactuary Harp\SANCTUARY CONST MIT\hra\Sanctuary_Const_mit_FAH_AdjNCChronicRisk.csv
Chronic risk total by receptor saved to: C:\Users\enuno\OneDrive - Dudek\Desktop\HARP2\HARP\Encinitas_Sanctuary\Sactuary Harp\SANCTUARY CONST MIT\hra\Sanctuary_Const_mit_FAH_AdjNCChronicRiskSumByRec.csv
Calculating acute risk
Acute risk breakdown by pollutant and receptor saved to: C:\Users\enuno\OneDrive - Dudek\Desktop\HARP2\HARP\Encinitas_Sanctuary\Sactuary Harp\SANCTUARY CONST MIT\hra\Sanctuary_Const_mit_FAH_AdjNCAcuteRisk.csv
Acute risk total by receptor saved to: C:\Users\enuno\OneDrive - Dudek\Desktop\HARP2\HARP\Encinitas_Sanctuary\Sactuary Harp\SANCTUARY CONST MIT\hra\Sanctuary_Const_mit_FAH_AdjNCAcuteRiskSumByRec.csv
HRA ran successfully

*HARP - HRACalc v22118 2/20/2023 3:01:43 PM - Cancer Risk - Input File: C:\Users\enuno\OneDrive - Dudek\Desktop\HARP2\HARP\Encinitas_Sanctuary\Sactuary Harp\SANCTUARY CONST MIT\hra\Sanctuary_Const_mit_FAH_AdjH

REC	GRP	NETID	X	Y	RISK_SUM	SCENARIO	INH_RISK	SOIL_RISK	DERMAL_R	MMILK_RIS	WATER_RIS	FISH_RISK	CROP_RISK	BEEF_RISK	DAIRY_RISI	PIG_RISK	CHICKEN_F	EGG_RISK
5	ALL		477881.3	3656161	7.78E-06	1.06YrCanc	7.78E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1	ALL		477841.4	3656223	7.47E-06	1.06YrCanc	7.47E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
3	ALL		477799.2	3656239	6.35E-06	1.06YrCanc	6.35E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2	ALL		477884.1	3656215	5.79E-06	1.06YrCanc	5.79E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
7	ALL		477877.6	3656113	5.15E-06	1.06YrCanc	5.15E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
4	ALL		477767.8	3656252	4.27E-06	1.06YrCanc	4.27E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
6	ALL		477928.7	3656143	4.07E-06	1.06YrCanc	4.07E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
17	ALL		477941	3656208	3.52E-06	1.06YrCanc	3.52E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
12	ALL		477723.9	3656083	3.50E-06	1.06YrCanc	3.50E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
11	ALL		477769.7	3656067	3.32E-06	1.06YrCanc	3.32E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
30	ALL		477848	3656279	3.02E-06	1.06YrCanc	3.02E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
13	ALL		477686.9	3656092	2.98E-06	1.06YrCanc	2.98E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
9	ALL		477843.2	3656065	2.93E-06	1.06YrCanc	2.93E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
47	ALL		477898.4	3656260	2.92E-06	1.06YrCanc	2.92E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
10	ALL		477822.8	3656056	2.65E-06	1.06YrCanc	2.65E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
14	ALL		477657.5	3656113	2.64E-06	1.06YrCanc	2.64E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
950	ALL		477781.8	3656049	2.47E-06	1.06YrCanc	2.47E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
949	ALL		477761.8	3656049	2.42E-06	1.06YrCanc	2.42E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
951	ALL		477801.8	3656049	2.42E-06	1.06YrCanc	2.42E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
46	ALL		477912.2	3656272	2.41E-06	1.06YrCanc	2.41E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
948	ALL		477741.8	3656049	2.38E-06	1.06YrCanc	2.38E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
952	ALL		477821.8	3656049	2.35E-06	1.06YrCanc	2.35E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
18	ALL		477968.5	3656122	2.33E-06	1.06YrCanc	2.33E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
947	ALL		477721.8	3656049	2.28E-06	1.06YrCanc	2.28E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
953	ALL		477841.8	3656049	2.22E-06	1.06YrCanc	2.22E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
29	ALL		477799.3	3656302	2.22E-06	1.06YrCanc	2.22E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
31	ALL		477855.4	3656304	2.19E-06	1.06YrCanc	2.19E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
946	ALL		477701.8	3656049	2.15E-06	1.06YrCanc	2.15E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
48	ALL		477991.8	3656212	2.14E-06	1.06YrCanc	2.14E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
954	ALL		477861.8	3656049	2.04E-06	1.06YrCanc	2.04E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8	ALL		477859.2	3656048	2.03E-06	1.06YrCanc	2.03E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
945	ALL		477681.8	3656049	1.96E-06	1.06YrCanc	1.96E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
927	ALL		477741.8	3656029	1.88E-06	1.06YrCanc	1.88E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15	ALL		477613	3656132	1.85E-06	1.06YrCanc	1.85E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
955	ALL		477881.8	3656049	1.83E-06	1.06YrCanc	1.83E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
926	ALL		477721.8	3656029	1.83E-06	1.06YrCanc	1.83E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
929	ALL		477781.8	3656029	1.83E-06	1.06YrCanc	1.83E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
928	ALL		477761.8	3656029	1.83E-06	1.06YrCanc	1.83E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
19	ALL		477930	3656071	1.80E-06	1.06YrCanc	1.80E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
20	ALL		477930	3656071	1.80E-06	1.06YrCanc	1.80E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
930	ALL		477801.8	3656029	1.78E-06	1.06YrCanc	1.78E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
944	ALL		477661.8	3656049	1.75E-06	1.06YrCanc	1.75E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
931	ALL		477821.8	3656029	1.74E-06	1.06YrCanc	1.74E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
925	ALL		477701.8	3656029	1.70E-06	1.06YrCanc	1.70E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
932	ALL		477841.8	3656029	1.65E-06	1.06YrCanc	1.65E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
956	ALL		477901.8	3656049	1.62E-06	1.06YrCanc	1.62E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
16	ALL		477697.9	3656267	1.61E-06	1.06YrCanc	1.61E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
924	ALL		477681.8	3656029	1.56E-06	1.06YrCanc	1.56E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
933	ALL		477861.8	3656029	1.55E-06	1.06YrCanc	1.55E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
906	ALL		477741.8	3656009	1.52E-06	1.06YrCanc	1.52E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
905	ALL		477721.8	3656009	1.50E-06	1.06YrCanc	1.50E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
957	ALL		477921.8	3656049	1.45E-06	1.06YrCanc	1.45E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
907	ALL		477761.8	3656009	1.45E-06	1.06YrCanc	1.45E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
934	ALL		477881.8	3656029	1.43E-06	1.06YrCanc	1.43E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
28	ALL		477771.2	3656320	1.43E-06	1.06YrCanc	1.43E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

908	ALL	477781.8	3656009	1.40E-06	1.06YrCanc	1.40E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
923	ALL	477661.8	3656029	1.40E-06	1.06YrCanc	1.40E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
904	ALL	477701.8	3656009	1.39E-06	1.06YrCanc	1.39E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
909	ALL	477801.8	3656009	1.39E-06	1.06YrCanc	1.39E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
910	ALL	477821.8	3656009	1.34E-06	1.06YrCanc	1.34E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
943	ALL	477641.8	3656049	1.31E-06	1.06YrCanc	1.31E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
935	ALL	477901.8	3656029	1.30E-06	1.06YrCanc	1.30E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
958	ALL	477941.8	3656049	1.30E-06	1.06YrCanc	1.30E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
911	ALL	477841.8	3656009	1.29E-06	1.06YrCanc	1.29E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
886	ALL	477761.8	3655989	1.28E-06	1.06YrCanc	1.28E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
885	ALL	477741.8	3655989	1.26E-06	1.06YrCanc	1.26E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
41	ALL	477826.1	3656362	1.25E-06	1.06YrCanc	1.25E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
884	ALL	477721.8	3655989	1.24E-06	1.06YrCanc	1.24E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
21	ALL	477909.1	3656026	1.22E-06	1.06YrCanc	1.22E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
912	ALL	477861.8	3656009	1.22E-06	1.06YrCanc	1.22E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
903	ALL	477681.8	3656009	1.21E-06	1.06YrCanc	1.21E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
968	ALL	478041.4	3656113	1.20E-06	1.06YrCanc	1.20E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
936	ALL	477921.8	3656029	1.19E-06	1.06YrCanc	1.19E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
68	ALL	477898.3	3656364	1.17E-06	1.06YrCanc	1.17E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
887	ALL	477781.8	3655989	1.16E-06	1.06YrCanc	1.16E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
959	ALL	477961.8	3656049	1.16E-06	1.06YrCanc	1.16E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
883	ALL	477701.8	3655989	1.16E-06	1.06YrCanc	1.16E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
902	ALL	477661.8	3656009	1.16E-06	1.06YrCanc	1.16E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
922	ALL	477641.8	3656029	1.14E-06	1.06YrCanc	1.14E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
913	ALL	477881.8	3656009	1.14E-06	1.06YrCanc	1.14E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
888	ALL	477801.8	3655989	1.13E-06	1.06YrCanc	1.13E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
967	ALL	478027.8	3656091	1.11E-06	1.06YrCanc	1.11E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
69	ALL	477933.5	3656357	1.11E-06	1.06YrCanc	1.11E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
889	ALL	477821.8	3655989	1.08E-06	1.06YrCanc	1.08E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
988	ALL	478080.6	3656204	1.08E-06	1.06YrCanc	1.08E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
989	ALL	478080.6	3656204	1.08E-06	1.06YrCanc	1.08E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
914	ALL	477901.8	3656009	1.07E-06	1.06YrCanc	1.07E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
937	ALL	477941.8	3656029	1.06E-06	1.06YrCanc	1.06E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
864	ALL	477741.8	3655969	1.06E-06	1.06YrCanc	1.06E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
890	ALL	477841.8	3655989	1.05E-06	1.06YrCanc	1.05E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
865	ALL	477761.8	3655969	1.05E-06	1.06YrCanc	1.05E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
55	ALL	477585	3656042	1.04E-06	1.06YrCanc	1.04E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
960	ALL	477981.8	3656049	1.04E-06	1.06YrCanc	1.04E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
27	ALL	477732	3656324	1.03E-06	1.06YrCanc	1.03E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
901	ALL	477641.8	3656009	1.03E-06	1.06YrCanc	1.03E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
969	ALL	478061	3656112	1.03E-06	1.06YrCanc	1.03E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
863	ALL	477721.8	3655969	1.03E-06	1.06YrCanc	1.03E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
66	ALL	477875.9	3656385	1.02E-06	1.06YrCanc	1.02E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
921	ALL	477621.8	3656029	1.02E-06	1.06YrCanc	1.02E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
920	ALL	477601.8	3656029	1.01E-06	1.06YrCanc	1.01E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
891	ALL	477861.8	3655989	9.99E-07	1.06YrCanc	9.99E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
866	ALL	477781.8	3655969	9.99E-07	1.06YrCanc	9.99E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
56	ALL	477594.6	3656082	9.99E-07	1.06YrCanc	9.99E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
942	ALL	477621.8	3656049	9.93E-07	1.06YrCanc	9.93E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
915	ALL	477921.8	3656009	9.84E-07	1.06YrCanc	9.84E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
67	ALL	477831	3656392	9.77E-07	1.06YrCanc	9.77E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
899	ALL	477601.8	3656009	9.69E-07	1.06YrCanc	9.69E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
938	ALL	477961.8	3656029	9.68E-07	1.06YrCanc	9.68E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
862	ALL	477701.8	3655969	9.68E-07	1.06YrCanc	9.68E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
941	ALL	477601.8	3656049	9.61E-07	1.06YrCanc	9.61E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
900	ALL	477621.8	3656009	9.57E-07	1.06YrCanc	9.57E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
892	ALL	477881.8	3655989	9.42E-07	1.06YrCanc	9.42E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

961	ALL	478001.8	3656049	9.39E-07	1.06YrCanc	9.39E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
867	ALL	477801.8	3655969	9.39E-07	1.06YrCanc	9.39E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
607	ALL	477888.1	3655990	9.35E-07	1.06YrCanc	9.35E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
882	ALL	477681.8	3655989	9.09E-07	1.06YrCanc	9.09E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
868	ALL	477821.8	3655969	9.01E-07	1.06YrCanc	9.01E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
237	ALL	477499.2	3656074	8.98E-07	1.06YrCanc	8.98E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
916	ALL	477941.8	3656009	8.96E-07	1.06YrCanc	8.96E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
881	ALL	477661.8	3655989	8.94E-07	1.06YrCanc	8.94E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
49	ALL	477524.9	3656025	8.93E-07	1.06YrCanc	8.93E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
880	ALL	477641.8	3655989	8.92E-07	1.06YrCanc	8.92E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
878	ALL	477601.8	3655989	8.91E-07	1.06YrCanc	8.91E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
893	ALL	477901.8	3655989	8.86E-07	1.06YrCanc	8.86E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
879	ALL	477621.8	3655989	8.83E-07	1.06YrCanc	8.83E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
939	ALL	477981.8	3656029	8.80E-07	1.06YrCanc	8.80E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
869	ALL	477841.8	3655969	8.74E-07	1.06YrCanc	8.74E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
218	ALL	477499.2	3656046	8.63E-07	1.06YrCanc	8.63E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
842	ALL	477721.8	3655949	8.59E-07	1.06YrCanc	8.59E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
843	ALL	477741.8	3655949	8.43E-07	1.06YrCanc	8.43E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
844	ALL	477761.8	3655949	8.41E-07	1.06YrCanc	8.41E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
841	ALL	477701.8	3655949	8.38E-07	1.06YrCanc	8.38E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
256	ALL	477499.2	3656102	8.36E-07	1.06YrCanc	8.36E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
236	ALL	477481.5	3656074	8.36E-07	1.06YrCanc	8.36E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
857	ALL	477601.8	3655969	8.34E-07	1.06YrCanc	8.34E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
858	ALL	477621.8	3655969	8.33E-07	1.06YrCanc	8.33E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
870	ALL	477861.8	3655969	8.31E-07	1.06YrCanc	8.31E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
845	ALL	477781.8	3655949	8.30E-07	1.06YrCanc	8.30E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
917	ALL	477961.8	3656009	8.23E-07	1.06YrCanc	8.23E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
894	ALL	477921.8	3655989	8.20E-07	1.06YrCanc	8.20E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
940	ALL	478001.8	3656029	8.09E-07	1.06YrCanc	8.09E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
201	ALL	477499.2	3656019	8.06E-07	1.06YrCanc	8.06E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
871	ALL	477881.8	3655969	7.99E-07	1.06YrCanc	7.99E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
54	ALL	477586.3	3655966	7.93E-07	1.06YrCanc	7.93E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
255	ALL	477481.5	3656102	7.93E-07	1.06YrCanc	7.93E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
846	ALL	477801.8	3655949	7.90E-07	1.06YrCanc	7.90E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
859	ALL	477641.8	3655969	7.80E-07	1.06YrCanc	7.80E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
235	ALL	477463.8	3656074	7.80E-07	1.06YrCanc	7.80E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
847	ALL	477821.8	3655949	7.71E-07	1.06YrCanc	7.71E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
861	ALL	477681.8	3655969	7.67E-07	1.06YrCanc	7.67E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
895	ALL	477941.8	3655989	7.66E-07	1.06YrCanc	7.66E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
860	ALL	477661.8	3655969	7.63E-07	1.06YrCanc	7.63E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
200	ALL	477481.5	3656019	7.62E-07	1.06YrCanc	7.62E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
970	ALL	478037	3656045	7.62E-07	1.06YrCanc	7.62E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
918	ALL	477981.8	3656009	7.59E-07	1.06YrCanc	7.59E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
254	ALL	477463.8	3656102	7.57E-07	1.06YrCanc	7.57E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
872	ALL	477901.8	3655969	7.48E-07	1.06YrCanc	7.48E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
837	ALL	477621.8	3655949	7.47E-07	1.06YrCanc	7.47E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
848	ALL	477841.8	3655949	7.39E-07	1.06YrCanc	7.39E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
836	ALL	477601.8	3655949	7.38E-07	1.06YrCanc	7.38E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
820	ALL	477701.8	3655929	7.34E-07	1.06YrCanc	7.34E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
821	ALL	477721.8	3655929	7.25E-07	1.06YrCanc	7.25E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
189	ALL	477499.2	3655991	7.18E-07	1.06YrCanc	7.18E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
823	ALL	477761.8	3655929	7.16E-07	1.06YrCanc	7.16E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
217	ALL	477446.2	3656046	7.12E-07	1.06YrCanc	7.12E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
896	ALL	477961.8	3655989	7.11E-07	1.06YrCanc	7.11E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
822	ALL	477741.8	3655929	7.07E-07	1.06YrCanc	7.07E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
873	ALL	477921.8	3655969	7.07E-07	1.06YrCanc	7.07E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
849	ALL	477861.8	3655949	7.06E-07	1.06YrCanc	7.06E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

824	ALL	477781.8	3655929	7.04E-07	1.06YrCanc	7.04E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
919	ALL	478001.8	3656009	6.98E-07	1.06YrCanc	6.98E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
65	ALL	477800.3	3656428	6.90E-07	1.06YrCanc	6.90E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
188	ALL	477481.5	3655991	6.88E-07	1.06YrCanc	6.88E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
840	ALL	477681.8	3655949	6.86E-07	1.06YrCanc	6.86E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
70	ALL	477932.2	3656435	6.85E-07	1.06YrCanc	6.85E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
234	ALL	477446.2	3656074	6.80E-07	1.06YrCanc	6.80E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
850	ALL	477881.8	3655949	6.78E-07	1.06YrCanc	6.78E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
825	ALL	477801.8	3655929	6.76E-07	1.06YrCanc	6.76E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
816	ALL	477621.8	3655929	6.70E-07	1.06YrCanc	6.70E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
838	ALL	477641.8	3655949	6.69E-07	1.06YrCanc	6.69E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
826	ALL	477821.8	3655929	6.68E-07	1.06YrCanc	6.68E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
819	ALL	477681.8	3655929	6.64E-07	1.06YrCanc	6.64E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
975	ALL	478072.4	3656050	6.64E-07	1.06YrCanc	6.64E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
874	ALL	477941.8	3655969	6.63E-07	1.06YrCanc	6.63E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
971	ALL	478025.6	3656016	6.63E-07	1.06YrCanc	6.63E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
897	ALL	477981.8	3655989	6.62E-07	1.06YrCanc	6.62E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
839	ALL	477661.8	3655949	6.59E-07	1.06YrCanc	6.59E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
815	ALL	477601.8	3655929	6.52E-07	1.06YrCanc	6.52E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
216	ALL	477428.5	3656046	6.51E-07	1.06YrCanc	6.51E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
799	ALL	477701.8	3655909	6.50E-07	1.06YrCanc	6.50E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
851	ALL	477901.8	3655949	6.46E-07	1.06YrCanc	6.46E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
33	ALL	477646.7	3656292	6.45E-07	1.06YrCanc	6.45E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
827	ALL	477841.8	3655929	6.37E-07	1.06YrCanc	6.37E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
798	ALL	477681.8	3655909	6.31E-07	1.06YrCanc	6.31E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
199	ALL	477428.5	3656019	6.29E-07	1.06YrCanc	6.29E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
271	ALL	477499.2	3656130	6.28E-07	1.06YrCanc	6.28E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
32	ALL	477662.3	3656312	6.27E-07	1.06YrCanc	6.27E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
800	ALL	477721.8	3655909	6.27E-07	1.06YrCanc	6.27E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
817	ALL	477641.8	3655929	6.26E-07	1.06YrCanc	6.26E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
176	ALL	477499.2	3655963	6.23E-07	1.06YrCanc	6.23E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
42	ALL	477760.6	3656386	6.21E-07	1.06YrCanc	6.21E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
875	ALL	477961.8	3655969	6.21E-07	1.06YrCanc	6.21E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
802	ALL	477761.8	3655909	6.21E-07	1.06YrCanc	6.21E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
175	ALL	477481.5	3655963	6.15E-07	1.06YrCanc	6.15E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
852	ALL	477921.8	3655949	6.15E-07	1.06YrCanc	6.15E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
801	ALL	477741.8	3655909	6.14E-07	1.06YrCanc	6.14E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
269	ALL	477463.8	3656130	6.13E-07	1.06YrCanc	6.13E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
898	ALL	478001.8	3655989	6.12E-07	1.06YrCanc	6.12E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
828	ALL	477861.8	3655929	6.09E-07	1.06YrCanc	6.09E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
198	ALL	477410.8	3656019	6.06E-07	1.06YrCanc	6.06E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
22	ALL	477551.5	3656176	6.04E-07	1.06YrCanc	6.04E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
974	ALL	478067.5	3656028	6.01E-07	1.06YrCanc	6.01E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
53	ALL	477571	3655927	6.00E-07	1.06YrCanc	6.00E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
972	ALL	478021.2	3655997	5.98E-07	1.06YrCanc	5.98E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
795	ALL	477621.8	3655909	5.98E-07	1.06YrCanc	5.98E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
797	ALL	477661.8	3655909	5.96E-07	1.06YrCanc	5.96E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
803	ALL	477781.8	3655909	5.95E-07	1.06YrCanc	5.95E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
233	ALL	477428.5	3656074	5.95E-07	1.06YrCanc	5.95E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
253	ALL	477446.2	3656102	5.94E-07	1.06YrCanc	5.94E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
796	ALL	477641.8	3655909	5.91E-07	1.06YrCanc	5.91E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
73	ALL	477877.1	3656481	5.90E-07	1.06YrCanc	5.90E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
174	ALL	477463.8	3655963	5.89E-07	1.06YrCanc	5.89E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
187	ALL	477428.5	3655991	5.88E-07	1.06YrCanc	5.88E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
829	ALL	477881.8	3655929	5.88E-07	1.06YrCanc	5.88E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
818	ALL	477661.8	3655929	5.87E-07	1.06YrCanc	5.87E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
876	ALL	477981.8	3655969	5.83E-07	1.06YrCanc	5.83E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

804	ALL	477801.8	3655909	5.82E-07	1.06YrCanc	5.82E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
794	ALL	477601.8	3655909	5.81E-07	1.06YrCanc	5.81E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
853	ALL	477941.8	3655949	5.79E-07	1.06YrCanc	5.79E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
72	ALL	477838.1	3656479	5.77E-07	1.06YrCanc	5.77E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
805	ALL	477821.8	3655909	5.75E-07	1.06YrCanc	5.75E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
215	ALL	477410.8	3656046	5.72E-07	1.06YrCanc	5.72E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
23	ALL	477556.6	3656194	5.72E-07	1.06YrCanc	5.72E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
270	ALL	477481.5	3656130	5.69E-07	1.06YrCanc	5.69E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
778	ALL	477701.8	3655889	5.68E-07	1.06YrCanc	5.68E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
777	ALL	477681.8	3655889	5.67E-07	1.06YrCanc	5.67E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
50	ALL	477517.8	3655938	5.66E-07	1.06YrCanc	5.66E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
830	ALL	477901.8	3655929	5.63E-07	1.06YrCanc	5.63E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
186	ALL	477410.8	3655991	5.58E-07	1.06YrCanc	5.58E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
44	ALL	477529.1	3656165	5.56E-07	1.06YrCanc	5.56E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
806	ALL	477841.8	3655909	5.48E-07	1.06YrCanc	5.48E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
185	ALL	477393.2	3655991	5.48E-07	1.06YrCanc	5.48E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
854	ALL	477961.8	3655949	5.47E-07	1.06YrCanc	5.47E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
232	ALL	477410.8	3656074	5.46E-07	1.06YrCanc	5.46E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
779	ALL	477721.8	3655889	5.44E-07	1.06YrCanc	5.44E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
877	ALL	478001.8	3655969	5.43E-07	1.06YrCanc	5.43E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
24	ALL	477563.7	3656214	5.42E-07	1.06YrCanc	5.42E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
976	ALL	478061	3656005	5.41E-07	1.06YrCanc	5.41E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
71	ALL	478012.9	3656438	5.39E-07	1.06YrCanc	5.39E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
831	ALL	477921.8	3655929	5.37E-07	1.06YrCanc	5.37E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
776	ALL	477661.8	3655889	5.37E-07	1.06YrCanc	5.37E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
163	ALL	477499.2	3655935	5.36E-07	1.06YrCanc	5.36E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
774	ALL	477621.8	3655889	5.34E-07	1.06YrCanc	5.34E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
780	ALL	477741.8	3655889	5.33E-07	1.06YrCanc	5.33E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
162	ALL	477481.5	3655935	5.32E-07	1.06YrCanc	5.32E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
807	ALL	477861.8	3655909	5.32E-07	1.06YrCanc	5.32E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
775	ALL	477641.8	3655889	5.30E-07	1.06YrCanc	5.30E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
973	ALL	478014.7	3655971	5.29E-07	1.06YrCanc	5.29E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
986	ALL	478197.6	3656142	5.26E-07	1.06YrCanc	5.26E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
161	ALL	477463.8	3655935	5.23E-07	1.06YrCanc	5.23E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
374	ALL	477645.8	3656328	5.23E-07	1.06YrCanc	5.23E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
773	ALL	477601.8	3655889	5.18E-07	1.06YrCanc	5.18E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
781	ALL	477761.8	3655889	5.18E-07	1.06YrCanc	5.18E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
855	ALL	477981.8	3655949	5.17E-07	1.06YrCanc	5.17E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
197	ALL	477393.2	3656019	5.15E-07	1.06YrCanc	5.15E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
214	ALL	477393.2	3656046	5.15E-07	1.06YrCanc	5.15E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
782	ALL	477781.8	3655889	5.14E-07	1.06YrCanc	5.14E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
808	ALL	477881.8	3655909	5.13E-07	1.06YrCanc	5.13E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
40	ALL	477693.6	3656357	5.12E-07	1.06YrCanc	5.12E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
758	ALL	477721.8	3655869	5.11E-07	1.06YrCanc	5.11E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
832	ALL	477941.8	3655929	5.11E-07	1.06YrCanc	5.11E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
25	ALL	477568.4	3656233	5.11E-07	1.06YrCanc	5.11E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
173	ALL	477410.8	3655963	5.11E-07	1.06YrCanc	5.11E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
757	ALL	477701.8	3655869	5.11E-07	1.06YrCanc	5.11E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
783	ALL	477801.8	3655889	5.10E-07	1.06YrCanc	5.10E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
268	ALL	477446.2	3656130	5.06E-07	1.06YrCanc	5.06E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
160	ALL	477446.2	3655935	5.02E-07	1.06YrCanc	5.02E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
756	ALL	477681.8	3655869	5.00E-07	1.06YrCanc	5.00E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
784	ALL	477821.8	3655889	4.99E-07	1.06YrCanc	4.99E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
26	ALL	477575.8	3656250	4.98E-07	1.06YrCanc	4.98E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
755	ALL	477661.8	3655869	4.96E-07	1.06YrCanc	4.96E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
809	ALL	477901.8	3655909	4.95E-07	1.06YrCanc	4.95E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
979	ALL	478160.6	3656063	4.95E-07	1.06YrCanc	4.95E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

184	ALL	477375.5	3655991	4.94E-07	1.06YrCanc	4.94E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
172	ALL	477393.2	3655963	4.94E-07	1.06YrCanc	4.94E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
34	ALL	477595.9	3656279	4.93E-07	1.06YrCanc	4.93E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
987	ALL	478219.9	3656169	4.89E-07	1.06YrCanc	4.89E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
754	ALL	477641.8	3655869	4.88E-07	1.06YrCanc	4.88E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
833	ALL	477961.8	3655929	4.87E-07	1.06YrCanc	4.87E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
856	ALL	478001.8	3655949	4.86E-07	1.06YrCanc	4.86E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
45	ALL	477507.5	3656168	4.85E-07	1.06YrCanc	4.85E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
171	ALL	477375.5	3655963	4.84E-07	1.06YrCanc	4.84E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
287	ALL	477499.2	3656158	4.84E-07	1.06YrCanc	4.84E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
753	ALL	477621.8	3655869	4.80E-07	1.06YrCanc	4.80E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
785	ALL	477841.8	3655889	4.80E-07	1.06YrCanc	4.80E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
810	ALL	477921.8	3655909	4.76E-07	1.06YrCanc	4.76E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
36	ALL	477613.1	3656310	4.75E-07	1.06YrCanc	4.75E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
35	ALL	477601.7	3656296	4.74E-07	1.06YrCanc	4.74E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
759	ALL	477741.8	3655869	4.73E-07	1.06YrCanc	4.73E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
390	ALL	477645.8	3656345	4.73E-07	1.06YrCanc	4.73E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
752	ALL	477601.8	3655869	4.71E-07	1.06YrCanc	4.71E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
81	ALL	478062.2	3656436	4.70E-07	1.06YrCanc	4.70E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
786	ALL	477861.8	3655889	4.69E-07	1.06YrCanc	4.69E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
737	ALL	477721.8	3655849	4.67E-07	1.06YrCanc	4.67E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
150	ALL	477499.2	3655908	4.65E-07	1.06YrCanc	4.65E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
736	ALL	477701.8	3655849	4.61E-07	1.06YrCanc	4.61E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
760	ALL	477761.8	3655869	4.61E-07	1.06YrCanc	4.61E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
761	ALL	477781.8	3655869	4.61E-07	1.06YrCanc	4.61E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
834	ALL	477981.8	3655929	4.61E-07	1.06YrCanc	4.61E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
159	ALL	477410.8	3655935	4.60E-07	1.06YrCanc	4.60E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
149	ALL	477481.5	3655908	4.59E-07	1.06YrCanc	4.59E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
148	ALL	477463.8	3655908	4.59E-07	1.06YrCanc	4.59E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
373	ALL	477621.1	3656328	4.59E-07	1.06YrCanc	4.59E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
58	ALL	477568.4	3655879	4.58E-07	1.06YrCanc	4.58E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
811	ALL	477941.8	3655909	4.56E-07	1.06YrCanc	4.56E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
51	ALL	477507.6	3655899	4.55E-07	1.06YrCanc	4.55E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
735	ALL	477681.8	3655849	4.55E-07	1.06YrCanc	4.55E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
787	ALL	477881.8	3655889	4.54E-07	1.06YrCanc	4.54E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
762	ALL	477801.8	3655869	4.54E-07	1.06YrCanc	4.54E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
286	ALL	477481.5	3656158	4.53E-07	1.06YrCanc	4.53E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
251	ALL	477410.8	3656102	4.50E-07	1.06YrCanc	4.50E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
734	ALL	477661.8	3655849	4.50E-07	1.06YrCanc	4.50E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
978	ALL	478151.3	3656029	4.48E-07	1.06YrCanc	4.48E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
157	ALL	477375.5	3655935	4.46E-07	1.06YrCanc	4.46E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
76	ALL	477980.9	3656506	4.44E-07	1.06YrCanc	4.44E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
267	ALL	477428.5	3656130	4.44E-07	1.06YrCanc	4.44E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
147	ALL	477446.2	3655908	4.43E-07	1.06YrCanc	4.43E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
252	ALL	477428.5	3656102	4.42E-07	1.06YrCanc	4.42E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
733	ALL	477641.8	3655849	4.42E-07	1.06YrCanc	4.42E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
158	ALL	477393.2	3655935	4.42E-07	1.06YrCanc	4.42E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
788	ALL	477901.8	3655889	4.41E-07	1.06YrCanc	4.41E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
763	ALL	477821.8	3655869	4.38E-07	1.06YrCanc	4.38E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
170	ALL	477357.8	3655963	4.37E-07	1.06YrCanc	4.37E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
82	ALL	478019.9	3656485	4.37E-07	1.06YrCanc	4.37E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
835	ALL	478001.8	3655929	4.36E-07	1.06YrCanc	4.36E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
812	ALL	477961.8	3655909	4.36E-07	1.06YrCanc	4.36E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
738	ALL	477741.8	3655849	4.35E-07	1.06YrCanc	4.35E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
732	ALL	477621.8	3655849	4.35E-07	1.06YrCanc	4.35E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
977	ALL	478059.3	3655963	4.34E-07	1.06YrCanc	4.34E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
400	ALL	477645.8	3656362	4.33E-07	1.06YrCanc	4.33E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

74	ALL	477858.6	3656540	4.32E-07	1.06YrCanc	4.32E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
298	ALL	477499.2	3656185	4.31E-07	1.06YrCanc	4.31E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
196	ALL	477375.5	3656019	4.31E-07	1.06YrCanc	4.31E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
169	ALL	477340.1	3655963	4.29E-07	1.06YrCanc	4.29E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
213	ALL	477375.5	3656046	4.27E-07	1.06YrCanc	4.27E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
389	ALL	477621.1	3656345	4.26E-07	1.06YrCanc	4.26E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
285	ALL	477463.8	3656158	4.26E-07	1.06YrCanc	4.26E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
731	ALL	477601.8	3655849	4.26E-07	1.06YrCanc	4.26E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
764	ALL	477841.8	3655869	4.26E-07	1.06YrCanc	4.26E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
146	ALL	477428.5	3655908	4.25E-07	1.06YrCanc	4.25E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
231	ALL	477393.2	3656074	4.25E-07	1.06YrCanc	4.25E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
789	ALL	477921.8	3655889	4.25E-07	1.06YrCanc	4.25E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
39	ALL	477656.6	3656373	4.22E-07	1.06YrCanc	4.22E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
716	ALL	477721.8	3655829	4.19E-07	1.06YrCanc	4.19E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
715	ALL	477701.8	3655829	4.19E-07	1.06YrCanc	4.19E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
37	ALL	477616.8	3656345	4.18E-07	1.06YrCanc	4.18E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
739	ALL	477761.8	3655849	4.17E-07	1.06YrCanc	4.17E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
765	ALL	477861.8	3655869	4.16E-07	1.06YrCanc	4.16E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
813	ALL	477981.8	3655909	4.15E-07	1.06YrCanc	4.15E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
156	ALL	477357.8	3655935	4.13E-07	1.06YrCanc	4.13E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
714	ALL	477681.8	3655829	4.12E-07	1.06YrCanc	4.12E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
135	ALL	477499.2	3655880	4.11E-07	1.06YrCanc	4.11E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
155	ALL	477340.1	3655935	4.10E-07	1.06YrCanc	4.10E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
167	ALL	477304.8	3655963	4.10E-07	1.06YrCanc	4.10E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
168	ALL	477322.5	3655963	4.09E-07	1.06YrCanc	4.09E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
713	ALL	477661.8	3655829	4.09E-07	1.06YrCanc	4.09E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
790	ALL	477941.8	3655889	4.09E-07	1.06YrCanc	4.09E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
740	ALL	477781.8	3655849	4.08E-07	1.06YrCanc	4.08E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
212	ALL	477357.8	3656046	4.07E-07	1.06YrCanc	4.07E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
154	ALL	477322.5	3655935	4.05E-07	1.06YrCanc	4.05E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
741	ALL	477801.8	3655849	4.04E-07	1.06YrCanc	4.04E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
766	ALL	477881.8	3655869	4.04E-07	1.06YrCanc	4.04E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
195	ALL	477357.8	3656019	4.03E-07	1.06YrCanc	4.03E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
183	ALL	477357.8	3655991	4.03E-07	1.06YrCanc	4.03E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
134	ALL	477481.5	3655880	4.02E-07	1.06YrCanc	4.02E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
712	ALL	477641.8	3655829	4.01E-07	1.06YrCanc	4.01E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
166	ALL	477287.1	3655963	4.01E-07	1.06YrCanc	4.01E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
980	ALL	478204.1	3656046	3.97E-07	1.06YrCanc	3.97E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
409	ALL	477645.8	3656378	3.97E-07	1.06YrCanc	3.97E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
297	ALL	477481.5	3656185	3.97E-07	1.06YrCanc	3.97E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
145	ALL	477393.2	3655908	3.96E-07	1.06YrCanc	3.96E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
179	ALL	477287.1	3655991	3.96E-07	1.06YrCanc	3.96E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
711	ALL	477621.8	3655829	3.96E-07	1.06YrCanc	3.96E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
133	ALL	477463.8	3655880	3.96E-07	1.06YrCanc	3.96E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
399	ALL	477621.1	3656362	3.96E-07	1.06YrCanc	3.96E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
132	ALL	477446.2	3655880	3.95E-07	1.06YrCanc	3.95E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
814	ALL	478001.8	3655909	3.94E-07	1.06YrCanc	3.94E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
80	ALL	478071.1	3656479	3.94E-07	1.06YrCanc	3.94E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
767	ALL	477901.8	3655869	3.94E-07	1.06YrCanc	3.94E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
178	ALL	477269.5	3655991	3.94E-07	1.06YrCanc	3.94E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
144	ALL	477375.5	3655908	3.94E-07	1.06YrCanc	3.94E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
143	ALL	477357.8	3655908	3.93E-07	1.06YrCanc	3.93E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
791	ALL	477961.8	3655889	3.93E-07	1.06YrCanc	3.93E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
38	ALL	477618.1	3656361	3.93E-07	1.06YrCanc	3.93E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
742	ALL	477821.8	3655849	3.92E-07	1.06YrCanc	3.92E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
211	ALL	477340.1	3656046	3.91E-07	1.06YrCanc	3.91E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
717	ALL	477741.8	3655829	3.90E-07	1.06YrCanc	3.90E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

982	ALL	478130.1	3655981	3.88E-07	1.06YrCanc	3.88E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
182	ALL	477340.1	3655991	3.88E-07	1.06YrCanc	3.88E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
284	ALL	477446.2	3656158	3.87E-07	1.06YrCanc	3.87E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
194	ALL	477340.1	3656019	3.86E-07	1.06YrCanc	3.86E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
310	ALL	477499.2	3656213	3.86E-07	1.06YrCanc	3.86E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
60	ALL	477533.7	3656261	3.85E-07	1.06YrCanc	3.85E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
165	ALL	477269.5	3655963	3.85E-07	1.06YrCanc	3.85E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
710	ALL	477601.8	3655829	3.85E-07	1.06YrCanc	3.85E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
153	ALL	477304.8	3655935	3.84E-07	1.06YrCanc	3.84E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
250	ALL	477393.2	3656102	3.83E-07	1.06YrCanc	3.83E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
743	ALL	477841.8	3655849	3.82E-07	1.06YrCanc	3.82E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
768	ALL	477921.8	3655869	3.82E-07	1.06YrCanc	3.82E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
388	ALL	477596.5	3656345	3.81E-07	1.06YrCanc	3.81E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
142	ALL	477340.1	3655908	3.80E-07	1.06YrCanc	3.80E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
43	ALL	477685.6	3656398	3.80E-07	1.06YrCanc	3.80E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
131	ALL	477428.5	3655880	3.79E-07	1.06YrCanc	3.79E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
210	ALL	477322.5	3656046	3.77E-07	1.06YrCanc	3.77E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
152	ALL	477287.1	3655935	3.77E-07	1.06YrCanc	3.77E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
180	ALL	477304.8	3655991	3.77E-07	1.06YrCanc	3.77E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
230	ALL	477375.5	3656074	3.76E-07	1.06YrCanc	3.76E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
718	ALL	477761.8	3655829	3.75E-07	1.06YrCanc	3.75E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
181	ALL	477322.5	3655991	3.75E-07	1.06YrCanc	3.75E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
792	ALL	477981.8	3655889	3.75E-07	1.06YrCanc	3.75E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
177	ALL	477251.8	3655991	3.74E-07	1.06YrCanc	3.74E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
296	ALL	477463.8	3656185	3.74E-07	1.06YrCanc	3.74E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
193	ALL	477322.5	3656019	3.72E-07	1.06YrCanc	3.72E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
744	ALL	477861.8	3655849	3.72E-07	1.06YrCanc	3.72E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
769	ALL	477941.8	3655869	3.68E-07	1.06YrCanc	3.68E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
408	ALL	477621.1	3656378	3.68E-07	1.06YrCanc	3.68E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
77	ALL	478021.8	3656533	3.67E-07	1.06YrCanc	3.67E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
609	ALL	477434.1	3655868	3.66E-07	1.06YrCanc	3.66E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
228	ALL	477340.1	3656074	3.66E-07	1.06YrCanc	3.66E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
266	ALL	477410.8	3656130	3.65E-07	1.06YrCanc	3.65E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
719	ALL	477781.8	3655829	3.65E-07	1.06YrCanc	3.65E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
141	ALL	477322.5	3655908	3.64E-07	1.06YrCanc	3.64E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
745	ALL	477881.8	3655849	3.64E-07	1.06YrCanc	3.64E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
229	ALL	477357.8	3656074	3.64E-07	1.06YrCanc	3.64E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
427	ALL	477645.8	3656395	3.64E-07	1.06YrCanc	3.64E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
227	ALL	477322.5	3656074	3.64E-07	1.06YrCanc	3.64E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
209	ALL	477304.8	3656046	3.62E-07	1.06YrCanc	3.62E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
981	ALL	478192.1	3656008	3.62E-07	1.06YrCanc	3.62E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
190	ALL	477269.5	3656019	3.59E-07	1.06YrCanc	3.59E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
249	ALL	477375.5	3656102	3.58E-07	1.06YrCanc	3.58E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
398	ALL	477596.5	3656362	3.58E-07	1.06YrCanc	3.58E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
793	ALL	478001.8	3655889	3.58E-07	1.06YrCanc	3.58E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
130	ALL	477393.2	3655880	3.58E-07	1.06YrCanc	3.58E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
283	ALL	477428.5	3656158	3.58E-07	1.06YrCanc	3.58E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
720	ALL	477801.8	3655829	3.56E-07	1.06YrCanc	3.56E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
770	ALL	477961.8	3655869	3.56E-07	1.06YrCanc	3.56E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
192	ALL	477304.8	3656019	3.55E-07	1.06YrCanc	3.55E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
140	ALL	477304.8	3655908	3.55E-07	1.06YrCanc	3.55E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
75	ALL	477797.1	3656557	3.55E-07	1.06YrCanc	3.55E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
746	ALL	477901.8	3655849	3.55E-07	1.06YrCanc	3.55E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
265	ALL	477393.2	3656130	3.54E-07	1.06YrCanc	3.54E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
309	ALL	477481.5	3656213	3.54E-07	1.06YrCanc	3.54E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
322	ALL	477499.2	3656241	3.52E-07	1.06YrCanc	3.52E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
226	ALL	477304.8	3656074	3.51E-07	1.06YrCanc	3.51E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

61	ALL	477515.7	3656265	3.51E-07	1.06YrCanc	3.51E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
721	ALL	477821.8	3655829	3.50E-07	1.06YrCanc	3.50E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
697	ALL	477601.8	3655809	3.48E-07	1.06YrCanc	3.48E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
295	ALL	477446.2	3656185	3.48E-07	1.06YrCanc	3.48E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
191	ALL	477287.1	3656019	3.46E-07	1.06YrCanc	3.46E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
128	ALL	477357.8	3655880	3.46E-07	1.06YrCanc	3.46E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
208	ALL	477287.1	3656046	3.46E-07	1.06YrCanc	3.46E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
129	ALL	477375.5	3655880	3.46E-07	1.06YrCanc	3.46E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
62	ALL	477538.8	3656296	3.46E-07	1.06YrCanc	3.46E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
722	ALL	477841.8	3655829	3.45E-07	1.06YrCanc	3.45E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
747	ALL	477921.8	3655849	3.45E-07	1.06YrCanc	3.45E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
78	ALL	478071.8	3656518	3.45E-07	1.06YrCanc	3.45E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
52	ALL	477512.7	3655838	3.43E-07	1.06YrCanc	3.43E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
121	ALL	477428.5	3655852	3.42E-07	1.06YrCanc	3.42E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
151	ALL	477234.1	3655935	3.42E-07	1.06YrCanc	3.42E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
225	ALL	477287.1	3656074	3.42E-07	1.06YrCanc	3.42E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
426	ALL	477621.1	3656395	3.41E-07	1.06YrCanc	3.41E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
57	ALL	477556.2	3655822	3.41E-07	1.06YrCanc	3.41E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
771	ALL	477981.8	3655869	3.41E-07	1.06YrCanc	3.41E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
127	ALL	477340.1	3655880	3.40E-07	1.06YrCanc	3.40E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
387	ALL	477571.8	3656345	3.40E-07	1.06YrCanc	3.40E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
164	ALL	477216.5	3655963	3.38E-07	1.06YrCanc	3.38E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
248	ALL	477357.8	3656102	3.37E-07	1.06YrCanc	3.37E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
407	ALL	477596.5	3656378	3.37E-07	1.06YrCanc	3.37E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
723	ALL	477861.8	3655829	3.37E-07	1.06YrCanc	3.37E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
698	ALL	477761.8	3655809	3.36E-07	1.06YrCanc	3.36E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
264	ALL	477375.5	3656130	3.35E-07	1.06YrCanc	3.35E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
245	ALL	477304.8	3656102	3.35E-07	1.06YrCanc	3.35E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
748	ALL	477941.8	3655849	3.34E-07	1.06YrCanc	3.34E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
446	ALL	477645.8	3656412	3.34E-07	1.06YrCanc	3.34E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
139	ALL	477251.8	3655908	3.32E-07	1.06YrCanc	3.32E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
63	ALL	477553.6	3656327	3.31E-07	1.06YrCanc	3.31E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
282	ALL	477410.8	3656158	3.31E-07	1.06YrCanc	3.31E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
207	ALL	477269.5	3656046	3.31E-07	1.06YrCanc	3.31E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
126	ALL	477322.5	3655880	3.31E-07	1.06YrCanc	3.31E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
699	ALL	477781.8	3655809	3.30E-07	1.06YrCanc	3.30E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
308	ALL	477463.8	3656213	3.30E-07	1.06YrCanc	3.30E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
79	ALL	478101.2	3656515	3.29E-07	1.06YrCanc	3.29E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
724	ALL	477881.8	3655829	3.29E-07	1.06YrCanc	3.29E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
321	ALL	477481.5	3656241	3.27E-07	1.06YrCanc	3.27E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
772	ALL	478001.8	3655869	3.27E-07	1.06YrCanc	3.27E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
334	ALL	477499.2	3656269	3.24E-07	1.06YrCanc	3.24E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
749	ALL	477961.8	3655849	3.23E-07	1.06YrCanc	3.23E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
397	ALL	477571.8	3656362	3.22E-07	1.06YrCanc	3.22E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
700	ALL	477801.8	3655809	3.22E-07	1.06YrCanc	3.22E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
725	ALL	477901.8	3655829	3.21E-07	1.06YrCanc	3.21E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
372	ALL	477547.1	3656328	3.21E-07	1.06YrCanc	3.21E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
244	ALL	477287.1	3656102	3.20E-07	1.06YrCanc	3.20E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
247	ALL	477340.1	3656102	3.19E-07	1.06YrCanc	3.19E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
686	ALL	477601.8	3655789	3.19E-07	1.06YrCanc	3.19E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
983	ALL	478178.5	3655966	3.17E-07	1.06YrCanc	3.17E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
445	ALL	477621.1	3656412	3.17E-07	1.06YrCanc	3.17E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
701	ALL	477821.8	3655809	3.17E-07	1.06YrCanc	3.17E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
120	ALL	477375.5	3655852	3.16E-07	1.06YrCanc	3.16E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
425	ALL	477596.5	3656395	3.16E-07	1.06YrCanc	3.16E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
726	ALL	477921.8	3655829	3.14E-07	1.06YrCanc	3.14E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
307	ALL	477446.2	3656213	3.13E-07	1.06YrCanc	3.13E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

702	ALL	477841.8	3655809	3.13E-07	1.06YrCanc	3.13E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
246	ALL	477322.5	3656102	3.12E-07	1.06YrCanc	3.12E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
750	ALL	477981.8	3655849	3.11E-07	1.06YrCanc	3.11E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
119	ALL	477357.8	3655852	3.11E-07	1.06YrCanc	3.11E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
281	ALL	477393.2	3656158	3.11E-07	1.06YrCanc	3.11E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
64	ALL	477555.5	3656350	3.11E-07	1.06YrCanc	3.11E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
125	ALL	477269.5	3655880	3.10E-07	1.06YrCanc	3.10E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
111	ALL	477428.5	3655824	3.09E-07	1.06YrCanc	3.09E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
463	ALL	477645.8	3656429	3.07E-07	1.06YrCanc	3.07E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
703	ALL	477861.8	3655809	3.06E-07	1.06YrCanc	3.06E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
727	ALL	477941.8	3655829	3.05E-07	1.06YrCanc	3.05E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
386	ALL	477547.1	3656345	3.05E-07	1.06YrCanc	3.05E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
118	ALL	477340.1	3655852	3.04E-07	1.06YrCanc	3.04E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
687	ALL	477761.8	3655789	3.04E-07	1.06YrCanc	3.04E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
320	ALL	477463.8	3656241	3.04E-07	1.06YrCanc	3.04E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
333	ALL	477481.5	3656269	3.03E-07	1.06YrCanc	3.03E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
280	ALL	477375.5	3656158	3.02E-07	1.06YrCanc	3.02E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
110	ALL	477410.8	3655824	3.02E-07	1.06YrCanc	3.02E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
704	ALL	477881.8	3655809	3.00E-07	1.06YrCanc	3.00E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
751	ALL	478001.8	3655849	2.99E-07	1.06YrCanc	2.99E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
346	ALL	477499.2	3656296	2.99E-07	1.06YrCanc	2.99E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
984	ALL	478105.6	3655906	2.98E-07	1.06YrCanc	2.98E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
444	ALL	477596.5	3656412	2.96E-07	1.06YrCanc	2.96E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
138	ALL	477181.1	3655908	2.95E-07	1.06YrCanc	2.95E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
462	ALL	477621.1	3656429	2.95E-07	1.06YrCanc	2.95E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
728	ALL	477961.8	3655829	2.95E-07	1.06YrCanc	2.95E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
306	ALL	477428.5	3656213	2.94E-07	1.06YrCanc	2.94E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
117	ALL	477304.8	3655852	2.94E-07	1.06YrCanc	2.94E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
109	ALL	477393.2	3655824	2.94E-07	1.06YrCanc	2.94E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
705	ALL	477901.8	3655809	2.93E-07	1.06YrCanc	2.93E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
371	ALL	477522.4	3656328	2.92E-07	1.06YrCanc	2.92E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
224	ALL	477234.1	3656074	2.91E-07	1.06YrCanc	2.91E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
206	ALL	477216.5	3656046	2.91E-07	1.06YrCanc	2.91E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
396	ALL	477547.1	3656362	2.90E-07	1.06YrCanc	2.90E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
424	ALL	477571.8	3656395	2.89E-07	1.06YrCanc	2.89E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
279	ALL	477357.8	3656158	2.89E-07	1.06YrCanc	2.89E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
116	ALL	477287.1	3655852	2.89E-07	1.06YrCanc	2.89E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
610	ALL	477466.7	3655809	2.88E-07	1.06YrCanc	2.88E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
999	ALL	478039.3	3655857	2.87E-07	1.06YrCanc	2.87E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
688	ALL	477821.8	3655789	2.86E-07	1.06YrCanc	2.86E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
675	ALL	477601.8	3655769	2.86E-07	1.06YrCanc	2.86E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
729	ALL	477981.8	3655829	2.86E-07	1.06YrCanc	2.86E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
137	ALL	477163.4	3655908	2.86E-07	1.06YrCanc	2.86E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
332	ALL	477463.8	3656269	2.84E-07	1.06YrCanc	2.84E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
319	ALL	477446.2	3656241	2.84E-07	1.06YrCanc	2.84E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
470	ALL	477645.8	3656445	2.83E-07	1.06YrCanc	2.83E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
689	ALL	477841.8	3655789	2.83E-07	1.06YrCanc	2.83E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
991	ALL	478302.1	3656031	2.82E-07	1.06YrCanc	2.82E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
596	ALL	477559.3	3656388	2.82E-07	1.06YrCanc	2.82E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
345	ALL	477481.5	3656296	2.81E-07	1.06YrCanc	2.81E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
124	ALL	477181.1	3655880	2.81E-07	1.06YrCanc	2.81E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
676	ALL	477761.8	3655769	2.80E-07	1.06YrCanc	2.80E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
385	ALL	477522.4	3656345	2.80E-07	1.06YrCanc	2.80E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
706	ALL	477941.8	3655809	2.79E-07	1.06YrCanc	2.79E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
690	ALL	477861.8	3655789	2.79E-07	1.06YrCanc	2.79E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
223	ALL	477216.5	3656074	2.78E-07	1.06YrCanc	2.78E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
461	ALL	477596.5	3656429	2.78E-07	1.06YrCanc	2.78E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

205	ALL	477198.8	3656046	2.78E-07	1.06YrCanc	2.78E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
136	ALL	477145.8	3655908	2.77E-07	1.06YrCanc	2.77E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
406	ALL	477547.1	3656378	2.77E-07	1.06YrCanc	2.77E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
305	ALL	477410.8	3656213	2.76E-07	1.06YrCanc	2.76E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
730	ALL	478001.8	3655829	2.75E-07	1.06YrCanc	2.75E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
360	ALL	477499.2	3656324	2.75E-07	1.06YrCanc	2.75E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
469	ALL	477621.1	3656445	2.75E-07	1.06YrCanc	2.75E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
443	ALL	477571.8	3656412	2.74E-07	1.06YrCanc	2.74E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
123	ALL	477163.4	3655880	2.73E-07	1.06YrCanc	2.73E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
691	ALL	477881.8	3655789	2.73E-07	1.06YrCanc	2.73E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
101	ALL	477428.5	3655796	2.73E-07	1.06YrCanc	2.73E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
115	ALL	477198.8	3655852	2.71E-07	1.06YrCanc	2.71E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
707	ALL	477961.8	3655809	2.71E-07	1.06YrCanc	2.71E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
100	ALL	477410.8	3655796	2.71E-07	1.06YrCanc	2.71E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
370	ALL	477497.7	3656328	2.70E-07	1.06YrCanc	2.70E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
606	ALL	477748.6	3656612	2.70E-07	1.06YrCanc	2.70E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
108	ALL	477322.5	3655824	2.69E-07	1.06YrCanc	2.69E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
222	ALL	477198.8	3656074	2.69E-07	1.06YrCanc	2.69E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
243	ALL	477234.1	3656102	2.69E-07	1.06YrCanc	2.69E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
361	ALL	477114.7	3655984	2.69E-07	1.06YrCanc	2.69E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
692	ALL	477901.8	3655789	2.69E-07	1.06YrCanc	2.69E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
99	ALL	477393.2	3655796	2.67E-07	1.06YrCanc	2.67E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
395	ALL	477522.4	3656362	2.66E-07	1.06YrCanc	2.66E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
107	ALL	477304.8	3655824	2.66E-07	1.06YrCanc	2.66E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
985	ALL	478186.2	3655924	2.66E-07	1.06YrCanc	2.66E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
122	ALL	477145.8	3655880	2.66E-07	1.06YrCanc	2.66E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
204	ALL	477181.1	3656046	2.65E-07	1.06YrCanc	2.65E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
423	ALL	477547.1	3656395	2.65E-07	1.06YrCanc	2.65E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
114	ALL	477181.1	3655852	2.65E-07	1.06YrCanc	2.65E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
708	ALL	477981.8	3655809	2.64E-07	1.06YrCanc	2.64E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
677	ALL	477821.8	3655769	2.63E-07	1.06YrCanc	2.63E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
990	ALL	478290.7	3655984	2.63E-07	1.06YrCanc	2.63E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
478	ALL	477645.8	3656462	2.62E-07	1.06YrCanc	2.62E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
59	ALL	477543.4	3655763	2.61E-07	1.06YrCanc	2.61E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
263	ALL	477251.8	3656130	2.61E-07	1.06YrCanc	2.61E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
664	ALL	477601.8	3655749	2.61E-07	1.06YrCanc	2.61E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
468	ALL	477596.5	3656445	2.61E-07	1.06YrCanc	2.61E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
359	ALL	477481.5	3656324	2.59E-07	1.06YrCanc	2.59E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
113	ALL	477163.4	3655852	2.59E-07	1.06YrCanc	2.59E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
460	ALL	477571.8	3656429	2.59E-07	1.06YrCanc	2.59E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
678	ALL	477841.8	3655769	2.58E-07	1.06YrCanc	2.58E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
106	ALL	477216.5	3655824	2.58E-07	1.06YrCanc	2.58E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
242	ALL	477216.5	3656102	2.58E-07	1.06YrCanc	2.58E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
384	ALL	477497.7	3656345	2.58E-07	1.06YrCanc	2.58E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
221	ALL	477181.1	3656074	2.57E-07	1.06YrCanc	2.57E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
611	ALL	477495.6	3655776	2.57E-07	1.06YrCanc	2.57E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
693	ALL	477941.8	3655789	2.56E-07	1.06YrCanc	2.56E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
992	ALL	478226.9	3655930	2.56E-07	1.06YrCanc	2.56E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
477	ALL	477621.1	3656462	2.56E-07	1.06YrCanc	2.56E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
679	ALL	477861.8	3655769	2.56E-07	1.06YrCanc	2.56E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
665	ALL	477761.8	3655749	2.55E-07	1.06YrCanc	2.55E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
405	ALL	477522.4	3656378	2.55E-07	1.06YrCanc	2.55E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
709	ALL	478001.8	3655809	2.54E-07	1.06YrCanc	2.54E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
442	ALL	477547.1	3656412	2.54E-07	1.06YrCanc	2.54E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
203	ALL	477163.4	3656046	2.54E-07	1.06YrCanc	2.54E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
105	ALL	477198.8	3655824	2.53E-07	1.06YrCanc	2.53E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
112	ALL	477145.8	3655852	2.52E-07	1.06YrCanc	2.52E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

262	ALL	477234.1	3656130	2.52E-07	1.06YrCanc	2.52E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
680	ALL	477881.8	3655769	2.50E-07	1.06YrCanc	2.50E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1001	ALL	478114.5	3655866	2.50E-07	1.06YrCanc	2.50E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
608	ALL	477889.4	3655770	2.50E-07	1.06YrCanc	2.50E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
241	ALL	477198.8	3656102	2.50E-07	1.06YrCanc	2.50E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
694	ALL	477961.8	3655789	2.49E-07	1.06YrCanc	2.49E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
98	ALL	477340.1	3655796	2.49E-07	1.06YrCanc	2.49E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
965	ALL	477725.9	3655738	2.48E-07	1.06YrCanc	2.48E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
104	ALL	477181.1	3655824	2.48E-07	1.06YrCanc	2.48E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
202	ALL	477145.8	3656046	2.47E-07	1.06YrCanc	2.47E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
91	ALL	477410.8	3655769	2.46E-07	1.06YrCanc	2.46E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
681	ALL	477901.8	3655769	2.46E-07	1.06YrCanc	2.46E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
261	ALL	477216.5	3656130	2.45E-07	1.06YrCanc	2.45E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
220	ALL	477163.4	3656074	2.45E-07	1.06YrCanc	2.45E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1000	ALL	478104.6	3655853	2.45E-07	1.06YrCanc	2.45E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
467	ALL	477571.8	3656445	2.45E-07	1.06YrCanc	2.45E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
476	ALL	477596.5	3656462	2.45E-07	1.06YrCanc	2.45E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
394	ALL	477497.7	3656362	2.45E-07	1.06YrCanc	2.45E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
422	ALL	477522.4	3656395	2.44E-07	1.06YrCanc	2.44E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
103	ALL	477163.4	3655824	2.43E-07	1.06YrCanc	2.43E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
459	ALL	477547.1	3656429	2.43E-07	1.06YrCanc	2.43E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
666	ALL	477821.8	3655749	2.43E-07	1.06YrCanc	2.43E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
486	ALL	477645.8	3656479	2.43E-07	1.06YrCanc	2.43E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
695	ALL	477981.8	3655789	2.43E-07	1.06YrCanc	2.43E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
90	ALL	477393.2	3655769	2.42E-07	1.06YrCanc	2.42E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
657	ALL	477621.8	3655729	2.41E-07	1.06YrCanc	2.41E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
659	ALL	477721.8	3655729	2.40E-07	1.06YrCanc	2.40E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
97	ALL	477216.5	3655796	2.40E-07	1.06YrCanc	2.40E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
92	ALL	477428.5	3655769	2.40E-07	1.06YrCanc	2.40E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
240	ALL	477181.1	3656102	2.39E-07	1.06YrCanc	2.39E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
656	ALL	477601.8	3655729	2.39E-07	1.06YrCanc	2.39E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
485	ALL	477621.1	3656479	2.39E-07	1.06YrCanc	2.39E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
667	ALL	477841.8	3655749	2.38E-07	1.06YrCanc	2.38E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
102	ALL	477145.8	3655824	2.37E-07	1.06YrCanc	2.37E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
658	ALL	477641.8	3655729	2.37E-07	1.06YrCanc	2.37E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
996	ALL	478169	3655874	2.36E-07	1.06YrCanc	2.36E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
682	ALL	477941.8	3655769	2.36E-07	1.06YrCanc	2.36E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
96	ALL	477198.8	3655796	2.36E-07	1.06YrCanc	2.36E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
696	ALL	478001.8	3655789	2.35E-07	1.06YrCanc	2.35E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
260	ALL	477198.8	3656130	2.35E-07	1.06YrCanc	2.35E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
404	ALL	477497.7	3656378	2.35E-07	1.06YrCanc	2.35E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
668	ALL	477861.8	3655749	2.34E-07	1.06YrCanc	2.34E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
441	ALL	477522.4	3656412	2.34E-07	1.06YrCanc	2.34E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
966	ALL	477803.8	3655735	2.34E-07	1.06YrCanc	2.34E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
239	ALL	477163.4	3656102	2.33E-07	1.06YrCanc	2.33E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
89	ALL	477357.8	3655769	2.32E-07	1.06YrCanc	2.32E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
466	ALL	477547.1	3656445	2.32E-07	1.06YrCanc	2.32E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
993	ALL	478267.4	3655927	2.32E-07	1.06YrCanc	2.32E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
219	ALL	477145.8	3656074	2.32E-07	1.06YrCanc	2.32E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
475	ALL	477571.8	3656462	2.32E-07	1.06YrCanc	2.32E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
95	ALL	477181.1	3655796	2.31E-07	1.06YrCanc	2.31E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
669	ALL	477881.8	3655749	2.31E-07	1.06YrCanc	2.31E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
683	ALL	477961.8	3655769	2.31E-07	1.06YrCanc	2.31E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
484	ALL	477596.5	3656479	2.30E-07	1.06YrCanc	2.30E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
278	ALL	477251.8	3656158	2.28E-07	1.06YrCanc	2.28E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
94	ALL	477163.4	3655796	2.27E-07	1.06YrCanc	2.27E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
670	ALL	477901.8	3655749	2.27E-07	1.06YrCanc	2.27E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

421	ALL	477497.7	3656395	2.27E-07	1.06YrCanc	2.27E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
277	ALL	477234.1	3656158	2.26E-07	1.06YrCanc	2.26E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
458	ALL	477522.4	3656429	2.26E-07	1.06YrCanc	2.26E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
494	ALL	477645.8	3656495	2.25E-07	1.06YrCanc	2.25E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
684	ALL	477981.8	3655769	2.25E-07	1.06YrCanc	2.25E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
651	ALL	477721.8	3655709	2.24E-07	1.06YrCanc	2.24E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
276	ALL	477216.5	3656158	2.23E-07	1.06YrCanc	2.23E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
259	ALL	477181.1	3656130	2.23E-07	1.06YrCanc	2.23E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
493	ALL	477621.1	3656495	2.23E-07	1.06YrCanc	2.23E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
238	ALL	477145.8	3656102	2.23E-07	1.06YrCanc	2.23E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
88	ALL	477216.5	3655769	2.23E-07	1.06YrCanc	2.23E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
474	ALL	477547.1	3656462	2.21E-07	1.06YrCanc	2.21E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
605	ALL	477758.4	3656643	2.21E-07	1.06YrCanc	2.21E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
93	ALL	477145.8	3655796	2.21E-07	1.06YrCanc	2.21E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
650	ALL	477641.8	3655709	2.21E-07	1.06YrCanc	2.21E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
483	ALL	477571.8	3656479	2.20E-07	1.06YrCanc	2.20E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
997	ALL	478202.9	3655863	2.20E-07	1.06YrCanc	2.20E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
612	ALL	477449.8	3655744	2.19E-07	1.06YrCanc	2.19E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
649	ALL	477621.8	3655709	2.19E-07	1.06YrCanc	2.19E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
648	ALL	477601.8	3655709	2.19E-07	1.06YrCanc	2.19E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
87	ALL	477198.8	3655769	2.19E-07	1.06YrCanc	2.19E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
685	ALL	478001.8	3655769	2.18E-07	1.06YrCanc	2.18E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
671	ALL	477941.8	3655749	2.18E-07	1.06YrCanc	2.18E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
294	ALL	477269.5	3656185	2.18E-07	1.06YrCanc	2.18E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
440	ALL	477497.7	3656412	2.18E-07	1.06YrCanc	2.18E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
465	ALL	477522.4	3656445	2.17E-07	1.06YrCanc	2.17E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
492	ALL	477596.5	3656495	2.16E-07	1.06YrCanc	2.16E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
86	ALL	477181.1	3655769	2.15E-07	1.06YrCanc	2.15E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
275	ALL	477198.8	3656158	2.15E-07	1.06YrCanc	2.15E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
258	ALL	477163.4	3656130	2.14E-07	1.06YrCanc	2.14E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
672	ALL	477961.8	3655749	2.14E-07	1.06YrCanc	2.14E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
85	ALL	477163.4	3655769	2.12E-07	1.06YrCanc	2.12E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
616	ALL	477564.5	3655702	2.12E-07	1.06YrCanc	2.12E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
482	ALL	477547.1	3656479	2.10E-07	1.06YrCanc	2.10E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
457	ALL	477497.7	3656429	2.10E-07	1.06YrCanc	2.10E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
507	ALL	477645.8	3656512	2.09E-07	1.06YrCanc	2.09E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
673	ALL	477981.8	3655749	2.09E-07	1.06YrCanc	2.09E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
491	ALL	477571.8	3656495	2.08E-07	1.06YrCanc	2.08E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
293	ALL	477251.8	3656185	2.08E-07	1.06YrCanc	2.08E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
506	ALL	477621.1	3656512	2.07E-07	1.06YrCanc	2.07E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
473	ALL	477522.4	3656462	2.07E-07	1.06YrCanc	2.07E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
642	ALL	477721.8	3655689	2.07E-07	1.06YrCanc	2.07E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
257	ALL	477145.8	3656130	2.07E-07	1.06YrCanc	2.07E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
331	ALL	477340.1	3656269	2.06E-07	1.06YrCanc	2.06E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
84	ALL	477145.8	3655769	2.06E-07	1.06YrCanc	2.06E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
674	ALL	478001.8	3655749	2.04E-07	1.06YrCanc	2.04E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
660	ALL	477941.8	3655729	2.03E-07	1.06YrCanc	2.03E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
344	ALL	477357.8	3656296	2.03E-07	1.06YrCanc	2.03E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
274	ALL	477181.1	3656158	2.03E-07	1.06YrCanc	2.03E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
639	ALL	477601.8	3655689	2.03E-07	1.06YrCanc	2.03E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
505	ALL	477596.5	3656512	2.03E-07	1.06YrCanc	2.03E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
464	ALL	477497.7	3656445	2.02E-07	1.06YrCanc	2.02E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
995	ALL	478316.9	3655920	2.02E-07	1.06YrCanc	2.02E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
641	ALL	477641.8	3655689	2.02E-07	1.06YrCanc	2.02E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
640	ALL	477621.8	3655689	2.01E-07	1.06YrCanc	2.01E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
318	ALL	477304.8	3656241	2.01E-07	1.06YrCanc	2.01E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
358	ALL	477375.5	3656324	2.00E-07	1.06YrCanc	2.00E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

661	ALL	477961.8	3655729	1.99E-07	1.06YrCanc	1.99E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
490	ALL	477547.1	3656495	1.99E-07	1.06YrCanc	1.99E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
292	ALL	477234.1	3656185	1.99E-07	1.06YrCanc	1.99E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
481	ALL	477522.4	3656479	1.99E-07	1.06YrCanc	1.99E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
304	ALL	477269.5	3656213	1.98E-07	1.06YrCanc	1.98E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
330	ALL	477322.5	3656269	1.97E-07	1.06YrCanc	1.97E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
504	ALL	477571.8	3656512	1.97E-07	1.06YrCanc	1.97E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
369	ALL	477374.3	3656328	1.97E-07	1.06YrCanc	1.97E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
613	ALL	477442.4	3655710	1.96E-07	1.06YrCanc	1.96E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
519	ALL	477645.8	3656529	1.96E-07	1.06YrCanc	1.96E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
518	ALL	477621.1	3656529	1.95E-07	1.06YrCanc	1.95E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
662	ALL	477981.8	3655729	1.95E-07	1.06YrCanc	1.95E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
420	ALL	477448.4	3656395	1.95E-07	1.06YrCanc	1.95E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
998	ALL	478245.7	3655855	1.94E-07	1.06YrCanc	1.94E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
472	ALL	477497.7	3656462	1.94E-07	1.06YrCanc	1.94E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
343	ALL	477340.1	3656296	1.93E-07	1.06YrCanc	1.93E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
595	ALL	477421.2	3656373	1.93E-07	1.06YrCanc	1.93E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
273	ALL	477163.4	3656158	1.92E-07	1.06YrCanc	1.92E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
272	ALL	477145.8	3656158	1.92E-07	1.06YrCanc	1.92E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
291	ALL	477216.5	3656185	1.92E-07	1.06YrCanc	1.92E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
517	ALL	477596.5	3656529	1.92E-07	1.06YrCanc	1.92E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
317	ALL	477287.1	3656241	1.92E-07	1.06YrCanc	1.92E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
663	ALL	478001.8	3655729	1.90E-07	1.06YrCanc	1.90E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
994	ALL	478303.6	3655892	1.90E-07	1.06YrCanc	1.90E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
303	ALL	477251.8	3656213	1.90E-07	1.06YrCanc	1.90E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
357	ALL	477357.8	3656324	1.90E-07	1.06YrCanc	1.90E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
634	ALL	477721.8	3655669	1.90E-07	1.06YrCanc	1.90E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
290	ALL	477198.8	3656185	1.90E-07	1.06YrCanc	1.90E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
503	ALL	477547.1	3656512	1.89E-07	1.06YrCanc	1.89E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
652	ALL	477941.8	3655709	1.89E-07	1.06YrCanc	1.89E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
628	ALL	477601.8	3655669	1.89E-07	1.06YrCanc	1.89E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
383	ALL	477374.3	3656345	1.89E-07	1.06YrCanc	1.89E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
489	ALL	477522.4	3656495	1.89E-07	1.06YrCanc	1.89E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
439	ALL	477448.4	3656412	1.88E-07	1.06YrCanc	1.88E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
633	ALL	477701.8	3655669	1.88E-07	1.06YrCanc	1.88E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
629	ALL	477621.8	3655669	1.88E-07	1.06YrCanc	1.88E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
516	ALL	477571.8	3656529	1.87E-07	1.06YrCanc	1.87E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
480	ALL	477497.7	3656479	1.87E-07	1.06YrCanc	1.87E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
632	ALL	477681.8	3655669	1.87E-07	1.06YrCanc	1.87E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
342	ALL	477322.5	3656296	1.86E-07	1.06YrCanc	1.86E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
630	ALL	477641.8	3655669	1.86E-07	1.06YrCanc	1.86E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
631	ALL	477661.8	3655669	1.86E-07	1.06YrCanc	1.86E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
653	ALL	477961.8	3655709	1.86E-07	1.06YrCanc	1.86E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
289	ALL	477181.1	3656185	1.85E-07	1.06YrCanc	1.85E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
302	ALL	477234.1	3656213	1.85E-07	1.06YrCanc	1.85E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
368	ALL	477349.7	3656328	1.85E-07	1.06YrCanc	1.85E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
531	ALL	477621.1	3656545	1.84E-07	1.06YrCanc	1.84E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
532	ALL	477645.8	3656545	1.83E-07	1.06YrCanc	1.83E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
316	ALL	477269.5	3656241	1.82E-07	1.06YrCanc	1.82E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
654	ALL	477981.8	3655709	1.82E-07	1.06YrCanc	1.82E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
356	ALL	477340.1	3656324	1.82E-07	1.06YrCanc	1.82E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
530	ALL	477596.5	3656545	1.82E-07	1.06YrCanc	1.82E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
502	ALL	477522.4	3656512	1.81E-07	1.06YrCanc	1.81E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
515	ALL	477547.1	3656529	1.81E-07	1.06YrCanc	1.81E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
393	ALL	477374.3	3656362	1.81E-07	1.06YrCanc	1.81E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
488	ALL	477497.7	3656495	1.79E-07	1.06YrCanc	1.79E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
301	ALL	477216.5	3656213	1.79E-07	1.06YrCanc	1.79E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

643	ALL	477921.8	3655689	1.79E-07	1.06YrCanc	1.79E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
288	ALL	477163.4	3656185	1.79E-07	1.06YrCanc	1.79E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
655	ALL	478001.8	3655709	1.79E-07	1.06YrCanc	1.79E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
382	ALL	477349.7	3656345	1.78E-07	1.06YrCanc	1.78E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
615	ALL	477505.3	3655672	1.78E-07	1.06YrCanc	1.78E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
623	ALL	477721.8	3655649	1.78E-07	1.06YrCanc	1.78E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
341	ALL	477304.8	3656296	1.78E-07	1.06YrCanc	1.78E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
329	ALL	477287.1	3656269	1.78E-07	1.06YrCanc	1.78E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
315	ALL	477251.8	3656241	1.77E-07	1.06YrCanc	1.77E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
617	ALL	477601.8	3655649	1.77E-07	1.06YrCanc	1.77E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
300	ALL	477198.8	3656213	1.77E-07	1.06YrCanc	1.77E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
529	ALL	477571.8	3656545	1.77E-07	1.06YrCanc	1.77E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
438	ALL	477423.7	3656412	1.77E-07	1.06YrCanc	1.77E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
644	ALL	477941.8	3655689	1.76E-07	1.06YrCanc	1.76E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
618	ALL	477621.8	3655649	1.76E-07	1.06YrCanc	1.76E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
622	ALL	477701.8	3655649	1.76E-07	1.06YrCanc	1.76E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
367	ALL	477325	3656328	1.75E-07	1.06YrCanc	1.75E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
355	ALL	477322.5	3656324	1.75E-07	1.06YrCanc	1.75E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
620	ALL	477661.8	3655649	1.74E-07	1.06YrCanc	1.74E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
645	ALL	477961.8	3655689	1.74E-07	1.06YrCanc	1.74E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
544	ALL	477621.1	3656562	1.74E-07	1.06YrCanc	1.74E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
619	ALL	477641.8	3655649	1.74E-07	1.06YrCanc	1.74E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
514	ALL	477522.4	3656529	1.73E-07	1.06YrCanc	1.73E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
621	ALL	477681.8	3655649	1.73E-07	1.06YrCanc	1.73E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
83	ALL	477516.5	3656525	1.73E-07	1.06YrCanc	1.73E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
403	ALL	477374.3	3656378	1.73E-07	1.06YrCanc	1.73E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
328	ALL	477269.5	3656269	1.73E-07	1.06YrCanc	1.73E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
314	ALL	477234.1	3656241	1.73E-07	1.06YrCanc	1.73E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
392	ALL	477349.7	3656362	1.72E-07	1.06YrCanc	1.72E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
614	ALL	477442.4	3655667	1.72E-07	1.06YrCanc	1.72E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
528	ALL	477547.1	3656545	1.72E-07	1.06YrCanc	1.72E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
545	ALL	477645.8	3656562	1.72E-07	1.06YrCanc	1.72E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
543	ALL	477596.5	3656562	1.72E-07	1.06YrCanc	1.72E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
646	ALL	477981.8	3655689	1.71E-07	1.06YrCanc	1.71E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
381	ALL	477325	3656345	1.70E-07	1.06YrCanc	1.70E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
354	ALL	477304.8	3656324	1.70E-07	1.06YrCanc	1.70E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
402	ALL	477349.7	3656378	1.68E-07	1.06YrCanc	1.68E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
542	ALL	477571.8	3656562	1.67E-07	1.06YrCanc	1.67E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
647	ALL	478001.8	3655689	1.67E-07	1.06YrCanc	1.67E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
366	ALL	477300.3	3656328	1.67E-07	1.06YrCanc	1.67E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
419	ALL	477374.3	3656395	1.66E-07	1.06YrCanc	1.66E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
391	ALL	477325	3656362	1.66E-07	1.06YrCanc	1.66E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
527	ALL	477522.4	3656545	1.66E-07	1.06YrCanc	1.66E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
635	ALL	477941.8	3655669	1.66E-07	1.06YrCanc	1.66E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
556	ALL	477621.1	3656579	1.63E-07	1.06YrCanc	1.63E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
299	ALL	477145.8	3656213	1.63E-07	1.06YrCanc	1.63E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
541	ALL	477547.1	3656562	1.63E-07	1.06YrCanc	1.63E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
636	ALL	477961.8	3655669	1.63E-07	1.06YrCanc	1.63E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
353	ALL	477287.1	3656324	1.63E-07	1.06YrCanc	1.63E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
555	ALL	477596.5	3656579	1.62E-07	1.06YrCanc	1.62E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
380	ALL	477300.3	3656345	1.62E-07	1.06YrCanc	1.62E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
557	ALL	477645.8	3656579	1.61E-07	1.06YrCanc	1.61E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
418	ALL	477349.7	3656395	1.61E-07	1.06YrCanc	1.61E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
437	ALL	477374.3	3656412	1.61E-07	1.06YrCanc	1.61E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
637	ALL	477981.8	3655669	1.60E-07	1.06YrCanc	1.60E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
401	ALL	477325	3656378	1.60E-07	1.06YrCanc	1.60E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
313	ALL	477181.1	3656241	1.60E-07	1.06YrCanc	1.60E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

327	ALL	477216.5	3656269	1.59E-07	1.06YrCanc	1.59E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
554	ALL	477571.8	3656579	1.59E-07	1.06YrCanc	1.59E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
340	ALL	477251.8	3656296	1.59E-07	1.06YrCanc	1.59E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
352	ALL	477269.5	3656324	1.58E-07	1.06YrCanc	1.58E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
540	ALL	477522.4	3656562	1.58E-07	1.06YrCanc	1.58E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
365	ALL	477275.6	3656328	1.57E-07	1.06YrCanc	1.57E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
312	ALL	477163.4	3656241	1.57E-07	1.06YrCanc	1.57E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
638	ALL	478001.8	3655669	1.57E-07	1.06YrCanc	1.57E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
456	ALL	477374.3	3656429	1.56E-07	1.06YrCanc	1.56E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
311	ALL	477145.8	3656241	1.55E-07	1.06YrCanc	1.55E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
553	ALL	477547.1	3656579	1.55E-07	1.06YrCanc	1.55E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
326	ALL	477198.8	3656269	1.55E-07	1.06YrCanc	1.55E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
417	ALL	477325	3656395	1.54E-07	1.06YrCanc	1.54E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
624	ALL	477941.8	3655649	1.54E-07	1.06YrCanc	1.54E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
379	ALL	477275.6	3656345	1.54E-07	1.06YrCanc	1.54E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
561	ALL	477596.5	3656596	1.54E-07	1.06YrCanc	1.54E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
562	ALL	477621.1	3656596	1.53E-07	1.06YrCanc	1.53E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
339	ALL	477234.1	3656296	1.53E-07	1.06YrCanc	1.53E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
436	ALL	477349.7	3656412	1.53E-07	1.06YrCanc	1.53E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
351	ALL	477251.8	3656324	1.53E-07	1.06YrCanc	1.53E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
364	ALL	477250.9	3656328	1.52E-07	1.06YrCanc	1.52E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
625	ALL	477961.8	3655649	1.52E-07	1.06YrCanc	1.52E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
962	ALL	477912.7	3655638	1.52E-07	1.06YrCanc	1.52E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
563	ALL	477645.8	3656596	1.52E-07	1.06YrCanc	1.52E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
325	ALL	477181.1	3656269	1.52E-07	1.06YrCanc	1.52E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
560	ALL	477571.8	3656596	1.51E-07	1.06YrCanc	1.51E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
337	ALL	477198.8	3656296	1.51E-07	1.06YrCanc	1.51E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
626	ALL	477981.8	3655649	1.51E-07	1.06YrCanc	1.51E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
338	ALL	477216.5	3656296	1.51E-07	1.06YrCanc	1.51E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
324	ALL	477163.4	3656269	1.50E-07	1.06YrCanc	1.50E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
455	ALL	477349.7	3656429	1.49E-07	1.06YrCanc	1.49E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
378	ALL	477250.9	3656345	1.49E-07	1.06YrCanc	1.49E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
323	ALL	477145.8	3656269	1.49E-07	1.06YrCanc	1.49E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
336	ALL	477181.1	3656296	1.48E-07	1.06YrCanc	1.48E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
559	ALL	477547.1	3656596	1.48E-07	1.06YrCanc	1.48E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
350	ALL	477234.1	3656324	1.48E-07	1.06YrCanc	1.48E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
416	ALL	477300.3	3656395	1.48E-07	1.06YrCanc	1.48E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
627	ALL	478001.8	3655649	1.48E-07	1.06YrCanc	1.48E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
435	ALL	477325	3656412	1.47E-07	1.06YrCanc	1.47E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
363	ALL	477226.3	3656328	1.46E-07	1.06YrCanc	1.46E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
335	ALL	477163.4	3656296	1.46E-07	1.06YrCanc	1.46E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
963	ALL	477940.8	3655630	1.46E-07	1.06YrCanc	1.46E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
568	ALL	477596.5	3656612	1.45E-07	1.06YrCanc	1.45E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
569	ALL	477621.1	3656612	1.44E-07	1.06YrCanc	1.44E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
349	ALL	477216.5	3656324	1.44E-07	1.06YrCanc	1.44E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
567	ALL	477571.8	3656612	1.44E-07	1.06YrCanc	1.44E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
377	ALL	477226.3	3656345	1.44E-07	1.06YrCanc	1.44E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
454	ALL	477325	3656429	1.43E-07	1.06YrCanc	1.43E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
570	ALL	477645.8	3656612	1.43E-07	1.06YrCanc	1.43E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
501	ALL	477399	3656512	1.42E-07	1.06YrCanc	1.42E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
415	ALL	477275.6	3656395	1.42E-07	1.06YrCanc	1.42E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
434	ALL	477300.3	3656412	1.42E-07	1.06YrCanc	1.42E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
348	ALL	477198.8	3656324	1.42E-07	1.06YrCanc	1.42E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
362	ALL	477201.6	3656328	1.41E-07	1.06YrCanc	1.41E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
526	ALL	477423.7	3656545	1.41E-07	1.06YrCanc	1.41E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
566	ALL	477547.1	3656612	1.41E-07	1.06YrCanc	1.41E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
376	ALL	477201.6	3656345	1.39E-07	1.06YrCanc	1.39E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

513	ALL	477399	3656529	1.38E-07	1.06YrCanc	1.38E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
539	ALL	477423.7	3656562	1.38E-07	1.06YrCanc	1.38E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
453	ALL	477300.3	3656429	1.38E-07	1.06YrCanc	1.38E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
414	ALL	477250.9	3656395	1.38E-07	1.06YrCanc	1.38E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
964	ALL	477970.9	3655617	1.38E-07	1.06YrCanc	1.38E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
433	ALL	477275.6	3656412	1.37E-07	1.06YrCanc	1.37E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
575	ALL	477596.5	3656629	1.37E-07	1.06YrCanc	1.37E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
576	ALL	477621.1	3656629	1.36E-07	1.06YrCanc	1.36E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
574	ALL	477571.8	3656629	1.36E-07	1.06YrCanc	1.36E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
525	ALL	477399	3656545	1.35E-07	1.06YrCanc	1.35E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
573	ALL	477547.1	3656629	1.34E-07	1.06YrCanc	1.34E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
552	ALL	477423.7	3656579	1.34E-07	1.06YrCanc	1.34E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
577	ALL	477645.8	3656629	1.34E-07	1.06YrCanc	1.34E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
452	ALL	477275.6	3656429	1.34E-07	1.06YrCanc	1.34E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
500	ALL	477374.3	3656512	1.34E-07	1.06YrCanc	1.34E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
432	ALL	477250.9	3656412	1.33E-07	1.06YrCanc	1.33E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
413	ALL	477226.3	3656395	1.33E-07	1.06YrCanc	1.33E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
538	ALL	477399	3656562	1.32E-07	1.06YrCanc	1.32E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
512	ALL	477374.3	3656529	1.31E-07	1.06YrCanc	1.31E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
347	ALL	477145.8	3656324	1.31E-07	1.06YrCanc	1.31E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
375	ALL	477152.2	3656345	1.30E-07	1.06YrCanc	1.30E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
431	ALL	477226.3	3656412	1.30E-07	1.06YrCanc	1.30E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
451	ALL	477250.9	3656429	1.30E-07	1.06YrCanc	1.30E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
583	ALL	477621.1	3656646	1.29E-07	1.06YrCanc	1.29E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
582	ALL	477596.5	3656646	1.29E-07	1.06YrCanc	1.29E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
412	ALL	477201.6	3656395	1.29E-07	1.06YrCanc	1.29E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
524	ALL	477374.3	3656545	1.29E-07	1.06YrCanc	1.29E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
551	ALL	477399	3656579	1.29E-07	1.06YrCanc	1.29E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
581	ALL	477571.8	3656646	1.28E-07	1.06YrCanc	1.28E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
499	ALL	477349.7	3656512	1.27E-07	1.06YrCanc	1.27E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
584	ALL	477645.8	3656646	1.27E-07	1.06YrCanc	1.27E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
450	ALL	477226.3	3656429	1.26E-07	1.06YrCanc	1.26E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
411	ALL	477176.9	3656395	1.26E-07	1.06YrCanc	1.26E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
430	ALL	477201.6	3656412	1.26E-07	1.06YrCanc	1.26E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
537	ALL	477374.3	3656562	1.25E-07	1.06YrCanc	1.25E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
511	ALL	477349.7	3656529	1.24E-07	1.06YrCanc	1.24E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
449	ALL	477201.6	3656429	1.23E-07	1.06YrCanc	1.23E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
410	ALL	477152.2	3656395	1.23E-07	1.06YrCanc	1.23E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
592	ALL	477596.5	3656662	1.23E-07	1.06YrCanc	1.23E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
550	ALL	477374.3	3656579	1.22E-07	1.06YrCanc	1.22E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
593	ALL	477621.1	3656662	1.22E-07	1.06YrCanc	1.22E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
523	ALL	477349.7	3656545	1.22E-07	1.06YrCanc	1.22E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
429	ALL	477176.9	3656412	1.22E-07	1.06YrCanc	1.22E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
591	ALL	477571.8	3656662	1.21E-07	1.06YrCanc	1.21E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
498	ALL	477325	3656512	1.20E-07	1.06YrCanc	1.20E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
594	ALL	477645.8	3656662	1.20E-07	1.06YrCanc	1.20E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
448	ALL	477176.9	3656429	1.20E-07	1.06YrCanc	1.20E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
536	ALL	477349.7	3656562	1.19E-07	1.06YrCanc	1.19E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
510	ALL	477325	3656529	1.18E-07	1.06YrCanc	1.18E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
428	ALL	477152.2	3656412	1.17E-07	1.06YrCanc	1.17E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
549	ALL	477349.7	3656579	1.17E-07	1.06YrCanc	1.17E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
522	ALL	477325	3656545	1.16E-07	1.06YrCanc	1.16E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
447	ALL	477152.2	3656429	1.16E-07	1.06YrCanc	1.16E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
497	ALL	477300.3	3656512	1.15E-07	1.06YrCanc	1.15E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
535	ALL	477325	3656562	1.14E-07	1.06YrCanc	1.14E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
509	ALL	477300.3	3656529	1.13E-07	1.06YrCanc	1.13E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
603	ALL	477603.9	3656691	1.12E-07	1.06YrCanc	1.12E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

548	ALL	477325	3656579	1.12E-07	1.06YrCanc	1.12E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
602	ALL	477571.5	3656691	1.11E-07	1.06YrCanc	1.11E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
521	ALL	477300.3	3656545	1.11E-07	1.06YrCanc	1.11E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
604	ALL	477657.4	3656688	1.10E-07	1.06YrCanc	1.10E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
534	ALL	477300.3	3656562	1.09E-07	1.06YrCanc	1.09E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
471	ALL	477152.2	3656462	1.06E-07	1.06YrCanc	1.06E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
479	ALL	477152.2	3656479	1.03E-07	1.06YrCanc	1.03E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
487	ALL	477152.2	3656495	1.00E-07	1.06YrCanc	1.00E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
496	ALL	477176.9	3656512	1.00E-07	1.06YrCanc	1.00E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
601	ALL	477431.4	3656699	1.00E-07	1.06YrCanc	1.00E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
495	ALL	477152.2	3656512	9.77E-08	1.06YrCanc	9.77E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
600	ALL	477396.7	3656689	9.76E-08	1.06YrCanc	9.76E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
508	ALL	477176.9	3656529	9.54E-08	1.06YrCanc	9.54E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
599	ALL	477368.1	3656685	9.46E-08	1.06YrCanc	9.46E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
598	ALL	477344	3656678	9.24E-08	1.06YrCanc	9.24E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
547	ALL	477201.6	3656579	9.16E-08	1.06YrCanc	9.16E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
520	ALL	477176.9	3656545	9.14E-08	1.06YrCanc	9.14E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
533	ALL	477176.9	3656562	9.02E-08	1.06YrCanc	9.02E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
597	ALL	477319.9	3656674	9.00E-08	1.06YrCanc	9.00E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
558	ALL	477201.6	3656596	8.99E-08	1.06YrCanc	8.99E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
590	ALL	477300.3	3656662	8.88E-08	1.06YrCanc	8.88E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
546	ALL	477176.9	3656579	8.82E-08	1.06YrCanc	8.82E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
565	ALL	477201.6	3656612	8.51E-08	1.06YrCanc	8.51E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
580	ALL	477250.9	3656646	8.51E-08	1.06YrCanc	8.51E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
589	ALL	477275.6	3656662	8.50E-08	1.06YrCanc	8.50E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
572	ALL	477201.6	3656629	8.37E-08	1.06YrCanc	8.37E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
588	ALL	477250.9	3656662	8.37E-08	1.06YrCanc	8.37E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
579	ALL	477226.3	3656646	8.37E-08	1.06YrCanc	8.37E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
587	ALL	477226.3	3656662	8.20E-08	1.06YrCanc	8.20E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
564	ALL	477152.2	3656612	7.94E-08	1.06YrCanc	7.94E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
586	ALL	477176.9	3656662	7.77E-08	1.06YrCanc	7.77E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
571	ALL	477152.2	3656629	7.69E-08	1.06YrCanc	7.69E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
578	ALL	477152.2	3656646	7.60E-08	1.06YrCanc	7.60E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
585	ALL	477152.2	3656662	7.46E-08	1.06YrCanc	7.46E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Appendix B –
Sanctuary Residential 9 Homes Local Transportation Analysis

Sanctuary Residential 9 Homes (MULTI-002610-2018, DR-002611-2018, SUB-002612-2018, ITRP-004018-2020, USE-003068-2019)

CITY OF ENCINITAS
Ranch View Terrace
December 9, 2021

Local Transportation Analysis

Prepared by Justin Rasas (RCE 60690), a principal with:

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Job #1903

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Executive Summary
Sanctuary Residential Project (9 Residential Lots)

This Local Transportation Analysis determines if the proposed project is calculated to create any traffic effects on the study area roadways in the vicinity of the project. The proposed project includes nine (9) residential lots located on Ranch View Terrace west of Rancho Santa Fe Road in Encinitas, California. The site is currently vacant. Project access is from Ranch View Terrace.

This analysis is based on traffic analysis criteria outlined in the local San Diego Institute of Transportation Engineers (ITE) *Guidelines for Traffic Impact Studies in the San Diego Region*, May 2019. Project traffic generation was calculated using the San Diego Association of Governments (SANDAG) trip rates from the *Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region*, April 2002. The project is calculated to generate 90 ADT, 7 AM peak hour trips and 9 PM peak hour trips. Based on a review of City of Encinitas on-line cumulative projects and coordination with City staff, cumulative projects anticipated to add traffic to the study area were included for analysis. The following scenarios were analyzed: Existing, Existing + Project, Existing + Cumulative, and Existing + Cumulative + Project conditions. The operational findings are summarized below by scenario:

1) Under existing conditions, the study intersection and the street segments were calculated to operate at LOS D or better except for the segment of Rancho Santa Fe Road from Ranch View Terrace to Woodwind Dr (LOS E).

2) Under existing plus project conditions, the study intersection and street segments were calculated to operate at LOS D or better except for the segment of Rancho Santa Fe Road from Ranch View Terrace to Woodwind Dr (LOS E). <u>The addition of project traffic does not create a traffic effect.</u>

3) Under existing plus cumulative conditions, the roadway operations were calculated as follows. The study intersection of Rancho Santa Fe Road at Ranch View Terrace is calculated to operate at LOS C or better under existing conditions and LOS D or better under cumulative conditions. The study segment of Rancho Santa Fe Rd between Whisper Wind Dr and Ranch View Terrace would fall from LOS D under existing conditions to LOS E under cumulative conditions. The study segment of Rancho Santa Fe Rd between Ranch View Terrace and Woodwind Dr would fall from LOS E under existing conditions to LOS F under cumulative conditions.

4) Under existing plus cumulative plus project conditions, the roadway operations were calculated as follows. The study intersection of Rancho Santa Fe Road at Ranch View Terrace is calculated to operate at LOS D or better under cumulative and cumulative plus project conditions. The study segment of Rancho Santa Fe Rd between Whisper Wind Dr and Ranch View Terrace would operate at LOS E under cumulative and cumulative plus project conditions. The study segment of Rancho Santa Fe Rd between Ranch View Terrace and Woodwind Dr would operate at LOS

F under cumulative and cumulative plus project conditions. The addition of project traffic does not create a traffic effect.

No traffic effects were calculated; therefore, off-site roadway improvements are not required.

1.0 Introduction

This Local Transportation Analysis (LTA) determines if the proposed project is calculated to create any traffic effects on the study area roadways in the vicinity of the project. The proposed project includes nine (9) residential lots located on Ranch View Terrace west of Rancho Santa Fe Road in Encinitas, California. The site is currently vacant. Project access is from Ranch View Terrace. The regional location of the project is shown in **Figure 1**. A site plan is shown in **Figure 2.**

This report describes the existing roadway network in the vicinity of the project site and includes a review of the existing and proposed activities for weekday peak AM and PM periods, and daily traffic conditions when the project is completed. The format of this study includes the following chapters:

1.0 Introduction
2.0 Study Methodology
3.0 Existing Conditions
4.0 Project Description
5.0 Existing + Project Conditions
6.0 Cumulative Projects
7.0 Existing + Cumulative Conditions
8.0 Existing + Cumulative + Project Conditions
9.0 Conclusion
10.0 References

Figure 1: Project Location

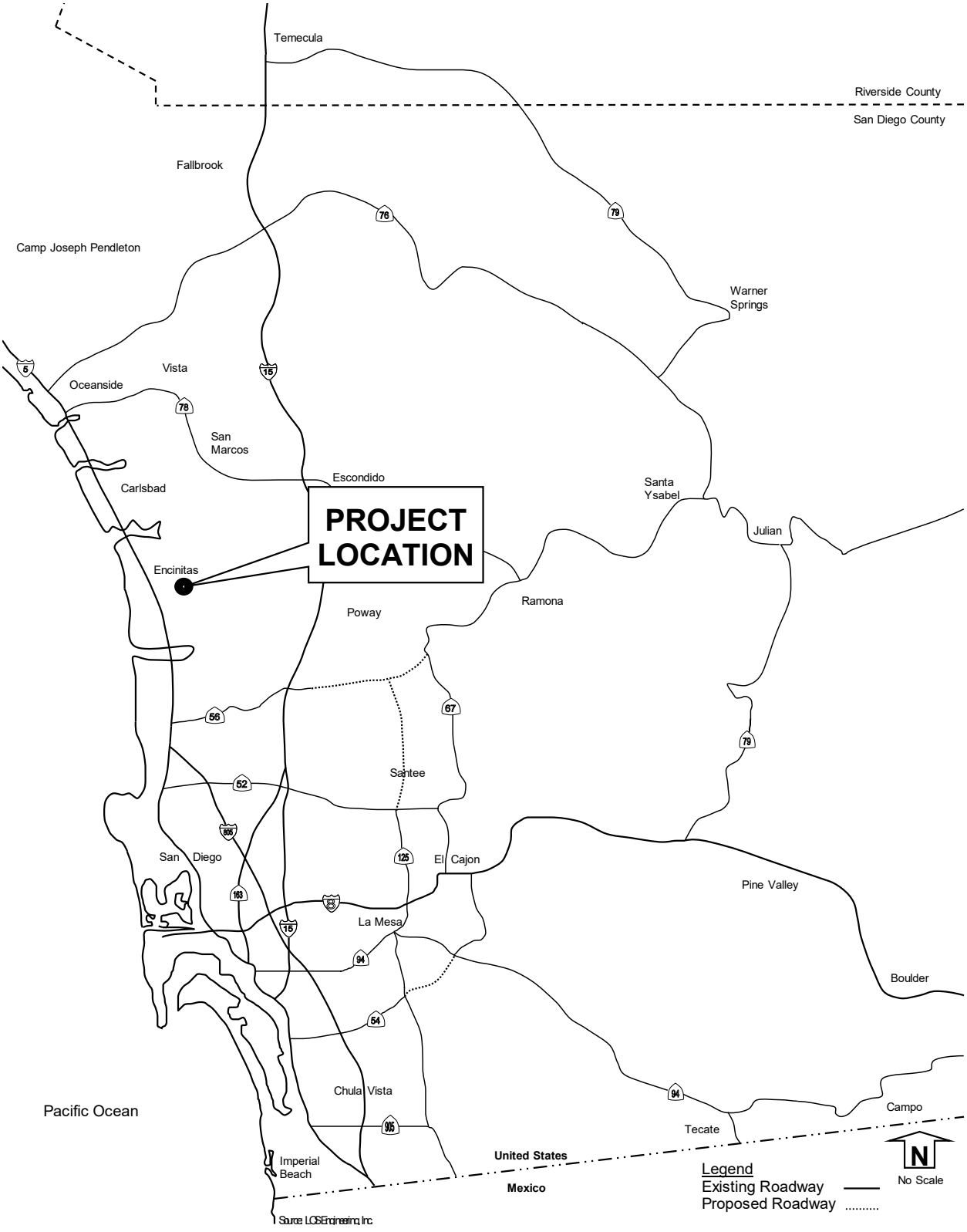
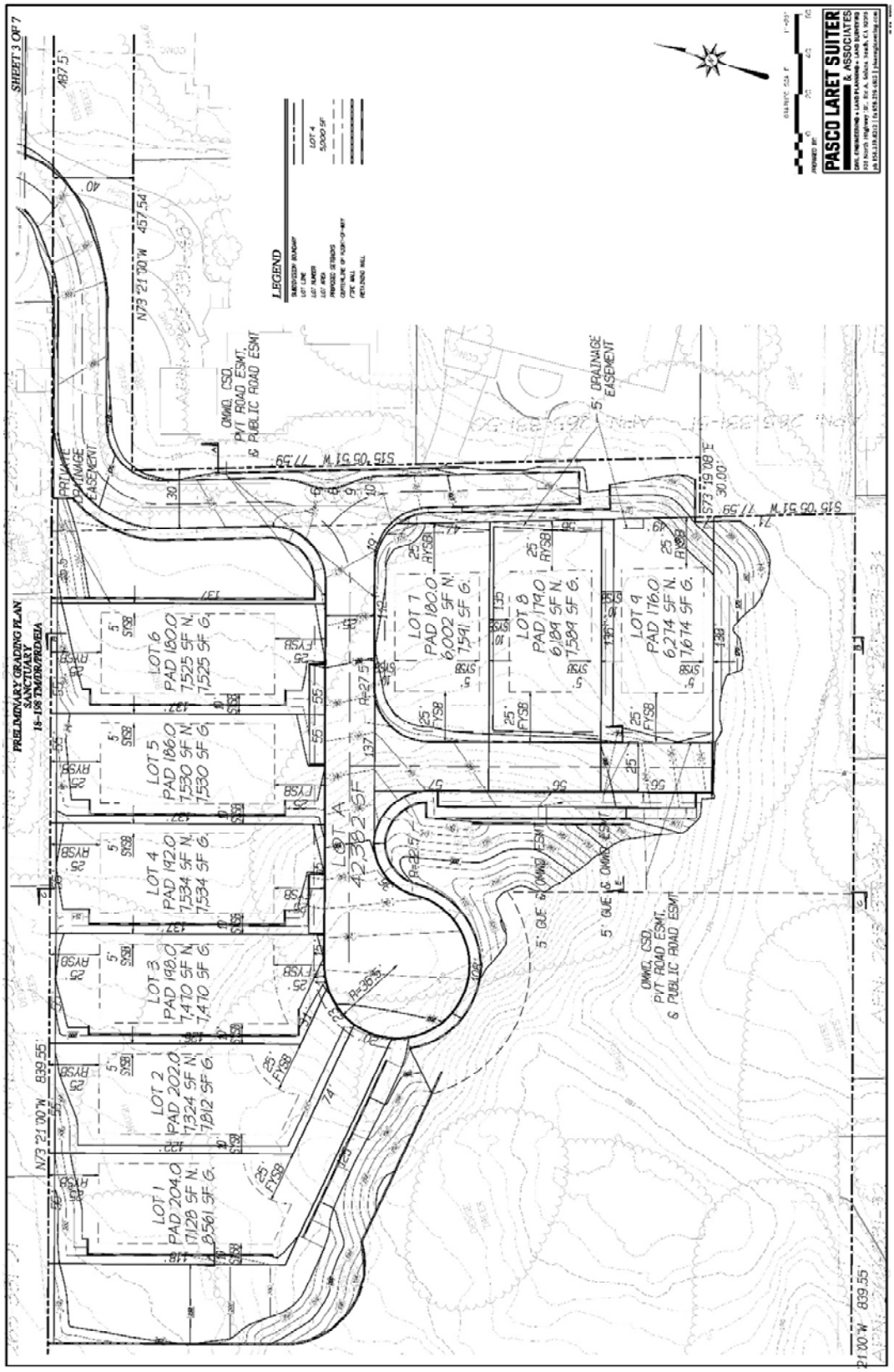


Figure 2: Site Plan



Source: Pasco Laret Suiter

2.0 Traffic Analysis Methodology and Significance Criteria

The parameters by which this traffic study was prepared included the determination of what intersection and roadways are to be analyzed, the scenarios to be analyzed and the methods required for analysis. The criteria for each of these parameters are included herein.

2.1 Study Area Criteria

The following intersection was analyzed as part of this study:

1) Rancho Santa Fe Road at Ranch View Terrace (un-signalized)

The following street segments were also analyzed as part of this study:

1) Rancho Santa Fe Road between Whisper Wind Dr and Ranch View Terrace, and
2) Rancho Santa Fe Road between Ranch View Terrace and Woodwind Dr

2.2 Scenario Criteria

The number of scenarios to be analyzed is typically based on the size of the project. For this project, the following scenarios were included:

1) Existing Conditions
2) Existing + Project Conditions
3) Existing + Cumulative Conditions
4) Existing + Cumulative + Project Conditions

2.3 Traffic Analysis Criteria

The traffic analyses prepared for this study were based on the *6th Edition Highway Capacity Manual* (HCM) operations analysis using Level of Service (LOS) evaluation criteria. The operating conditions of the study intersection and street segments were measured using the HCM LOS designations, which ranges from A through F. LOS A represents the best operating condition and LOS F denotes the worst operating condition.

2.3.1 Intersection

The study intersection was analyzed based on the **operational analysis** outlined in the 6th Ed HCM. This process defines LOS in terms of **average control delay** per vehicle, which is measured in seconds. LOS at the intersection were calculated using the computer software program Synchro 10 (Trafficware Corporation). The 6th Ed HCM LOS for the range of delay by seconds for un-signalized and signalized intersection is described in **Table 1**.

TABLE 1: INTERSECTION LEVEL OF SERVICE DEFINITIONS (6TH EDITION HCM)

Level of Service	Un-Signalized (TWSC and AWSC) Control Delay (sec/veh where v/c ≤ 1)	Signalized Control Delay (sec/veh where v/c ≤ 1)
A	0-10	≤ 10
B	> 10-15	> 10-20
C	> 15-25	> 20-35
D	> 25-35	> 35-55
E	> 35-50	> 55-80
F	> 50	> 80

TWSC: Two Way Stop Control. AWSC: All Way Stop Control. Source: 6th Edition HCM (exhibit 20-2 for two way stop control, exhibit 21-8 for all way stop control, and exhibit 19-8 for signalized intersection). For unsignalized intersection, the control delay is the worst movement delay in seconds/vehicle.

2.3.2 Street Segments

The street segments were analyzed based on the functional classification of the roadway using the City of Encinitas *Public Road Standards* General Plan Circulation Element Roadway Capacity Standards (excerpts included in **Appendix A**). The roadway segment capacity and LOS standards used to analyze street segments are summarized in **Table 2**.

TABLE 2: STREET SEGMENT DAILY CAPACITY AND LOS (CITY OF ENCINITAS)

Facility Type	Number of Lanes	LOS C	LOS D	LOS E
Prime Arterial	6	<46,000	<51,200	<57,000
Prime Arterial – Augmented	6	<53,000	<60,000	<66,000
Major Roadway	4	<28,200	<31,600	<35,200
Major Roadway - Augmented	4+	<36,300	<41,000	<45,400
Collector Roadway	4	<26,000	<29,200	<32,400
Local Roadway - Augmented	2+	<16,000	<18,000	<20,000
Local Roadway	2	<11,200	<12,600	<14,000

Source: City of Encinitas *Public Road Standards* April 1991.

2.4 Project's Transportation Effect

If a proposed project's traffic causes the values shown in the **Table 3** to be exceeded, the effects of the project are determined to justify improvements (ITE excerpts included in **Appendix B**).

TABLE 3: CITY OF ENCINITAS DETERMINATION FOR POTENTIAL ROADWAY IMPROVEMENTS

Level of Service with Project*	Allowable Change Due to Project Effect**				
	Freeways	Roadway Segments		Intersections	Ramp Metering
	V/C	V/C	Speed (mph)	Delay (sec.)	Delay (min.)
E & F	0.01	0.02	1	2	2*

Source: San Diego ITE Guidelines for Transportation Impact Studies in the San Diego Region, 2019.

* All level of service measurements are based upon Highway Capacity Manual (HCM) procedures for peak-hour conditions. The target LOS for freeways, roadways, and intersections is generally "D". For metered freeway ramps, LOS does not apply; however, ramp meter delays above 15 minutes are considered excessive.

** If a proposed project's traffic causes the values shown in the table to be exceeded, the effects of the project are determined to justify improvements. These changes may be measured from appropriate computer programs or expanded manual spreadsheets. The project applicant shall then identify feasible improvements within the LTA report that will maintain the traffic facility at the target LOS or restore to pre-project conditions. If the LOS with the proposed project becomes worse than the target (see above * note), or if the project adds a significant amount of peak-hour trips to cause any traffic queues to exceed on- or off-ramp storage capacities, roadway improvements should be considered.

*** See Attachment B for ramp metering analysis.

Key: V/C = Volume to Capacity
Speed = Speed measured in miles per hour
Delay = Average stopped delay per vehicle measures in seconds for intersection, or minutes for ramp meters
LOS = Level of Service

3.0 Existing Conditions

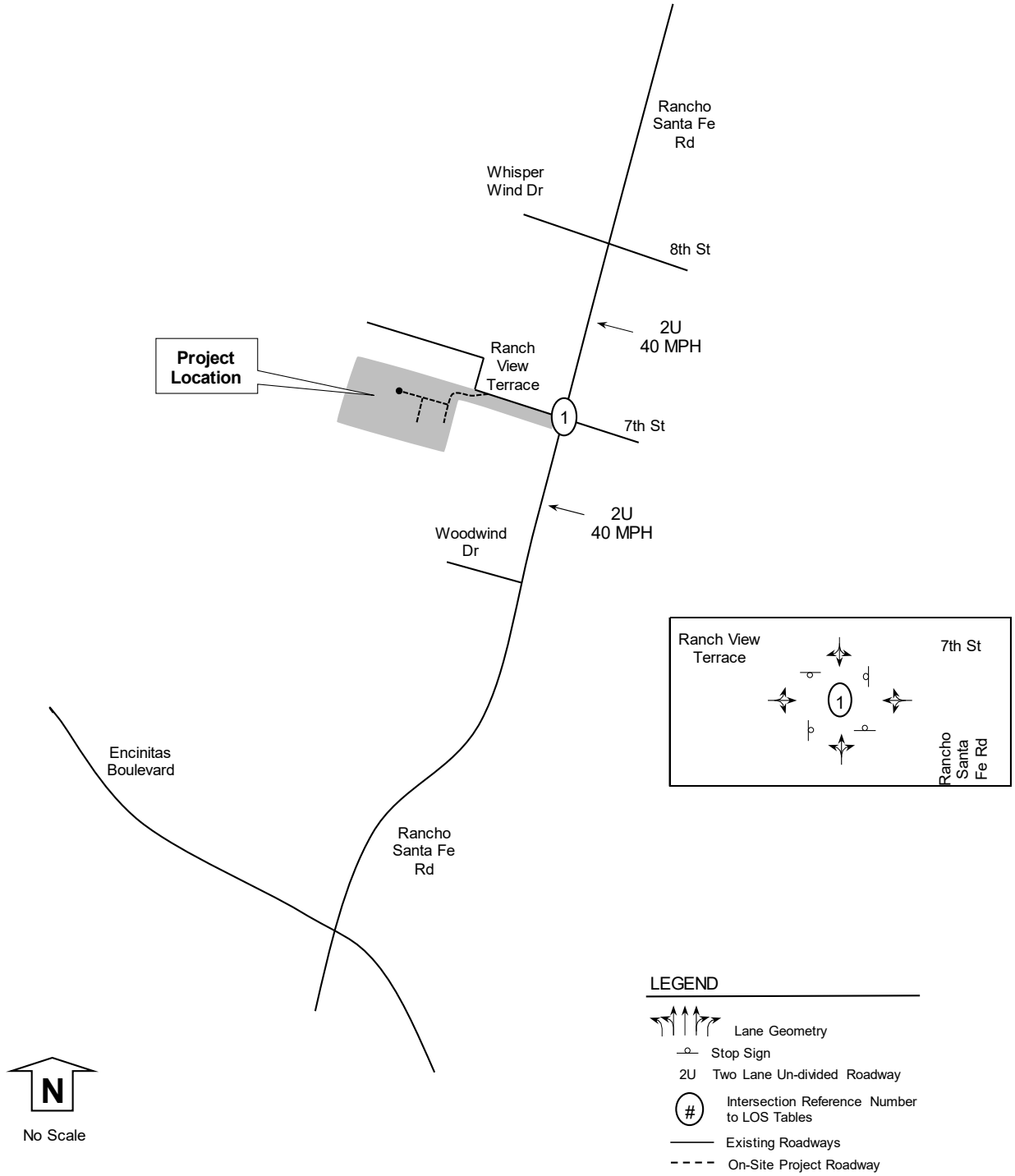
This section describes the study area street system, peak hour intersection volumes, daily roadway volumes, and existing LOS.

3.1 Existing Street System

In the vicinity of the project, the following circulation element roadway was analyzed as part of this study and is described below. The existing roadway conditions are shown in **Figure 3**.

Rancho Santa Fe Road from Whisper Wind Drive to Woodwind Drive is a two (2) lane un-divided roadway. On-street parking is prohibited on both sides of the roadway. The posted speed limit is 40 Miles Per Hour (MPH). This segment of Rancho Santa Fe Road is classified as a two lane *Local Road - Augmented Facility* on the City of Encinitas Circulation Plan (Appendix A); however, a functional capacity of a 2 lane local road was applied to represent actual conditions.

Figure 3: Existing Roadway Conditions



3.2 Existing Traffic Volumes

Existing peak hour traffic volumes were collected from 7:00 to 9:00 AM and from 4:00 to 6:00 PM when nearby schools were in session for the following intersection with counts dates in parentheses:

1) Rancho Santa Fe Road at Ranch View Terrace (Tuesday, February 12, 2019)

The following street segments were also analyzed as part of this study:

1) Rancho Santa Fe Road between Whisper Wind Dr and Ranch View Terrace (Tuesday, February 12, 2019)
2) Rancho Santa Fe Road between Ranch View Terrace and Woodwind Dr (Tuesday, February 12, 2019)

The existing AM, PM, and daily volumes are shown on **Figure 4**, with count data included in **Appendix C**. The LOS calculated for the intersection and street segments under existing conditions are shown in **Tables 4 and 5**, respectively.

TABLE 4: EXISTING INTERSECTION OPERATIONS

Intersection and (Analysis)[1]	Movement	Peak Hour	Existing Delay[2]	Existing LOS[3]
1) Rancho Santa Fe	All	AM	24.9	C
at Ranch View Terrace (U)	All	PM	15.0	B

Notes: 1) Intersection Analysis - (S) Signalized, (U) Unsignalized. 2) Delay - HCM Average Control Delay in seconds.
3) LOS: Level of Service.

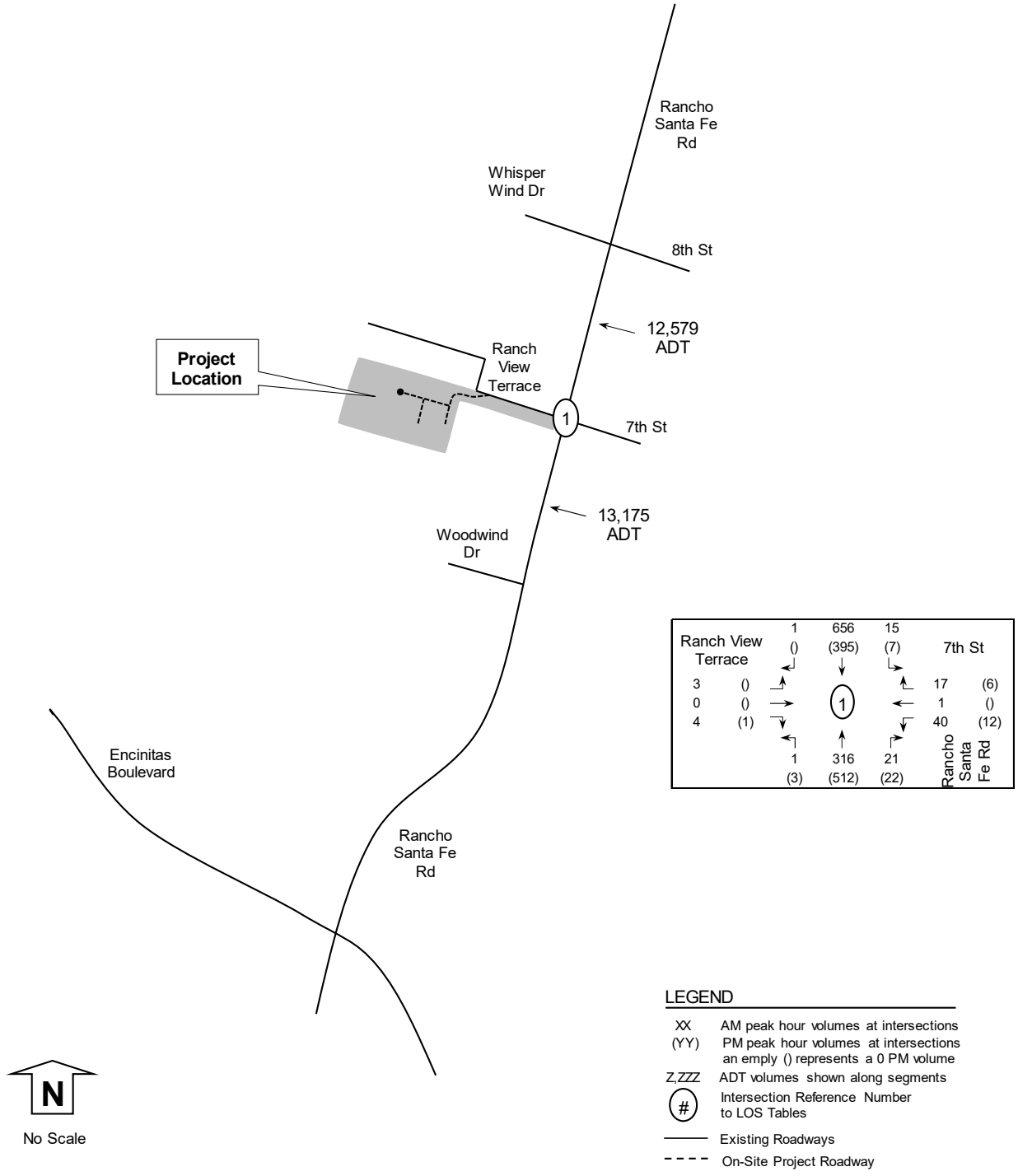
TABLE 5: EXISTING SEGMENT VOLUMES AND OPERATIONS

Segment	Functional Classification*	Existing # of lanes	Daily Volume	LOS E Capacity	V/C	LOS
Rancho Santa Fe Road						
Whisper Wind to Ranch View Terrace	Local Road	2	12,579	14,000	0.90	D
Ranch View Terrace to Woodwind	Local Road	2	13,175	14,000	0.94	**E**

Notes: Daily volume is an average 24 hour volume. LOS: Level of Service. V/C: Volume to Capacity ratio.
*Functional Classification represents existing segment functionality and not the ultimate classification.

Under existing conditions, the study intersection and the street segments were calculated to operate at LOS D or better except for the segment of Rancho Santa Fe Road from Ranch View Terrace to Woodwind Dr (LOS E). Intersection LOS calculations are included in **Appendix D**.

Figure 4: Existing Volumes



4.0 Project Description

The proposed project includes nine (9) residential lots located on Ranch View Terrace west of Rancho Santa Fe Road in Encinitas, California. The site is currently vacant. Project access is from Ranch View Terrace.

4.1 Project Traffic Generation

Project traffic generation was calculated using the San Diego Association of Governments (SANDAG) trip rates from the *Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region*, April 2002. The project is calculated to generate 90 ADT, 7 AM peak hour trips (2 inbound and 5 outbound), and 9 PM peak hour trips (6 inbound and 3 outbound) as shown in **Table 6**.

TABLE 6: PROJECT TRAFFIC GENERATION

Proposed Project					AM				PM		
	Rate	Size & Units	ADT	%	Split	IN	OUT	%	Split	IN	OUT
10 Single Family Homes	10 /DU	9 DU	**90**	8%	0.3 0.7	**2**	**5**	10%	0.7 0.3	**6**	**3**

Source: SANDAG *Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region,* April 2002. DU: Dwelling Unit.

ADT-Average Daily Traffic; Split-percent inbound and outbound.

4.2 Project Distribution and Assignment

Project trips were distributed to the adjacent roadway network based on background traffic patterns, commuter patterns, trips attractors, and schools. The project distribution is shown in **Figure 5** with assignment of the project volumes shown in **Figure 6.**

4.3 Project Access

Project access is from Ranch View Terrace.

4.4 Project On-Site Parking

Each residential dwelling unit is planned with a garage.

Figure 5: Project Distribution

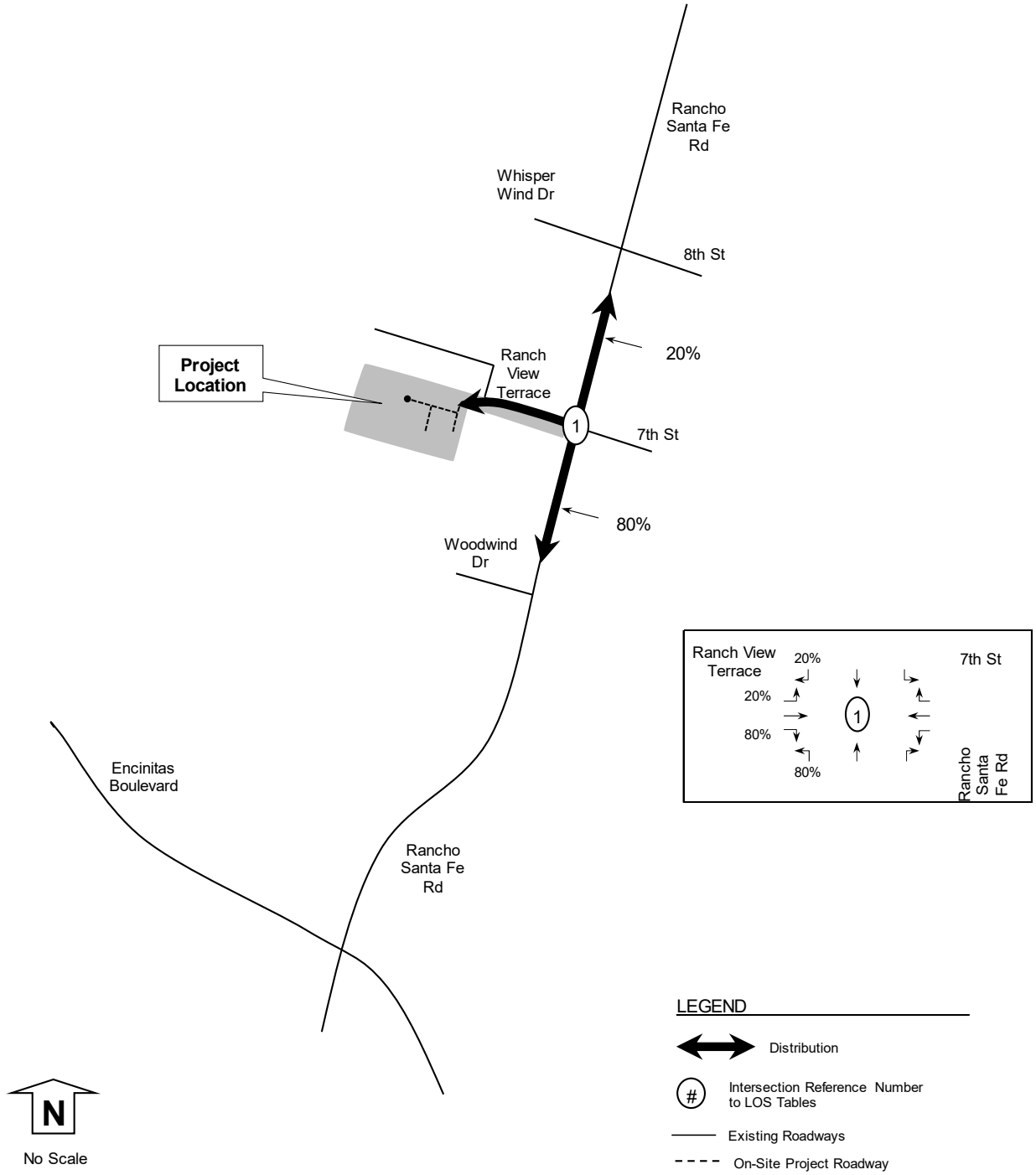
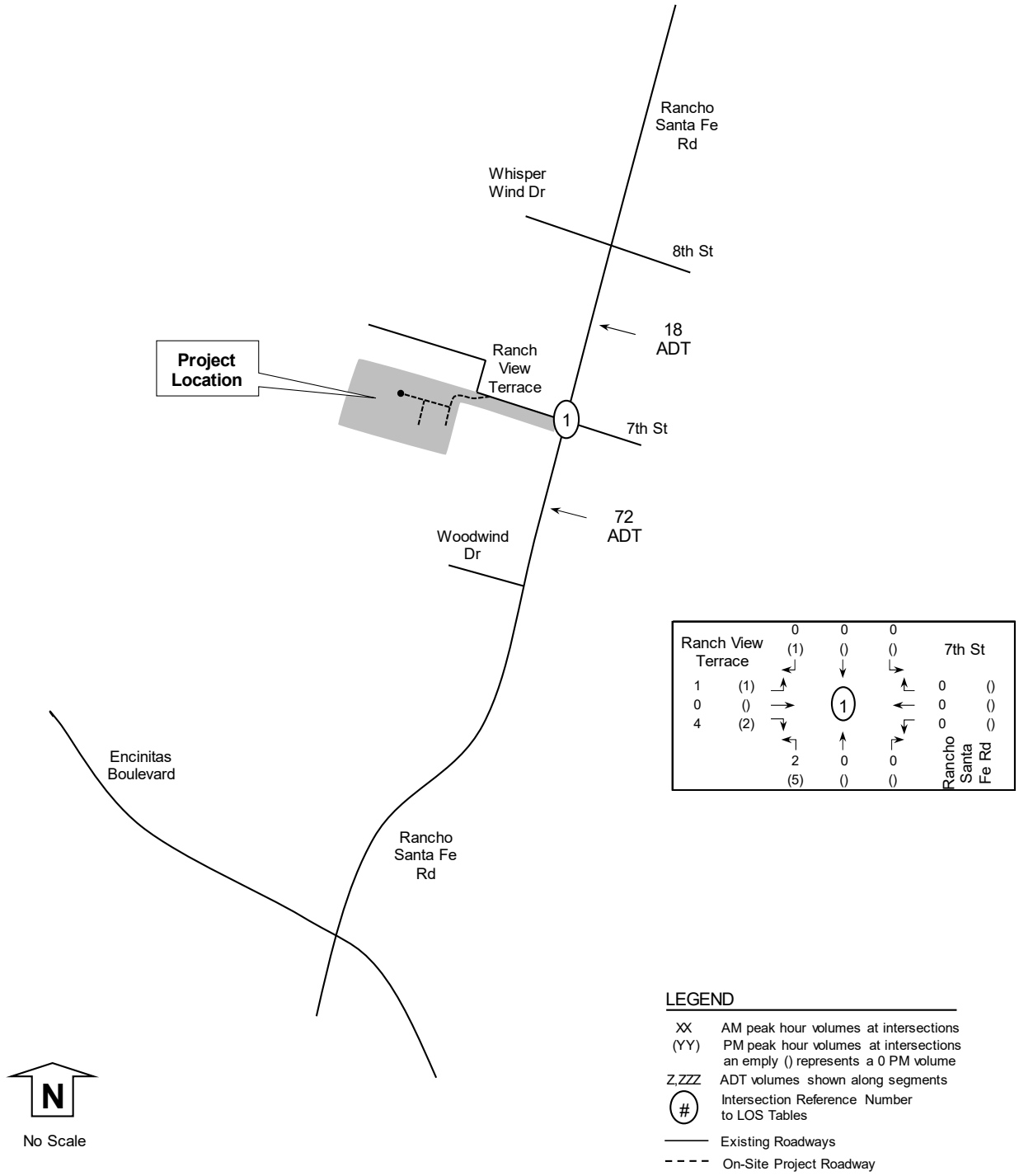


Figure 6: Project Volumes



5.0 Existing + Project Conditions

This scenario accounts for the addition of project traffic onto existing traffic for AM, PM and daily conditions. The peak hour intersection volumes and daily traffic volumes are shown in **Figure 7**. The LOS calculated for the intersection and street segments under existing plus project conditions are shown in **Tables 7 and 8**.

TABLE 7: EXISTING + PROJECT INTERSECTION OPERATIONS

Intersection and	Movement	Peak	Existing		Existing + Project			
(Analysis)[1]		Hour	Delay[2]	LOS[3]	Delay[2]	LOS[3]	Delta[4]	Effect[5]
1) Rancho Santa Fe	All	AM	24.9	C	25.3	D	0.4	No
at Ranch View Terrace (U)	All	PM	15.0	B	15.2	C	0.2	No

Notes: 1) Intersection Analysis - (S) Signalized, (U) Unsignalized. 2) Delay - HCM Average Control Delay in seconds.
3) LOS: Level of Service. 4) Delta is the increase in delay from project. 5) Project effect if threshold is exceeded.

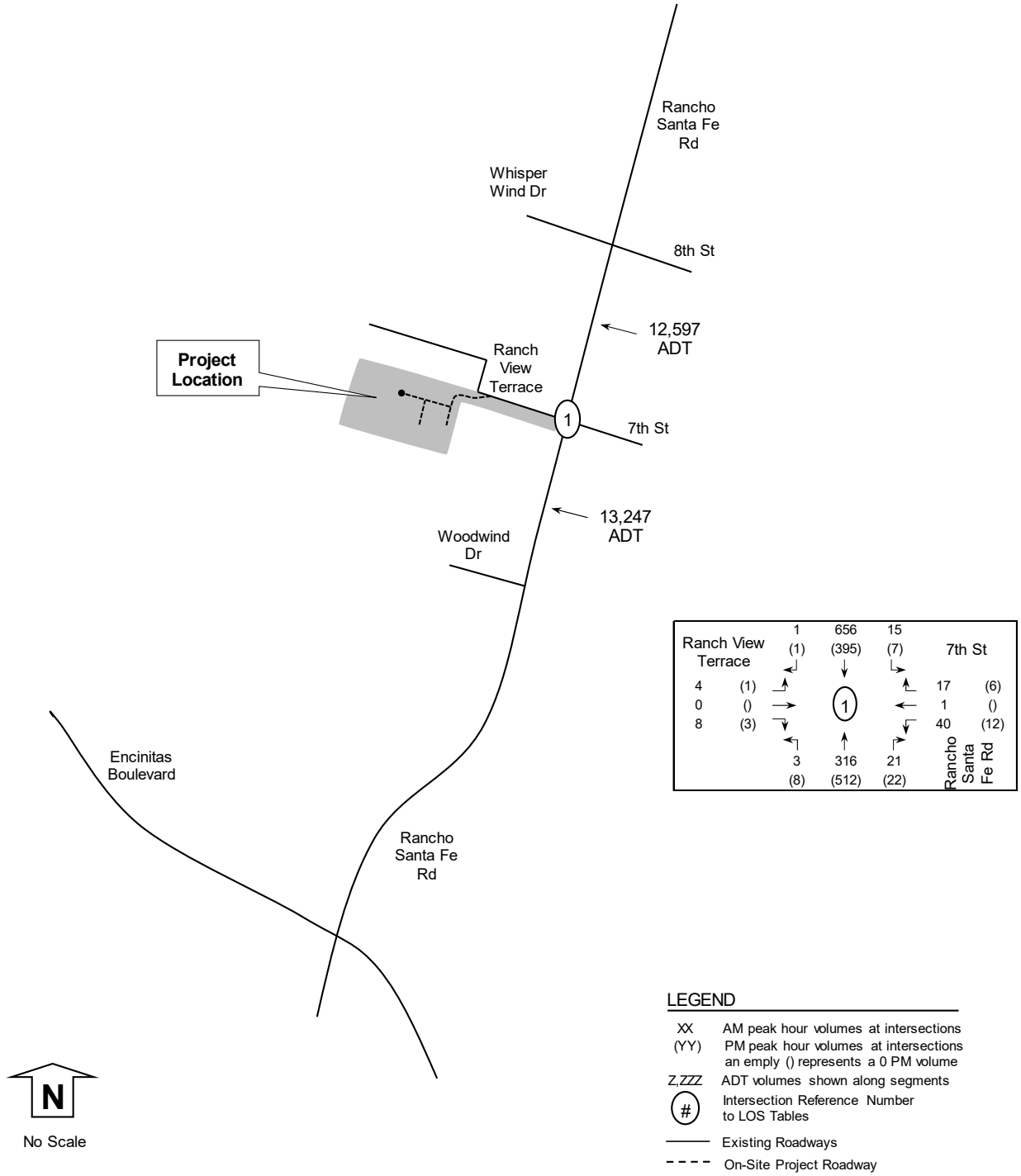
TABLE 8: EXISTING + PROJECT SEGMENT VOLUMES AND OPERATIONS

Segment	Functional Classification*	Existing				Project	Existing + Project				
		Daily Volume	LOS E Capacity	V/C	LOS	Daily Volume	Daily Volume	V/C	LOS	Change in V/C	Project Effect?
Rancho Santa Fe Road											
Whisper Wind to Ranch View Terrace	Local Road	12,579	14,000	0.899	D	18	12,597	0.900	D	0.001	No
Ranch View Terrace to Woodwind	Local Road	13,175	14,000	0.941	**E**	72	13,247	0.946	**E**	0.005	No

Notes: Daily volume is an average 24 hour volume. LOS: Level of Service. V/C: Volume to Capacity ratio.
*Functional Classification represents existing segment functionality and not the ultimate classification.

Under existing plus project conditions, the study intersection and street segments were calculated to operate at LOS D or better except for the segment of Rancho Santa Fe Road from Ranch View Terrace to Woodwind Dr (LOS E). The addition of project traffic does not create a traffic effect. Intersection LOS calculations are included in **Appendix E**.

Figure 7: Existing + Project Volumes



6.0 Cumulative Projects

Based on a review of City of Encinitas on-line cumulative projects and coordination with City staff, the following cumulative projects were determined to potentially add traffic to the study area. The following list describes the cumulative projects.

1) #17-206 (2218 13th Street). A residential project with 2 dwelling units calculated to generate 20 ADT with 1 AM and 2 PM peak hour trip.

2) #18-121 (1335 Desert Rose Way). A residential project with 16 dwelling units calculated to generate 160 ADT with 13 AM and 16 PM peak hour trip.

3) #18-266 (2223 El Camino Del Norte). A residential project with 2 dwelling units calculated to generate 20 ADT with 1 AM and 2 PM peak hour trip.

4) Candidate Housing Site #8 (2230 Encinitas Blvd). A residential project with 283 apartments calculated to generate 1,698 ADT with 136 AM and 153 PM peak hour trip.

5) Candidate Housing Site #12 (630 Encinitas Blvd). A residential project with 140 apartments calculated to generate 840 ADT with 67 AM and 76 PM peak hour trip.

6) Unforeseen/Distant Cumulative Projects. Addition of 200 ADT and 10 peak hour directional trips were added along Rancho Santa Fe Road in the study area.

A summary of cumulative traffic generation is included in **Table 9.**

TABLE 9: CUMULATIVE TRAFFIC GENERATION

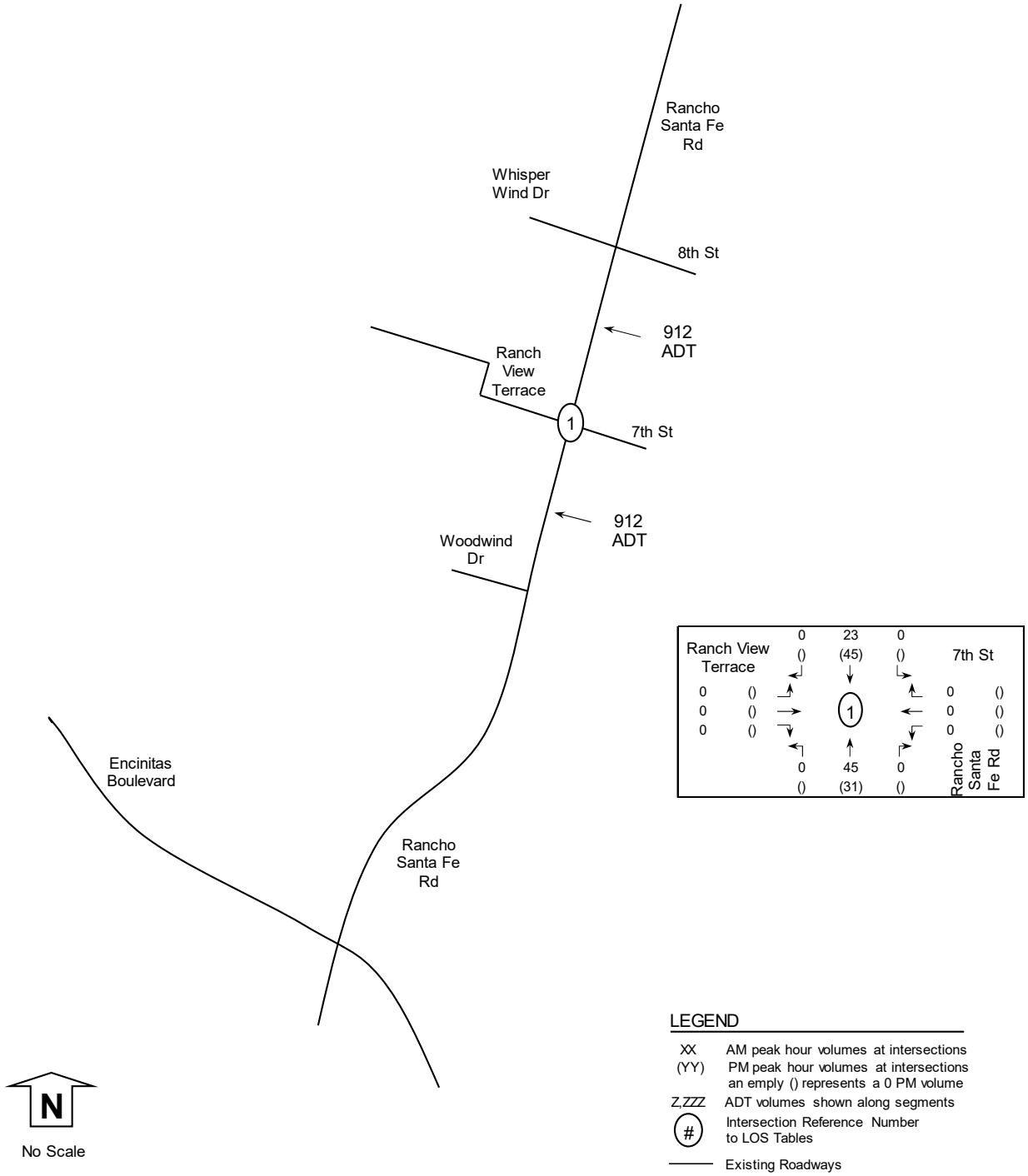
								AM					PM	
Cumualtive Project	**Rate**	**Size & Units**		**ADT**	**%**	**Split**		**IN**	**OUT**	**%**	**Split**		**IN**	**OUT**
1) #17-206: Residential Single Family	10 /DU	2	DU	**20**	8%	0.3	0.7	**0**	**1**	10%	0.7	0.3	**1**	**1**
2) #18-121: Residential Single Family	10 /DU	16	DU	**160**	8%	0.3	0.7	**4**	**9**	10%	0.7	0.3	**11**	**5**
3) #18-266: Residential Single Family	10 /DU	2	DU	**20**	8%	0.3	0.7	**0**	**1**	10%	0.7	0.3	**1**	**1**
4) Housing Site #8 2230 Encinitas Blvd	6 /DU	283	DU	**1,698**	8%	0.2	0.8	**27**	**109**	9%	0.7	0.3	**107**	**46**
5) Housing Site #12 630 Encinitas Blvd	6 /DU	140	DU	**840**	8%	0.2	0.8	**13**	**54**	9%	0.7	0.3	**53**	**23**
6) Unknown/Distant				**200**				**10**	**10**				**10**	**10**
Totals				**2,938**				**55**	**184**				**183**	**85**

Source: SANDAG *Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region,* April 2002. DU: Dwelling Unit.

Split: % inbound and outbound. Excel rounding may result in ±1 to the numbers above.

The cumulative project traffic volumes are shown in **Figure 8**. Cumulative project traffic information is included in **Appendix F**.

Figure 8: Cumulative Project Volumes



7.0 Existing + Cumulative Conditions

This scenario accounts for the addition of cumulative traffic onto the existing traffic for AM, PM and daily conditions. The peak hour intersection volumes and daily traffic volumes are shown in **Figure 9**. The LOS calculated for the intersection and street segment are shown in **Tables 10 and 11**, respectively. Intersection LOS calculations are included in **Appendix G**.

TABLE 10: EXISTING + CUMULATIVE INTERSECTION OPERATIONS

Intersection and	Movement	Peak	Existing		Existing + Cumulative		
(Analysis)[1]		Hour	Delay[2]	LOS[3]	Delay[2]	LOS[3]	Delta[4]
1) Rancho Santa Fe	All	AM	24.9	C	29.3	D	4.4
at Ranch View Terrace (U)	All	PM	15.0	B	16.9	C	1.9

Notes: 1) Intersection Analysis - (S) Signalized, (U) Unsignalized. 2) Delay - HCM Average Control Delay in seconds.
3) LOS: Level of Service. 4) Delta is the increase in delay from cumulative projects.

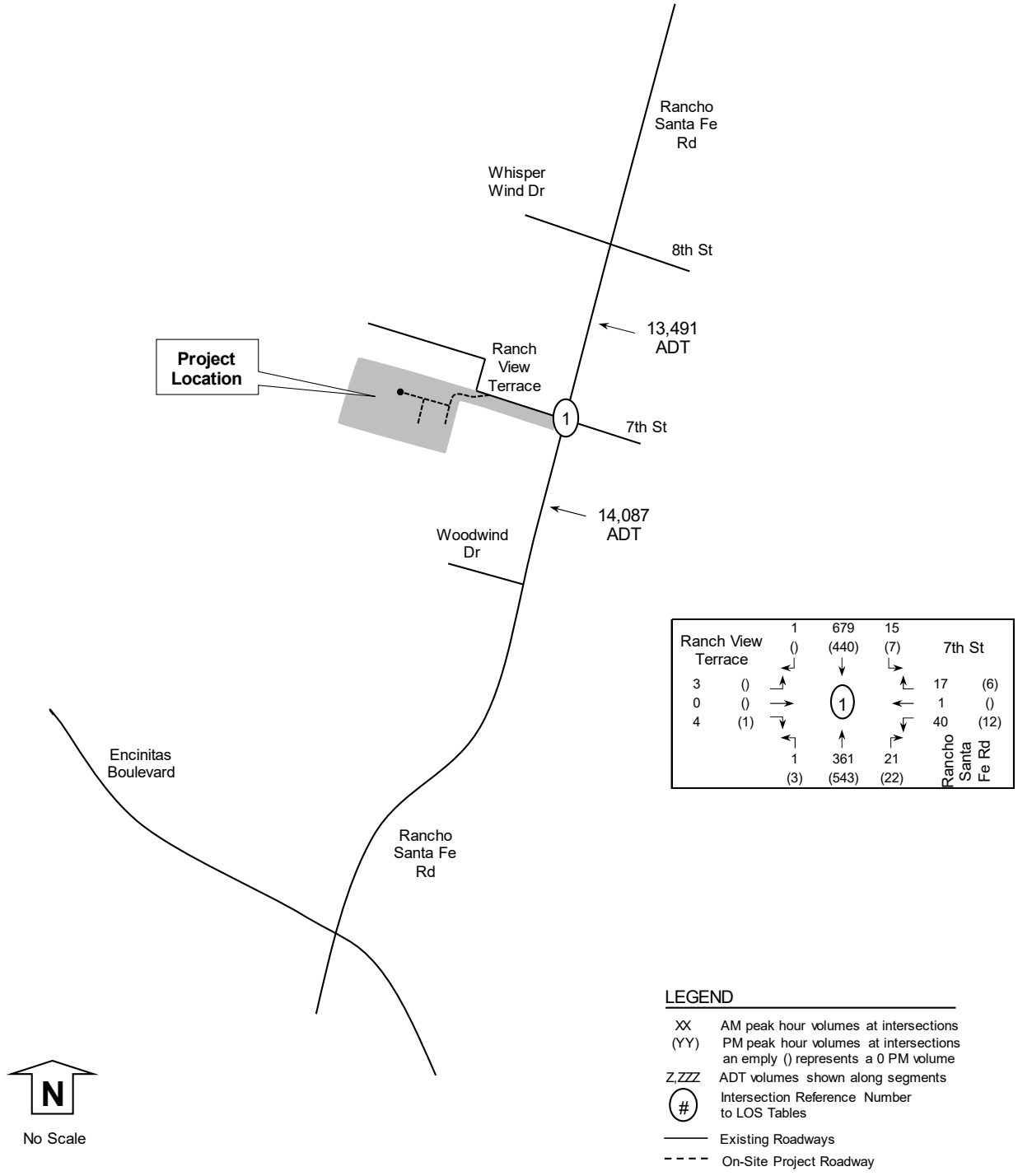
TABLE 11: EXISTING + CUMULATIVE SEGMENT VOLUMES AND OPERATIONS

Segment	Functional Classification*	Existing				Cumulative	Existing + Cumulative			
		Daily Volume	LOS E Capacity	V/C	LOS	Daily Volume	Daily Volume	LOS E Capacity	V/C	LOS
Rancho Santa Fe Road										
Whisper Wind to Ranch View Terrace	Local Road	12,579	14,000	0.899	D	912	13,491	14,000	0.964	**E**
Ranch View Terrace to Woodwind	Local Road	13,175	14,000	0.941	**E**	912	14,087	14,000	1.006	**F**

Notes: Daily volume is an average 24 hour volume. LOS: Level of Service. V/C: Volume to Capacity ratio.
*Functional Classification represents existing segment functionality and not the ultimate classification.

Under existing plus cumulative conditions, the roadway operations were calculated as follows. The study intersection of Rancho Santa Fe Road at Ranch View Terrace is calculated to operate at LOS C or better under existing conditions and LOS D or better under cumulative conditions. The study segment of Rancho Santa Fe Rd between Whisper Wind Dr and Ranch View Terrace would fall from LOS D under existing conditions to LOS E under cumulative conditions. The study segment of Rancho Santa Fe Rd between Ranch View Terrace and Woodwind Dr would fall from LOS E under existing conditions to LOS F under cumulative conditions.

Figure 9: Existing + Cumulative Volumes



8.0 Existing + Cumulative + Project Conditions

This scenario accounts for the addition of project traffic onto existing plus cumulative traffic for AM, PM, and daily conditions. The peak hour intersection volumes and daily traffic volumes are shown in **Figure 10**. The LOS calculated for the intersection and street segment are shown in **Tables 12 and 13**, respectively. Intersection LOS calculations are included in **Appendix H**.

TABLE 12: EXISTING + CUMULATIVE + PROJECT INTERSECTION OPERATIONS

Intersection and (Analysis)[1]	Movement	Peak Hour	Existing + Cumulative Delay[2]	Existing + Cumulative LOS[3]	Existing + Cumulative + Project Delay[2]	Existing + Cumulative + Project LOS[3]	Delta[4]	Effect[5]
1) Rancho Santa Fe	All	AM	29.3	D	29.8	D	0.5	No
at Ranch View Terrace (U)	All	PM	16.9	C	17.2	C	0.3	No

Notes: 1) Intersection Analysis - (S) Signalized, (U) Unsignalized. 2) Delay - HCM Average Control Delay in seconds.
3) LOS: Level of Service. 4) Delta is the increase in delay from project. 5) Project effect if threshold is exceeded.

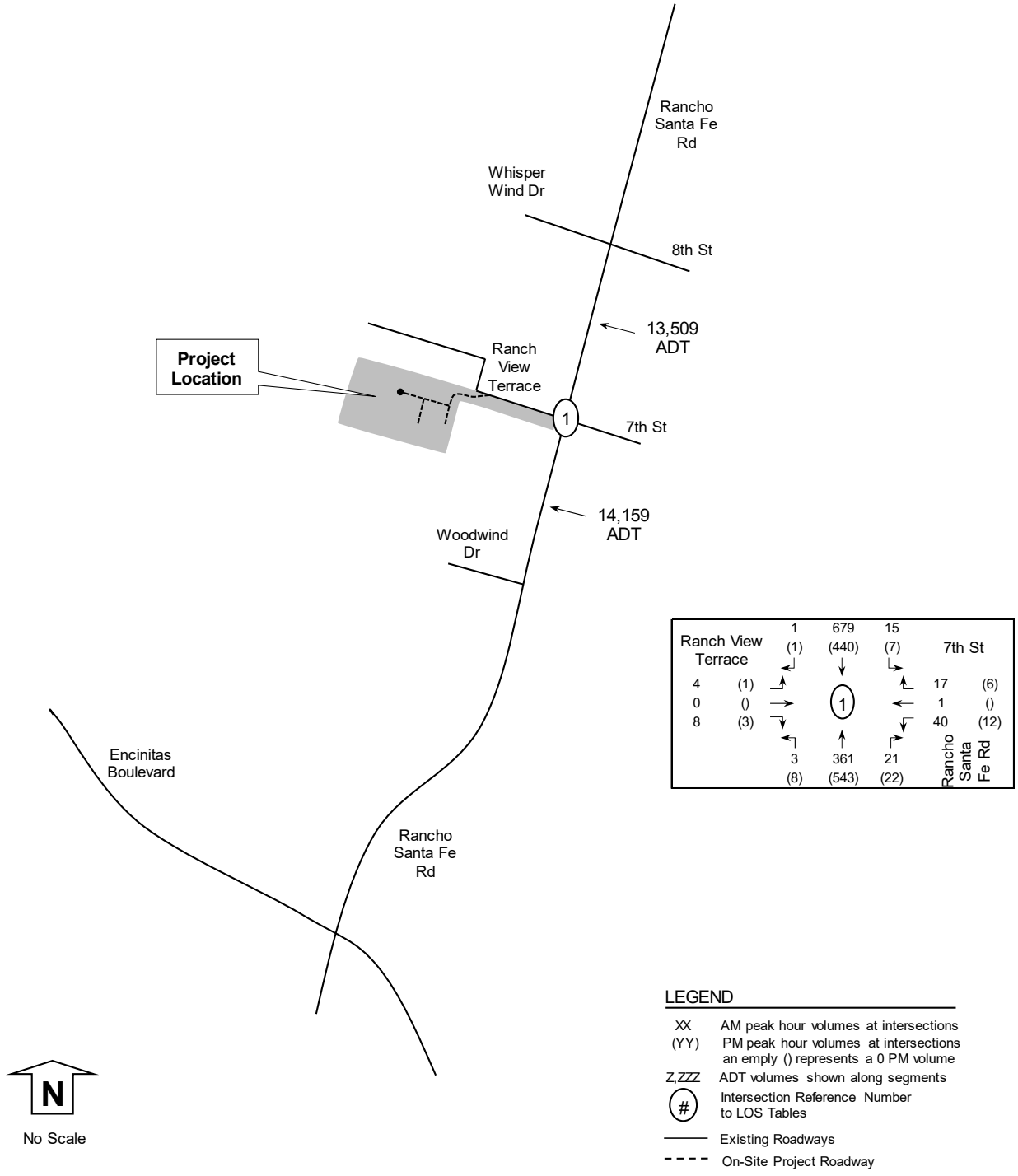
TABLE 13: EXISTING + CUMULATIVE + PROJECT SEGMENT VOLUMES AND OPERATIONS

Segment	Functional Classification*	Existing + Cumulative Daily Volume	LOS E Capacity	V/C	LOS	Project Daily Volumes	Existing + Cumulative + Project Daily Volume	V/C	LOS	Delta	Project Effect?
Rancho Santa Fe Road											
Whisper Wind to Ranch View Terrace	Local Road	13,491	14,000	0.964	E	18	13,509	0.965	E	0.001	No
Ranch View Terrace to Woodwind	Local Road	14,087	14,000	1.006	F	72	14,159	1.011	F	0.005	No

Notes: Daily volume is an average 24 hour volume. LOS: Level of Service. V/C: Volume to Capacity ratio.
*Functional Classification represents existing segment functionality and not the ultimate classification.

Under existing plus cumulative plus project conditions, the roadway operations were calculated as follows. The study intersection of Rancho Santa Fe Road at Ranch View Terrace is calculated to operate at LOS D or better under cumulative and cumulative plus project conditions. The study segment of Rancho Santa Fe Rd between Whisper Wind Dr and Ranch View Terrace would operate at LOS E under cumulative and cumulative plus project conditions. The study segment of Rancho Santa Fe Rd between Ranch View Terrace and Woodwind Dr would operate at LOS F under cumulative and cumulative plus project conditions. The addition of project traffic does not create a traffic effect.

Figure 10: Existing + Cumulative + Project Volumes



9.0 Conclusion

This Local Transportation Analysis determined if the proposed project was calculated to create any traffic effects on the study area roadways in the vicinity of the project. The proposed project includes nine (9) residential lots located on Ranch View Terrace west of Rancho Santa Fe Road in Encinitas, California. The site is currently vacant. Project access is from Ranch View Terrace.

This analysis was based on traffic analysis criteria outlined in the local San Diego Institute of Transportation Engineers (ITE) *Guidelines for Traffic Impact Studies in the San Diego Region*, May 2019. Project traffic generation was calculated using the San Diego Association of Governments (SANDAG) trip rates from the *Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region*, April 2002. The project is calculated to generate 90 ADT, 7 AM peak hour trips and 9 PM peak hour trips. Based on a review of City of Encinitas on-line cumulative projects and coordination with City staff, cumulative projects anticipated to add traffic to the study area were included for analysis. The following scenarios were analyzed: Existing, Existing + Project, Existing + Cumulative, and Existing + Cumulative + Project conditions. The operational findings are summarized below by scenario:

1) Under existing conditions, the study intersection and the street segments were calculated to operate at LOS D or better except for the segment of Rancho Santa Fe Road from Ranch View Terrace to Woodwind Dr (LOS E).

2) Under existing plus project conditions, the study intersection and street segments were calculated to operate at LOS D or better except for the segment of Rancho Santa Fe Road from Ranch View Terrace to Woodwind Dr (LOS E). The addition of project traffic does not create a traffic effect.

3) Under existing plus cumulative conditions, the roadway operations were calculated as follows. The study intersection of Rancho Santa Fe Road at Ranch View Terrace is calculated to operate at LOS C or better under existing conditions and LOS D or better under cumulative conditions. The study segment of Rancho Santa Fe Rd between Whisper Wind Dr and Ranch View Terrace would fall from LOS D under existing conditions to LOS E under cumulative conditions. The study segment of Rancho Santa Fe Rd between Ranch View Terrace and Woodwind Dr would fall from LOS E under existing conditions to LOS F under cumulative conditions.

4) Under existing plus cumulative plus project conditions, the roadway operations were calculated as follows. The study intersection of Rancho Santa Fe Road at Ranch View Terrace is calculated to operate at LOS D or better under cumulative and cumulative plus project conditions. The study segment of Rancho Santa Fe Rd between Whisper Wind Dr and Ranch View Terrace would operate at LOS E under cumulative and cumulative plus project conditions. The study segment of Rancho Santa Fe Rd between Ranch View Terrace and Woodwind Dr would operate at LOS F under cumulative and cumulative plus project conditions. The addition of project traffic does not create a traffic effect.

No traffic effects were calculated; therefore, off-site roadway improvements are not required.

10.0 References

City of Encinitas *Circulation Element* May 11, 1995.

Highway Capacity Manual (6th Edition).

San Diego Institute of Transportation Engineers. May 2019. *Guidelines for Transportation Impact Studies in the San Diego Region*.

San Diego Association of Governments (SANDAG). April 2002. *Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region*.

Trafficware Corporation. Synchro 10.0 computer software.

Appendix A

Excerpts from City of Encinitas General Plan

THE CITY OF ENCINITAS
CALIFORNIA

PUBLIC ROAD STANDARDS

April, 1991

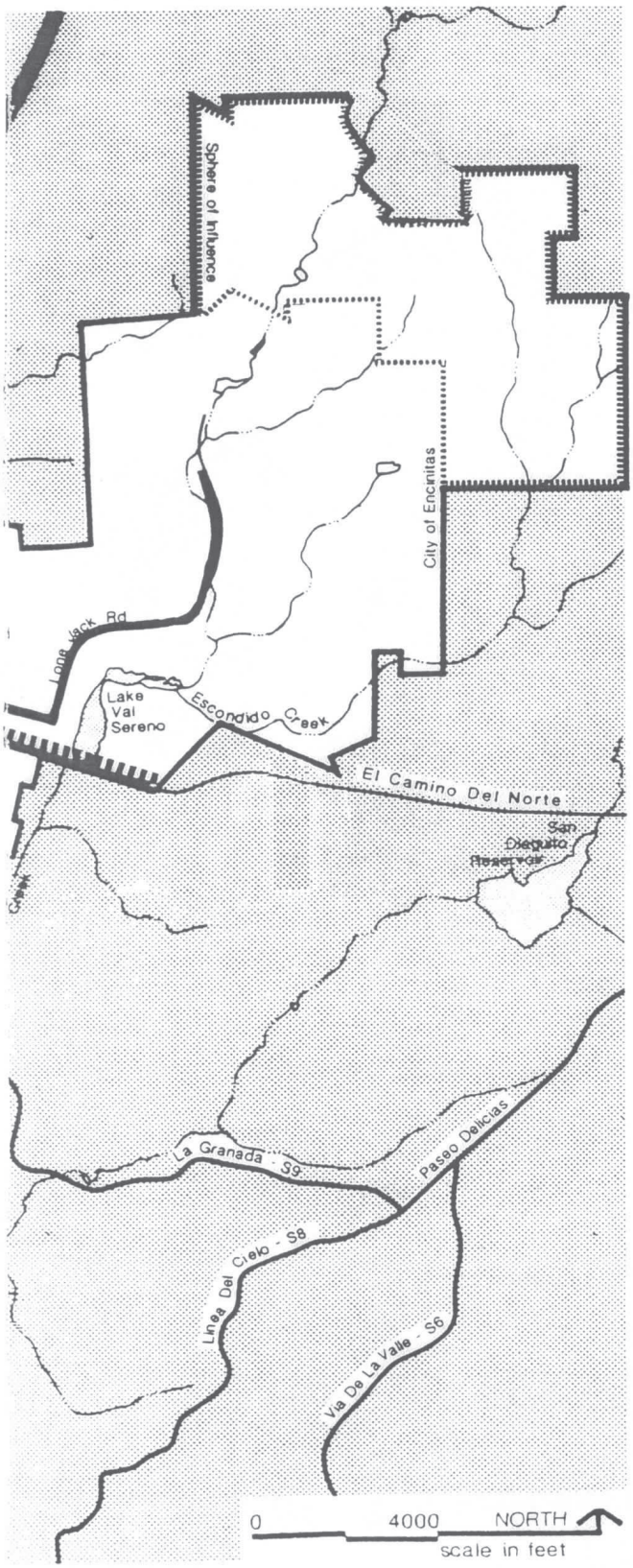
TABLE 2
GENERAL PLAN CIRCULATION ELEMENT
ROADWAY CAPACITY STANDARDS *

Facility Type	# of Lanes	ADT Capacity LOS C	LOS D	LOS E
FREEWAY	6	108,00	120,000	135,000
	8	145,000	160,000	175,000
	10	175,000	195,000	215,000
Prime Arterial	6	46,000	51,200	57,000
Prime Arterial-Augmented	6	53,000	60,000	66,000
Major Roadway	4	28,200	31,600	35,200
Major Roadway-Augmented	4+	36,300	41,000	45,400
Collector Roadway	4	26,000	29,200	32,400
Local Roadway-Augmented	2+	16,000	18,000	20,000
Local Roadway	2	11,200	12,600	14,000

NOTE:
1. Capacity means the maximum volume for the stated level of service.
2. The above Standards are not applicable to non-circulation element roadways.

* From City of Encinitas General Plan Circulation Element.

SOURCE: Austin-Foust Associates, Inc.



Freeway

Prime Arterial (6 Lanes)

Major (4 Lanes)

Collector (4 Lanes)

Local Street (2 Lanes)

Augmented Facility

Limited Facility

Interchange Reconstruction

NOTE: Leucadia Blvd. between Interstate 5 and El Camino Real designated as "Scenic Roadway" with 85 foot right-of-way (ROW)

Figure 2
Circulation Plan

Encinitas
General Plan
3/29/89

Appendix B

Excerpts from ITE Guidelines

GUIDELINES FOR TRANSPORTATION IMPACT STUDIES IN THE SAN DIEGO REGION

May 2019

7.0 ROADWAY

It is recommended that consideration be given to preparation of a local transportation analysis (LTA) for all land development and transportation projects. This section describes the recommended methodology for analysis of local roadway conditions.

The purpose of the roadway analysis portion of an LTA is to forecast, describe, and analyze how a development will affect existing and future circulation infrastructure for users of the roadway system, including vehicles, bicycles, pedestrians, and transit. The LTA assists transportation engineers and planners in both the development community and public agencies when making land use, mobility infrastructure, and other development decisions. An LTA quantifies the expected changes in transportation conditions and translates these changes into transportation system effects in the vicinity of a project.

The roadway transportation analysis included in an LTA is separate from the transportation impact analysis conducted as part of the environmental (CEQA) project review process, as described in Part I. The purpose of the roadway transportation analysis is to ensure that all projects provide a fair share of roadway infrastructure improvements in order to accommodate their multimodal transportation demands.

The following guidelines were prepared to assist local agencies throughout the San Diego Region in promoting consistency and uniformity in local transportation studies. These guidelines do not establish a legal standard for these functions but are intended to supplement any individual manuals or level of service objectives for the various jurisdictions. These guidelines attempt to consolidate regional efforts to identify when an LTA is needed, what professional procedures should be followed, and what constitutes a significant traffic effect that should be dealt with.

The instructions outlined in these guidelines are subject to update as future conditions and experience become available. Special situations may call for variation from these guidelines. It is recommended that consultants who prepare an LTA submit a scoping letter (methodology memo) for review by the lead agency to verify the application of these guidelines and to identify any analysis needed to address special circumstances. The scoping letter in this context is used for transportation analysis only and is not related to a formal scoping process that occurs with preparation of a CEQA study. Caltrans and lead agencies should agree on the specific methods used in local transportation analysis studies involving any State Route facilities, including metered and unmetered freeway ramps.

NEED FOR A STUDY

Figure 7-1 shows the flow chart for determination of when a roadway analysis should be conducted. A roadway analysis should be prepared for all projects which generate traffic greater than 1,000 total average daily driveway trips (ADT) or 100 peak-hour trips. If a proposed project is not in conformance with the land use and/or transportation element of the general or community plan, use threshold rates of 500 ADT or 50 peak-hour trips.

Early consultation with any affected jurisdictions is strongly encouraged since a “focused” or “abbreviated” roadway analysis may still be required – even if the above threshold rates are not met. An understanding of the level of detail and the assumptions required for the analysis should be reached. A pre-submittal in-person conference may not be required. However, the applicant should prepare a scoping letter for the agency’s review and approval prior to preparation of the analysis.

Table 7-1

DETERMINATION OF THE NEED FOR ROADWAY IMPROVEMENTS

LEVEL OF SERVICE WITH PROJECT*	ALLOWABLE CHANGE DUE TO PROJECT EFFECT**					
	FREEWAYS		ROADWAY SEGMENTS		INTERSECTIONS	RAMP*** METERING
	V/C	SPEED (MPH)	V/C	SPEED (MPH)	DELAY (SEC.)	DELAY(MIN.)
E, & F (OR RAMP METER DELAYS ABOVE 15 MIN.)	0.01	1	0.02	1	2	2

NOTES:

* All level of service measurements are based upon Highway Capacity Manual (HCM) procedures for peak-hour conditions. However, V/C ratios for Roadway Segments may be estimated on an ADT/24-hour traffic volume basis (using Table 7-2 or a similar LOS chart for each jurisdiction). The target LOS for freeways, roadways, and intersections is generally "D." For metered freeway ramps, LOS does not apply; however, ramp meter delays above 15 minutes are considered excessive.

** If a proposed project's traffic causes the values shown in the table to be exceeded, the effects of the project are determined to justify improvements. These changes may be measured from appropriate computer programs or expanded manual spreadsheets. The project applicant shall then identify feasible improvements within the LTA report that will maintain the traffic facility at the target LOS or restore to pre-project conditions. If the LOS with the proposed project becomes worse than the target (see above * note), or if the project adds a significant amount of peak-hour trips to cause any traffic queues to exceed on- or off-ramp storage capacities, roadway improvements should be considered.

*** See Attachment B for ramp metering analysis.

KEY: V/C = Volume to Capacity ratio
Speed = Speed measured in miles per hour
Delay = Average stopped delay per vehicle measured in seconds for intersections, or minutes for ramp meters
LOS = Level of Service

Appendix C

Count Data

PO Box 1178
Corona, CA 92880
951-268-6268

Location: Encinitas
N/S: Rancho Santa Fe Road
E/W: Ranch View Terrace

Date: 2/12/2019
Day: TUESDAY
Project # 143-19082

TURNING MOVEMENT COUNT

Count Period: **7:00 AM to 9:00 AM**
Peak Hour: **7:15 AM to 8:15 AM**

Vehicle Counts

	Rancho Santa Fe Road Northbound			Rancho Santa Fe Road Southbound			Ranch View Terrace Eastbound			Ranch View Terrace Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
7:00 AM	0	62	4	2	171	0	1	0	0	8	0	1	249
7:15 AM	0	66	2	3	182	0	2	0	0	14	0	4	273
7:30 AM	1	68	5	3	146	0	1	0	2	4	0	9	239
7:45 AM	0	89	6	5	167	0	0	0	2	7	0	4	280
8:00 AM	0	93	8	4	161	1	0	0	0	15	1	0	283
8:15 AM	0	90	7	2	151	0	1	0	3	2	0	1	257
8:30 AM	1	76	1	4	143	1	1	0	1	5	0	2	235
8:45 AM	1	85	6	0	166	0	0	0	2	6	0	2	268
TOTAL VOLUMES:	3	629	39	23	1287	2	6	0	10	61	1	23	2084

AM Peak Hr Begins at: 715 AM

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	1	316	21	15	656	1	3	0	4	40	1	17	1075

PEAK HR FACTOR:	0.837	0.908	0.583	0.806	0.950

Bicycle Counts

	Rancho Santa Fe Road Northbound			Rancho Santa Fe Road Southbound			Ranch View Terrace Eastbound			Ranch View Terrace Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	1
8:30 AM	0	1	0	0	0	0	0	0	0	2	0	0	3
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	1	0	0	1	0	0	0	0	3	0	0	5

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	0	0	0	0	1	0	0	0	0	0	0	0	1

Pedestrian Counts

	Rancho Santa Fe Road North Leg	Rancho Santa Fe Road South Leg	Ranch View Terrace East Leg	Ranch View Terrace West Leg	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	4	0	0	0	4
7:30 AM	3	0	0	0	3
7:45 AM	0	0	1	0	1
8:00 AM	0	0	1	0	1
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	7	0	2	0	9

	North Leg	South Leg	East Leg	West Leg	TOTAL
PEAK VOLUMES:	7	0	2	0	9

PO Box 1178
Corona, CA 92880
951-268-6268

Location: Encinitas
N/S: Rancho Santa Fe Road
E/W: Ranch View Terrace

Date: 2/12/2019
Day: TUESDAY
Project # 143-19082

TURNING MOVEMENT COUNT

Count Period: **4:00 PM to 6:00 PM**
Peak Hour: **5:00 PM to 6:00 PM**

Vehicle Counts

	Rancho Santa Fe Road Northbound			Rancho Santa Fe Road Southbound			Ranch View Terrace Eastbound			Ranch View Terrace Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
4:00 PM	3	110	8	3	105	0	0	0	0	12	0	1	242
4:15 PM	2	93	5	4	93	1	0	0	1	10	0	1	210
4:30 PM	0	100	10	0	123	0	0	0	0	5	0	3	241
4:45 PM	1	101	11	1	98	0	0	0	1	3	0	4	220
5:00 PM	2	139	5	3	99	0	0	0	0	2	0	3	253
5:15 PM	0	120	6	2	108	0	0	0	1	3	0	0	240
5:30 PM	1	111	6	1	104	0	0	0	0	5	0	0	228
5:45 PM	0	142	5	1	84	0	0	0	0	2	0	3	237
TOTAL VOLUMES:	9	916	56	15	814	1	0	0	3	42	0	15	1871

PM Peak Hr Begins at: 500 PM

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	3	512	22	7	395	0	0	0	1	12	0	6	958

PEAK HR FACTOR:	0.913	0.914	0.250	0.900	0.947

Bicycle Counts

	Rancho Santa Fe Road Northbound			Rancho Santa Fe Road Southbound			Ranch View Terrace Eastbound			Ranch View Terrace Westbound			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
5:15 PM	0	1	0	0	2	0	0	0	0	0	0	0	3
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	1	0	0	3	0	0	0	0	0	0	0	4

	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
PEAK VOLUMES:	0	1	0	0	3	0	0	0	0	0	0	0	4

Pedestrian Counts

	Rancho Santa Fe Road North Leg	Rancho Santa Fe Road South Leg	Ranch View Terrace East Leg	Ranch View Terrace West Leg	TOTAL
4:00 PM	2	0	1	0	3
4:15 PM	0	0	0	0	0
4:30 PM	0	2	0	0	2
4:45 PM	0	1	0	0	1
5:00 PM	0	0	1	0	1
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	2	3	2	0	7

	North Leg	South Leg	East Leg	West Leg	TOTAL
PEAK VOLUMES:	0	0	1	0	1

Counts Unlimited, Inc.

PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Encinitas
Rancho Santa Fe Road
B/ Whisper Drive - Ranch View Terrace
24 Hour Directional Speed Survey

ECN001
Site Code: 143-19082

Northbound, Souuthbound

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total
02/12/19	0	0	1	3	10	4	0	0	0	0	0	0	0	0	18
01:00	0	0	1	1	3	0	1	0	0	0	0	0	0	0	6
02:00	0	0	0	1	2	2	0	0	0	0	0	0	0	0	5
03:00	0	0	1	1	1	0	2	1	0	0	0	0	0	0	6
04:00	0	0	0	3	16	6	3	1	0	0	0	0	0	0	29
05:00	0	0	1	17	58	27	4	2	0	0	0	0	0	0	109
06:00	18	3	25	176	172	51	3	0	0	0	0	0	0	0	448
07:00	230	47	87	329	223	34	3	0	0	0	0	0	0	0	953
08:00	70	41	135	412	307	42	3	0	0	0	0	0	0	0	1010
09:00	65	23	95	385	360	63	1	0	0	0	0	0	0	0	992
10:00	74	25	61	270	320	62	6	0	0	0	0	0	0	0	818
11:00	55	10	60	286	324	50	1	0	0	0	0	0	0	0	786
12 PM	36	4	58	352	311	49	4	0	0	0	1	0	0	0	815
13:00	49	22	95	310	327	68	6	0	0	0	0	0	0	0	877
14:00	57	11	90	364	297	62	3	0	0	0	0	0	0	0	884
15:00	241	47	102	299	242	37	5	0	0	0	0	0	0	0	973
16:00	263	14	52	210	225	58	0	0	0	0	0	0	0	0	822
17:00	53	18	104	365	318	56	4	1	0	0	0	0	0	0	919
18:00	46	19	139	318	247	58	12	0	1	0	0	0	0	0	840
19:00	24	6	55	189	197	64	5	0	0	0	0	0	0	0	540
20:00	3	1	26	123	123	50	4	1	0	0	0	0	0	0	331
21:00	3	0	17	74	101	38	5	0	0	0	0	0	0	0	238
22:00	0	0	6	30	53	16	6	2	0	0	0	0	0	0	113
23:00	2	0	0	14	19	11	1	0	0	0	0	0	0	0	47
Total	1289	291	1211	4532	4256	908	82	8	1	0	1	0	0	0	12579

Daily

15th Percentile :	21 MPH
50th Percentile :	28 MPH
85th Percentile :	33 MPH
95th Percentile :	37 MPH

Statistics

Mean Speed(Average) :	28 MPH
10 MPH Pace Speed :	26-35 MPH
Number in Pace :	8788
Percent in Pace :	69.9%
Number of Vehicles > 55 MPH :	1
Percent of Vehicles > 55 MPH :	0.0%

Counts Unlimited, Inc.
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email: counts@countsunlimited.com

City of Encinitas
Rancho Santa Fe Road
B/ Ranch View Terrace - Woodwind Drive
24 Hour Directional Speed Survey

ECN002
Site Code: 143-19082

Northbound, Southbound

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total
02/12/19	0	0	1	1	5	4	5	0	2	0	0	0	0	0	18
01:00	0	0	0	0	2	1	2	0	0	0	0	0	0	0	5
02:00	0	0	0	1	1	2	3	1	0	0	0	0	0	0	8
03:00	0	0	0	0	0	3	1	1	1	0	0	0	0	0	6
04:00	0	0	0	1	5	9	9	7	3	0	0	0	0	0	34
05:00	0	0	0	6	14	40	47	16	5	0	0	0	0	0	128
06:00	21	1	3	7	59	201	157	43	5	0	0	0	0	0	497
07:00	60	12	17	41	204	416	229	51	6	0	0	0	0	0	1036
08:00	77	8	24	86	310	373	167	27	3	0	0	0	0	0	1075
09:00	38	0	8	45	192	417	245	37	4	0	0	0	0	0	986
10:00	49	12	13	51	227	306	177	20	2	0	0	0	0	0	857
11:00	29	0	10	70	198	330	166	25	2	0	0	0	0	0	830
12 PM	51	4	26	77	214	307	153	22	3	0	0	0	0	0	857
13:00	72	7	41	102	233	281	122	32	5	2	0	0	0	0	897
14:00	50	4	17	74	241	360	166	27	1	0	0	0	0	0	940
15:00	197	5	28	106	245	313	141	29	4	0	2	0	0	0	1070
16:00	52	0	9	72	190	306	200	25	3	0	0	0	0	0	857
17:00	59	32	68	112	241	299	127	24	1	0	0	0	0	0	963
18:00	85	19	47	128	240	208	99	18	5	4	0	0	0	0	853
19:00	28	3	10	48	162	175	77	12	1	0	0	0	0	0	516
20:00	3	0	13	13	90	140	66	17	5	0	0	0	0	0	347
21:00	4	0	0	24	66	82	47	8	1	1	0	0	0	0	233
22:00	0	0	0	8	28	39	28	9	3	0	0	0	0	0	115
23:00	0	0	0	0	7	16	15	6	0	3	0	0	0	0	47
Total	875	107	335	1073	3174	4628	2449	457	65	10	2	0	0	0	13175

Daily

15th Percentile :	28 MPH
50th Percentile :	36 MPH
85th Percentile :	42 MPH
95th Percentile :	44 MPH

Statistics

Mean Speed(Average) :	35 MPH
10 MPH Pace Speed :	31-40 MPH
Number in Pace :	7802
Percent in Pace :	59.2%
Number of Vehicles > 55 MPH :	12
Percent of Vehicles > 55 MPH :	0.1%

Appendix D

Existing Intersection LOS Calculations

Intersection	
Intersection Delay, s/veh	24.9
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	0	4	40	1	17	1	316	21	15	656	1
Future Vol, veh/h	3	0	4	40	1	17	1	316	21	15	656	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	0	4	42	1	18	1	333	22	16	691	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.3	10.1	12.4	32.7
HCM LOS	A	B	B	D

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	43%	69%	2%
Vol Thru, %	93%	0%	2%	98%
Vol Right, %	6%	57%	29%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	338	7	58	672
LT Vol	1	3	40	15
Through Vol	316	0	1	656
RT Vol	21	4	17	1
Lane Flow Rate	356	7	61	707
Geometry Grp	1	1	1	1
Degree of Util (X)	0.48	0.013	0.107	0.892
Departure Headway (Hd)	4.853	6.258	6.314	4.541
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	736	575	571	792
Service Time	2.922	4.262	4.314	2.597
HCM Lane V/C Ratio	0.484	0.012	0.107	0.893
HCM Control Delay	12.4	9.3	10.1	32.7
HCM Lane LOS	B	A	B	D
HCM 95th-tile Q	2.6	0	0.4	11.7

Intersection	
Intersection Delay, s/veh	15
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	1	12	0	6	3	512	22	7	395	0
Future Vol, veh/h	0	0	1	12	0	6	3	512	22	7	395	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	1	13	0	6	3	539	23	7	416	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.5	9.2	16.8	12.8
HCM LOS	A	A	C	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	1%	0%	67%	2%
Vol Thru, %	95%	0%	0%	98%
Vol Right, %	4%	100%	33%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	537	1	18	402
LT Vol	3	0	12	7
Through Vol	512	0	0	395
RT Vol	22	1	6	0
Lane Flow Rate	565	1	19	423
Geometry Grp	1	1	1	1
Degree of Util (X)	0.692	0.002	0.031	0.536
Departure Headway (Hd)	4.406	5.457	5.954	4.562
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	820	651	598	791
Service Time	2.429	3.526	4.021	2.588
HCM Lane V/C Ratio	0.689	0.002	0.032	0.535
HCM Control Delay	16.8	8.5	9.2	12.8
HCM Lane LOS	C	A	A	B
HCM 95th-tile Q	5.7	0	0.1	3.2

Appendix E

Existing + Project Intersection LOS Calculations

Intersection	
Intersection Delay, s/veh	25.3
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	0	8	40	1	17	3	316	21	15	656	1
Future Vol, veh/h	4	0	8	40	1	17	3	316	21	15	656	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	0	8	42	1	18	3	333	22	16	691	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.3	10.1	12.5	33.3
HCM LOS	A	B	B	D

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	1%	33%	69%	2%
Vol Thru, %	93%	0%	2%	98%
Vol Right, %	6%	67%	29%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	340	12	58	672
LT Vol	3	4	40	15
Through Vol	316	0	1	656
RT Vol	21	8	17	1
Lane Flow Rate	358	13	61	707
Geometry Grp	1	1	1	1
Degree of Util (X)	0.485	0.022	0.108	0.896
Departure Headway (Hd)	4.875	6.196	6.342	4.561
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	734	581	568	792
Service Time	2.951	4.2	4.344	2.623
HCM Lane V/C Ratio	0.488	0.022	0.107	0.893
HCM Control Delay	12.5	9.3	10.1	33.3
HCM Lane LOS	B	A	B	D
HCM 95th-tile Q	2.7	0.1	0.4	11.9

Intersection	
Intersection Delay, s/veh	15.2
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	0	3	12	0	6	8	512	22	7	395	1
Future Vol, veh/h	1	0	3	12	0	6	8	512	22	7	395	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	0	3	13	0	6	8	539	23	7	416	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

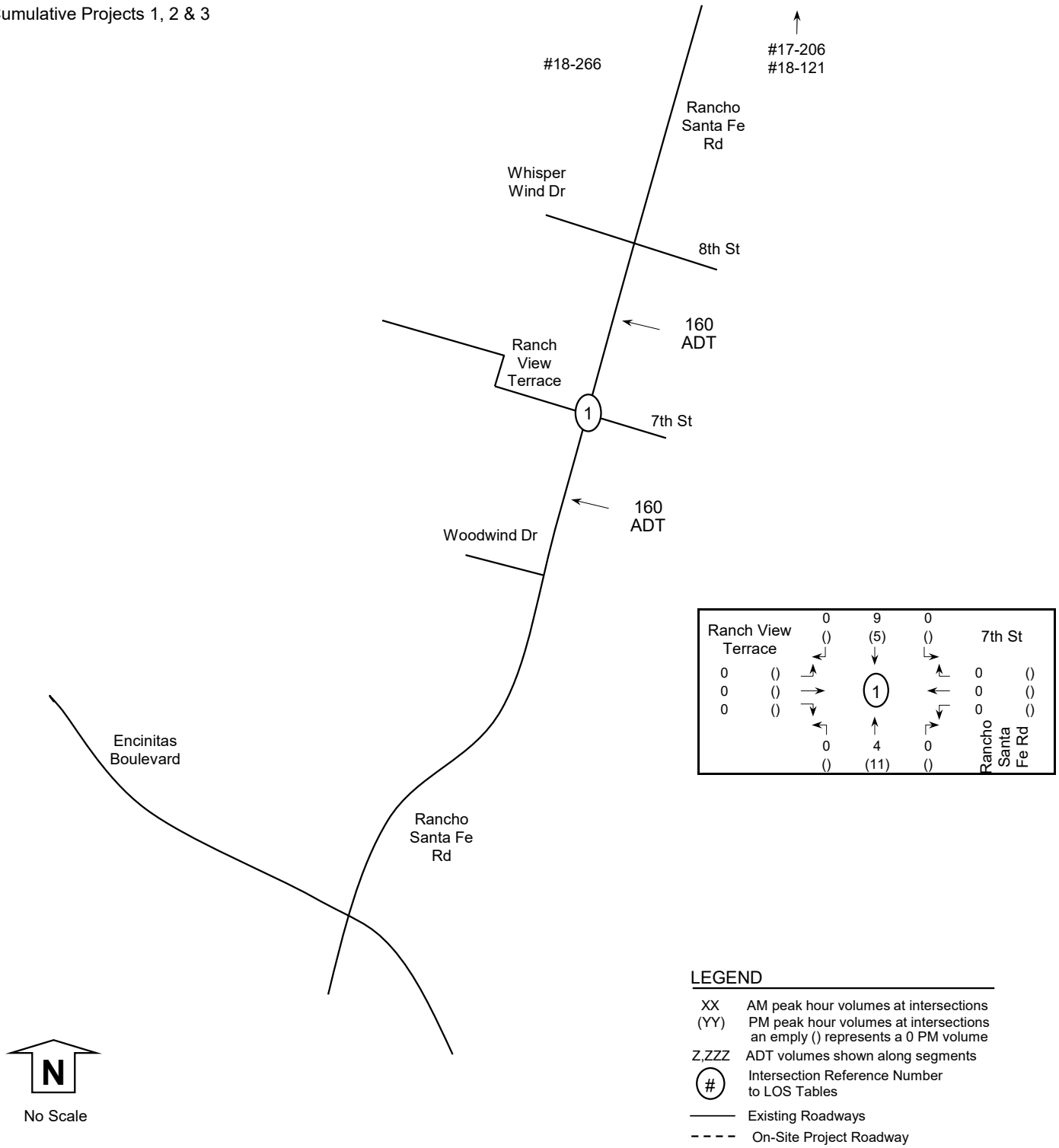
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.8	9.2	17.2	12.9
HCM LOS	A	A	C	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	1%	25%	67%	2%
Vol Thru, %	94%	0%	0%	98%
Vol Right, %	4%	75%	33%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	542	4	18	403
LT Vol	8	1	12	7
Through Vol	512	0	0	395
RT Vol	22	3	6	1
Lane Flow Rate	571	4	19	424
Geometry Grp	1	1	1	1
Degree of Util (X)	0.701	0.007	0.031	0.54
Departure Headway (Hd)	4.421	5.677	5.979	4.579
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	816	626	595	789
Service Time	2.446	3.751	4.05	2.606
HCM Lane V/C Ratio	0.7	0.006	0.032	0.537
HCM Control Delay	17.2	8.8	9.2	12.9
HCM Lane LOS	C	A	A	B
HCM 95th-tile Q	5.9	0	0.1	3.3

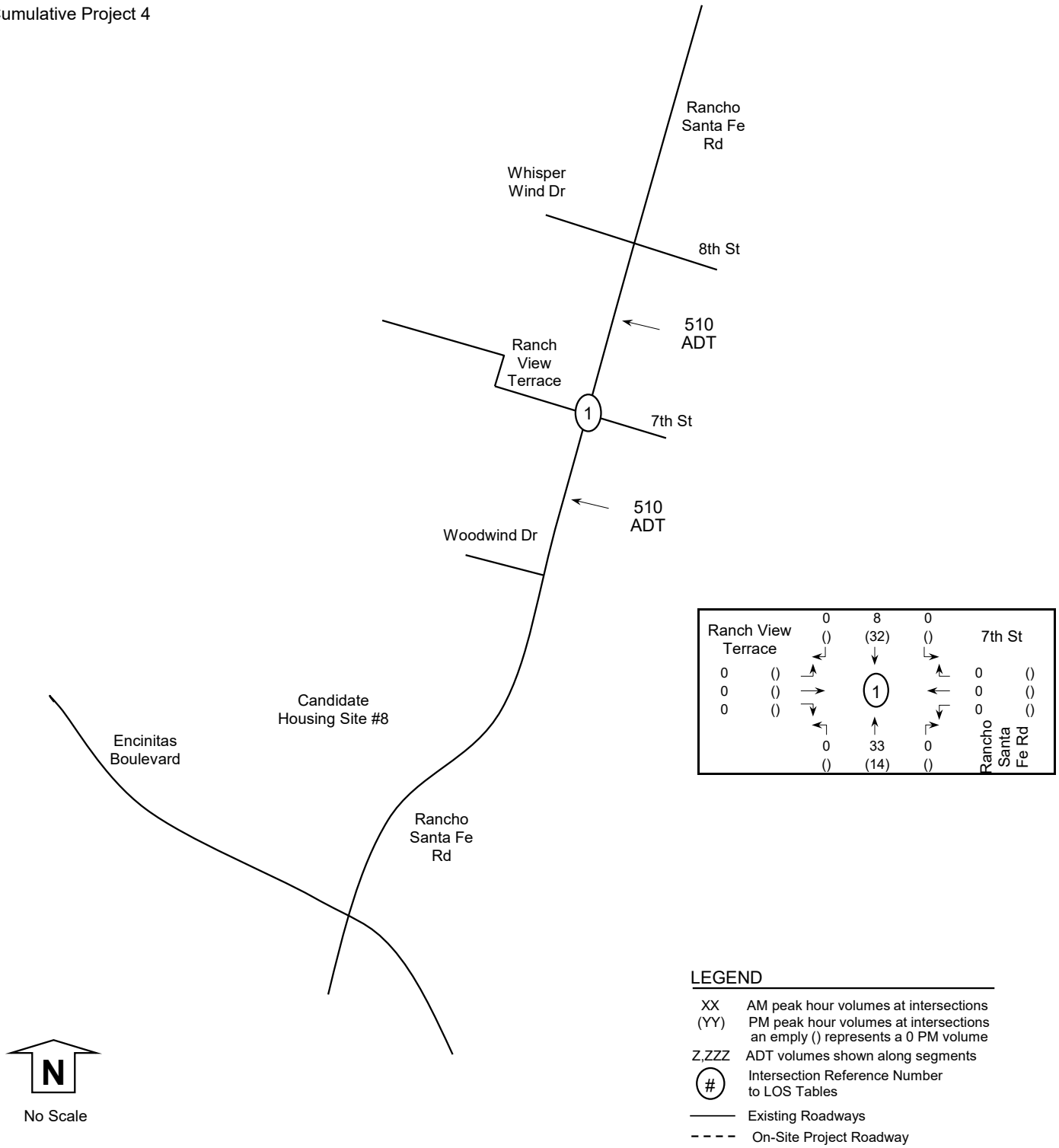
Appendix F

Cumulative Project Information

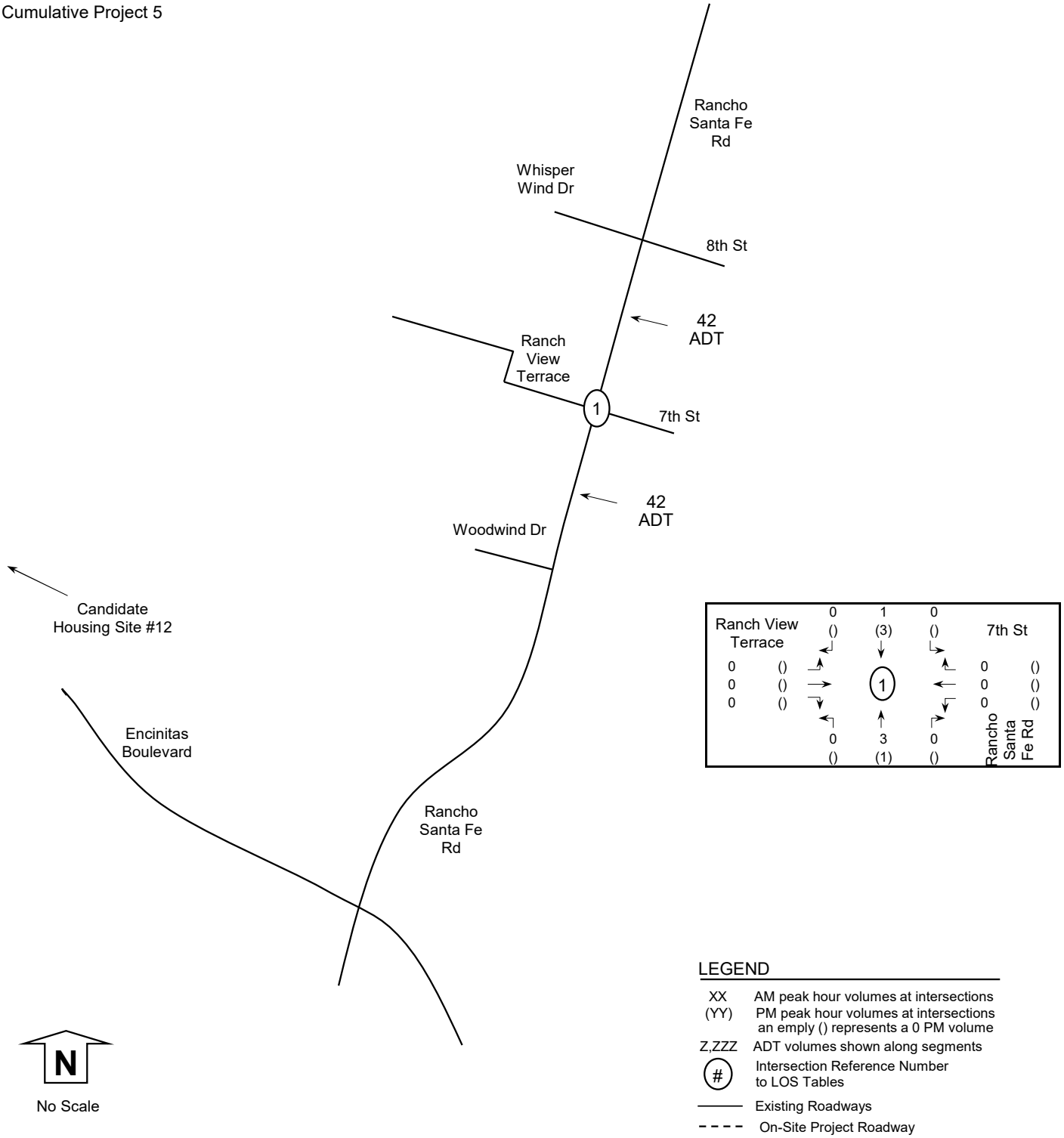
Cumulative Projects 1, 2 & 3



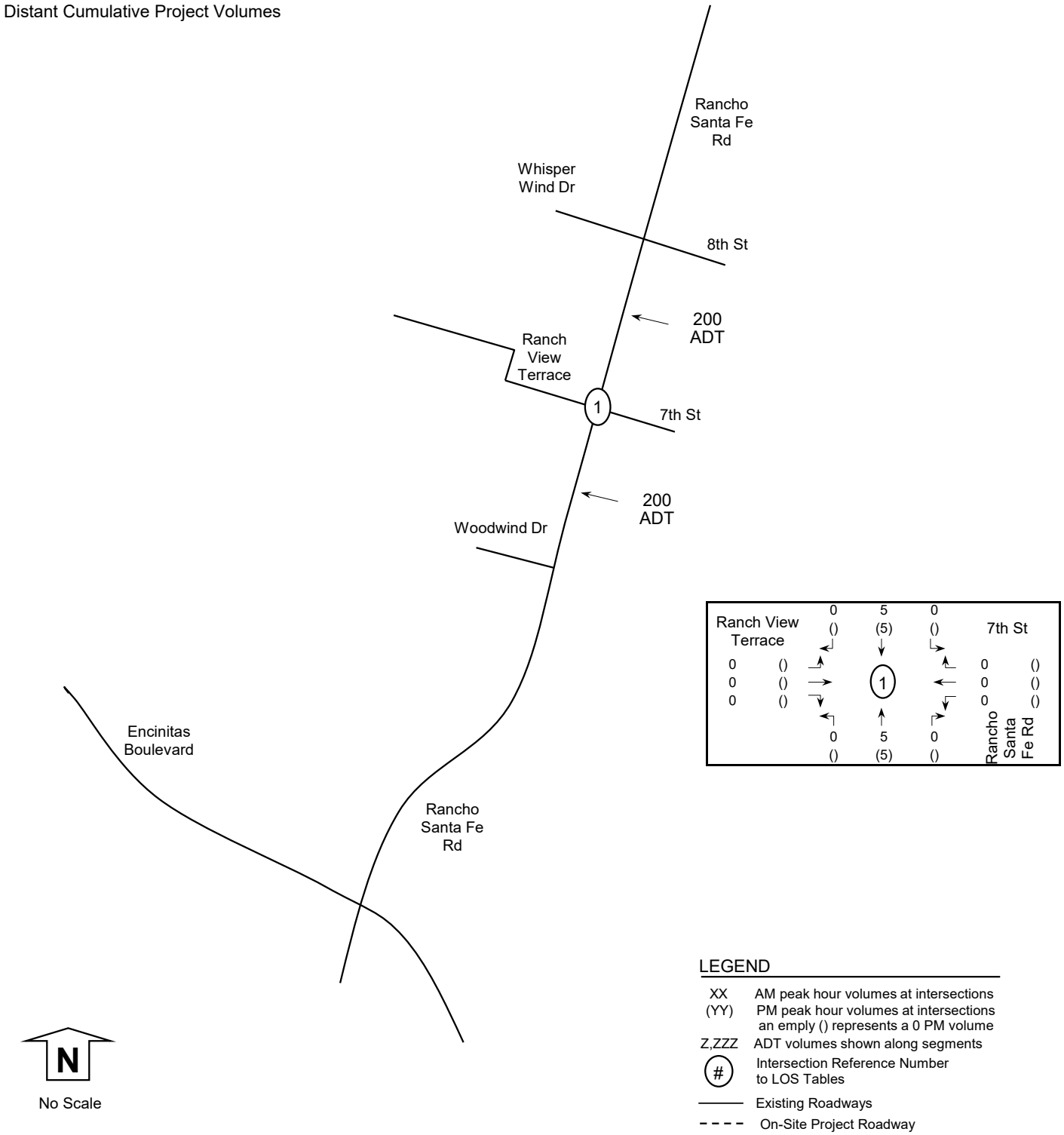
Cumulative Project 4



Cumulative Project 5



Distant Cumulative Project Volumes



Appendix G

Existing + Cumulative Intersection LOS Calculations

Intersection	
Intersection Delay, s/veh	29.3
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	0	4	40	1	17	1	361	21	15	679	1
Future Vol, veh/h	3	0	4	40	1	17	1	361	21	15	679	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	0	4	42	1	18	1	380	22	16	715	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.5	10.3	13.8	39.7
HCM LOS	A	B	B	E

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	43%	69%	2%
Vol Thru, %	94%	0%	2%	98%
Vol Right, %	5%	57%	29%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	383	7	58	695
LT Vol	1	3	40	15
Through Vol	361	0	1	679
RT Vol	21	4	17	1
Lane Flow Rate	403	7	61	732
Geometry Grp	1	1	1	1
Degree of Util (X)	0.548	0.013	0.11	0.935
Departure Headway (Hd)	4.894	6.437	6.475	4.6
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	730	559	557	783
Service Time	2.972	4.441	4.475	2.664
HCM Lane V/C Ratio	0.552	0.013	0.11	0.935
HCM Control Delay	13.8	9.5	10.3	39.7
HCM Lane LOS	B	A	B	E
HCM 95th-tile Q	3.4	0	0.4	13.6

Intersection	
Intersection Delay, s/veh	16.9
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	1	12	0	6	3	543	22	7	440	0
Future Vol, veh/h	0	0	1	12	0	6	3	543	22	7	440	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	1	13	0	6	3	572	23	7	463	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.7	9.4	19.2	14.4
HCM LOS	A	A	C	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	1%	0%	67%	2%
Vol Thru, %	96%	0%	0%	98%
Vol Right, %	4%	100%	33%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	568	1	18	447
LT Vol	3	0	12	7
Through Vol	543	0	0	440
RT Vol	22	1	6	0
Lane Flow Rate	598	1	19	471
Geometry Grp	1	1	1	1
Degree of Util (X)	0.741	0.002	0.032	0.601
Departure Headway (Hd)	4.459	5.621	6.116	4.6
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	813	631	581	786
Service Time	2.488	3.703	4.193	2.632
HCM Lane V/C Ratio	0.736	0.002	0.033	0.599
HCM Control Delay	19.2	8.7	9.4	14.4
HCM Lane LOS	C	A	A	B
HCM 95th-tile Q	6.8	0	0.1	4.1

Appendix H

Existing + Cumulative + Project Intersection LOS Calculations

Intersection	
Intersection Delay, s/veh	29.8
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	0	8	40	1	17	3	361	21	15	679	1
Future Vol, veh/h	4	0	8	40	1	17	3	361	21	15	679	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	0	8	42	1	18	3	380	22	16	715	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.5	10.3	14	40.5
HCM LOS	A	B	B	E

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	1%	33%	69%	2%
Vol Thru, %	94%	0%	2%	98%
Vol Right, %	5%	67%	29%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	385	12	58	695
LT Vol	3	4	40	15
Through Vol	361	0	1	679
RT Vol	21	8	17	1
Lane Flow Rate	405	13	61	732
Geometry Grp	1	1	1	1
Degree of Util (X)	0.553	0.022	0.11	0.939
Departure Headway (Hd)	4.916	6.373	6.506	4.621
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	725	565	554	775
Service Time	2.998	4.377	4.506	2.688
HCM Lane V/C Ratio	0.559	0.023	0.11	0.945
HCM Control Delay	14	9.5	10.3	40.5
HCM Lane LOS	B	A	B	E
HCM 95th-tile Q	3.4	0.1	0.4	13.8

Intersection	
Intersection Delay, s/veh	17.2
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	0	3	12	0	6	8	543	22	7	440	1
Future Vol, veh/h	1	0	3	12	0	6	8	543	22	7	440	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	0	3	13	0	6	8	572	23	7	463	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9	9.4	19.7	14.5
HCM LOS	A	A	C	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	1%	25%	67%	2%
Vol Thru, %	95%	0%	0%	98%
Vol Right, %	4%	75%	33%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	573	4	18	448
LT Vol	8	1	12	7
Through Vol	543	0	0	440
RT Vol	22	3	6	1
Lane Flow Rate	603	4	19	472
Geometry Grp	1	1	1	1
Degree of Util (X)	0.75	0.007	0.032	0.605
Departure Headway (Hd)	4.474	5.841	6.14	4.617
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	808	607	579	783
Service Time	2.504	3.928	4.222	2.65
HCM Lane V/C Ratio	0.746	0.007	0.033	0.603
HCM Control Delay	19.7	9	9.4	14.5
HCM Lane LOS	C	A	A	B
HCM 95th-tile Q	7	0	0.1	4.1

Appendix C –
Results of a Biology Field Survey of the Ranch View Terrace Project Site, Encinitas

VINCENT N. SCHEIDT

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Mr. Udi Melamed
745 Cole Ranch Road
Encinitas, CA 92024

~~April 18, 2019~~
~~February 4, 2020~~
December 10, 2020
FINAL October 18, 2022

RE: Results of a Biology Field Survey of the Ranch View Terrace Project Site, Encinitas

Dear Mr. Melamed:

This report presents the results of a biological resources field study of the Ranch View Terrace project site. The survey area for this study consists of APN 265-331-49, which is an approximately 8.5-acre vacant property located just northwest of Rancho Santa Fe Road in the City of Encinitas (Figures 1 and 2). Also included as a part of the project is improvement areas to Ranch View Terrace, the project's existing access road out to Rancho Santa Fe Road. Development of this property could result in impacts to biological resources, hence the need to evaluate the project with respect to compliance with the California Environmental Quality Act (CEQA), the Endangered Species Act (ESA) and related local, state, and federal statutes and regulations.

The focus of the study is to: (1) identify the various onsite habitats that could be affected by site development; (2) evaluate the site for "occupancy" by any number of special status plants or animals that are known from the vicinity, including state and federally-listed Rare, Threatened and Endangered Species; (3) quantify project-related impacts to sensitive biological resources, if present, and; (4) provide general recommendations for mitigation, as necessary.

The project is located in the eastern-central part of the City, within the Encinitas " Softline Focused Planning Area" (FPA- Figure 3), as defined in the Multiple Habitat Conservation Program (MHCP) Subregional Plan, which was developed for certain north San Diego County cities in anticipation of Subarea Plan preparation and implementation. The City of Encinitas is not actively working on a Subarea Plan at this time, and one is not anticipated in the near future.

METHODS

I conducted field survey of the Ranch View Terrace project site on 21 October 2016 and again on 29 March and 13 April 2018 between the hours of approximately 09:30–12:30 each day. Brandon D. Myers, Associate Biologist, participated in the 2018 field surveys. Weather conditions were conducive to biological surveying, with mostly clear skies, temperatures in the high 60□s, and light winds from the west and south. All accessible areas of the site were slowly walked, and all plants and animals encountered were inventoried in the field as encountered. Habitats were mapped with the aid of a recent aerial photograph of the property (Figure 4).

The entire property was examined along with adjoining areas. All habitats were rough-mapped in the field. Wildlife observations were made casually. Binoculars were used to aid in observations and all wildlife species observed were noted. Animal nomenclature used in this report is taken from American Ornithologist's Union (1983, as updated) for birds, Jones, et. al (1992) for mammals, and Stebbins (2004) for herpetofauna. Botanical nomenclature follows Hickman (1993) and others. Sensitive species status follows Skinner and Pavlik (1994), California Department of Fish and Wildlife (2017), and U.S. Fish and Wildlife Service (2015).

Due to the presence of suitable habitat (Diegan Coastal Sage Scrub), a protocol California Gnatcatcher (CAGN) presence/absence survey was performed on various dates between December 2018 and April 2019 pursuant to the current USFWS survey protocol.

RESULTS

Vegetation

The Ranch View Terrace project site currently supports five relatively discrete to broadly overlapping plant communities or habitat-types. These are Southern Maritime Chaparral, disturbed Diegan Coastal Sage Scrub, Non-native Vegetation, Eucalyptus Woodland, and Disturbed/Developed Habitat (Figures 5 and 6).

1. Southern Maritime Chaparral – 5.0 acres

The central and western portions of the property support Southern Maritime Chaparral, a rare native plant community that is essentially restricted to areas in close proximity to the coast. This habitat is indicated by Coast White Ceanothus *(Ceanothus verrucosus),* Chamise *(Adenostoma fasciculatum),* Del Mar Manzanita *(Arctostaphylos glandulosa* ssp. *crassifolia),* Mission Manzanita *(Xylococcus bicolor),* Spice Bush *(Cneoridium dumosum),* and other native soft-woody and hard-woody shrubs. The chaparral vegetation onsite is considered a sensitive and high-value biological resource.

2. disturbed Diegan Coastal Sage Scrub – 0.9 acre

Disturbed Diegan Coastal Sage Scrub covers a portion of the eastern portion of the property. This diverse, native vegetation-type is dominated by California Sagebrush *(Artemisia californica)*, Flat-top Buckwheat *(Eriogonum fasciculatum)*, Black Sage (*Salvia mellifera*), and other soft-woody shrubs. The disturbed Diegan Coastal Sage Scrub onsite has grown in areas of the site that were formerly disturbed by agriculture and the habitat contains non-native species, such as Hottentot Fig (*Carpobrotus edulis*) and others in areas. The biological resource value of this habitat is moderate due to its disturbed condition.

3. Non-native Vegetation – 1.0 acres

A variety of non-native trees and large shrubs are present long the site's boundaries. These create Nonnative Vegetation. This ornamental vegetation is likely a result of recruitment by non-natives from adjacent properties and perhaps old plantings. Non-native Vegetation onsite is indicated by Acacia (*Acacia* sp.), Jade Plant (*Crassula ovata*), and others. Non-native Vegetation is of no biological resource value.

4. Eucalyptus Woodland – 1.3 acres

A stand of mature trees growing on a low knoll near the site's eastern property edge qualifies as Eucalyptus Woodland. This mainly consists of large to small Murray Red Gum (*Eucalyptus camaldulensis)* trees and others, with little to no understory. Eucalyptus Woodland is of no biological resource value.

5. Disturbed/Developed Habitat – 0.3 acres

Disturbed/Developed habitat is in the form of a paved road and adjoining areas of bare dirt. This is almost entirely found on the southeast portion of the property within the access road footprint. Disturbed/ Developed habitat is of no biological resource value.

Flora and Fauna

Sixty-one species of vascular plants and eighteen vertebrate animal species were detected during the field surveys of the site. Most of the plants and animals observed in association with the property are typical of

the diversity normally found in this part of Encinitas in both natural and disturbed habitats. A complete list of the plants and animals observed onsite is presented in Table 1, attached.

Sensitive Resources

Sensitive Plant Communities/Habitats

Sensitive vegetation communities consist of; (1) those recognized as "sensitive" by the City of Encinitas and/or the Wildlife Agencies (California Department of Fish and Wildlife, and U.S. Fish and Wildlife Service); (2) those which are known to be rare within the region; (3) those which are known to support populations of sensitive animal or plant species; and/or (4) those which serve as locally or regionally important wildlife corridors.

The following onsite habitats are considered sensitive by the City of Encinitas and the Wildlife Agencies:

- Southern Maritime Chaparral
- Disturbed Diegan Coastal Sage Scrub

These sensitive habitats are degraded to a large extent by the edge effects of adjoining development. Nevertheless, they support sensitive species (see below) and are significantly depleted in the region.

Sensitive Species

Sensitive species are those plants and animals listed as Rare, Endangered, Threatened, or otherwise noteworthy by the California Department of Fish and Wildlife, the U.S. Fish and Wildlife Service, the City of Encinitas, or other regulatory agencies. Sensitive plant species locations onsite are shown in Figures 5 and 6.

The following sensitive plant species were detected during the survey for this report:

- **Del Mar Manzanita (*Arctostaphylos glandulosa* ssp. *crassifolia)*** - ~18 specimens
- **Coast White Ceanothus *(Ceanothus verrucosus)*** - ~ 9 specimens
- **Torrey Pine (*Pinus torreyana)*** - ~ 4 specimens

The following sensitive animal species were detected during the survey:

- **Red-shouldered Hawk (*Buteo lineatus)*** - single specimen flying over site
- **San Diego Desert Woodrat *(Neotoma lepida intermedia)*** - stick nests observed in several places

Del Mar Manzanita, Coast White Ceanothus (also known as Coast White Lilac, Wart-stemmed Ceanothus, and other common names) and Torrey Pine are found in the western portion of the property. These rare plants are of varying degrees of sensitivity. Del Mar Manzanita is a federally-listed Endangered Species and a Narrow Endemic in the MHPA. Coast White Ceanothus and Torrey Pine are sensitive plant species, with special measures of protection for the Coast White Ceanothus. Additional sensitive plants could occur on this site although they were not readily detectable at the time of the field surveys due to the historic drought experienced in Southern California in 2017-18.

A single Red-shouldered Hawk was detected using areas of the property and stick nests characteristic of San Diego Desert Woodrat were observed in several places. It is also expected that a few wide-ranging sensitive animals, such as various native bats and fossorial reptiles could utilize this site in relatively low

numbers. However, given the size of the property, no significant populations of any additional sensitive animals would be expected, in any case.

As mentioned, a California Gnatcatcher (CAGN) presence/absence survey was performed between November 2019 and April 2019. No CAGN were found during the survey. A copy of the protocol survey report is attached (Attachment B).

IMPACTS

Development of the Ranch View Terrace property will result in certain unavoidable impacts due to grading, construction, landscaping, and other associated changes in land-use. Native vegetation and native species are present, and these resources will be affected by site development as proposed (Figure 6). This loss is considered "significant", as defined by CEQA. Mitigation will thus be required to offset impacts, reducing them to a level of "less than significant".

A synopsis of project-related impacts to habitats and sensitive species along with associated mitigation recommendations is presented in Tables 2 and 3. This analysis assumes that 100-foot fire clearing from development and 30-foot fire clearing from roads will be required for the project, and that any required fire clearing will be contained entirely within the footprint of development as shown on Figure 6.

MITIGATION

Mitigation is required to compensate for impacts associated with development of the Ranch View Terrace project site. In order to mitigate direct effects associated with site development, the following recommendations are provided (see Tables 2 and 3):

- Mitigation for impacts to up to 0.40 acres of Southern Maritime Chaparral and 0.32 acre of disturbed Diegan Coastal Sage Scrub requires the application of minimum mitigation ratios of 3:1 and 2:1, respectively, because impacts are taking place within the MHCP Soft line FPA. Higher mitigation ratios could be required by the City or the Wildlife Agencies because the City of Encinitas does not have an active Subarea Plan currently in process. Mitigation for habitat impacts could be achieved onsite by monitoring, protecting, and managing the onsite open space via approval and implementation of a Resource Management Plan to prevent edge effects with perpetual, professional land management, or by offsite habitat preservation, conserving no less than 1.20 acres of Southern Maritime Chaparral and 0.64 acre of Coastal Sage Scrub in a City-approved and Wildlife Agency-approved location.

- Preventing project-related impacts to sensitive species will require the dedication of a conservation or open space easement over all areas of the site that are considered "impact neutral" as shown in Figure 6. This easement should preclude any activates that would affect the habitat within, including brush clearing or thinning, planting, etc. The specific easement language should be prepared and adopted by the City of Encinitas with guidance from the Wildlife Agencies

- Mitigation for impacts to Eucalyptus Woodland, Non-native Vegetation, and Disturbed/ Developed Habitat is not required.

- A variety of native songbirds and one sensitive avian species reside onsite. Some of these, including various ground-nesting species, could breed on the property. Therefore, site grading and/or the removal of vegetation within 300 feet of any potential migratory bird nesting location should not be permitted during the spring/summer bird breeding season, defined as from 15 February to 31 August of each year. This is required in order to ensure compliance with the Sections 3503, 3503.5, 3511, and 3513 of the California Fish and Game Code and the Migratory

Bird Treaty Act. Limiting activities to the non-breeding season will minimize chances for the incidental take of migratory songbirds or raptors. Should it be necessary to conduct grading or other habitat-disturbing activities during the bird breeding season, a preconstruction nesting survey of all areas within 300 feet of the proposed activity will be required. The results of the survey will be provided in a report to the City of Encinitas Director of Planning and the Wildlife Agencies for concurrence with the conclusions and recommendations.

Thanks for the opportunity to provide this analysis. Please contact me if you have questions.

Very truly yours,

Vincent N. Scheidt
Biological Consultant

Attachments:

Bibliography
Table 1. Flora and Fauna Detected
Table 2. Impact and Mitigation Analysis: Habitats
Table 3. Impact and Mitigation Analysis: Sensitive Plant Species

Figure 1. Regional Location
Figure 2. Vicinity Exhibit
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Figure 4. Aerial Photo
Figure 5. Biological Resources Exhibit
Figure 6. Biological Resources on Site Plan

Attachment A. Site Photos
Attachment B. California Gnatcatcher Survey Report
Attachment C. Mitigation Plan

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Table 1. Flora and Fauna Detected – Ranch View Terrace Project

Scientific Name	Common Name
Plants	
Acacia sp *	Acacia
Adenostoma fasciculatum	Chamise
Arctostaphylos glandulosa* ssp. *crassifolia	**Del Mar Manzanita**
Artemisia californica	California Sagebrush
Artemisia dracunculus	Dragon Sagewort
Baccharis pilularis	Coyote Brush
Baccharis sarothroides	Broom Baccharis
Cardionema ramosissima	Beach Sand Mat
Carex triquetra	Chaparral Sedge
Ceanothus verrucosus	**Coast White Ceanothus**
Centaurea melitensis *	Tocalote
Cirsium vulgare *	Bull Thistle
Cneoridium dumosum	Spice Bush
Conyza canadensis *	Common Horseweed
Corethrogyne filaginifolia var. virgata	Sand Aster
Crassula ovata *	Jade Plant
Croton californicus	California Croton
Cuscuta californica	California Dodder
Cylindropuntia prolifera	Coastal Cholla
Cynodon dactylon *	Bermuda Grass
Chenopodium murale *	Goosefoot
Datura meteloides *	Jimsonweed
Datura wrightii	Sacred Datura
Dichelostemma capitatum	Blue Dicks
Diplacus aurantiacus	San Diego Monkeyflower
Dudleya edulis	Edible Dudleya
Dudleya lanceolata	Lance-leaved Dudleya
Eriogonum fasciculatum	Flat-top Buckwheat
Erodium cicutarium *	Red-stem Stork's-bill
Eucalyptus camaldulensis *	Murray Red Gum
Eucalyptus globulus *	Blue Gum
Eucalyptus sp. *	Eucalyptus
Hazardia squarrosa	Hazardia
Heteromeles arbutifolia	Toyon
Lactuca serriola *	Wild Lettuce
Lotus scoparius	Deerweed
Marah macrocarpus	Man Root
Mesembryanthemum edule *	Hottentot Fig
Nicotiana glauca *	Tree Tobacco
Opuntia sp. *	Prickly Pear
Oxalis pes-caprae *	Sorrel
Pinus sp. *	Pine
Pinus torreyana	**Torrey Pine**
Pseudognaphalium bioletti	Bicolor Cudweed
Pseudognaphalium californicum	California Cudweed

Quercus acutidens x	Scrub Oak
Quercus sp.	Hybrid Oak
Rhus integrifolia	Lemonadeberry
Ricinus communis *	Castor Bean
Salsola tragus *	Russian Thistle
Salvia mellifera	Black Sage
Sambucus mexicanus	Elderberry
Schinus terebinthifolius *	Brazilian Peppertree
Sisymbrium irio *	London Rocket
Sonchus oleraceus *	Sow Thistle
Stephanomeria virgata	Stephanomeria
Stipa lepida	Foothill Stipa
Stipa sp.	Stipa
*Urtica urens**	Dwarf Stinging Nettle
Xylococcus bicolor	Mission Manzanita
Yucca schidigera	Mojave Yucca

Birds

Aphelocoma coerulescens	Scrub Jay
Archilochus anna	Anna's Hummingbird
Archilochus sp.	Hummingbird
Buteo lineatus	**Red-shouldered Hawk**
Carpodacus mexicanus	Housefinch
Corvus brachyrhynchos	Common Crow
Mimus polyglottos	Mockingbird
Pipilo crissalis	California Towhee
Pipilo maculatus	Spotted Towhee
Polioptila caerulea	Blue-gray Gnatcatcher
Psaltriparus minimus	Bushtit
Setophaga coronata	Yellow-rumped Warbler
Thryomanes bewickii	Bewick's Wren
Zenaida macroura	Mourning Dove

Mammals

Canis latrans	Coyote
Neotoma lepida intermedia	**SD Desert Woodrat**

Reptiles

Sceloporus occidentalis	Western Fence Lizard
Uta stansburiana	Side-blotched Lizard

Total = 61 plants, 18 animals detected

* = non-native or non-indigenous taxon **BOLD** = Sensitive Species

Table 2. Impact and Mitigation Analysis – Habitats: Ranch View Terrace Project

Biological Resource	Pre development Acreage	Resource Impacted	Impact Neutral	Applicable Mitigation Ratio [1]	Required Mitigation [2]
Southern Maritime Chaparral	5.0 acres	0.40 acre	4.60 acre	3:1	1.20 acres
Disturbed Diegan Coastal Sage Scrub	0.9 acre	0.32 acre	0.58 acre	2:1	0.64 acres
Non-native Vegetation	1.0 acre	1.0 acre	none	none	none
Eucalyptus Woodland	1.3 acres	1.1 acres	0.2 acre	none	none
Disturbed/Developed Habitat	0.3 acre	0.2 acre	0.1 acre	none	none
Total	**8.5 acres**	**3.02 acres**	**5.48 acre**	**--**	**1.74 acres**

Table 3. Impact and Mitigation Analysis – Sensitive Plant Species: Ranch View Terrace Project

Biological Resource	Pre development Numbers	Post-development Impact Numbers	Impact Neutral Numbers	Required Mitigation
Del Mar Manzanita	18	0	18	MHCP Narrow Endemic Policy
Coast White Ceanothus	9	0	9	MHCP Special Considerations Policy
Torrey Pine	4	n/a	n/a	**none**

[1] *Per the recommendations of the MHCP*

[2] *Mitigation shall take place either onsite or offsite in a local Conservation Bank offering suitable credits or in some other location approved by the City and the Wildlife Agencies*

Figure 1. Regional Location - Ranch View Terrace Project Site, Encinitas

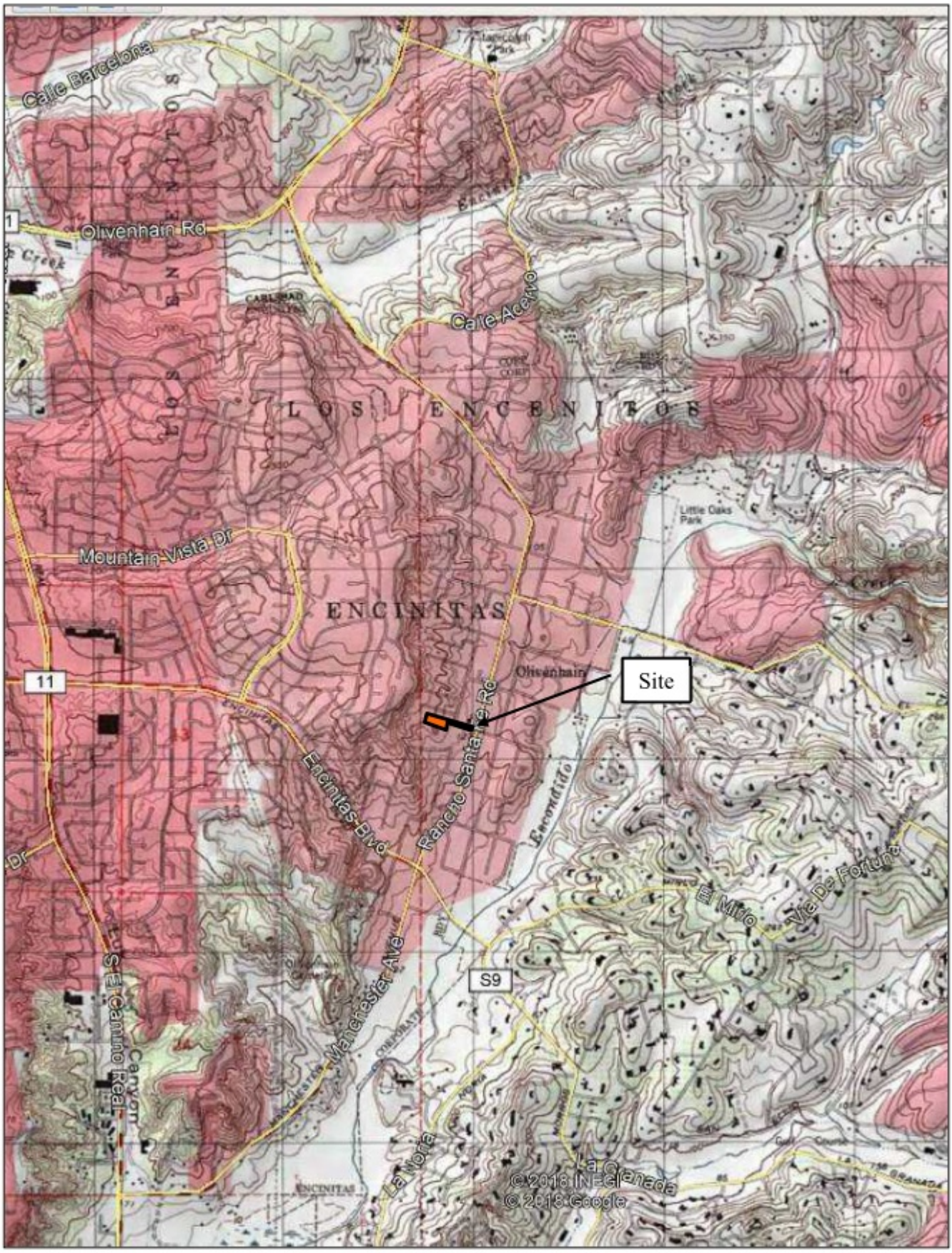


Figure 2. Vicinity - Ranch View Terrace Project Site, Encinitas

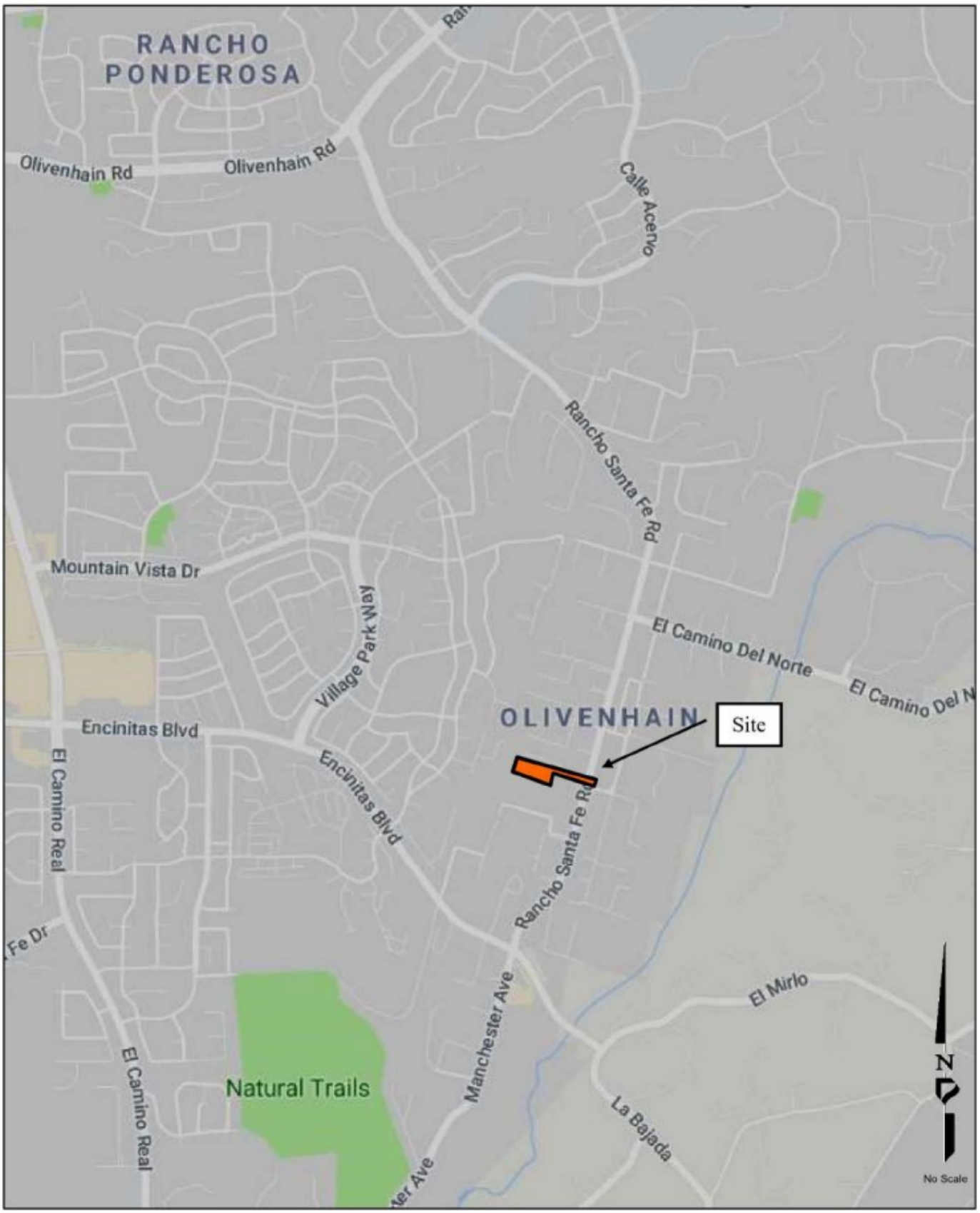


Figure 3. MHCP Focused Planning Area covering the City of Encinitas

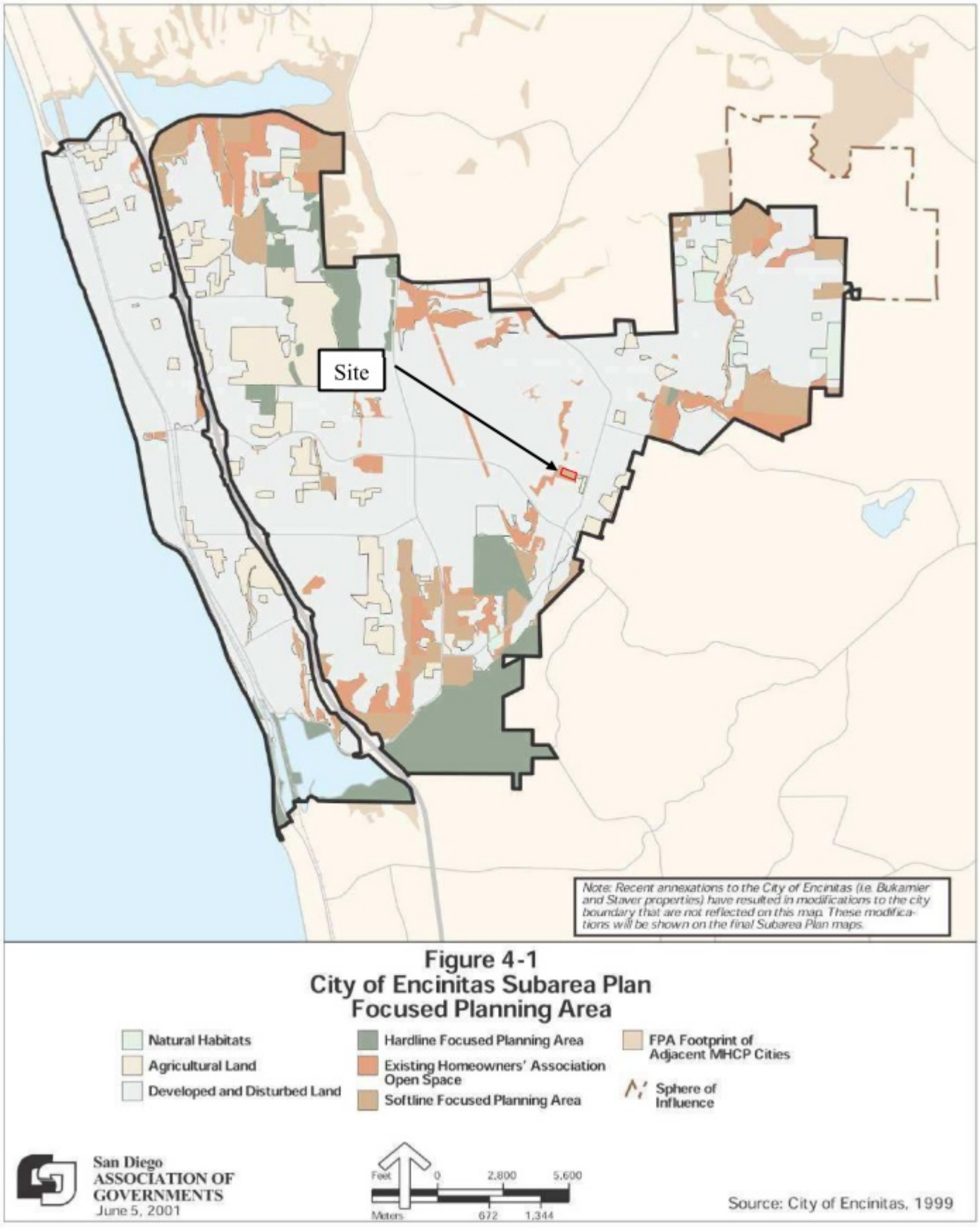
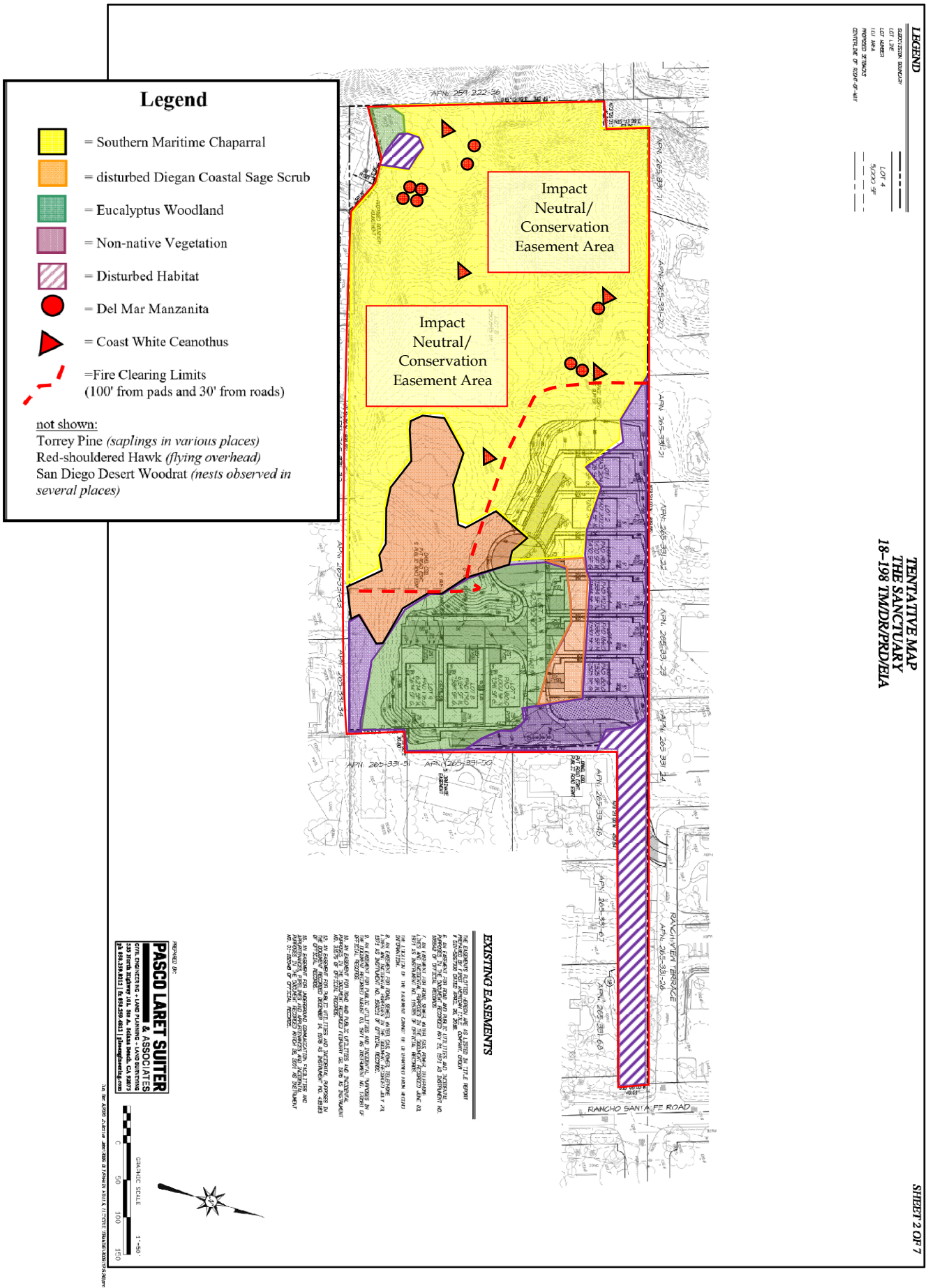


Figure 6. Biological Resources on Site Plan - Ranch View Terrace Project, Encinitas



Attachment A

Site Photos

Photo 1. Looking northeast across the area containing Non-native Vegetation from the western edge of the habitat. This area is of little to no biological resource value.

Photo 2. Looking east across a small patch of disturbed Coastal Sage Scrub area on the east portion of the property.

Photo 3. Looking southwest up the slope supporting Eucalyptus Woodland vegetation.

Photo 4. Looking west across an area supporting disturbed Diegan Coastal Sage Scrub and Southern Maritime Chaparral in the background. This habitat is found at the base of the slope which supports the Eucalyptus habitat.

Photo 5. Photo looking west from the center of the property showing an overview of the Southern Maritime Chaparral Habitat.

Photo 6. A patch of Del Mar Manzanita near the northern edge of the property along an upper terrace.

Attachment B

California Gnatcatcher Survey Report

REPORT OF A PROTOCOL FIELD SURVEY FOR CALIFORNIA GNATCATCHER (*POLIOPTILA CALIFORNICA*)

Ranch View Terrace Project Site

Encinitas, California

Prepared for

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April 2019

Vincent N. Scheidt, MA
Biological Consultant
TE788133

INTRODUCTION

This report presents the results of a protocol presence/absence field survey of the Ranch View Terrace project site for California Gnatcatcher (*Polioptila californica*), a federally-listed Threatened Species. The project site, which is located in the City of Encinitas (Figure 1), supports Southern Maritime Chaparral (SMC), disturbed Diegan Coastal Sage Scrub (CSS), Non-native Vegetation (NNV), Eucalyptus Woodland (EW), and Disturbed/Developed Habitat (DDH). Because the Ranch View Terrace project site supports CSS, the property was surveyed for the presence or absence of *P. californica*, which is a year-round resident species in this and similar habitat-types, although it does sometimes disperse into unsuitable habitat for a period during fledging in the fall.

Diegan Coastal Sage Scrub covers a small portion of the project site. This diverse, native vegetation-type is dominated by California Sagebrush *(Artemisia californica)*, Flat-top Buckwheat *(Eriogonum fasciculatum)*, Black Sage (*Salvia mellifera*), and other scrub species.

GOAL OF STUDY

The goal of this study was to survey the Ranch View Terrace project site to determine the presence or absence of California Gnatcatchers. Any other listed species detected during the surveys were to be documented. This directed study has been provided pursuant to the current U.S. Fish and Wildlife Service (FWS) survey protocol for this species.

METHODS

Fieldwork associated with this study consisted of a series of nine focused field surveys completed on the following dates and under the following conditions:

Date	Hours	Survey Conditions
27 December 2018	10:00 –12:00	scattered clouds; slight wind; temps low 60°s
10 January 2019	08:15 – 9:30	overcast skies; no wind; temps high 50°s
24 January 2019	08:30 – 10:00	clear skies; no wind; temps low 60°s
07 February 2019	09:00 – 10:00	clear skies; no wind; temps high 50°s
21 February 2019	08:00 – 9:00	clear skies; light wind; temps low to mid 60°s
7 March 2019	09:00 – 10:00	overcast skies; light sw wind; temps low 60°s
22 March 2019	08:30 – 9:30	clear skies; no wind; temps low 60°s
04 April 2019	08:30 – 9:30	overcast skies; no wind; temps low 60°s
18 April 2019	08:00 – 9:45	Clear skies; no wind; temps mid 60°s

All field surveys were conducted by the author in possession of Federal 10(a)(1)(a) Recovery Permit #TE788133 and Associate Biologist Brandon Myers.

Field surveys were completed by slowly walking random transects through all areas of potential gnatcatcher habitat on the property. Specimens were visually searched for at all times, and playback calls of this species were broadcast using a hand-held device with call playback capability to assist with the detection of specimens. Weather conditions were generally conducive to California Gnatcatcher field surveying on each of the survey dates, although the wet winter dampened avian activity on certain days. Particular attention was paid to areas that had the highest probability of supporting this species, based on the experience of the surveyor. Binoculars were used to aid in observations, and all avifauna detected were noted (Table 1). Nomenclature used in this report is taken from standard field references, including the American Ornithological Union (AOU), and others.

RESULTS

CALIFORNIA GNATCATCHER HABITAT ASSESSMENT

California Gnatcatchers occur in coastal and interior areas of coastal sage and related scrub habitats typically dominated by California Sagebrush, Flat-top Buckwheat, Laurel Sumac, and other soft-woody shrubs. The project site supports CSS that is suitable habitat for California Gnatcatcher foraging, although it is impacted by edge effects from surrounding development. With respect to gnatcatcher occupancy, the quality of the onsite habitat is considered moderate to low, based mostly on the influence of edge effects, the disturbed nature of the CSS, and the small patch size of the habitat.

CALIFORNIA GNATCATCHER PRESENCE/ABSENCE

California Gnatcatcher was not detected on the Ranch View Terrace project site during the protocol field surveys.

CONCLUSIONS AND RECOMMENDATIONS

As stated above, the Ranch View Terrace project site does not support California Gnatcatcher and is considered "unoccupied" by this species at this time. Based on this survey, it is highly unlikely that gnatcatchers breeds in the vicinity of the subject property.

Table 1. Avifauna Detected – Ranch View Terrace Project Site, Encinitas

Scientific Name	Common Name
Aphelocoma coerulescens	Scrub Jay
Archilochus anna	Anna's Hummingbird
Archilochus sp.	Hummingbird
Buteo lineatus	Red-shouldered Hawk
Carpodacus mexicanus	Housefinch
Corvus brachyrhynchos	Common Crow
Mimus polyglottos	Mockingbird
Pipilo crissalis	California Towhee
Pipilo maculatus	Spotted Towhee
Polioptila caerulea	Blue-gray Gnatcatcher
Psaltriparus minimus	Bushtit
Setophaga coronata	Yellow-rumped Warbler
Thryomanes bewickii	Bewick's Wren
Zenaida macroura	Mourning Dove

Figure 1. Regional Location – Ranch View Terrace Project Site
Portion of the U.S.G.S. "Encinitas" 7.5' Quadrangle Map

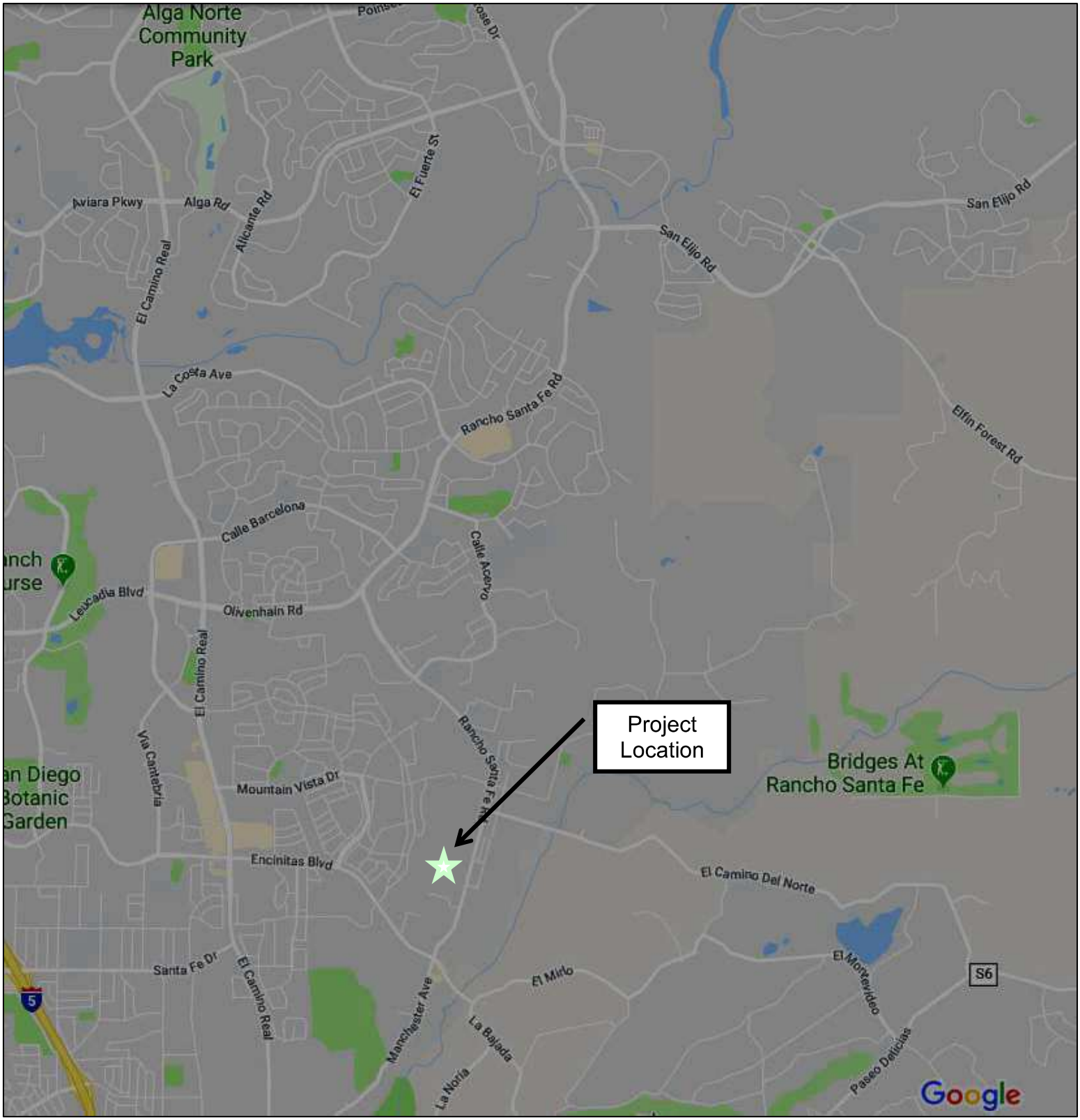
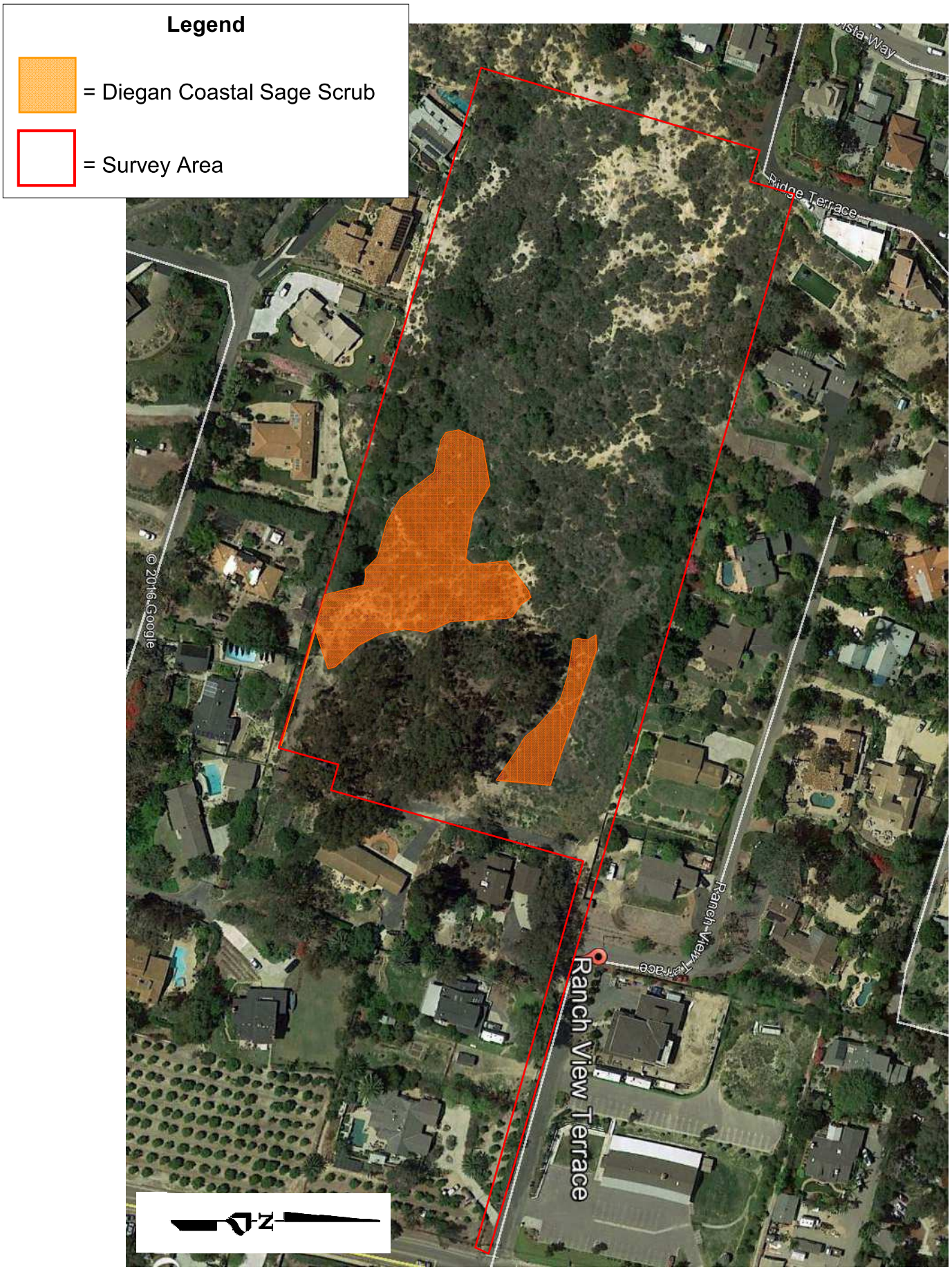


Figure 2. Aerial Photo Showing Onsite Coastal Sage Scrub - Ranch View Terrace Project Site, Encinitas



Attachment C

Mitigation Plan

to be provided

RESOURCE MANAGEMENT PLAN (CONCEPTUAL)

FOR THE

SANCTUARY AT OLIVENHAIN PRESERVE

CITY OF ENCINITAS

PREPARED FOR

Mr. Udi Melamed
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February 2023

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GLOSSARY OF ACRONYMS

BMP .....Best Management Practices
CCR .....Conditions, Covenants and Restrictions
CDFW .....California Department of Fish and Wildlife
CITY .....City of Encinitas Planning Department
DPW .....Department of Public Works
FMP ..... Framework Management Plan
MOU .....Memorandum of Understanding
MSCP .....Multiple Species Conservation Program
MUP ..... Major Use Permit
RMP .....Resource Management Plan
USFWS ..... United States Fish and Wildlife Service

GLOSSARY OF STANDARD TERMS

Adaptive Management: A systematic process for continually improving management policies and practices by learning from the outcomes of operational programs.

Biological Open Space Easement: An easement dedicated to the City of San Diego for the purposes of the preservation of natural resources.

California Department of Fish and Wildlife (CDFW): a department of the California Resources Agency.

Conservation Easement: A legal agreement between a landowner and a land trust or government agency, such as the *CDFW*, that permanently limits uses of the land in order to protect its conservation values (California Government Code Section 27255).

Dedication: The turning over by an owner or developer of private land for public use, and the acceptance of land for such use by the governmental agency having jurisdiction over the public function for which it will be used. Dedications for roads, parks, school sites, or other public uses often are made conditions for approval of a development by a city or City.

Easement: Usually the right to use property owned by another for specific purposes or to gain access to another property. For example, utility companies often have easements on the private property of individuals to be able to install and maintain utility facilities.

Exotic Species: A species of plant or animal that is not indigenous, native, or naturalized to the area where it is found.

Habitat: The combination of environmental conditions of a specific place providing for the needs of a species or a population of such species.

Habitat Requirements: A specific set of physical and biological conditions that surround a single species, group of species, or community of species upon which the species or associations are dependent for their existence. In wildlife management the major components of habitat are considered to be food, water, cover and living space.

Listed Species: A taxon that is protected under the *FESA* or *CESA*. Listing categories include: Threatened, Endangered, Species of Special Concern, State Protected Species, Federally Proposed Threatened or Endangered, and Federally Petitioned Threatened or Endangered.

Monitoring: The timed collection of information to determine the effects of resource management and to identify changing resource conditions or needs.

Native (Indigenous) Species: A species of plant or animal that naturally occurs in an area and that was not introduced by humans.

Plant Community: Assemblage of plant populations in a defined area or physical habitat; an aggregation of plants similar in species composition and structure, occupying similar habitats over the landscape.

Resource Management Plan (RMP): An activity plan for wildlife resources for a specific geographical area of land. It identifies wildlife habitat and related objectives, establishes the sequence of actions for achieving objectives, and outlines procedures for evaluating accomplishments.

Sensitive Species: Plant or animal species listed as endangered, threatened, candidate, or sensitive by federal, state, or local governments.

Take: Under *FESA and CESA*: to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct relative to a Listed Species.

United States Fish and Wildlife Service (FWS/USFWS): An agency of the United States Department of the Interior.

Vegetative Community: Refers to the species or various combinations of species which dominate or appear to dominate an area of habitat (see *plant community*).

Wildlife Agencies: The *USFWS* and *CDFW*, collectively.

1.0 INTRODUCTION

The Sanctuary at Olivenhain project consists of the subdivision of the approximately 8.5-acre APN 265-331-49-00 property into 11 lots (9 residential lots, one open space lot, and one private street/drainage lot). It is anticipated that each of the development lots will be impacted in their entirety by project construction. In order to mitigate development impacts, the project includes the dedication of a Conservation Easement over the open space lot (hereafter "Preserve"), which includes the most biologically sensitive areas of the project site (Figure 4). The open space lot will be subject to perpetual monitoring/ management to maintain and improve the overall function and quality of the habitat within.

1.1 Purpose of Resource Management Plan

The purpose of this RMP is to guide the management of onsite vegetation communities/habitats and resident plant and animal species, within the Preserve. This RMP serves as a descriptive inventory of vegetation communities/habitats, plant and animal species that occur within the Preserve. This RMP establishes the baseline conditions from which management activities will be determined and success will be measured. Additionally, this RMP provides an overview of the operation, maintenance, administrative, and personnel requirements necessary to implement management goals and serves as a budget planning aid.

1.2 Implementation

1.2.1 Responsible Parties and Designation of Resource Manager

<u>Responsible Parties</u>

The following entities will be involved in the fulfillment of this RMP:

- Mr. Udi Melamed (Sanctuary at Olivenhain LLC), the current Land Owner, shall be responsible for granting a Conservation Easement over the Preserve to the City. The Land Owner shall retain the services of a professional Biological Consultant ("Project Biologist") to supervise implementation of construction tasks (fencing, site clean-up, related) prior to the Resource Manager assuming long-term management responsibilities.

- The City of Encinitas Planning Department has the ultimate responsibility for all aspects of the RMP. The city may transfer responsibility to a different department or agency, if deemed appropriate.

- The Land Owner shall designate a Resource Manager who shall be responsible for the implementation of the RMP and shall carry out the specified requirements of the RMP.

- The establishment of a funding source through the formation of a non-wasting endowment as determined by an Operations and Budget Summary to be reviewed and accepted by the City prior to site clearing or grading.

Fee title to the Preserve shall be held by the land owner under the Sanctuary at Olivenhain LLC. However, this fee title may be transferred to a Resource Manager, or other appropriate landowner (e.g., land trust, conservancy, or public agency). If the land is transferred in fee title to any other entity, the Conservation Easement must always include the City and/or another appropriate responsible agency as defined under Section 815 of the California Civil Code as a grantee or third-party beneficiary. Under any circumstance, Land Owner shall be responsible to implement all construction tasks (fencing, habitat restoration, etc.) prior to turning the perpetual management responsibilities over to the Resource Manager.

Designation of Resource Manager

The Sanctuary at Olivenhain LLC shall designate a Resource Manager that will be assume all responsibilities to manage the Preserve in perpetuity.

The Resource Manager shall have the following qualifications:

- The Resource Manager shall have at least one staff member who possesses a B.S., B.A., or higher degree in ecology, zoology, botany, or biology or an MOU with a qualified person with such a degree. This individual should have a minimum of five years of experience in field biology in greater San Diego area.

- Fiscal stability, including preparation of an operational budget (using an appropriate analysis technique) for the management of this RMP.

- Demonstrated experience with similar projects or in projects requiring similar skills in the area.

- The ability to carry out habitat monitoring or mitigation activities.

The Resource Manager's primary responsibility shall be to maintain the integrity of the conserved habitats in the Preserve. In order to fulfill that responsibility, the Resource Manager shall:

- Be familiar with this RMP and all supporting documentation.

- Be responsible for all matters noted in this RMP that are required of the Resource Manager.

- Maintain all documents transferred by the Land Owner and his contractors (as noted above) and be knowledgeable of the resources and

their locations addressed in these reports.

- Be responsive to any community concerns or problems regarding the Preserve.

- Document all field visits, notify the Preserve Biologist in a timely manner of any concerns or problems, and identify potential solutions.

Land Owner Responsibilities

The Sanctuary at Olivenhain LLC shall perform the following tasks in conjunction with approval of Sanctuary at Olivenhain and dedication of a Conservation Easement to the City:

- Pay all recording and related costs.

- Authorize the Project Biologist to oversee:

    - An initial clean-up of the Preserve, removing debris and all other items as deemed necessary.

    - The removal of noxious exotics and perennial weeds within the Preserve.

    - The installation of permanent fencing, signs, and a gate between the Preserve and the development area of the project site.

- The site clean-up, exotics removal, and fencing shall be done in such a manner so as to not adversely impact biological or cultural resources within the Preserve.

- Provide a permanent access easement for the Resource Manager to the Preserve, to the satisfaction of the Resource Manager.

- Supply the Resource Manager with copies of all relevant reports prepared for the project (e.g., biology reports, cultural reports, soils reports, landscape plans, revegetation plans, etc.)

- Survey and stake the entire perimeter of the Preserve and provide the digital data (way/perimeter points) to the Resource Manager for future reference.

The Sanctuary at Olivenhain LLC shall implement the following additional construction measures to protect the Preserve from development activities and any other activities associated with project build-out through residential occupancy:

- No dumping, discharge, staging of equipment, or stockpiling of materials shall be allowed in or within 20 feet of the limits of the Preserve.

- Prevention of the introduction of invasive exotics. Invasive plants shall not be planted anywhere in the development area nor within the Preserve. Any project landscape planting palette shall be reviewed by the City prior to the issuance of any permits for the project. Any invasives or potential invasives found on the landscape palette shall be deleted from the project plans.

- Should construction activities result in the accidental deposit of any material within the Preserve, it shall be removed and cleaned up to the satisfaction of the Project Biologist. Furthermore, any additional harm caused by construction activities to the Preserve shall be immediately corrected. This may involve weed eradication, habitat rehabilitation, and/or revegetation, if deemed necessary by the Project Biologist to restore the Preserve to its pre-construction condition. In the unlikely instance of significant or particularly egregious construction impacts, offsite mitigation shall be provided in addition to remediation within the Preserve.

- In the event that archaeological sites are located during construction within 100 feet of the Preserve, temporary fencing shall be installed to protect the archaeological sites. The temporary fence shall be installed under the supervision of a professional Archaeologist who would be retained prior to recommencement of grading, brushing, and/or clearing.

1.2.2 Financial Responsibility and Mechanism

The management costs of managing the Open Space will be calculated using a Property Analysis Record (PAR) resulting in an estimate to cover the costs of perpetual management. The non-wasting endowment must generate sufficient funds to cover the annual maintenance costs. The non-wasting endowment funds will be held in an account earmarked for the management of the open space prior to any site clearing or grading. A PAR will be prepared for this project and provided to the City for review and acceptance prior to any site clearing or grading.

1.2.3 Cost Estimate/Budget

Section 5.1 provides details regarding the cost estimate.

1.2.4 Reporting Requirements

An annual report shall be submitted to the City, along with funds to cover City staff review time. Annual reports shall discuss the previous year's management and monitoring, as well as management and monitoring anticipated in the upcoming year. The annual report shall provide a concise but complete summary of management and monitoring methods, identify any new management issues, and address the success or failure of management approaches (based on monitoring). The report shall include a summary of changes from baseline or the previous year's conditions for species and vegetation communities and address any

monitoring and management limitations, including weather. The report shall also address any adaptive management (changes) resulting from previous monitoring results and provide a methodology for measuring the success of adaptive management. In addition, the annual report shall document the condition of the Preserve and provide specific recommendations, as necessary, to remediate any problems. If any habitats or sensitive species' populations appear to be declining, the annual report shall outline a plan for the recovery of the resource(s).

Site photographs from fixed photo-documentation points shall be provided in the annual report. These shall clearly depict the height and cover of the native vegetation and any problems not needing an emergency response. The annual report shall summarize remediation required during the previous reporting period and make specific recommendations for future maintenance and monitoring. The report shall include copies of CNDDB forms submitted to the CDFW for any new sensitive species observations or significant changes to species occurrences or habitats previously reported. The report shall also include copies of invasive plant species forms submitted to the City, if applicable.

1.2.6 Upland Habitat Rehabilitation/Revegetation

The project proposes the revegetation of approximately 0.27-acre of upland habitat. This consists of 0.24 acres of Disturbed Diegan Coastal Sage Scrub, 0.1-acre of Non-native Vegetation, 0.1-acre of Eucalyptus Woodland, and 0.1-acre Disturbed/Developed Habitat. A specific plant palette has been designed for this project. This palette defines the quantity, type, and size of all required container stock plant materials for the upland revegetation area. A specific list of required plants for use in the upland revegetation areas may be found in Table 1 below. All plant stock shall be from locally-sourced stock, preferably from onsite sources (seeds, cuttings, etc).

Table 1. Revegetation Container Stock – Sanctuary at Olivenhain LLC

Number of Plants	Common Name	Scientific Name	Container Size
50	Del Mar Manzanita	*Arctostaphylos glandulosa* ssp. *crassifolia*	1 Gallon
50	Torrey's Hybrid Oak	*Quercus x acutidens*	1 Gallon
200	Chamise	*Adenostoma fasciculatum*	1 Gallon
100	Black Sage	*Salvia mellifera*	1 Gallon
50	Mission Manzanita	*Xylococcus bicolor*	1 Gallon
50	Mojave Yucca	*Yucca schidigera*	1 Gallon
100	Lemonadeberry	*Rhus integrifolia*	1 Gallon
135	Coast White Ceanothus	*Ceanothus verrucosus*	1 Gallon
735 @ 4' centers			

2.0 PROPERTY DESCRIPTION

2.1 Legal Description

The Sanctuary at Olivenhain project site encompasses the approximately 8.5-acre APN 265-331-49 property located just northwest of Rancho Santa Fe Road at the end of Ranch View Terrace in the City of Encinitas (Figure 1).

2.2 Geographical Setting

The Sanctuary at Olivenhain project site can be reached by taking I-5 North to exit 39 towards Manchester Ave, turn right to stay on Manchester Ave, continue onto

Rancho Santa Fe Road, turn left onto Ranch View Terrace 33.043837, -117.238036. Access to the property is from Rancho Santa Fe Road west on Ranch View Terrace. Figure 2 presents a regional location map identifying major roadways and access to the property.

The project is located in the eastern-central part of the city, within the Encinitas "Softline Focused Planning Area" (FPA- Figure 3), as defined in the Multiple Habitat Conservation Program (MHCP) Subregional Plan, which was developed for certain north San Diego County cities in anticipation of Subarea Plan preparation and implementation.

2.3 Land Use

The Sanctuary at Olivenhain site consists of vacant, undeveloped land supporting areas of mostly native vegetation. The proposed development areas of the site support mostly non-native species and other disturbances. Adjacent properties support single family homes.

2.4 Geology, Soils, Climate, Hydrology

Most of the project site is characterized by variable terrain, with the site sloping up near the western edge and eastern edge. Elevations onsite range between approximately 163 feet MSL and 266 feet MSL.

Soil types found onsite include Rough broken land (RuG), Altamont Clay, 9 to 15 percent slopes, eroded (AtD2), and Altamont Clay, 15 to 30 percent slopes, eroded (AtE2).

The climate of Encinitas is characterized by hot, dry summers, with average day-time temperatures in the low 75°s Fahrenheit, and cool, wetter winters, with average day-time temperatures in the 67°s Fahrenheit. Yearly precipitation averages around 10 inches, with most of this total occurring between December

and March. This period also represents the main growing season of the area.

2.5 Trails

The Sanctuary at Olivenhain project application does not propose equestrian/hiking within the Preserve. The perimeter of the Preserve will include exclusionary fencing and signage to prevent access to the Preserve area.

2.6 Easements or Rights

No existing easements cross over or through the Preserve. Sanctuary at Olivenhain will also not create any new easements that will affect the Preserve other than the aforementioned Conservation Easement over the entirety of the preserved area.

3.0 BIOLOGICAL RESOURCES DESCRIPTION

3.1 Vegetation Communities/Habitats

3.1.1 Description of Quality of Vegetation Communities/Habitats

Five relatively discrete vegetation communities (habitats) are present on the Sanctuary at Olivenhain project site (Figure 3). These are described in detail in the Biological Resources Survey Report (Scheidt, 2022) prepared for this project. The onsite habitats include Southern Maritime Chaparral, disturbed Diegan Coastal Sage Scrub, Non-native Vegetation, Eucalyptus Woodland, and Disturbed/Developed Habitat.

<u>Southern Maritime Chaparral – 5.0 acres</u>

The central and western portions of the property support Southern Maritime Chaparral, a rare native plant community that is essentially restricted to areas

in close proximity to the coast. This habitat is indicated by Coast White Ceanothus (*Ceanothus verrucosus*), Chamise (*Adenostoma fasciculatum*), Del Mar Manzanita (*Arctostaphylos glandulosa* ssp. *crassifolia*), Mission Manzanita (*Xylococcus bicolor*), Spice Bush (*Cneoridium dumosum*), and other native soft-woody and hard-woody shrubs. The chaparral vegetation onsite is considered a sensitive and high-value biological resource.

Diegan Coastal Sage Scrub (disturbed) – 0.9 acre

Disturbed Diegan Coastal Sage Scrub covers a portion of the eastern portion of the property. This diverse, native vegetation-type is dominated by California Sagebrush (*Artemisia californica*), Flat-top Buckwheat (*Eriogonum fasciculatum*), Black Sage *(Salvia mellifera*), and other soft-woody shrubs. The disturbed Diegan Coastal Sage Scrub onsite has grown in areas of the site that were formerly Southern Maritime Chaparral but were converted to agriculture. The habitat contains non-native species, such as Hottentot Fig (*Carpobrotus edulis*) and others in areas. The biological resource value of this habitat is moderate due to its disturbed condition.

Non-native Vegetation – 1.0 acres

A variety of non-native trees and large shrubs are present long the site's boundaries. These create Nonnative Vegetation. This ornamental vegetation is likely a result of recruitment by non-natives from adjacent properties and perhaps old plantings. Non-native Vegetation onsite is indicated by Acacia (*Acacia* sp.), Jade Plant (*Crassula ovata*), and others. Non-native Vegetation is of no biological resource value.

Eucalyptus Woodland – 1.3 acres

A stand of mature trees growing on a low knoll near the site's eastern property edge qualifies as Eucalyptus Woodland. This mainly consists of large to small Murray Red Gum (*Eucalyptus camaldulensis*) trees and others, with little to no understory. Eucalyptus Woodland is of no biological resource value.

Disturbed/Developed Habitat – 0.3 acres

Disturbed/Developed habitat is in the form of a paved road and adjoining areas of bare dirt. This is almost entirely found on the southeast portion of the property within the access road footprint. Disturbed/ Developed habitat is of no biological resource value.

3.2 Plant Species

3.2.1 Species Present and Correlation of Species with Habitat Onsite

Sixty-one species of plants are reported from the project site. These typify the diversity normally found in disturbed/developed areas, non-native habitats, scrub and chapparal in the Encinitas area. A list of the plants observed onsite during the site surveys may be found in the Biological Resources Survey Report for this project (Scheidt, 2022).

3.2.2 Rare, Threatened, or Endangered Plants

Three sensitive plant species have been detected onsite. These are Del Mar Manzanita (*Arctostaphylos glandulosa* ssp. *crassifolia*), Coast White Ceanothus (*Ceanothus verrucosus*), and Torrey Pine *(Pinus torreyana*). There are no additional sensitive plants species identified with a high potential of occurring onsite. For a more detailed discussion of the sensitive plant species present onsite, see the project biology report.

3.2.3 Non-native and/or Invasive Plant Species

Various non-native plant species are present on the Sanctuary at Olivenhain project site. No significant populations of noxious or invasive plant species were detected onsite other than the eucalyptus trees, which will be removed by development.

3.3 Wildlife Species

3.3.1 Species Present and Correlation of Species with Habitat Onsite

Eighteen species of animals are known from the project site. These typify the diversity normally found in disturbed/developed areas, non-native habitats, scrub and chapparal in the Encinitas area. A list of the animals observed onsite during the baseline site surveys may be found in the project's biology report.

3.3.2 Rare, Threatened, or Endangered Wildlife

Various biological resource field surveys have been conducted on the Sanctuary at Olivenhain project site between 2016 and 2021, with several of the surveys focused on the potential presence of federally-listed Threatened or Endangered Species as defined by the federal Endangered Species Act (ESA). These surveys included protocol California Gnatcatcher Surveys. During the surveys, these and any other federally-listed species detected would have been noted. No federally-listed Threatened or Endangered Species were detected at any time during any of the surveys.

Sensitive species identified on the project site include, Red-shouldered Hawk and San Diego Desert Woodrat. For a more detailed discussion of the sensitive wildlife species present onsite, see the project biology report.

3.3.3 Non-native and/or Invasive Wildlife Species

No noxious or invasive wildlife species were identified on the project site. All of the animals present onsite and in the vicinity are native species.

4.0 MANAGEMENT ELEMENTS AND GOALS

4.1 Interim Management

4.1.1 Interim Management Period

All implementation work during the 5-year interim management period shall be conducted under the direction of the Project Biologist in coordination with the Wildlife Agencies and City of Encinitas. The interim management period ensures that site protection, weed control, and pest control are performed adequately prior to long-term management. Interim Management tasks shall be conducted throughout the entire preserved area and shall be coordinated by the Project Biologist.

4.1.2 Goals

The goal of the interim management shall be to provide facilities and the maintenance thereof that support the biological resources management goals. This goal shall be primarily accomplished by controlling Preserve access. Natural areas supporting mostly undisturbed native vegetation require very little intervention, with the exception of the control of invasives, the removal of litter, and the maintenance of fencing and signage. The interim management period shall establish the maintenance and monitoring for the long-term management that follows.

4.1.3 Tasks

Baseline Inventory and Vegetation Mapping

A vegetation map showing current conditions shall be produced for the Preserve during the first year of biological monitoring. This exhibit shall include a table showing total acreages of all existing habitat-types within the Preserve's boundaries. The locations of any sensitive plants or animals detected shall be noted on the vegetation map. Vegetation mapping shall be conducted at five years intervals in perpetuity.

A baseline species inventory shall also be compiled during the first year of biological monitoring. This shall consist of a complete list of all plant and animal species observed (either directly or indirectly by scats, tracks, etc.) during the periodic field surveys. The baseline species inventory shall be updated with any new species detected onsite during subsequent field surveys of the Preserve.

The vegetation map and baseline species inventory shall be included in the first annual report. This information shall be used as a baseline to measure habitat changes resulting from both natural causes and edge effects, as well as to evaluate the success of the management effort in the years that follow.

Monitoring

Biological monitoring shall begin once the RMP is approved, a Management Agreement is signed, the Sanctuary at Olivenhain LLC meets their obligations required prior to the long-term management, and the long-term management funding has been established.

Basic qualitative and quantitative monitoring shall be conducted on an annual basis. Because of the gradual nature of changes experienced by climax plant association lands, this is consistent with the regional planning efforts for this area. During annual site visits, to be conducted in the early spring, the Preserve shall be visually inspected for changes, including new occurrences of exotic species, changes in vegetative growth patterns, changes in floristic composition or diversity, and other factors relating to habitat viability. The monitor shall recognize the survey's limitations and shall adopt methodologies to maximize the detection of changes to the structure of the habitat, as appropriate. All plant and animal species observed shall be recorded during each site survey.

Any measurable changes within the Preserve that could affect the existing biological resources shall be monitored over time. Information obtained from tracking changes within the Preserve shall be used by the Resource Manager to

determine specific remediation and recovery, as needed. All remediation/recovery activities shall be discussed with the Preserve Biologist prior to implementation.

Removal of Invasive Species

The Resource Manager shall be responsible for assessing the occurrence of invasive or exotic plant species in the Preserve on an ongoing basis. This shall include annual monitoring of the Preserve by the Resource Manager for the occurrence of exotic plants. An exotics control section will be included in the annual report, if necessary. In addition, measures shall be undertaken to prevent the introduction of new invasive species into the Preserve.

Invasive species detected in the Preserve shall be immediately and completely removed under the direct supervision of the Resource Manager. Perennial and biennial exotic plants shall be removed by cutting their stems at or below ground level or pulling seedlings manually. Annual weeds shall be manually pulled prior to producing mature seed. All cuttings or pulled weeds shall be exported from the Preserve and disposed of properly. The use of herbicides/pesticides for weed/vector control shall be avoided and shall be implemented only if authorized by the Preserve Biologist in coordination with the Resource Manager.

Exotic plants that must be removed from the Preserve, if found, include Hottentot Fig *(Carpobrotus edule)*, Castor Bean *(Ricinus communis)*, Mexican Fan Palm *(Washingtonia robusta)*, Pampas Grass *(Cortaderia* sp.*)*, and any plants ranked as "high" priority species in the *California Invasive Plant Inventory* prepared by the California Invasive Plant Council (Cal-IPC, 2006).

Predator Control

The control of exotic animals usually presents more of a challenge than does the task of controlling exotic plants. Pest control will mostly consist of domesticated animals, particularly feral or uncontrolled pet animals. Dogs and cats are major

predators of native species. Exotic animal control is not anticipated to represent a major issue in the management of the Preserve.

Exotic animal control shall be initiated on a case-by-case basis, as follows:

- Predator/pest control shall only be implemented to address a specific, identified problem situation.

- The trapping of non-native predators/pests shall be limited to strategic locations where it is determined to be most feasible to accomplish the goal of removing these animals from the Preserve.

- All predator/pest control shall be considered a temporary, short-term activity.

- Predator/pest control methods shall be humane. Adequate shade shall be provided, and all traps shall be checked twice daily. Any domestic animals trapped during predator/pest control shall be taken to the nearest animal shelter.

- The Resource Manager shall report to the City Animal Control Officers if persistent and chronic problems occur with respect to particular uncontrolled pets being found in the Preserve.

Sensitive Species Surveys and Management

The Resource Manager shall be responsible for evaluating the status of the sensitive species in the Preserve and for implementing protective measures, if necessary. Monitoring of sensitive species shall include the use of specific survey protocols and methodologies, fixed monitoring locations or transects, and species-specific data collection and analysis. The Resource Manager shall monitor all of the sensitive species that are recorded from the Sanctuary at Olivenhain project

site. Any additional sensitive species detected in the Preserve during the regular monitoring periods shall be incorporated into future monitoring reports.

The status of all sensitive species' populations potentially onsite shall be assessed at least once every five years. This assessment shall include protocol presence/absence surveys for California Gnatcatcher. The protocol California Gnatcatcher surveys must be conducted by a qualified biologist. Surveys shall be conducted in the spring to best assess the Preserve's carrying capacity. In addition, surveys for any other sensitive species detected within the Preserve shall be included with the above, if appropriate.

Habitat Restoration

The Resource Manager, in consultation with the Preserve Biologist, shall allow seeds and cuttings to be collecting from plants in the Preserve for the expressed purpose of revegetating degraded Preserve areas (see Table 1). Any such collecting shall be performed under the direct supervision of the Resource Manager, during the appropriate season, and under a written agreement specifying the amounts and locations of collected materials. The collecting of revegetation stock shall be limited to the minimum necessary for the revegetation effort and shall not seriously deplete the existing vegetation.

Annual Monitoring Reports

As discussed in Section 1.2.4, above, annual reports shall be prepared that summarize the condition of the Preserve, the results of the previous year's management and monitoring, and recommendations for the upcoming year's management and monitoring. Copies of these reports shall be provided to the City and the Wildlife Agencies, along with funds to cover City staff review time.

Review of RMP

At five-year intervals, the Resource Manager shall meet with the Preserve Biologist to discuss whether changes in management of the Preserve are needed. Any necessary changes in management will be reflected in updates of this RMP. Updates shall be based on findings and determinations made during the ongoing biological monitoring of the Preserve, changes in site conditions, and recommended modifications to maintenance efforts.

Trash/Graffiti Removal and Vandalism Repair

The Resource Manager shall be responsible for the general condition of the Preserve by directing the removal of any illegally dumped materials, the clean-up of any litter, and the removal of any graffiti. Any vandalism resulting in damage to resources within the Preserve must be remediated immediately. These tasks shall occur during the annual monitoring visits or as often as necessary and approved by the Resource Manager.

Encampments and Unauthorized Encroachments

Encampments are prohibited in all open space areas in the city. The Resource Manager shall survey the site for encampments during monitoring visits and report them to the authorities and the City. All encampments shall be removed from the Preserve upon vacation of the property by the unauthorized persons. Improper or illegal encroachments must be removed as soon as possible, on an as needed basis.

Lighting, Fencing, Gates, and Signs

Lighting shall not be installed within the Preserve. Any lighting associated with the development area of Sanctuary at Olivenhain shall be directed downward and away from the Preserve, avoiding light pollution to the natural area.

The Preserve shall be protected from adjacent development by professionally-installed fence or wall. This should limit encroachment from development without impeding wildlife movement within the easement. The fence shall be placed all around the border of the Preserve (Figure 4) prior to the commencement of construction activities associated with the implementation of Sanctuary at Olivenhain. The fence shall be placed on the development side and should result in no vegetation loss within the Preserve. The fence shall have a minimum 5' height with a single-entry gate maintained with a lock for access by the Resource Manager. The purpose of the fence is to prevent intrusion into the Preserve and to avoid an attractive nuisance.

Evidence that permanent fencing and signage has been properly installed shall consist of a signed, stamped statement from a California Registered Engineer or licensed surveyor verifying that the permanent fence has been put in place around the perimeter of the Preserve. Photographs and a brief description of design and materials used shall be submitted along with the statement from the California Registered Engineer or licensed surveyor. The specific construction materials and fence designs are subject to approval by the City and the Preserve Biologist.

Permanent, high-visibility metal signs shall be installed at 100-foot intervals along the permanent fence. These signs shall read the equivalent of:

Sensitive Environmental Resources
Access Beyond this Point is Restricted
By Conservation Easement

Information:

Sanctuary at Olivenhain LLC

Phone (XXX) XXX-XXXX

Signs must be in good condition at all times and must be replaced, repaired, and/or cleaned as deemed necessary by the Resource Manager. The Land Owner shall be responsible for the installation of the permanent fencing, signs, and gate. The Resource Manager shall be responsible for the long-term maintenance and repair of the fencing, signs, and gate.

Access

The Land Owner shall be responsible for providing a permanent access easement for the Resource Manager to the Preserve. The Land Owner shall be responsible for the long-term maintenance of any access roads if necessary. Any Preserve's access gates must be locked and maintained in working order at all times to prevent unauthorized entry into the Preserve. Under normal circumstances, only the Resource Manager and other authorized agents will be allowed into the actual Preserve. Exceptions to this shall be in an emergency or as otherwise specified by the Resource Manager in consultation with the Preserve Biologist. Access to the Preserve (other than for monitoring) shall primarily occur during the dry season to avoid potential damage to sensitive biological resources.

Coordination with Other Agencies

The Resource Manager shall coordinate with the relevant local and City agencies on an as-needed basis, including, but not limited to:

- Coordination with the City
- Coordination with law enforcement
- Coordination with emergency services, such as the local fire department

4.1.4 Management Constraints

There are no internal or external management constraints that may affect meeting the RMP goals.

4.1.5 Adaptive Management

This RMP has been developed to facilitate an adaptive management strategy. The overall goal of an adaptive management strategy is to improve the quality of decisions, based on the best available information. Monitoring will be used to assess the success of adaptive management. If monitoring indicates that the biological resource management goals are not being met, it may be necessary to modify this RMP between regularly scheduled updates. If changes to the RMP are determined to be necessary, the proposed changes shall be submitted to the City and Wildlife Agencies for approval, as required.

4.2 Long-Term Management

4.2.1 Long-Term Management Period

Following the 5-year interim period, the implementation of long-term management shall take effect. Work during the long-term management period shall be conducted by the resource manager in coordination with the Wildlife Agencies and City of Encinitas. The long-term management period ensures that site protection, weed control, and pest control are performed adequately in perpetuity.

4.2.2 Goals

One of the long-term goals of the biological resource management of the Preserve shall be to preserve and manage its lands to the benefit of the flora, fauna, and native ecosystem functions reflected in the natural communities occurring within the Preserve. This goal shall be accomplished by controlling access to the Preserve and implementing a proactive monitoring program. Natural areas supporting

mostly undisturbed native vegetation require very little intervention, with the exception of the control of invasives, the removal of litter, and the maintenance of fencing and signage.

A second long-term goal shall be to manage the Preserve for the benefit of sensitive species and existing natural communities, without substantial efforts to alter or restrict the natural course of habitat development and dynamics. This goal shall be accomplished via periodic assessments of the known populations of sensitive species from the area, including focused surveys for specific sensitive species, as described below in Section 5.2.3. An adaptive management program shall be implemented to allow for management of the Preserve to change as necessary, based on any changes occurring within the Preserve due to the natural course of habitat development and dynamics.

A third long-term goal shall be to reduce, control and, where feasible, eradicate non-native, invasive flora and/or fauna known to be detrimental to the native species and ecosystems present within the Preserve. This goal shall be accomplished via annual monitoring of the Preserve by the Resource Manager for the occurrence of exotic plants. Exotic plants and/or animals shall be removed from the Preserve on an as-needed basis, as described below.

4.2.3 Tasks

Monitoring

Biological monitoring shall continue into long-term management. The Resource Manager shall identify any measurable changes within the Preserve that could affect the existing biological resources.

Removal of Invasive Species

The Resource Manager shall continue to monitor and assess the occurrence of

invasive or exotic plant species in the Preserve on an ongoing basis. This shall include annual monitoring of the Preserve by the Resource Manager for the occurrence of exotic plants. An exotics control section will be included in the annual report, if necessary. In addition, measures shall be undertaken to prevent the introduction of new invasive species into the Preserve.

Invasive species detected in the Preserve shall continue to be immediately and completely removed under the direct supervision of the Resource Manager. Perennial and biennial exotic plants shall be removed by cutting their stems at or below ground level or pulling seedlings manually. Annual weeds shall be manually pulled prior to producing mature seed. All cuttings or pulled weeds shall be exported from the Preserve and disposed of properly. The use of herbicides/pesticides for weed/vector control shall be avoided and shall be implemented only if authorized by the Preserve Biologist in coordination with the Resource Manager.

Exotic plants that must be removed from the Preserve, if found, include Hottentot Fig *(Carpobrotus edule)*, Castor Bean *(Ricinus communis)*, Mexican Fan Palm *(Washingtonia robusta)*, Pampas Grass *(Cortaderia* sp.*)*, and any plants ranked as "high" priority species in the *California Invasive Plant Inventory* prepared by the California Invasive Plant Council (Cal-IPC, 2006).

Predator Control

Pest/ predator control will continue to monitor for mostly domesticated animals, particularly feral or uncontrolled pet animals. Dogs and cats are major predators of native species. Exotic animal control is not anticipated to represent a major issue in the management of the Preserve.

Exotic animal control shall be initiated on a case-by-case basis, as follows:

- Predator/pest control shall only be implemented to address a specific,

identified problem situation.

- The trapping of non-native predators/pests shall be limited to strategic locations where it is determined to be most feasible to accomplish the goal of removing these animals from the Preserve.

- All predator/pest control shall be considered a temporary, short-term activity.

- Predator/pest control methods shall be humane. Adequate shade shall be provided, and all traps shall be checked twice daily. Any domestic animals trapped during predator/pest control shall be taken to the nearest animal shelter.

- The Resource Manager shall report to the City Animal Control Officers if persistent and chronic problems occur with respect to particular uncontrolled pets being found in the Preserve.

Sensitive Species Surveys and Management

The Resource Manager shall continue to be responsible for evaluating the status of the sensitive species in the Preserve and for implementing protective measures, if necessary. Monitoring of sensitive species shall include the use of specific survey protocols and methodologies, fixed monitoring locations or transects, and species-specific data collection and analysis established during the interim management period. The Resource Manager shall monitor all of the sensitive species that are recorded from the Sanctuary at Olivenhain project site. Any additional sensitive species detected in the Preserve during the regular monitoring periods shall be incorporated into future monitoring reports.

The status of all sensitive species' populations potentially onsite shall continue to be assessed at least once every five years. This assessment shall include protocol

presence/absence surveys for California Gnatcatcher. The protocol California Gnatcatcher surveys must be conducted by a qualified biologist. Surveys shall be conducted in the spring to best assess the Preserve's carrying capacity. In addition, surveys for any other sensitive species detected within the Preserve shall be included with the above, if appropriate.

Annual Monitoring Reports

Annual reporting shall continue into long-term management and the annual reports shall be prepared that summarize the condition of the Preserve, the results of the previous year's management and monitoring, and recommendations for the upcoming year's management and monitoring. Copies of these reports shall be provided to the City and the Wildlife Agencies, along with funds to cover City staff review time.

Review of RMP

At five-year intervals, the Resource Manager shall meet with the Preserve Biologist to discuss whether changes in management of the Preserve are needed. Any necessary changes in management will be reflected in updates of this RMP. Updates shall be based on findings and determinations made during the ongoing biological monitoring of the Preserve, changes in site conditions, and recommended modifications to maintenance efforts.

Trash/Graffiti Removal and Vandalism Repair

The Resource Manager shall be responsible for the general condition of the Preserve by directing the removal of any illegally dumped materials, the clean-up of any litter, and the removal of any graffiti. Any vandalism resulting in damage to resources within the Preserve must be remediated immediately. These tasks shall occur during the annual monitoring visits or as often as necessary and approved by the Resource Manager.

Encampments and Unauthorized Encroachments

Encampments are prohibited in all open space areas in the city. The Resource Manager shall survey the site for encampments during monitoring visits and report them to the authorities and the City. All encampments shall be removed from the Preserve upon vacation of the property by the unauthorized persons. Improper or illegal encroachments must be removed as soon as possible, on an as needed basis.

Fencing, Gates, and Signs

The Preserve fencing and signage shall be monitored and maintained each year in perpetuity. The Resource Manager shall ensure that all preserve fencing and signage is in good condition each year.

Signs must be in good condition at all times and must be replaced, repaired, and/or cleaned as deemed necessary by the Resource Manager. The Resource Manager shall be responsible for the long-term maintenance and repair of the fencing, signs, and gate.

Access

The Resource Manager shall be responsible for maintaining permanent access to the easement. Any Preserve's access gates must be locked and maintained in working order at all times to prevent unauthorized entry into the Preserve. Under normal circumstances, only the Resource Manager and other authorized agents will be allowed into the actual Preserve. Exceptions to this shall be in an emergency or as otherwise specified by the Resource Manager in consultation with the Preserve Biologist. Access to the Preserve (other than for monitoring) shall primarily occur during the dry season to avoid potential damage to sensitive biological resources.

Coordination with Other Agencies

The Resource Manager shall coordinate with the relevant local and City agencies on an as-needed basis, including, but not limited to:

- Coordination with the City

- Coordination with law enforcement

- Coordination with emergency services, such as the local fire department

4.2.4 Prohibited Activities

Within the Preserve, the following shall be prohibited:

- Grading, excavation, or the placement or movement of any soil, sand, rock, gravel, or any other material, except for habitat or species restoration

- The clearing or thinning of any vegetation, except for the removal of exotic plant species as determined by the Resource Manager to be necessary

- Proactive landscape maintenance activities, such as watering, pruning, or fertilization of the native species, unless determined by the Resource Manager to be necessary

- The construction, erection, or placement of any building or structure, with the exception of the required perimeter fence

- Vehicular activities

- Dumping of any kind, including the dumping of landscape materials, trash, hazardous waste, or any other materials

- Planting of any vegetation except as pursuant to an approved revegetation program or for habitat enhancement as described in this RMP

- Use for any purpose other than those specifically designated in this RMP

- The collecting, removal, or relocation of any natural resource from the Preserve (e.g., plants, animals, rocks, etc.)

- Hunting of any kind

Anyone attempting such activities shall be informed of the restrictions by the Resource Manager in a non-confrontational manner. The Resource Manager shall report any serious confrontational situations and any chronic offenders to the Preserve Biologist and the Sheriff's Department.

The Resource Manager, in consultation with the Preserve Biologist, shall determine the appropriateness of any proposed uses not specifically designated in this RMP. All activities authorized by the Resource Manager must be consistent with the goals and objectives of this RMP and must be approved by the Preserve Biologist. To limit impacts to sensitive biological resources, activities within the Preserve are restricted to:

- Wildlife surveys conducted as part of the ongoing biological monitoring review process

- Weeding, trash removal, or other maintenance activities (described in detail in this RMP)

- Emergency response by the Resource Manager and the appropriate agencies in case of fires, floods, earthquakes, or other natural disasters

Table 2. Long-Term Management Tasks

Task	Task Description	Schedule	Responsible Party
Baseline plant and animal inventory	• Assess native vegetation health and cover. • Map preserve vegetation and assemble an updated plant and animal inventory. • Establish photo monitoring locations. • Map invasive plants and problem areas.	First year and updates every five years	Resource Manager
Biological monitoring (Patrols)	• Monitor the health of native vegetation within the preserve. • Identify non-native plant and animal species	Two times per	Resource Manager
General Monitoring	• Monitor for the presence of trash and/or debris. • Report any vandalism, or migrant/homeless encampments. • Inspect and repair fencing and signage.	Two times per year	Resource Manager
Non-native plant control	• Removal of invasive plants.	Annually	Resource Manager
Fencing and Signage	• Monitor and replace as necessary	Annually	Resource Manager
Trash removal	• Removal of trash and debris.	Two times per year,	Resource Manager
Annual letter report	• Record results of the annual monitoring.	Annually (due Jan 31)	Resource Manager

5.0 RESOURCE MANAGEMENT PLAN SUMMARY & BUDGET

5.1 Operations and Budget Summary

An Operations and Budget Summary worksheet shall be provided to the City prior to grading activities for review and shall include all estimated operation costs associated with management of the Preserve. The summary will also provide specific information required for annual budget preparation.

6.0 REFERENCES

Burt, W.H. and R.P. Grossenheider. 1996 A field guide to the mammals. Houghton Mifflin Company, 1966. 289p

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Smith, J.P. and K. Berg. 1988. Inventory of rare and endangered vascular plants of California. California Native Plant Society, Sacramento. 168p

Stebbins, R.C. 1985. A field guide to western reptiles and amphibians. Houghton Mifflin Company, Boston. 336p

Figure 1. Vicinity Map – Sanctuary at Olivenhain Project Site

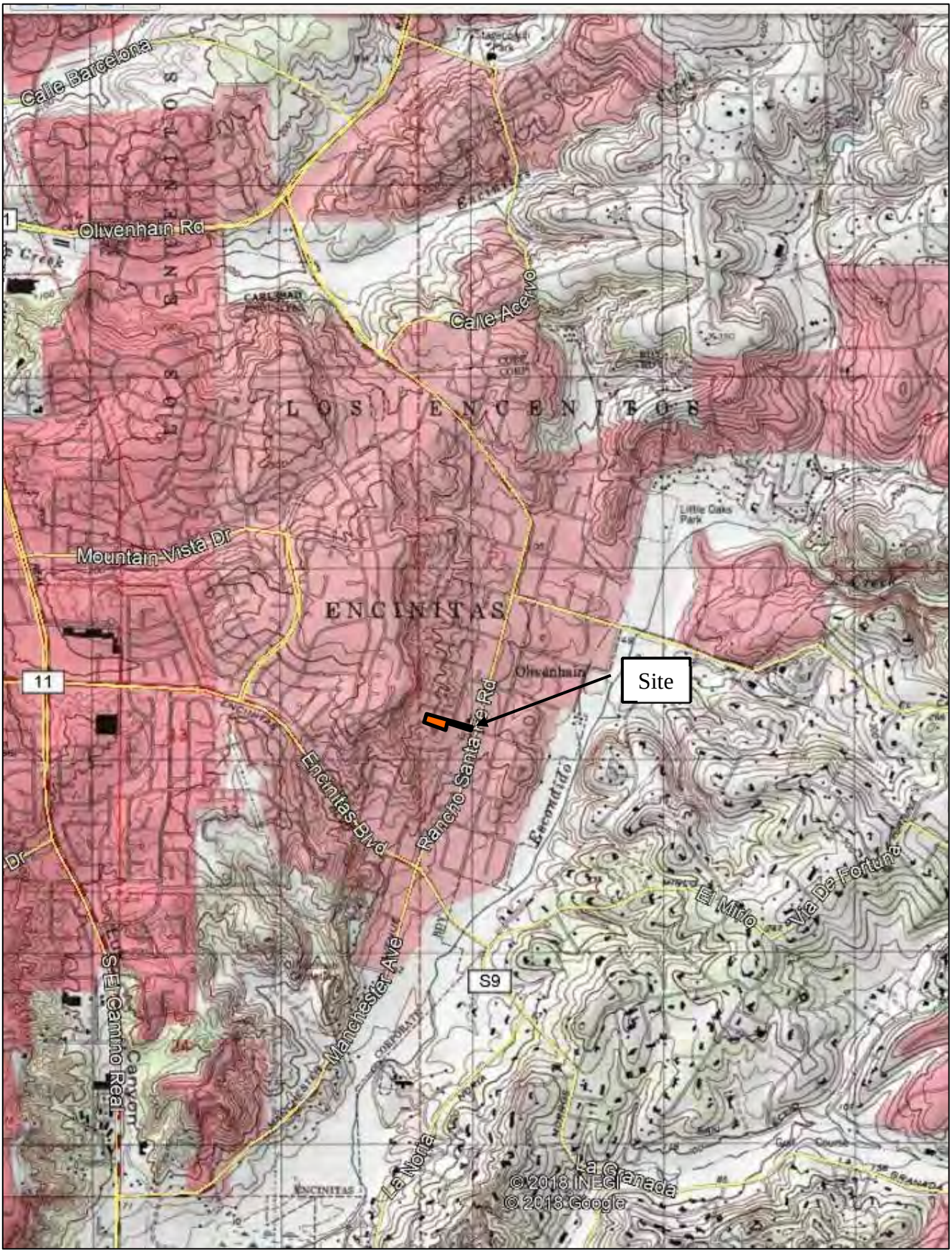


Figure 2. Regional Location – Sanctuary at Olivenhain Project Site

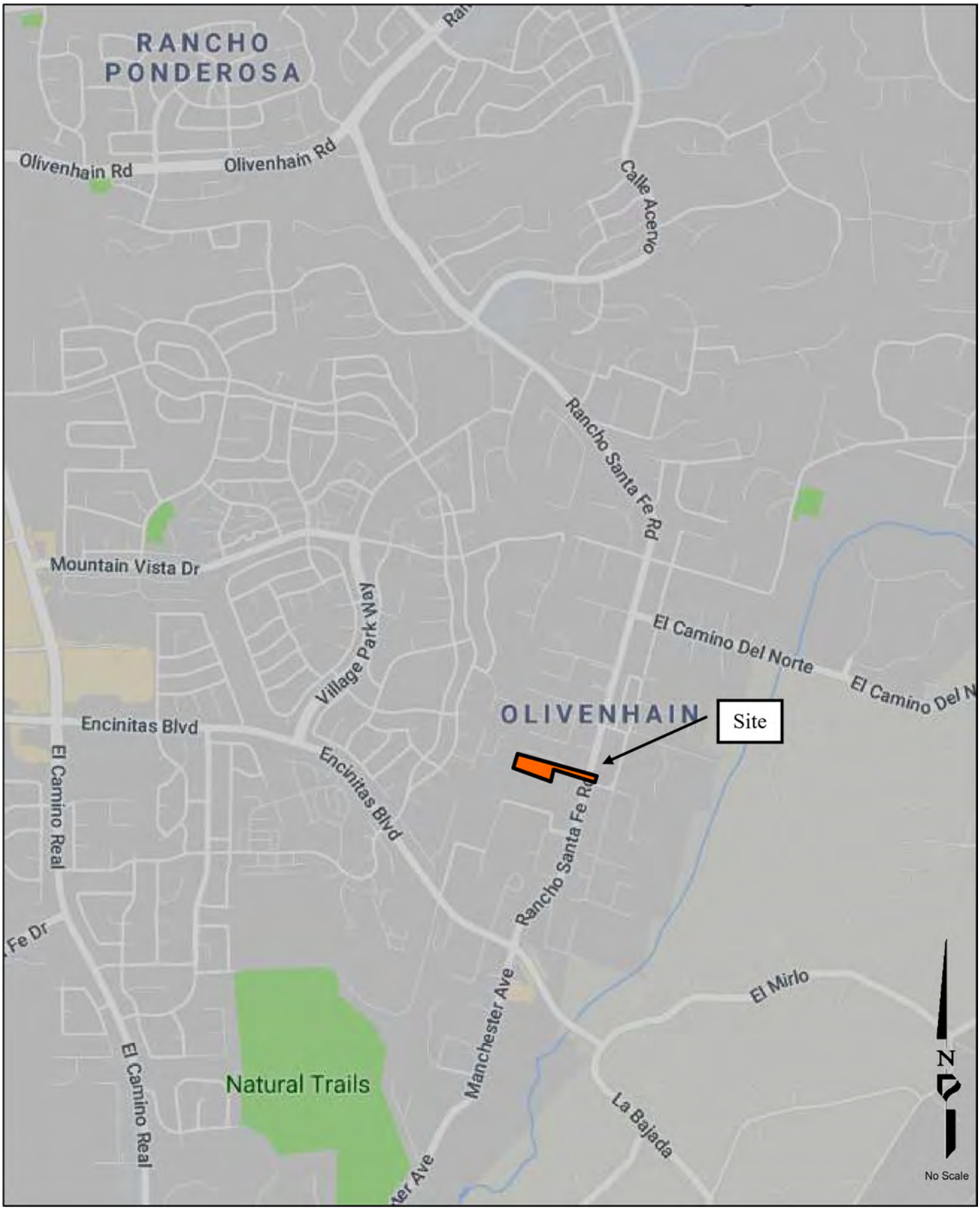


Figure 3. Biological Resources – Sanctuary at Olivenhain Project Site

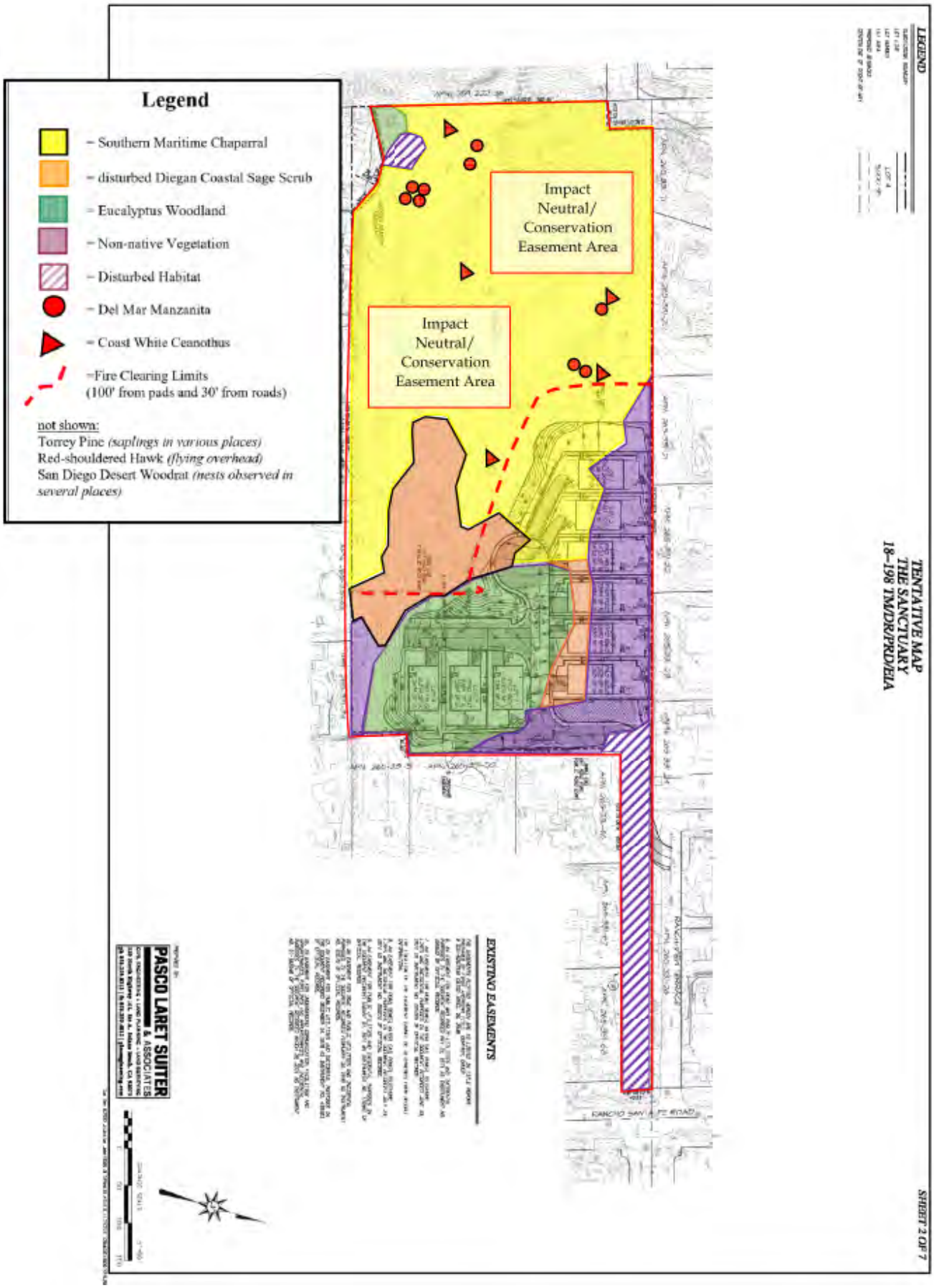


Figure 4. Preserve and Fencing Map – Sanctuary at Olivenhain

= Fencing and Signage Location

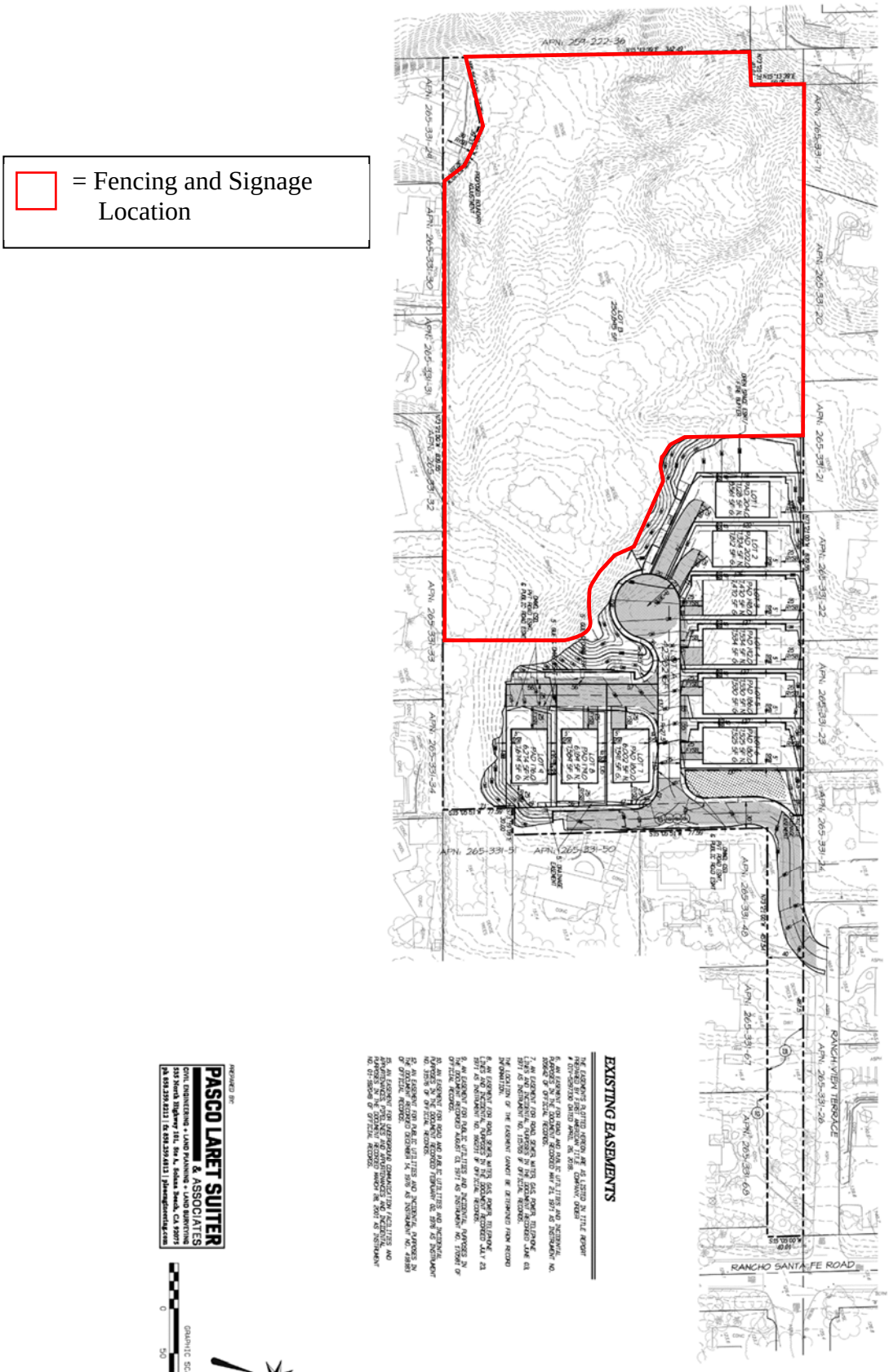


Figure 5. Preserve Restoration Areas – Sanctuary at Olivenhain

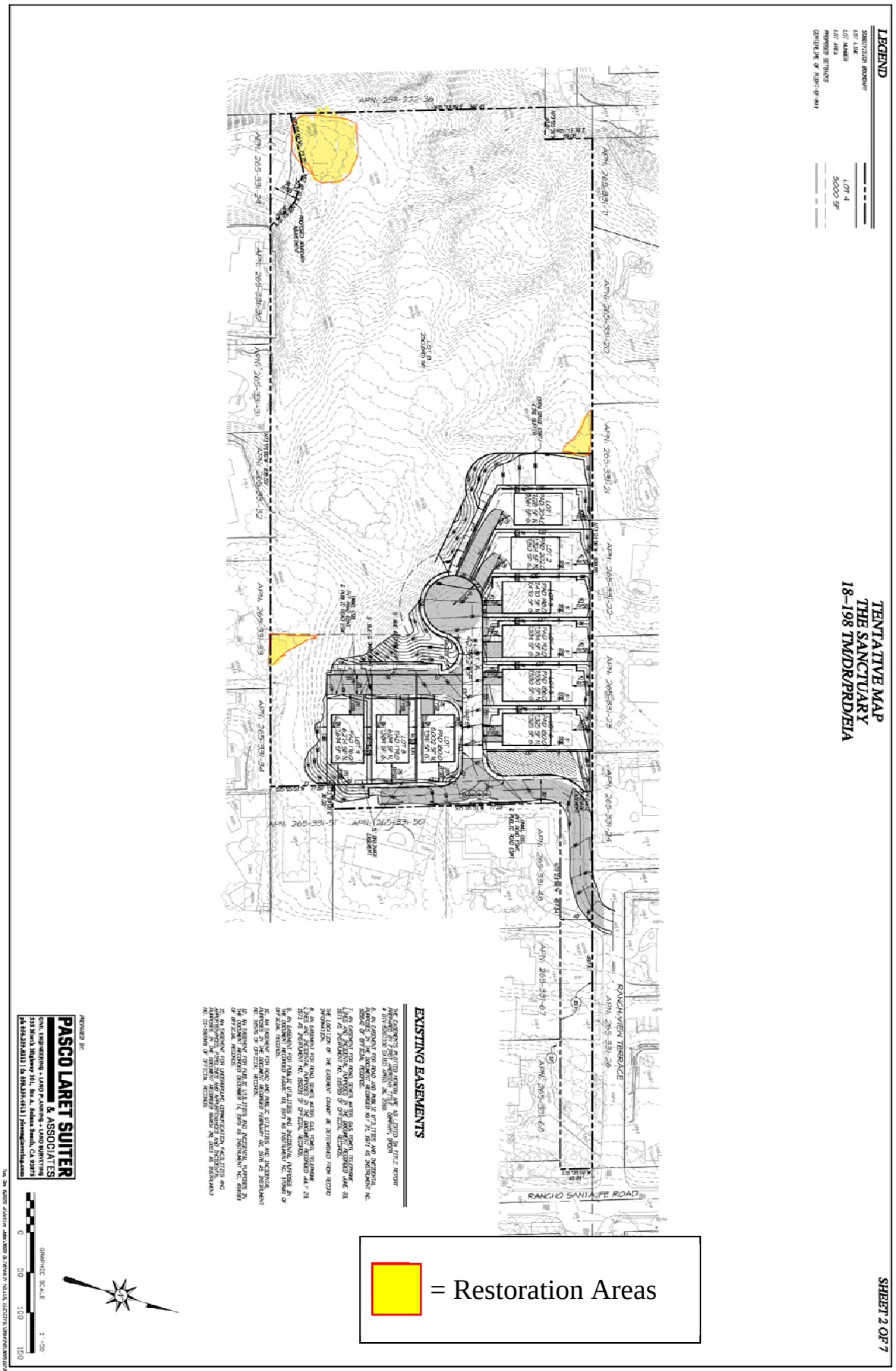


Table 3. Biological Resource Total Onsite - Sanctuary at Olivenhain

Biological Resource	**Total Acreage Onsite**	**Total Acreage Within Preserve**
Southern Maritime Chaparral	5.00 acres	4.45 acre
Disturbed Diegan Coastal Sage Scrub	0.90 acre	0.24 acre
Non-native Vegetation	1.00 acre	0.10 acre
Eucalyptus Woodland	1.30 acres	0.10 acre
Disturbed/ Developed Habitat	0.30 acre	0.10 acre
Total	**8.50 acres**	**4.99 acre**

Appendix D –
Limited Geotechnical Investigation and Update Report

April 20, 2018 CTE Job No. 10-14212G

Olivenhain Hills LLC
Attention: Mr. Udi Melamed
745 Cole Ranch Road
Encinitas, California 92024
Telephone: (760) 299-3344 Via Email: udi@ermdevelopment.com

Subject: Limited Geotechnical Investigation and Update Report
Proposed 8 Lot Subdivision
Ranch View Terrace
Encinitas, California

Reference: MV Engineering, Inc., 1987, Preliminary Soil and Geotechnical Investigation, Proposed 13 Lot Subdivision, Ranch View Terrace, Encinitas California, Job #1534-87, dated December 30.

Mr. Melamed:

As requested, Construction Testing & Engineering, Inc. (CTE) provides the following limited geotechnical investigation and update to the referenced investigation report. Field work conducted as part of the recent update investigation included seven exploratory borings advanced throughout the areas proposed for structural improvements.

Based on review of the referenced preliminary report and recent site exploration, the information provided appears to be in general compliance with common geotechnical engineering practices. Therefore, recommendations provided in the referenced report are considered applicable for the proposed development except as specifically modified or updated herein. Updated grading, foundation, and retaining wall recommendations, as well as updated seismic loading parameters, are provided in accordance with the requirements of the current California Building Code. CTE reserves the right to further modify the geotechnical recommendations based on the required review of detailed project plans and actual conditions exposed during construction.

The recent borings were advanced with manually operated excavation equipment due to the limited accessibility at the site. The exploratory borings extended to depths ranging from approximately 1.5 to 9.3 feet bgs. A Site Index Map is provided as Figure 1, an Exploration Map is provided as Figure 2, a Regional Fault Map is provided as Figure 3, and a typical Retaining Wall Drainage Detail is provided as Figure 4. The referenced previously performed geotechnical report is provided as Attachment A, Boring Logs are provided as Attachment B, Laboratory Results are provided as Attachment C, and Standard Specifications for Grading are provided as Attachment D.

1.0 SITE PREPARATION

Structure foundations should be founded either entirely into dense, competent, formational materials, or entirely into engineered fill materials. Cut/fill transitions should be avoided.

Prior to grading, areas to receive distress sensitive improvements should be cleared of existing debris and deleterious materials. Objectionable materials, such as site debris and vegetation not suitable for structural backfill should be properly disposed of off-site.

In proposed structural improvement areas where foundations will be founded entirely in engineered fill materials, existing soils should be excavated to a minimum depth of 36 inches below the bottom of proposed foundations, or to the depth of dense formational material whichever is greatest. In order to provide relatively uniform conditions under the proposed structure, the depth of fill should also be a minimum of 1/2 the maximum depth of fill beneath the structure footprint. Overexcavation should extend at least five feet laterally beyond the limits of the proposed structural improvements, or the distance resulting from a 1:1 (horizontal: vertical) from the bottom of footing to dense underlying material, whichever is greatest.

In proposed structural improvement areas where foundations will be founded entirely in dense, competent, formational materials, existing soils within the structure footprint should be excavated to a minimum of 12 inches, or to the depth of dense, competent underlying materials, whichever is greatest.

The approximate geologic contact lines provided in Figure 2 may be used to estimate which structures may be founded entirely either in fill or formational materials. Near-surface formational materials are denoted by “Tt” and “Td”. Materials requiring overexcavation and backfill with engineered fill are denoted by “Qya” and “Qppf”. For structures that, based on the current site plan, may span formational materials and materials requiring overexcavation, it may be suitable to deepen footings such that the structure bears entirely into formational materials, or to overexcavate formational materials as described such that the structure bears entirely into engineered fill materials.

If localized areas of loose or unsuitable materials are encountered at the base of the recommended overexcavations, deeper removals to the depth of competent soil may be necessary. Where overexcavation encroaches upon property lines the temporary excavation should generally be sloped at a 1:1 (horizontal to vertical) down to the prescribed overexcavation depth. Depending upon proximity, overexcavation in slots may be recommended by the geotechnical engineer.

A geotechnical representative from CTE should observe the exposed ground surface prior to placement of compacted fill or improvements, to verify the competency of exposed subgrade materials. After approval by this office, the exposed subgrades to receive fill should be scarified a minimum of nine inches, moisture conditioned, and properly compacted prior to fill placement.

2.0 FILL PLACEMENT

Following the recommended overexcavation of loose or disturbed soils, the areas to receive fills should be scarified approximately nine inches, moisture conditioned, and properly compacted. Fill and backfill should be compacted to a minimum relative compaction of 90 percent at a moisture content of at least two percent above optimum, as evaluated by ASTM D 1557. The optimum lift thickness for fill soil depends on the type of compaction equipment used. Generally, backfill should be placed in uniform, horizontal lifts not exceeding eight inches in loose thickness. Fill placement and compaction should be conducted in conformance with local ordinances, and should be observed and tested by a CTE geotechnical representative.

3.0 FOUNDATIONS & SLABS-ON-GRADE

Following the recommended preparatory excavation and grading, deepened continuous and spread footings are anticipated to be suitable for use at this site if proposed. It is anticipated that proposed footings will bear entirely in dense, competent, formational materials or into suitable engineered fill materials, as recommended herein. Footings should generally not straddle transitions from cut to fill.

Proposed foundation dimensions and reinforcement should be based on an allowable bearing value of 2,500 pounds per square foot for footings founded in entirely into engineered fill materials or dense, competent, formational materials, and embedded a minimum of 18 inches below the lowest adjacent subgrade elevation. Continuous footings should be at least 15 inches wide; isolated footings should be at least 24 inches in least lateral dimension. The bearing value above may be increased by 250 psf for each additional six inches of embedment up to a maximum static value of 3,500 psf. The above bearing values may also be increased by one third for short duration loading which includes the effects of wind or seismic forces.

Minimum footing reinforcement for continuous footings should consist of four No. 5 reinforcing bars; two placed near the top and two placed near the bottom or as per the project structural engineer. The structural engineer should design isolated footing reinforcement. Footing excavations should be maintained at three percent above optimum moisture content until concrete placement. Foundation excavations that are allowed to desiccate may require presoaking just prior to concrete placement.

Slab-on-grade areas should be maintained at a minimum two percent above optimum moisture content or brought to well above the optimum moisture content just prior to placement of underlayments or concrete.

The maximum total settlement is expected to be on the order of 1.0 inch and the maximum differential settlement is expected to be on the order of 0.5 inch. This differential settlement is generally understood to take place across the width of the structural improvement.

Lightly loaded concrete slabs should be a minimum of 4.5 inches thick. Minimum slab reinforcement should consist of #3 reinforcing bars placed on maximum 18-inch centers, each way, at or above mid-slab height, but with proper cover. More stringent recommendations per the project structural engineer could be provided.

In moisture-sensitive floor areas, a suitable vapor retarder of at least 15-mil thickness (with all laps or penetrations sealed or taped) overlying a four-inch layer of consolidated aggregate base or gravel (with SE of 30 or more) should be installed. An optional maximum two-inch layer of similar material may be placed above the vapor retarder to help protect the membrane during steel and concrete placement. This recommended protection is generally considered typical in the industry. If proposed floor areas or coverings are considered especially sensitive to moisture emissions, additional recommendations from a specialty consultant could be obtained. CTE is not an expert at preventing moisture penetration through slabs. A qualified architect or other experienced professional should be contacted if moisture penetration is a more significant concern.

Subgrade materials should be maintained or brought to a minimum of two percent or greater above optimum moisture content until slab underlayment and concrete are placed.

4.0 LATERAL RESISTANCE AND EARTH PRESSURES

Lateral loads acting against structures may be resisted by friction between the footings and the supporting soil or passive pressure acting against structures. If frictional resistance is used, allowable coefficients of friction of 0.30 (total frictional resistance equals the coefficient of friction multiplied by the dead load) for concrete cast directly against compacted fill is recommended. A design passive resistance value of 300 pounds per square foot per foot of depth (with a maximum value of 1,500 pounds per square foot) may be used. The allowable lateral resistance can be taken as the sum of the frictional resistance and the passive resistance, provided the passive resistance does not exceed two-thirds of the total allowable resistance.

The anticipated retaining walls backfilled using granular soils may be designed using the equivalent fluid unit weights given in Table 3.0 below.

TABLE 4.0 EQUIVALENT FLUID UNIT WEIGHTS (G_h) (pounds per cubic foot)		
WALL TYPE	LEVEL BACKFILL	SLOPE BACKFILL 2:1 (HORIZONTAL: VERTICAL)
CANTILEVER WALL (YIELDING)	35	55
RESTRAINED WALL	55	75

Lateral pressures on cantilever retaining walls (yielding walls) over six feet high due to earthquake motions may be calculated based on work by Seed and Whitman (1970). The total lateral earth pressure against a properly drained and backfilled cantilever retaining wall above the groundwater level can be expressed as:

$P_{AE} = P_A + \Delta P_{AE}$

For non-yielding (or "restrained") walls, the total lateral earth pressure may be similarly calculated based on work by Wood (1973):

$P_{KE} = P_K + \Delta P_{KE}$

Where P_A/b = Static Active Earth Pressure = $G_h H^2/2$

P_K/b = Static Restrained Wall Earth Pressure = $G_h H^2/2$

$\Delta P_{AE}/b$ = Dynamic Active Earth Pressure Increment = $(3/8)\ k_h\ \gamma H^2/2$

$\Delta P_{KE}/b$ = Dynamic Restrained Earth Pressure Increment = $k_h\ \gamma H^2/2$

b = unit length of wall (usually 1 foot)

$k_h = 2/3\ PGA_m$ (PGA_M Table 5.0)

G_h = Equivalent Fluid Unit Weight (given previously in Table 4.0)

H = Total Height of the retained soil

γ = Total Unit Weight of Soil ≈ 135 pounds per cubic foot

The static and increment of dynamic earth pressure in both cases may be applied with a line of action located at H/3 above the bottom of the wall (SEAOC, 2013).

These values assume non-expansive backfill and free-draining conditions. Measures should be taken to prevent moisture buildup behind all retaining walls. Drainage measures should include free-draining backfill materials and sloped, perforated drains. These drains should discharge to an appropriate off-site location. Figure 4 shows a conceptual wall backdrain detail that may or may not be suitable for walls at the subject site. Any waterproofing should be as specified by the project architect.

5.0 SEISMIC GROUND MOTION VALUES

The seismic ground motion values listed in the table below were derived in general accordance with the ASCE 7-10. This was accomplished by establishing the Site Class based on the soil properties at the site, and calculating the site coefficients and parameters using the United States Geological Survey Seismic Design Maps application and approximate site coordinates of 33.0445 degrees north latitude and -117.2386 degrees west longitude. These values are intended for the design of structures to resist the effects of earthquake ground motions.

TABLE 5.0
SEISMIC GROUND MOTION VALUES (2016 CBC/ASCE 7-10)

PARAMETER	VALUE	REFERENCE
Site Class	C	CBC REFERENCE (2016)
Mapped Spectral Response Acceleration Parameter, S_S	1.051	ASCE 7, Chapter 20
Mapped Spectral Response Acceleration Parameter, S_1	0.406	Figure 1613.3.1 (1)
Seismic Coefficient, F_a	1.000	Figure 1613.3.1 (2)
Seismic Coefficient, F_v	1.394	Table 1613.3.3 (1)
MCE Spectral Response Acceleration Parameter, S_{MS}	1.051	Table 1613.3.3 (2)
MCE Spectral Response Acceleration Parameter, S_{M1}	0.566	Section 1613.3.3
Design Spectral Response Acceleration, Parameter S_{DS}	0.701	Section 1613.3.3
Design Spectral Response Acceleration, Parameter S_{D1}	0.377	Section 1613.3.4
Peak Ground Acceleration PGA_M	0.415	Section 1613.3.4

6.0 CORROSIVE SOILS

Testing of representative site soils was performed to evaluate the potential corrosive effects on concrete foundations and buried metallic utilities. Soil environments detrimental to concrete generally have elevated levels of soluble sulfates and/or pH levels less than 5.5. According to the American Concrete Institute (ACI) Table 318 4.3.1, specific guidelines have been provided for concrete where concentrations of soluble sulfate (SO_4) in soil exceed 0.10 percent by weight. These guidelines include low water: cement ratios, increased compressive strength, and specific cement type requirements. A minimum resistivity value less than approximately 5,000 ohm-cm and/or soluble chloride levels in excess of 200 ppm generally indicate a corrosive environment for buried metallic utilities and untreated conduits.

Chemical test results indicate that near-surface soils at the site generally present a negligible corrosion potential for Portland cement concrete. Based on resistivity testing, the site soils have been interpreted to have a moderate corrosivity potential to buried metal improvements.

Based on the results of the limited testing performed, it is likely prudent to utilize plastic piping and conduits where buried and feasible. However, CTE does not practice corrosion engineering. Therefore, if corrosion of metallic or other improvements is of more significant concern, a qualified corrosion engineer could be consulted.

7.0 LIMITATIONS

CTE's conclusions and recommendations are based on an analysis of the observed conditions. If conditions different from those described in this report are encountered during construction, this office should be notified and additional recommendations, if required, will be provided.

CTE appreciates this opportunity to be of service on this project. If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Respectfully submitted,

CONSTRUCTION TESTING & ENGINEERING, INC.

Dan T. Math, GE #2665
Principal Engineer

Jay F. Lynch, CEG #1890
Principal Engineering Geologist

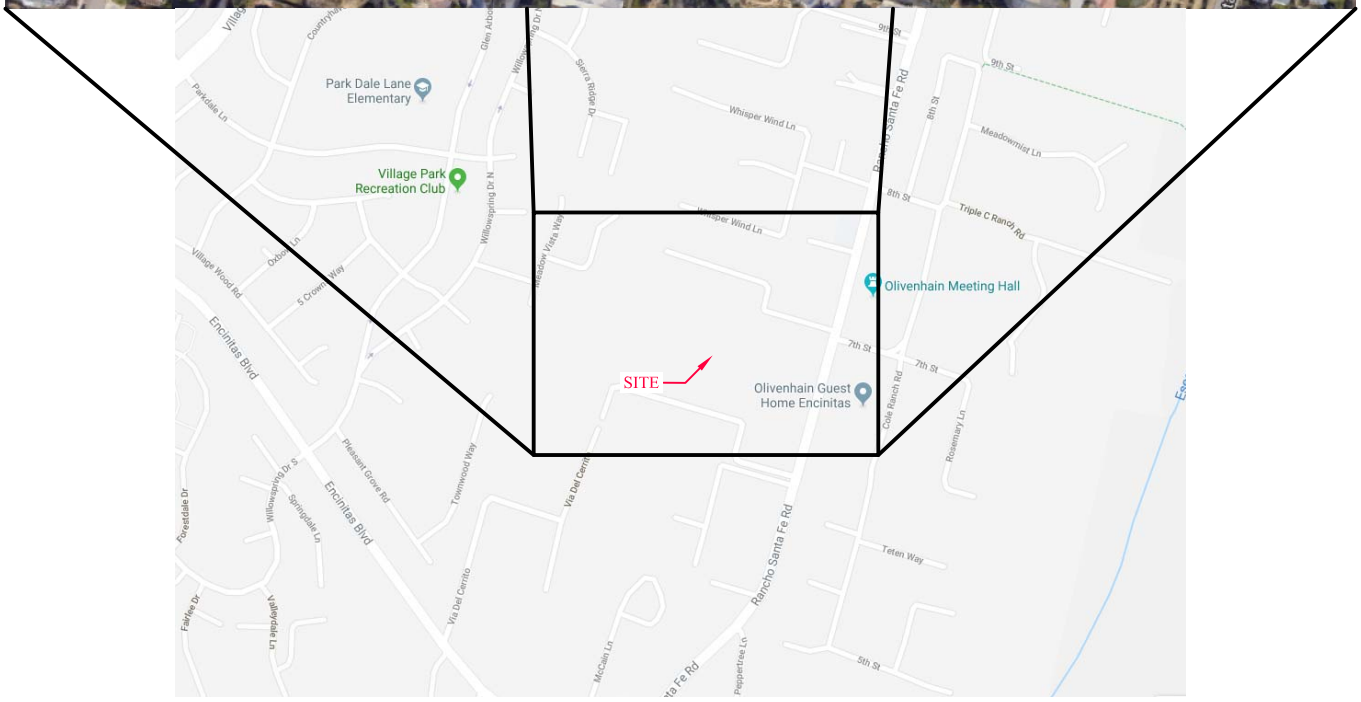
Colm J. Kenny, RCE #84406
Project Engineer

Aaron J. Beeby, CEG #2603
Project Geologist

AJB/JFL/DTM:nri

Figure 1 Site Index Map
Figure 2 Exploration Location Map
Figure 3 Regional Fault and Seismicity Map
Figure 4 Retaining Wall Drainage Detail

Attachment A Preliminary Soil and Geotechnical Investigation, Proposed 13 Lot Subdivision, Ranch View Terrace, Encinitas California, Job #1534-87, dated December 30, 1987
Attachment B Boring Logs
Attachment C Laboratory Results
Attachment D Standard Specifications for Grading



CTE INC. Construction Testing & Engineering, Inc.
1441 Montiel Rd Ste 115, Escondido, CA 92026 Ph (760) 746-4955

SITE INDEX MAP

RANCH VIEW TERRACE, 8 LOTS
RANCH VIEW TERRACE
ENCINITAS, CALIFORNIA

SCALE:	DATE:
AS SHOWN	4/18
CTE JOB NO.:	FIGURE:
10-14212G	1

LEGEND

TP-1 — APPROXIMATE TEST PIT LOCATION (MV ENGINEERING, 1987)

B-1 — APPROXIMATE HAND AUGER BORING LOCATION (CTE 2018)

Tt — TERTIARY TORREY SANDSTONE

Td — TERTIARY DEL MAR FORMATION

Qya — QUATERNARY YOUNG ALLUVIUM

Qppf — QUATERNARY PREVIOUSLY PLACED FILL

—?— APPROXIMATE GEOLOGIC CONTACT QUERIED WHERE UNCERTAIN

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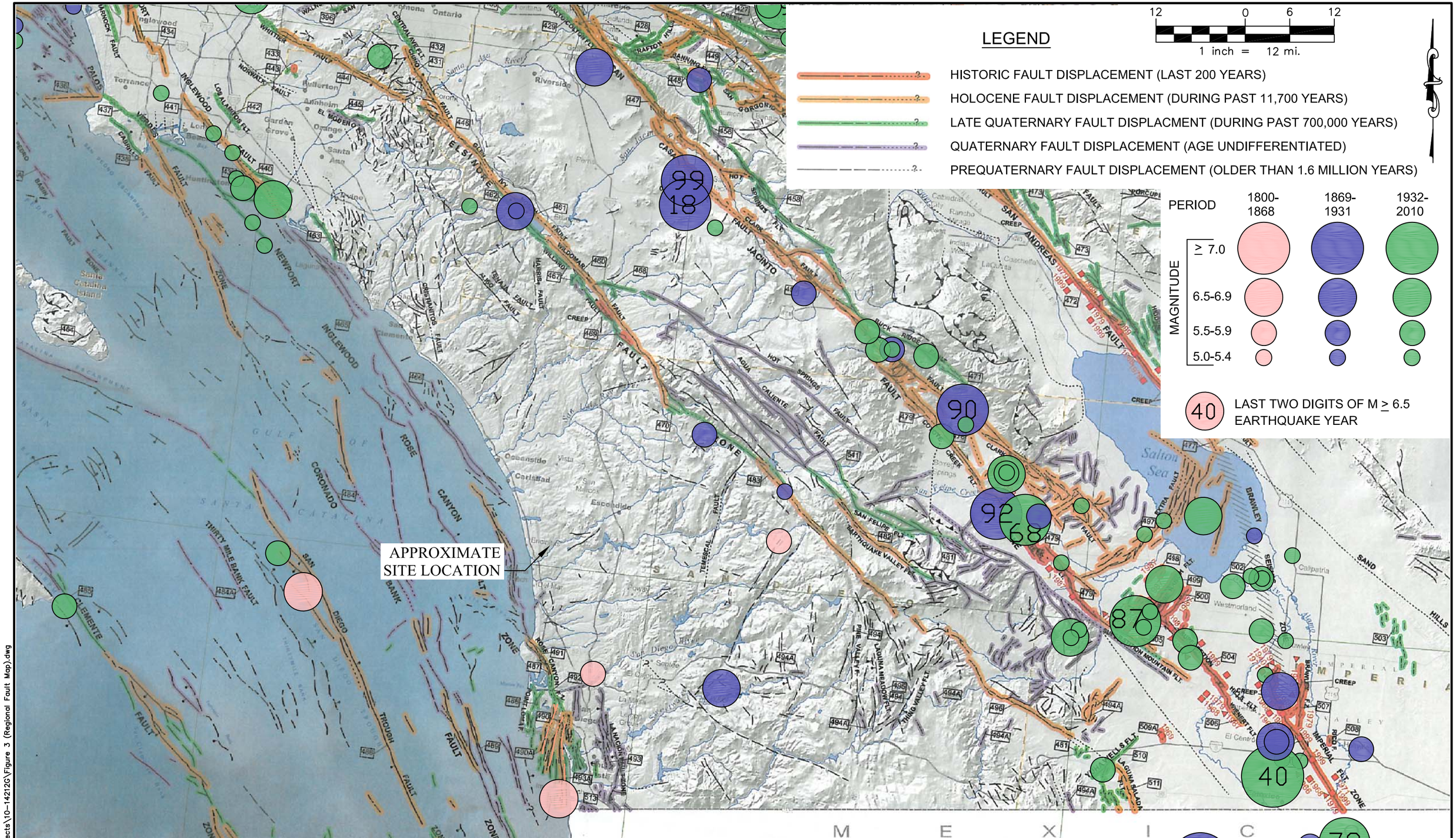
EXPLORATION LOCATION MAP

RANCH VIEW TERRACE, 8 LOTS
RANCH VIEW TERRACE
ENCINITAS, CALIFORNIA

CTE JOB NO:	10-14212G
SCALE:	1" ~ 100'
DATE:	4/18
FIGURE:	2

\\Esc_server\projects\10-14212G\Fig 2 Exploration.dwg



NOTES: FAULT ACTIVITY MAP OF CALIFORNIA, 2010, CALIFORNIA GEOLOGIC DATA MAP SERIES MAP NO. 6;
EPICENTERS OF AND AREAS DAMAGED BY M≥5 CALIFORNIA EARTHQUAKES, 1800–1999 ADAPTED AFTER TOPPOZADA, BRANUM, PETERSEN, HALLSTORM, CRAMER, AND REICHLE, 2000, CDMG MAP SHEET 49
REFERENCE FOR ADDITIONAL EXPLANATION; MODIFIED WITH CISN AND USGS SEISMIC MAPS

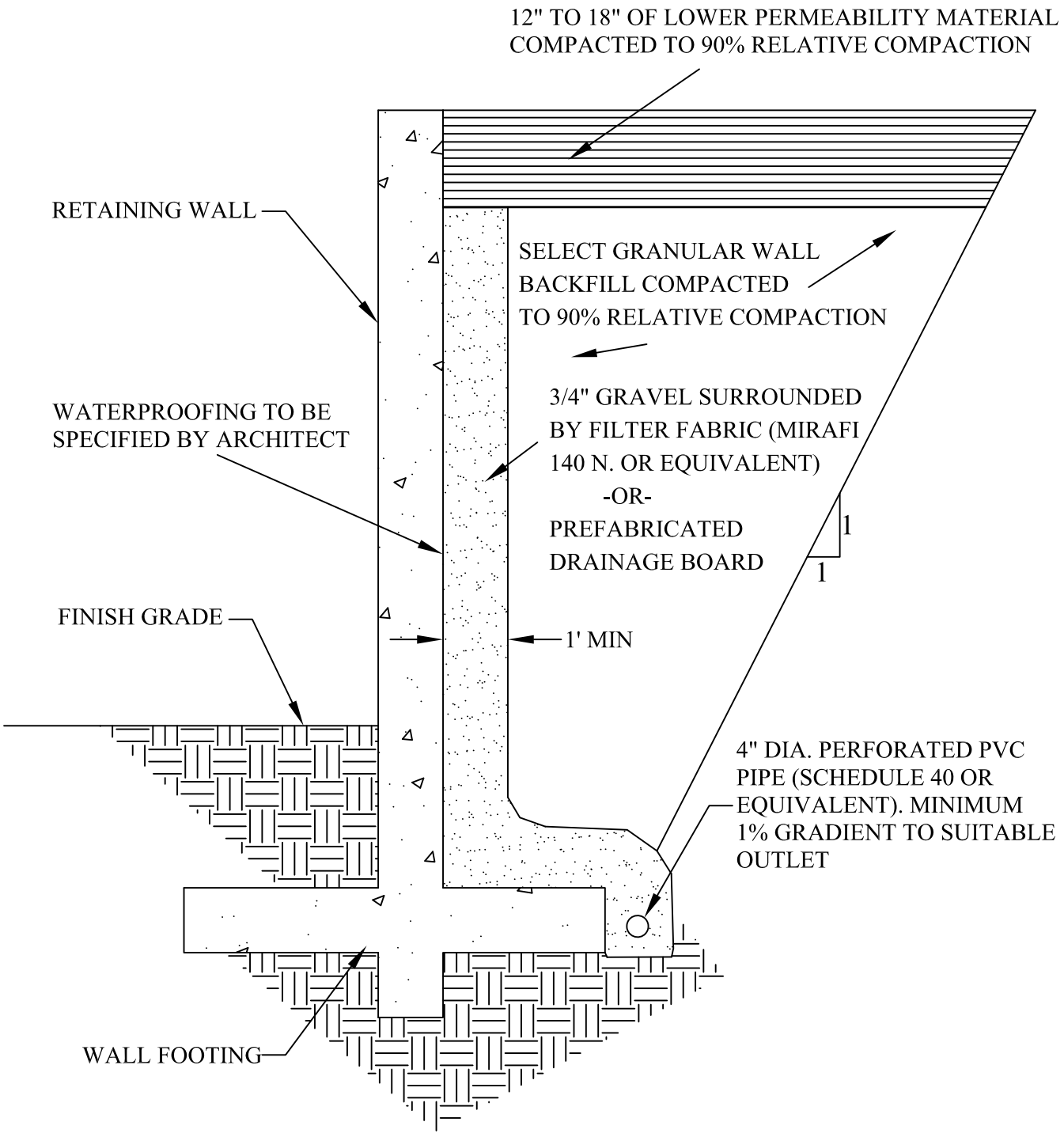
CTE INC. Construction Testing & Engineering, Inc.
1441 Montiel Rd Ste 115, Escondido, CA 92026 Ph (760) 746-4955

REGIONAL FAULT AND SEISMICITY MAP

RANCH VIEW TERRACE, 8 LOTS
RANCH VIEW TERRACE
ENCINITAS, CALIFORNIA

CTE JOB NO: 10-14212G
SCALE: 1 inch = 12 miles
DATE: 4/18
FIGURE: 3

\\Esc_server\projects\10-14212G\Figure 3 (Regional Fault Map).dwg



*CONCEPTUAL DRAWING

CTE INC. Construction Testing & Engineering, Inc.
1441 Montiel Rd Ste 115, Escondido, CA 92026 Ph (760) 746-4955

RETAINING WALL DRAINAGE DETAIL

SCALE:	DATE:
NO SCALE	4/18
CTE JOB NO.:	FIGURE:
10-14212G	4

ATTACHMENT A
PRELIMINARY SOIL AND GEOTECHNICAL INVESTIGATION, PROPOSED 13 LOT SUBDIVISION, RANCH VIEW TERRACE, ENCINITAS CALIFORNIA, JOB #1534-87, DATED DECEMBER 30, 1987

PRELIMINARY SOIL AND GEOTECHNICAL INVESTIGATION PROPOSED 13 LOT SUBDIVISION RANCH VIEW TERRACE ENCINITAS, CALIFORNIA

DECEMBER 30, 1987

PREPARED FOR:

MR. BILL BUCK
2923 CANONITA DRIVE
FALLBROOK, CALIFORNIA 92028

JOB #1534-87

MV ENGINEERING, INC.
2450 Vineyard Avenue, #102
Escondido, California 92025-1330
619/743-1214

Job #1534-87

December 30, 1987

Mr. Bill Buck
2923 Canonita Drive
Fallbrook, California 92028

Preliminary Soil and Geotechnical Investigation, Proposed 13 Lot Subdivision, Ranch View Terrace, Encinitas, California

Pursuant to your request, MV Engineering, Inc. has performed an investigation of the surface and subsurface soil and geologic conditions at the subject site.

The enclosed report has been prepared to present the results of our preliminary soil investigation. This report includes the results of our field investigation, laboratory analyses, and our summary of findings and recommendations for site development as understood.

From a geotechnical standpoint, it is our opinion that the site is suitable for the proposed development provided the recommendations presented in this report are incorporated into the design and construction of the project.

Thank you for choosing MV Engineering, Inc. If you have any questions concerning this report, please do not hesitate to call us. Reference to our Job #1534-87 will expedite our response to your inquiries.

We appreciate this opportunity to be of service to you.

MV ENGINEERING, INC.

Ralph M. Vinje
GE #863

REGISTERED PROFESSIONAL ENGINEER
RALPH MALCOLM VINJE
No. 863
Exp. 12-31-89
GEOTECHNICAL
STATE OF CALIFORNIA

RMV/jm

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APPENDIX "A"

Specifications for Construction of Controlled Fills; and Unified Soil Classificaiton Chart.

PRELIMINARY SOIL AND GEOTECHNICAL INVESTIGATION
PROPOSED 13 LOT SUBDIVISION
RANCH VIEW TERRACE
ENCINITAS, CALIFORNIA

I. GENERAL INFORMATION

A Preliminary Soil and Geotechnical Investigation has been prepared for the above-mentioned site located west of Rancho Santa Fe Road in Olivenhain (see vicinity map, Plate 1). The site is legally described as a Portion of Block 94 of Colony Olivenhain of Map No. 326, in the City of Encinitas, County of San Diego, State of California. The Assessor's Parcel Number is 265-331-26 and 49.

It is understood that the site will be used for a 13 lot single family residential subdivision. Detailed grading plans are unavailable; however, it is assumed that individual lots will be developed by minor cut/fill grading.

II. PURPOSE OF INVESTIGATION

The purpose of this investigation is to determine the following:

1 - the existing soil conditions;

2 - the presence and effect of any expansive soil;

3 - the allowable soil bearing pressures;

4 - the presence of existing fill or ground water;

5 - the geologic conditions and obvious geologic hazards;

6 - any construction problems that can be anticipated, and to make appropriate foundation recommendations.

III. FIELD INVESTIGATION

A. Surface Conditions

The site is a rectangularly shaped parcel consisting of 8.45 acres. The dimensions and orientation are shown on the enclosed Geotechnical Map, Plate 1. The ground surface throughout the site is irregular and includes near-vertical bluffs, "badlands" topography, and more gentle terrain with intervening canyons. There are existing earthen berm/dams located at the base of the hillside and flow line. The ground surface is covered with large bushes, brush, grass, weeds and eucalyptus trees.

B. Field Work

Geotechnical conditions were determined from geologic mapping of available exposures and the excavation of five exploratory backhoe trenches. Access to the western portion of the site with the backhoe was restricted by the steep terrain and the soft, wet and loose condition of the alluvial soils. The test pits were dug on December 9, 1987 in the subject area as shown on Plate 1. The pits were entered and inspected by a staff geologist from this office. Samples of the soils were obtained from the test pit excavations and taken to the laboratory for testing. Logs of the test pits are enclosed herein.

Samples of the soils were visually classified by field identification procedure in accordance with the Unified Soil Classification. A simplified version of the Unified Soil Classification is included in the Appendix of this report.

C. Subsurface Conditions

Geologically the site is underlain by light colored sandstone units with minor siltstone and cobble interbeds. The exposed rocks chiefly occur in a moderately well cemented to friable condition. Well developed exposures were noted throughout the site including within the "badland" areas along the western margin.

The exposed formational rocks at the site are moderately well bedded rocks which occur in a near flat-lying condition. Low angle dips chiefly in a westerly direction are attributed to modest folding. Steeper dips are local features which represent cross-bedding. Landslides or other forms of slope instability were not in evidence on the property.

The fill soils encountered on the site consist of the reworked native soils. On site excavations are expected to generate sandy soils.

There are essentially two soil types based on engineering properties as described on the logs which were encountered during the investigation. The soil types are referred to later as Soil Types 1 and 2.

SOIL TYPES

Soil Type	Soil Description	Unified Soil Classification
1	Tan fine grained silty sand	SM
2	Orange fine grained silty sand	SM

No ground water was encountered during the investigation.

D. Geologic Hazards

Faults or significant shear zones were not exposed during our field study. As with most areas of Southern California, the study property lies within a seismically active zone. Distant faults including the Elsinore Fault approximately twenty-five miles to the northeast and unnamed offshore faults will periodically affect the property.

It is believed the greatest geologic hazard would be from earth shaking in the event of an earthquake.

IV. TESTS AND RESULTS

A. Maximum Density Tests

Two laboratory compaction tests were made on Soil Types 1 and 2 (one each) to determine the maximum dry density and optimum moisture content as specified by ASTM D-1557, Method A. This test uses the minus #4 sieve soil in a 4-inch diameter, 4-inch high cylindrical mold. The sample is formed with a 10 pound hammer falling 18 inches for 25 blows on each of 5 layers. The results follow below.

Location	Soil Type	Soil Description	Maximum Dry Density(pcf)	Optimum Moisture Content(%)
TP 1@2	1	Tan fine grained silty sand	112.5	14.0
TP 2@6	2	Orange fine grained silty sand	122.8	11.5

TP = Test Pit

These results may be used during the grading where applicable.

B. Field Density Tests

Moisture contents and densities were determined on twenty-four paraffin coated undisturbed samples using the water displacement method. The results are presented on the logs at the corresponding locations. The relative compaction/density noted on the logs is defined as the ratio of the field dry density to the laboratory maximum dry density.

C. Expansion Test

One expansion test was made on a representative sample of Soil Type 2. The soil was remolded to 90% of the maximum dry density in a 2½-inch diameter, 1-inch high ring mold. The sample was instrumented, loaded with 1 psi and submerged in water. The ratio of the change in height from the air dry to the saturated condition is defined as the percent expansion. The results are presented below.

	Soil	Initial		Air Dry		Saturated		Expansion
Location	Type	ω	γ_o	ω	γ_o	ω	γ_o	(%)
TP 2@6	2	9.4	111.5	4.7	111.7	12.5	109.6	1.9

TP = Test Pit - ω = Moisture Content (%) - γ_o = Dry Density (pcf)

D. Direct Shear Tests

Two direct shear tests were performed on representative samples of Soil Types 1 and 2 for strength parameters in the lateral load and bearing capacity calculations. Three specimens of each soil were prepared by molding them in 2½-inch diameter, 1-inch high rings to 90% of the maximum dry density and optimum moisture content and soaked overnight. The specimens were loaded with normal loads of 1, 2 and 3 KSF respectively and sheared to failure in an undrained shear. The results are presented in the next section.

V. BEARING CAPACITY

The values of internal friction and apparent cohesion derived from the direct shear tests were used in the Terzaghi Formula in accordance with the procedure outlined in Reference 2, page 223, to compute the allowable bearing capacity.

Terzaghi Formula:

$$\text{Bearing Capacity} = 2/3cN'_c + \gamma D_f N'_q + 1/2\,\gamma B N_\gamma'$$

Assumptions: (for a one-story structure)

Depth of Footings, D_f = 12"

Width of Continuous Footing, B = 12"

N_c' N_q' N_γ' = dimensionless parameters, Ref. 1, Fig. 75

Factor of Safety = 3

ALLOWABLE BEARING CAPACITY

Location	Soil Type	Wet Density (pcf)	Angle of Int.Fric. Ø, (o)	Apparent Cohesion C, (psf)	Bearing Capacity (psf)
TP 1@2	1	114.2	36	40	1044
TP 2@6	2	121.4	37	37	1570

VI. LATERAL LOAD PARAMETERS

The lateral load parameters to be used in design of the retaining and restraining walls (using level backfills) are derived from the friction angle Ø, obtained from the direct shear test using the following formulas:

A. Active Pressure Coefficient, $Ka = \frac{1 - \sin \phi}{1 + \sin \phi}$

B. At Rest Pressure Coefficient, $Ko = 1 - \sin \phi$

C. Passive Pressure Coefficient, $Kp = 1/Ka$

The equivalent fluid pressures are obtained by the formulas:

Peq. = z Ka γ (psf, active)

Peq. = z Ko γ (psf, at rest)

Peq. = z Kp γ (psf, passive)

Where z = 1', and γ = wet density (pcf).

	SOIL TYPES 1	2
Active Pressure Coefficient, Ka =	0.26	0.25
At Rest Pressure Coefficient, Ko =	0.41	0.40
Passive Pressure Coefficient, Kp =	3.85	4.02
Active Pressure (psf) =	30	30
At Rest Pressure (psf) =	47	48
Passive Pressure (psf) =	440	488
As applicable where wet density (pcf) =	114.2	121.4
and for Ø =	36°	37°

Recommended design values based on anticipated conditions are found in Section VII, Conclusions and Recommendations.

VII. CONCLUSIONS AND RECOMMENDATIONS

Based on the foregoing investigation, development of the subject property is feasible from a geotechnical viewpoint. Landslides or other forms of geologic instability were not in evidence at the site. The most significant geologic hazard in the area is thought to be ground shaking during an earthquake event. Buildings should be designed in accordance with the latest Uniform Building Code Seismic Zone IV specifications. Liquefaction or other forms of seismic ground failure is not expected at the site provided the recommendations given below are implemented.

Formational rocks beneath the hillside areas of the property are non-expansive units which will adequately support site improvements. Fill and alluvial soils are currently in a loose condition and not suitable for the support of structures. The recommendations given below should be utilized for future planning and implemented in the preparation of formal development plans.

Subdrains may be deemed necessary in specific areas and will be designed by MV Engineering, Inc. once the finalized development plans are made available.

1. Graded slopes should be designed at 2:1 (horizontal to vertical) gradients for overall gross slope stability.

2. It is recommended that the preparation of the native soil and any grading should be completed in accordance with the enclosed "Specifications for Construction of Controlled Fills" except if superseded by the following recommendations.

3. It is recommended that any septic tanks or large buried objects detected during the grading be removed. The voids should be filled with compacted soil and tested by the soil engineer or his representative in charge.

4. The cut portions of any transition lots shall be undercut a minimum depth of three feet below the proposed pad grade or to a minimum depth of twelve inches below the bottom of the footing, whichever is greater, and replaced as structural fill. This precaution will decrease the potential of cracking of the slab along the cut/fill transition line.

5. All underground utility trenches should be compacted to a minimum of 90% of the maximum dry density of the soil unless otherwise specified by the respective agencies. Care should be taken not to crush the utilities or pipes during the compaction of the soil.

6. In the absence of detailed grading plans, specific removal/grading recommendations cannot be provided at this time; however, fill and alluvial soils beneath planned improvement areas should be removed to underlying formational rock prior to building or grading. Removal depths may be estimated from the enclosed test pit logs.

7. Due to the lack of a grading plan specific foundation and slab recommendations for each lot cannot be given until the finish grading has been completed. Anticipated recommendations are given below for the low expansive Soil Type 1 and 2. Each lot should be inspected individually during and after the rough grading in order to determine which of the following recommendations will be appropriate for the specific soils. In cases where there is a mixture of two or more soil types, additional testing will be required in order to determine the appropriate foundation recommendations.

Individual lot development plans should be submitted to this office for review. In some cases, additional field work will be necessary to provide detailed development recommendations which are consistent with specific plans.

8. Foundation recommendations for Soil Type 1 and 2 are listed below.

A. It is recommended that normal concrete wall footings be used in accordance with the Uniform Building Code design (i.e. 12 inches wide by 12 inches deep and 15 inches wide by 18 inches deep for one-and two-story structures respectively, minimum depths, measured from the lowest adjacent ground surface).

B. Use two #4 reinforcing rods in the footings. Place one rod 3 inches from the top and the other rod 3 inches from the bottom of the footing.

C. Use 6x6/10x10 welded wire mesh placed mid-height in all slabs. Use 3½ inch minimum thick slabs and a minimum of 4 inches of clean sand under all slabs. A plastic moisture barrier is optional. If the moisture barrier is used, it should be placed mid-height in the sand. Provide weakened plane joints spaced 12 feet on center each way for all slabs.

D. Our tests and calculations indicate an allowable bearing capacity of 1044 and 1570 psf for one-story continuous and isolated footings for Soil Type 1 and 2 respectively. Experience and good engineering practices would limit both of these values to 1000 psf.

This value is to be verified at completion of grading by the soils engineer or his representative.

E. The following lateral design loads should be used for their respective soil types.

	Soil Types		
	1	2	
Active Pressure =	30	30	(psf)
At Rest Pressure =	47	48	(psf)
Passive Pressure =	440	488	(psf)

Use a coefficient of friction of 0.35 for concrete on soil.

These recommendations assume a drained and level backfill condition as well as a granular non-expansive type of backfill material.

9. Due to the erodible nature of the on-site soils, fill slopes should be compacted to a minimum of 90% of the laboratory maximum value. Overfilling and cutting back to the design configuration is recommended for smaller slopes. Larger slopes should be backrolled at minimum vertical increments of three feet and sealed at the completion of grading. Slope tests will be taken to verify the compaction recommendation.

10. If any import soil is needed to complete grading, the soil should be granular and non-expansive. The soil must be examined and approved by the soils engineer or his representative prior to the delivery of the soil to the site. Revised footing recommendations should be anticipated.

11. This office should be notified to inspect the footing trenches after they are dug to verify the foundation conditions.

12. Caution should be used during the grading so that the existing adjacent structures/improvements are not distressed by the removals. Appropriate set backs will be required and should be anticipated.

13. During the grading a cobble soil mixture may be generated by the excavations. It is recommended that the soil is mixed well and extra water is used. Compact the soil to 90% of the maximum dry density as specified by ASTM 1557-70.

14. Footings located on or adjacent to the top of slopes should be extended to a sufficient depth to provide a minimum horizontal distance of 5.0 feet between the bottom edge of the footing and the face of the slope.

15. If any boulders are encountered during the grading they should be removed and the voids filled with soil that has been compacted to not less than 90% of the maximum dry density and optimum moisture content. No rocks larger than 12 inches in diameter shall be placed in the fill within three feet from finish grade.

16. During the course of our investigation, test pits were dug to various depths. After logging and sampling of the test pits, they were backfilled, rolled and tamped. This backfilling process does not acquire the necessary compaction for the support of any future overlying structures or pavement. Therefore, during the grading of the site, the test pits should be re-excavated and backfilled to not less than 90% of the maximum dry density for the soil. The approximate locations of the test pits are shown on the Test Pit Location Map, Plate 1.

17. Finish grading should direct and maintain drainage away from all slopes and buildings.

18. It is recommended that a pre-grading meeting be held between the owner, grading contractor and a representative of this firm to discuss the operation and to arrange a testing schedule.

19. Finalized development plans should incorporate these recommendations and be reviewed and approved by this office. If the finalized development plans significantly change or if they were not available at the time of this investigation, further investigation and engineering by this firm will be required.

VIII. LIMITATIONS

Our conclusions and recommendations have been based on all available data obtained from our field investigation and laboratory analyses, as well as our experience with the soils and formational materials

located in the general area. Of necessity, we must assume a certain degree of continuity between exploratory excavations and/or natural exposures. It is necessary therefore, that all observations, conclusions, and recommendations be verified during the grading operation. In the event discrepancies are noted, we should be notified immediately so that an inspection can be made and additional recommendations issued, if required.

The recommendations made in this report are applicable to the site at the time this report was prepared. It is the responsibility of the owner/developer to insure that these recommendations are carried out in the field.

The firm of MV Engineering, Inc. shall not be held responsible for changes to the physical conditions of the property such as addition of fill soils or changing drainage patterns which occur subsequent to issuance of this report.

This report should be considered valid for a period of one year and is subject to review by our firm following that time. If significant modifications are made to your tentative development plan, especially with respect to the height and location of cut and fill slopes, this report must be presented to us for review and possible revision.

Once again, should any questions arise concerning this report, please do not hesitate to contact this office. Reference to our Job #1534-87 will expedite response to your inquiries.

We appreciate this opportunity to be of service to you.

MV ENGINEERING, INC.

Ralph M. Vinje
GE #863

RMV/jm

Reference:

1. Terzaghi and Peck, 1948, "Soil Mechanics in Engineering Practice", John Wiley & Son, N.Y.

GEOTECHNICAL MAP

Afu	Undocumented fill
Qal	Alluvium
Ts	Formational rock
	Test pit
	Attitude of bedding in formational rock
	Horizontal bedding

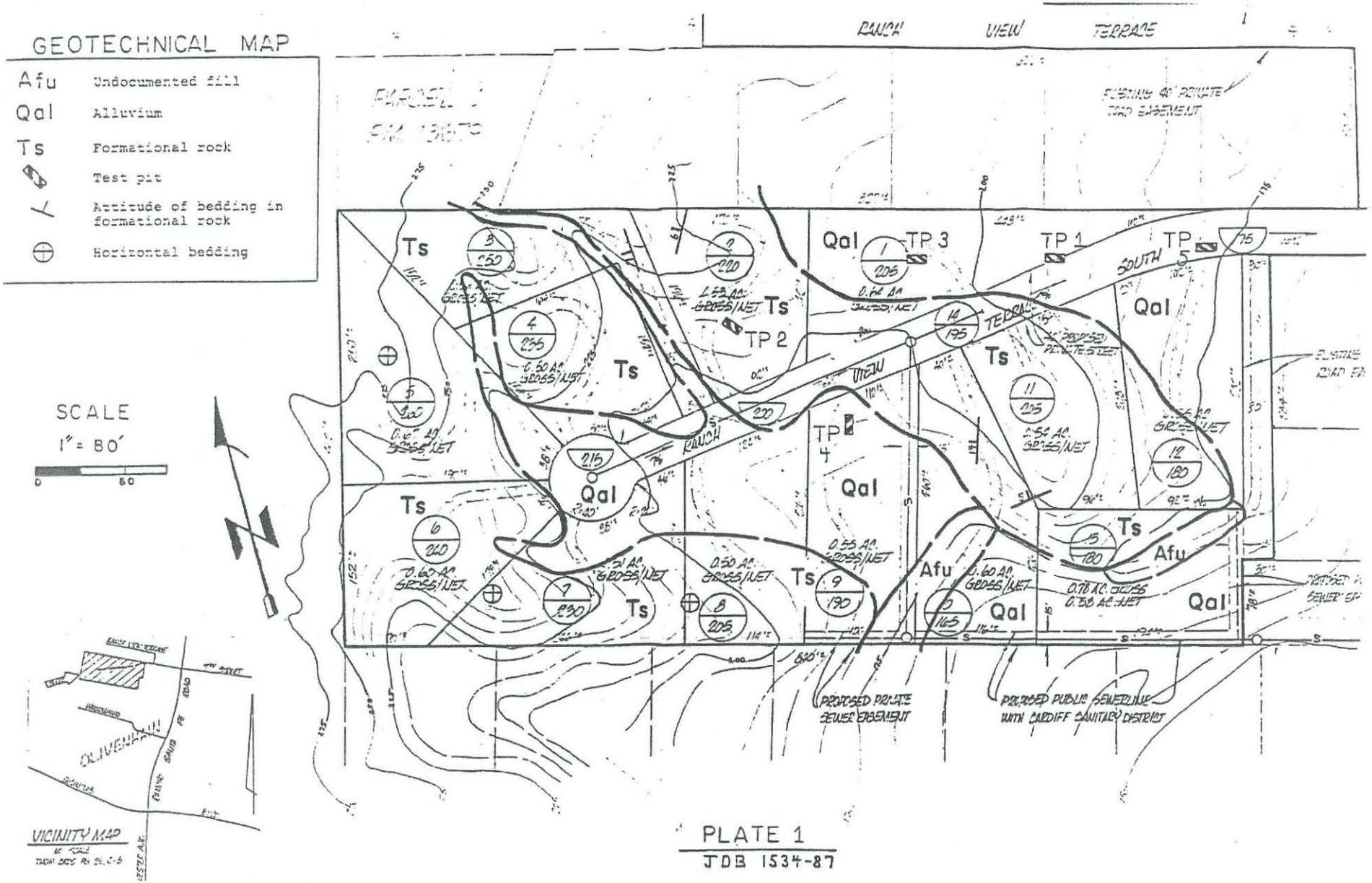

PLATE 1

JOB 1534-87

PRIMARY DIVISIONS			GROUP SYMBOL	SECONDARY DIVISIONS
COARSE GRAINED SOILS MORE THAN HALF OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	GRAVELS MORE THAN HALF OF COARSE FRACTION IS LARGER THAN NO. 4 SIEVE	CLEAN GRAVELS (LESS THAN 5% FINES)	GW	Well graded gravels, gravel-sand mixtures, little or no fines.
			GP	Poorly graded gravels or gravel-sand mixtures, little or no fines.
		GRAVEL WITH FINES	GM	Silty gravels, gravel-sand-silt mixtures, non-plastic fines.
			GC	Clayey gravels, gravel-sand-clay mixtures, plastic fines.
	SANDS MORE THAN HALF OF COARSE FRACTION IS SMALLER THAN NO. 4 SIEVE	CLEAN SANDS (LESS THAN 5% FINES)	SW	Well graded sands, gravelly sands, little or no fines.
			SP	Poorly graded sands or gravelly sands, little or no fines.
		SANDS WITH FINES	SM	Silty sands, sand-silt mixtures, non-plastic fines.
			SC	Clayey sands, sand-clay mixtures, plastic fines.
FINE GRAINED SOILS MORE THAN HALF OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS LIQUID LIMIT IS LESS THAN 50%		ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity.
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.
			OL	Organic silts and organic silty clays of low plasticity.
	SILTS AND CLAYS LIQUID LIMIT IS GREATER THAN 50%		MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts.
			CH	Inorganic clays of high plasticity, fat clays.
			OH	Organic clays of medium to high plasticity, organic silts.
HIGHLY ORGANIC SOILS			PT	Peat and other highly organic soils.

GRAIN SIZES

U.S. STANDARD SERIES SIEVE				CLEAR SQUARE SIEVE OPENINGS		
200	40	10	4	3/4"	3"	12"

SILTS AND CLAYS	SAND			GRAVEL		COBBLES	BOULDERS
	FINE	MEDIUM	COARSE	FINE	COARSE		

RELATIVE DENSITY

SANDS, GRAVELS AND NON-PLASTIC SILTS	BLOWS/FOOT
VERY LOOSE	0 - 4
LOOSE	4 - 10
MEDIUM DENSE	10 - 30
DENSE	30 - 50
VERY DENSE	OVER 50

CONSISTENCY

CLAYS AND PLASTIC SILTS	STRENGTH	BLOWS/FOOT
VERY SOFT	0 - ¼	0 - 2
SOFT	¼ - ½	2 - 4
FIRM	½ - 1	4 - 8
STIFF	1 - 2	8 - 16
VERY STIFF	2 - 4	16 - 32
HARD	OVER 4	OVER 32

1. Blow count, 140 pound hammer falling 30 inches on 2 inch O.D. split spoon sampler (ASTM D-1586)
2. Unconfined compressive strength per SOILTEST pocket penetrometer CL-700

△ = undisturbed chunk sample

□ = disturbed sample

○ = sand cone test

| $^{2}4_{6}$ = Standard Penetration Test (SPT) (ASTM D-1586) with blow counts per 6 inches

‖ 4 = California Sampler with blow counts per 12 inches

MV ENGINEERING, INC.

KEY TO EXPLORATORY BORING LOGS
Unified Soil Classification System (ASTM D-2487)

Bill Buck
Ranch View Terrace, Encinitas

PROJECT NO.	DATE	Plate 2 KEY
1534-87	12/30/87	

ELEVATION 195	LOGGED BY SM
DEPTH TO GROUND WATER N/E	BORING DIAMETER 36"	DATE DRILLED 12/9/87

DEPTH (FEET)	DESCRIPTION AND CLASSIFICATION	SOIL CLASSIFICATION	SAMPLE TYPE / PENETRATION RESISTANCE	(MISC.)	WATER CONTENT (%)	DRY DENSITY (PCF)	RELATIVE DENSITY (PCF)
0							
1	ALLUVIUM: (Qal): Tan, fine grained silty sand. Moist, very loose to loose, rootlets.						
2	Soil Type 1	SM	△□		3.3	106.9	95.0
	Becomes dry and firms at 2½'.						
3	Rootlets throughout.						
4	Dry, moderately firm.		△		3.2	111.1	98.7
5	@ 5'8" interbed of porous dark brown sand with rootlets.						
6	Continued dry, moderately firm.		△		5.1	104.6	93.0
7	Moderately cemented.						
8	@ 8' moist, firm, slight clay content, cemented.		△		3.4	120.2	100+
9							
10			△		8.7	103.8	92.3
11	Continued moist, trace clays. Moderately firm, moderately cemented.						
12			△		11.9	98.2	87.3
	Bottom @ 12'						
13							
14							

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EXPLORATORY BORING LOG

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PROJECT NO.	PLATE	
1534-87	3	TP 1

DRILL RIG	BACKHOE	SURFACE ELEVATION	210 ±	LOGGED BY	SM
DEPTH TO GROUND WATER	N/E	BORING DIAMETER	36"	DATE DRILLED	12/9/87

DEPTH (FEET)	DESCRIPTION AND CLASSIFICATION	SOIL CLASSIFICATION	SAMPLE TYPE / PENETRATION RESISTANCE	(MISC.)	WATER CONTENT (%)	DRY DENSITY (PCF)	RELATIVE DENSITY (PCF)
0	TOPSOIL: Tan, fine grained silty sand. moist, very loose, rootlets top 14".						
1							
2	Dry, moderately loose at 2'. Soil Type 1	SM	△		2.7	90.9	80.8
3	FORMATIONAL ROCK: (Ts) Sandstone. Fine grain, silty, tan. Scattered cobbles (rounded to subangular).						
4	Dry, firm, moderately cemented. Scattered rootlets.		△		3.6	95.2	84.6
5	Soil Type 1	SM					
6	SANDSTONE. Fine grain, silty, Orange color. Moist, well cemented, scattered rounded pebbles and cobbles, rootlets, trace clays.		△□		3.8		
7	@ 7' interbeds of dark brown clayey sandstone. Horizontal structure.	SM					
8	Slow digging at bottom. Soil Type 2 Bottom @ 7½'						
9							
10							
11							
12							
13							
14							

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EXPLORATORY BORING LOG

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PROJECT NO.	PLATE	
1534-87	4	TP 2

DRILL RIG BACKHOE	SURFACE ELEVATION 205 ±	LOGGED BY SM
DEPTH TO GROUND WATER N/E	BORING DIAMETER 36"	DATE DRILLED 12/9/87

DEPTH (FEET)	DESCRIPTION AND CLASSIFICATION	SOIL CLASSIFICATION	SAMPLE TYPE / PENETRATION RESISTANCE	(MISC.)	WATER CONTENT (%)	DRY DENSITY (PCF)	RELATIVE DENSITY (PCF)
0	ALLUVIUM: (Qal): Tan fine grained silty sand. Moist, very loose top 18". Roots.						
2			△		3.7	89.0	79.1
4	From 4' soil is firm.		△		2.7	95.6	85.0
6	Continued dry, moderately loose to firm @ 6'.		△		2.8	96.3	85.6
7	Scattered rootlets.						
8	Slightly moist @ 8'.		△		5.6	95.5	84.9
10			△		4.2	95.4	84.8
11	Moderately dry, firm, poorly to moderately cemented. Soil Type 1	SM					
12	FORMATIONAL ROCK (Ts): Sandstone. Fine grain, silty, orange color. Moist, moderately cemented.		△		6.0	93.7	76.3
13	Firm, moist, moderately cemented. Soil Type 2	SM	△		6.1	100.1	81.5
14	Bottom @ 14'						

EXPLORATORY BORING LOG

Bill Buck
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DRILL RIG BACKHOE	SURFACE ELEVATION 190 ±	LOGGED BY SM
DEPTH TO GROUND WATER N/E	BORING DIAMETER 36"	DATE DRILLED 12/9/87

DEPTH (FEET)	DESCRIPTION AND CLASSIFICATION	SOIL CLASSIFICATION	SAMPLE TYPE / PENETRATION RESISTANCE	(MISC.)	WATER CONTENT (%)	DRY DENSITY (PCF)	RELATIVE DENSITY (PCF)
0							
1	ALLUMIUM (Qal): Tan, fine grained silty sand. Moist, very loose top 2'.						
2	Dry, very loose @ 2' Soil Type 1	SM					
3	Root 3" diameter.						
4	Firms slightly @ 4½'.						
5			△		6.7	90.7	80.7
6	Scattered rootlets.						
7	Moist, very loose.		△		10.0	82.5	73.4
8							
9	Firms slightly @ 8½'						
10	Moist, weakly to moderately cemented, trace clays, moderately loose.		△		6.0	89.5	79.5
11							
12	FORMATIONAL ROCK (Ts): Sandstone. Fine grain, silty, tan color.		△		7.2	92.8	82.5
13	Moist, firm, weakly to Moderately cemented. Soil Type 1	SM					
14	Bottom @ 13'						

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EXPLORATORY BORING LOG

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PROJECT NO.	PLATE	
1534-07	6	TP 4

DRILL RIG BACKHOE	SURFACE ELEVATION 180 ±	LOGGED BY SM
DEPTH TO GROUND WATER N/E	BORING DIAMETER 36"	DATE DRILLED 12/9/87

DEPTH (FEET)	DESCRIPTION AND CLASSIFICATION	SOIL CLASSIFICATION	SAMPLE TYPE / PENETRATION RESISTANCE	(MISC.)	WATER CONTENT (%)	DRY DENSITY (PCF)	RELATIVE DENSITY (PCF)
0							
1	ALLUVIUM: (Qal): Tan fine grained silty sand. Moist, very loose, top 18". Rootlets.						
2	Firm @ 2'. Dry.		△		4.4	97.1	86.3
3							
4	Dry, firm.		△		5.9	96.9	86.2
5	Cobble lense @ 5'. Soil Type 1	SM					
6	FORMATIONAL ROCK (Ts): Sandstone. Fine grain, silty, tan color.		△		6.1	94.0	83.6
7	Moderately to well cemented. Very firm, breaks up blocky, dry. Iron oxide staining.						
8	Soil Type 1	SM	△		8.0	106.8	94.9
9	Bottom @ 8½'						
10							
11							
12							
13							
14							

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EXPLORATORY BORING LOG

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PROJECT NO.	PLATE	
1534-87	7	TP 5

APPENDIX "A"

SPECIFICATIONS
FOR
CONSTRUCTION OF CONTROLLED FILLS

GENERAL DESCRIPTION

The construction of controlled fills shall consist of an adequate preliminary soil investigation, clearing, removal of existing structures and foundations, preparation of land to be filled, excavation of earth and rock from cut area, compaction and control of the fill, and all other work necessary to complete the grading of the filled areas to conform with the lines, grades, and slopes as shown on the accepted plans.

CLEARING AND PREPARATION OF AREAS TO BE FILLED

A. All fill control projects shall have a preliminary soil investigation or a visual examination, depending upon the nature of the job, by a qualified soil engineer prior to grading.

B. All timber, trees, brush, vegetation, and other rubbish shall be removed, piled and burned or otherwise disposed of to leave the prepared areas with a finished appearance, free from unsightly debris.

C. Any soft, swampy or otherwise unsuitable areas shall be corrected by drainage or removal of compressible material, or both, to the depths indicated on the plans or as directed by the soil engineer.

D. The natural ground which is determined to be satisfactory for the support of the filled ground shall then be plowed or scarified to a depth of at least six inches (6") or deeper as specified by the soil engineer, and until the surface is free from ruts, hummocks, or other uneven features which would tend to prevent uniform compaction by the equipment to be used.

E. No fill shall be placed until the prepared native ground has been approved by the soil engineer.

F. Where fills are made on hillsides with slopes greater than 5 (horizontal) to 1 (vertical), horizontal benches shall be cut into firm, undisturbed, natural ground at the elevation of the toe stake. The soil engineer shall determine the width and frequency of all succeeding benches, which will vary with the soil conditions and the steepness of slope.

G. After the natural ground has been prepared, it shall be brought to the proper moisture content and compacted to not less than 90% of maximum density, ASTM D-1557-64T.

H. Expansive soils may require special compaction specifications as directed in the preliminary soil investigation by the soil engineer.

I. The cut portions of building pads in which rock-like material exists may require excavation and recompaction for density compatibility with the fill as directed by the soil engineer.

MATERIALS

The fill soils shall consist of select materials, graded so that at least 40 percent of the material passes the No. 4 sieve. The material may be obtained from the excavation, a borrow pit, or by mixing soils from one or more sources. The material used shall be free from vegetable matter and other deleterious substances, and shall not contain rocks or lumps greater than six inches (6") in diameter. If excessive vegetation, rocks or soils with unacceptable physical characteristics are encountered, these materials shall be disposed of in waste areas designated on the plans or as directed by the soil engineer. If soils are encountered during the grading operation which were not reported in the preliminary soil investigation, further testing will be required to ascertain their engineering properties. Any special treatment recommended in the preliminary or subsequent soil reports not covered herein shall become an addendum to these specifications.

No material of a perishable, spongy or otherwise unstable nature shall be used in the fills.

PLACING, SPREADING AND COMPACTION FILL MATERIAL

A. The selected fill material shall be placed in layers which shall not exceed six inches (6") when compacted. Each layer shall be spread evenly and shall be thoroughly blade-mixed during the spreading to insure uniformity of material and moisture in each layer.

B. When the moisture content of the fill material is below that specified by the soil engineer, water shall be added until the moisture content is near optimum as determined by the soil engineer to assure thorough bonding during the compaction process. This is to take place even if the proper density has been achieved without proper moisture.

C. When the moisture content of the fill material is above that specified by the soil engineer, the fill material shall be aerated by blading and scarifying or other satisfactory methods until the moisture content is near optimum as determined by the soil engineer.

D. After each layer has been placed, mixed and spread evenly, it shall be thoroughly compacted to not less than the specified maximum density in accordance with ASTM D-1557-64T. Compaction shall be by means of tamping or sheepsfoot rollers, multiple-wheel pneumatic-tired rollers, or other types of rollers. Rollers shall be of such design that they will be able to compact the fill to the specified density. Rolling each layer shall be continuous over its entire area and the rollers shall make sufficient passes to obtain the desired density. The entire area to be filled shall be compacted to the specified density.

E. Fill slopes shall be compacted by means of sheepsfoot rollers or other suitable equipment. Compaction operations shall be continued until the slopes are stable but not too dense for planting and until there is no appreciable amount of loose soil on the slopes. Compacting of the slopes shall be accomplished by backrolling the slopes in increments of three to five feet (3' - 5') in elevation gain or by other methods producing satisfactory results.

If the method of achieving the required slope compaction selected by the contractor fails to produce the necessary results, the contractor shall rework or rebuild such slopes until the required degree of compaction is obtained.

F. Field density tests shall be made by the soil engineer for approximately each foot in elevation gain after compaction, but not to exceed two feet (2') in vertical height between tests.

The soil engineer shall be notified to test the fill at regular intervals. If the tests have not been made, after three feet of compacted fill has been placed, the contractor shall stop work on the fill until tests are made.

The location of the tests shall be spaced to give the best possible coverage and shall be taken no farther than 100 feet apart. Tests shall be taken on corner and terrace lots for each two feet (2') in elevation gain. The soil engineer may take additional tests as considered necessary to check on the uniformity of compaction. Where sheepsfoot rollers are used, the test shall be taken in the compacted material below the disturbed surface. No additional layers of fill shall be spread until the field density tests indicate that the specified density has been obtained.

G. The fill operation shall be continued in six-inch (6") compacted layers, as specified above, until the fill has been brought to the finished slopes and grades as shown on the accepted plans.

SUPERVISION

Supervision by the soil engineer shall be made during the filling and compacting operations so that he can certify that the fill was made in accordance with accepted specifications.

The specifications and soil testing of subgrade and basegrade material for roads or other public property shall be done in accordance with specifications of the governing agency.

It should be understood that the contractor shall supervise and direct the work and shall be responsible for all construction means, methods, techniques, sequences and procedures. The contractor will be solely and completely responsible for conditions at the job site, including safety of all persons and property during the performance of the work. Intermittent or continuous inspection by the soil engineer is not intended to include review of the adequacy of the contractor's safety measures in, on or near the construction site.

SEASONAL LIMITS

No fill material shall be placed, spread or rolled during unfavorable weather conditions. When the work is interrupted by heavy rain, grading shall not be resumed until field tests by the soil engineer indicate that the moisture content and density of the fill are as previously specified. In the event that, in the opinion of the engineer, soils unsatisfactory as foundation material are encountered, they shall not be incorporated in the grading and disposition will be made at the engineer's discretion.

UNIFIED SOIL CLASSIFICATION

Identifying Criteria	Group Symbol	Soil Description
I. COARSE GRAINED (more than 50% larger than #200 sieve)		
Gravels (more than 50% larger than #4 sieve but smaller than 3") Non-plastic	GW	Gravel, well-graded gravel-sand mixture, little or no fines.
	GP	Gravel, poorly graded, gravel-sand mixture, little or no fines.
	GM	Gravel, silty, poorly graded, gravel-sand-silt mixtures.
	GC	Gravel, clayey, poorly graded, gravel-sand-clay mixtures.
Sands (more than 50% smaller than #4 sieve) Non-plastic	SW	Sand, well-graded, gravelly sands, little or no fines.
	SP	Sand, poorly graded, gravelly sands, little or no fines.
	SM	Sand, silty, poorly graded, sand-silt mixtures.
	SC	Sand, clayey, poorly graded, sand-clay mixtures.
II. FINE GRAINED (more than 50% smaller than #200 sieve)		
Liquid Limit less than 50	ML	Silt, inorganic silt and fine sand, sandy silt or clayey-silt-sand mixtures with slight plasticity.
	CL	Clay, inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.

II.	FINE GRAINED - con't.		
	Liquid Limit greater than 50	OL	Silt, organic, silts and organic silt-clays of low plasticity.
		MH	Silt, inorganic, silts micaceous or dictomaceous fine, sandy or silty soils, elastic silts.
		CH	Clay, inorganic, clays of medium to high plasticity, fat clays.
		OH	Clay, organic, clays of medium to high plasticity.
III.	HIGHLY ORGANIC SOILS	PT	Peat, other highly organic swamp soils.

ATTACHMENT B
BORING LOGS

Construction Testing & Engineering, Inc.
1441 Montiel Rd Ste 115, Escondido, CA 92026 Ph (760) 746-4955

DEFINITION OF TERMS

PRIMARY DIVISIONS			SYMBOLS	SECONDARY DIVISIONS
COARSE GRAINED SOILS MORE THAN HALF OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	GRAVELS MORE THAN HALF OF COARSE FRACTION IS LARGER THAN NO. 4 SIEVE	CLEAN GRAVELS < 5% FINES	GW	WELL GRADED GRAVELS, GRAVEL-SAND MIXTURES LITTLE OR NO FINES
			GP	POORLY GRADED GRAVELS OR GRAVEL SAND MIXTURES, LITTLE OF NO FINES
		GRAVELS WITH FINES	GM	SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES, NON-PLASTIC FINES
			GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES, PLASTIC FINES
	SANDS MORE THAN HALF OF COARSE FRACTION IS SMALLER THAN NO. 4 SIEVE	CLEAN SANDS < 5% FINES	SW	WELL GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
			SP	POORLY GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
		SANDS WITH FINES	SM	SILTY SANDS, SAND-SILT MIXTURES, NON-PLASTIC FINES
			SC	CLAYEY SANDS, SAND-CLAY MIXTURES, PLASTIC FINES
FINE GRAINED SOILS MORE THAN HALF OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS LIQUID LIMIT IS LESS THAN 50		ML	INORGANIC SILTS, VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS, SLIGHTLY PLASTIC CLAYEY SILTS
			CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY, SANDY, SILTS OR LEAN CLAYS
			OL	ORGANIC SILTS AND ORGANIC CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS LIQUID LIMIT IS GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SANDY OR SILTY SOILS, ELASTIC SILTS
			CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
			OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTY CLAYS
HIGHLY ORGANIC SOILS			PT	PEAT AND OTHER HIGHLY ORGANIC SOILS

GRAIN SIZES

BOULDERS	COBBLES	GRAVEL		SAND			SILTS AND CLAYS
		COARSE	FINE	COARSE	MEDIUM	FINE	

12" 3" 3/4" 4 10 40 200

CLEAR SQUARE SIEVE OPENING U.S. STANDARD SIEVE SIZE

ADDITIONAL TESTS

(OTHER THAN TEST PIT AND BORING LOG COLUMN HEADINGS)

MAX- Maximum Dry Density
GS- Grain Size Distribution
SE- Sand Equivalent
EI- Expansion Index
CHM- Sulfate and Chloride Content , pH, Resistivity
COR - Corrosivity
SD- Sample Disturbed
PM- Permeability
SG- Specific Gravity
HA- Hydrometer Analysis
AL- Atterberg Limits
RV- R-Value
CN- Consolidation
CP- Collapse Potential
HC- Hydrocollapse
REM- Remolded
PP- Pocket Penetrometer
WA- Wash Analysis
DS- Direct Shear
UC- Unconfined Compression
MD- Moisture/Density
M- Moisture
SC- Swell Compression
OI- Organic Impurities

FIGURE: BL1

Construction Testing & Engineering, Inc.
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PROJECT: | DRILLER: | SHEET: of
CTE JOB NO: | DRILL METHOD: | DRILLING DATE:
LOGGED BY: | SAMPLE METHOD: | ELEVATION:

Depth (Feet)	Bulk Sample	Driven Type	Blows/Foot	Dry Density (pcf)	Moisture (%)	U.S.C.S. Symbol	Graphic Log	BORING LEGEND	Laboratory Tests
								DESCRIPTION	

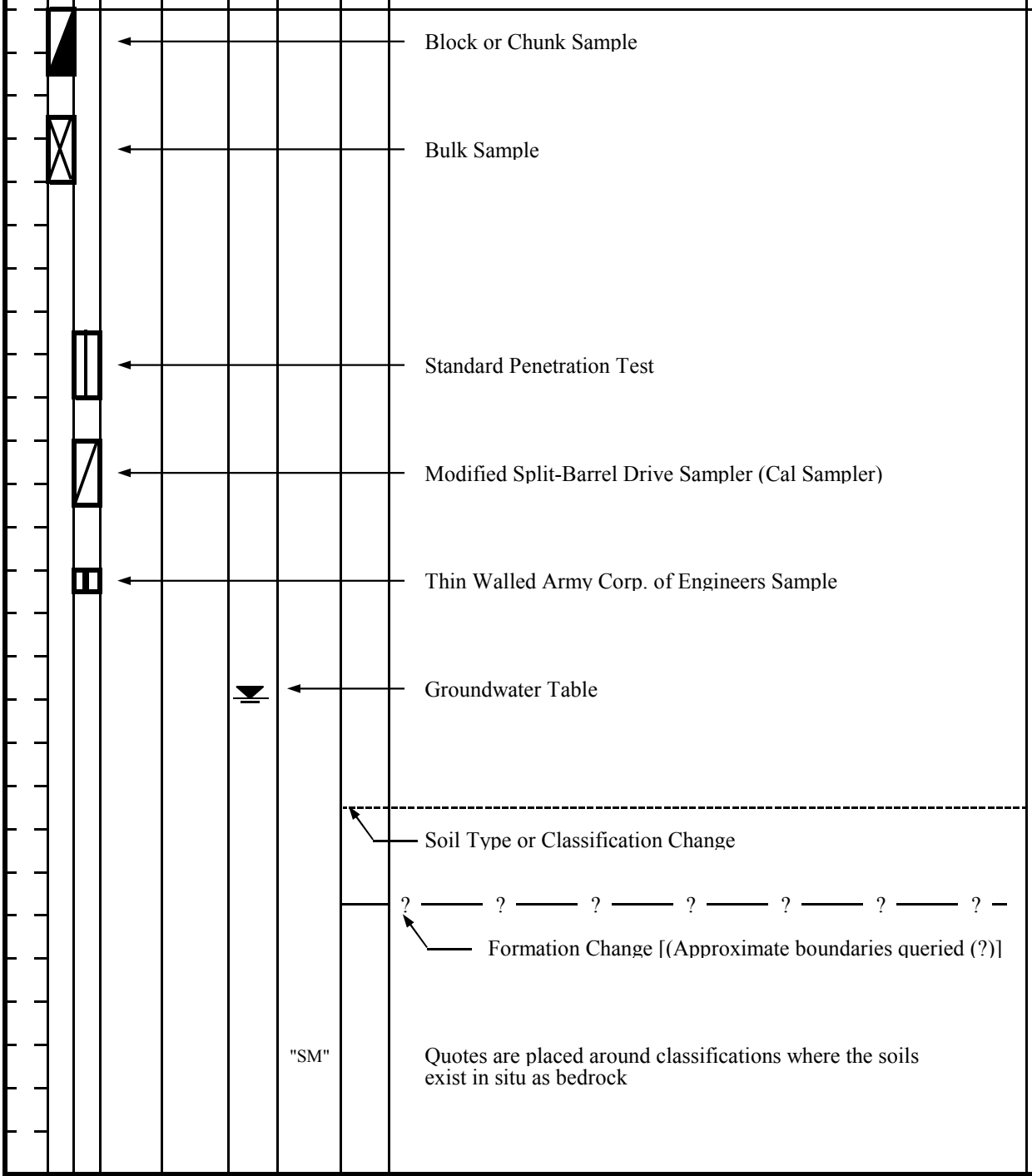

FIGURE: BL2

Construction Testing & Engineering, Inc.
1441 Montiel Rd Ste 115, Escondido, CA 92026 Ph (760) 746-4955

PROJECT:	RANCH VIEW TERRACE, 8 LOTS	EXCAVATOR:	AJB		
CTE JOB NO:	10-14212G	EXCAVATION METHOD:	HAND AUGER	EXCAVATION DATE:	3/30/2018
LOGGED BY:	AJB	SAMPLING METHOD:	BULK	ELEVATION:	~176 FEET

BORING LOG B-1

Dry Density (pcf)	Moisture (%)	U.S.C.S. Symbol	Graphic Log	Depth (Feet)	Sample Type: Bulk	Sample Type: Driven	DESCRIPTION	Laboratory Tests
		SM		0			**QUATERNARY YOUNG ALLUVIAL FLOOD PLAIN DEPOSITS:** Loose, slightly moist, brown to yellowish brown, silty fine grained SAND.	
				5			Becomes medium dense	CHM
				10			Total Depth: 9.3' No Groundwater Encountered	
				15				

FIGURE: B-1

Construction Testing & Engineering, Inc.
1441 Montiel Rd Ste 115, Escondido, CA 92026 Ph (760) 746-4955

PROJECT:	RANCH VIEW TERRACE, 8 LOTS	EXCAVATOR:	AJB		
CTE JOB NO:	10-14212G	EXCAVATION METHOD:	HAND AUGER	EXCAVATION DATE:	3/30/2018
LOGGED BY:	AJB	SAMPLING METHOD:	BULK	ELEVATION:	~210 FEET

BORING LOG B-2

Dry Density (pcf)	Moisture (%)	U.S.C.S. Symbol	Graphic Log	Depth (Feet)	Sample Type: Bulk	Sample Type: Driven	DESCRIPTION	Laboratory Tests
		SC		0			**RESIDUAL SOIL**: Loose to medium dense, moist, reddish brown, clayey fine graiend SAND, oxidized.	
		"SM"					**TERTIARY TORREY SANDSTONE**: Dense to very dense, slightly moist, light yellowish brown, silty fine grained SANDSTONE, oxidized interbeds.	
				5			Total Depth: 1.5' No Groundwater Encountered	
				10				
				15				

FIGURE: B-2

Construction Testing & Engineering, Inc.
1441 Montiel Rd Ste 115, Escondido, CA 92026 Ph (760) 746-4955

PROJECT:	RANCH VIEW TERRACE, 8 LOTS	EXCAVATOR:	AJB		
CTE JOB NO:	10-14212G	EXCAVATION METHOD:	HAND AUGER	EXCAVATION DATE:	3/30/2018
LOGGED BY:	AJB	SAMPLING METHOD:	BULK	ELEVATION:	~167 FEET

BORING LOG B-3

Dry Density (pcf)	Moisture (%)	U.S.C.S. Symbol	Graphic Log	Depth (Feet)	Sample Type: Bulk	Sample Type: Driven	DESCRIPTION	Laboratory Tests
				0				
		"CL"					**RESIDUAL SOIL:** Stiff, slightly moist, reddish olive, fine grained sandy CLAY, oxidized, roots.	
							TERTIARY DEL MAR FORMATION Very stiff, moist, reddish olive, fine grained sandy CLAYSTONE, oxidized mottling.	
		"SC"					Dense, slightly moist, light olive, clayey fine grained SANDSTONE, oxidized mottling.	
				5				
							Total Depth: 4.2' (Refusal in dense formation) No Groundwater Encountered	
				10				
				15				

FIGURE: B-3

Construction Testing & Engineering, Inc.
1441 Montiel Rd Ste 115, Escondido, CA 92026 Ph (760) 746-4955

PROJECT:	RANCH VIEW TERRACE, 8 LOTS	EXCAVATOR:	AJB		
CTE JOB NO:	10-14212G	EXCAVATION METHOD:	HAND AUGER	EXCAVATION DATE:	3/30/2018
LOGGED BY:	AJB	SAMPLING METHOD:	BULK	ELEVATION:	~166 FEET

BORING LOG B-4

Dry Density (pcf)	Moisture (%)	U.S.C.S. Symbol	Graphic Log	Depth (Feet)	Sample Type: Bulk	Sample Type: Driven	DESCRIPTION	Laboratory Tests
		SC		0			**QUATERNARY YOUNG ALLUVIAL FLOOD PLAIN DEPOSITS:** Loose, slightly moist, light yellowish brown, silty fine grained SAND, friable.	
		"SM"					**TERTIARY TORREY SANDSTONE:** Dense to very dense, slightly moist, light yellowish gray, silty fine grained SANDSTONE, oxidized.	
				5			Total Depth: 2.7' (Refusal in dense formation) No Groundwater Encountered	
				10				
				15				

FIGURE: B-4

Construction Testing & Engineering, Inc.
1441 Montiel Rd Ste 115, Escondido, CA 92026 Ph (760) 746-4955

PROJECT:	RANCH VIEW TERRACE, 8 LOTS	EXCAVATOR:	AJB		
CTE JOB NO:	10-14212G	EXCAVATION METHOD:	HAND AUGER	EXCAVATION DATE:	3/30/2018
LOGGED BY:	AJB	SAMPLING METHOD:	BULK	ELEVATION:	~183 FEET

BORING LOG B-5

Dry Density (pcf)	Moisture (%)	U.S.C.S. Symbol	Graphic Log	Depth (Feet)	Sample Type: Bulk	Sample Type: Driven	DESCRIPTION	Laboratory Tests
		SM		0			**QUATERNARY YOUNG ALLUVIAL FLOOD PLAIN DEPOSITS:** Loose, slightly moist, yellowish brown, silty fine grained SAND, friable.	
				5			Total Depth: 5.0' No Groundwater Encountered	
				10				
				15				

FIGURE: B-5

Construction Testing & Engineering, Inc.
1441 Montiel Rd Ste 115, Escondido, CA 92026 Ph (760) 746-4955

PROJECT:	RANCH VIEW TERRACE, 8 LOTS	EXCAVATOR:	AJB		
CTE JOB NO:	10-14212G	EXCAVATION METHOD:	HAND AUGER	EXCAVATION DATE:	3/30/2018
LOGGED BY:	AJB	SAMPLING METHOD:	BULK	ELEVATION:	~195 FEET

BORING LOG B-6

Dry Density (pcf)	Moisture (%)	U.S.C.S. Symbol	Graphic Log	Depth (Feet)	Sample Type: Bulk	Sample Type: Driven	DESCRIPTION	Laboratory Tests
		SM		0			**QUATERNARY YOUNG ALLUVIAL FLOOD PLAIN DEPOSITS:** Loose, slightly moist, yellowish brown, silty fine grained SAND, friable.	
				5			Total Depth: 5.0' No Groundwater Encountered	
				10				
				15				

FIGURE: B-6

Construction Testing & Engineering, Inc.
1441 Montiel Rd Ste 115, Escondido, CA 92026 Ph (760) 746-4955

PROJECT:	RANCH VIEW TERRACE, 8 LOTS	EXCAVATOR:	AJB		
CTE JOB NO:	10-14212G	EXCAVATION METHOD:	HAND AUGER	EXCAVATION DATE:	3/30/2018
LOGGED BY:	AJB	SAMPLING METHOD:	BULK	ELEVATION:	~212 FEET

BORING LOG B-7

Dry Density (pcf)	Moisture (%)	U.S.C.S. Symbol	Graphic Log	Depth (Feet)	Sample Type: Bulk	Sample Type: Driven	DESCRIPTION	Laboratory Tests
		SM "SM"		0			**RESIDUAL SOIL:** Loose to medium dense, moist, reddish brown, silty fine graiend SAND, oxidized.	
				5			**TERTIARY TORREY SANDSTONE:** Dense to very dense, slightly moist, light yellowish brown, silty fine grained SANDSTONE with trace gravel, oxidized interbeds.	
				10			Total Depth: 3.0' (Refusal on gravel) No Groundwater Encountered	
				15				

FIGURE: B-7

ATTACHMENT C

LABORATORY RESULTS

ATTACHMENT C
LABORATORY METHODS AND RESULTS

Laboratory tests were performed on selected soil samples to evaluate their engineering properties. Tests were performed following test methods of the American Society for Testing and Materials, or other accepted standards. The following presents a brief description of the various test methods used. Laboratory results are presented in the following section of this Appendix.

Classification

Soils were classified visually according to the Unified Soil Classification System. Visual classifications were supplemented by laboratory testing of selected samples according to ASTM D 2487.

Chemical Analysis

Soil materials were collected and tested for Sulfate and Chloride content, pH, and Resistivity.

Construction Testing & Engineering, Inc.
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SULFATE

CALIFORNIA TEST 417

LOCATION	DEPTH (feet)	RESULTS ppm
B-1	0-9.25	14.2

CHLORIDE

CALIFORNIA TEST 422

LOCATION	DEPTH (feet)	RESULTS ppm
B-1	0-9.25	81

p.H.

CALIFORNIA TEST 643

LOCATION	DEPTH (feet)	RESULTS
B-1	0-9.25	7.31

RESISTIVITY

CALIFORNIA TEST 643

LOCATION	DEPTH (feet)	RESULTS ohms-cm
B-1	0-9.25	2455

ATTACHMENT D

STANDARD SPECIFICATIONS FOR GRADING

Section 1 - General

Construction Testing & Engineering, Inc. presents the following standard recommendations for grading and other associated operations on construction projects. These guidelines should be considered a portion of the project specifications. Recommendations contained in the body of the previously presented soils report shall supersede the recommendations and or requirements as specified herein. The project geotechnical consultant shall interpret disputes arising out of interpretation of the recommendations contained in the soils report or specifications contained herein.

Section 2 - Responsibilities of Project Personnel

The geotechnical consultant should provide observation and testing services sufficient to general conformance with project specifications and standard grading practices. The geotechnical consultant should report any deviations to the client or his authorized representative.

The Client should be chiefly responsible for all aspects of the project. He or his authorized representative has the responsibility of reviewing the findings and recommendations of the geotechnical consultant. He shall authorize or cause to have authorized the Contractor and/or other consultants to perform work and/or provide services. During grading the Client or his authorized representative should remain on-site or should remain reasonably accessible to all concerned parties in order to make decisions necessary to maintain the flow of the project.

The Contractor is responsible for the safety of the project and satisfactory completion of all grading and other associated operations on construction projects, including, but not limited to, earth work in accordance with the project plans, specifications and controlling agency requirements.

Section 3 - Preconstruction Meeting

A preconstruction site meeting should be arranged by the owner and/or client and should include the grading contractor, design engineer, geotechnical consultant, owner's representative and representatives of the appropriate governing authorities.

Section 4 - Site Preparation

The client or contractor should obtain the required approvals from the controlling authorities for the project prior, during and/or after demolition, site preparation and removals, etc. The appropriate approvals should be obtained prior to proceeding with grading operations.

Clearing and grubbing should consist of the removal of vegetation such as brush, grass, woods, stumps, trees, root of trees and otherwise deleterious natural materials from the areas to be graded. Clearing and grubbing should extend to the outside of all proposed excavation and fill areas.

Demolition should include removal of buildings, structures, foundations, reservoirs, utilities (including underground pipelines, septic tanks, leach fields, seepage pits, cisterns, mining shafts, tunnels, etc.) and other man-made surface and subsurface improvements from the areas to be graded. Demolition of utilities should include proper capping and/or rerouting pipelines at the project perimeter and cutoff and capping of wells in accordance with the requirements of the governing authorities and the recommendations of the geotechnical consultant at the time of demolition.

Trees, plants or man-made improvements not planned to be removed or demolished should be protected by the contractor from damage or injury.

Debris generated during clearing, grubbing and/or demolition operations should be wasted from areas to be graded and disposed off-site. Clearing, grubbing and demolition operations should be performed under the observation of the geotechnical consultant.

Section 5 - Site Protection

Protection of the site during the period of grading should be the responsibility of the contractor. Unless other provisions are made in writing and agreed upon among the concerned parties, completion of a portion of the project should not be considered to preclude that portion or adjacent areas from the requirements for site protection until such time as the entire project is complete as identified by the geotechnical consultant, the client and the regulating agencies.

Precautions should be taken during the performance of site clearing, excavations and grading to protect the work site from flooding, ponding or inundation by poor or improper surface drainage. Temporary provisions should be made during the rainy season to adequately direct surface drainage away from and off the work site. Where low areas cannot be avoided, pumps should be kept on hand to continually remove water during periods of rainfall.

Rain related damage should be considered to include, but may not be limited to, erosion, silting, saturation, swelling, structural distress and other adverse conditions as determined by the geotechnical consultant. Soil adversely affected should be classified as unsuitable materials and should be subject to overexcavation and replacement with compacted fill or other remedial grading as recommended by the geotechnical consultant.

The contractor should be responsible for the stability of all temporary excavations. Recommendations by the geotechnical consultant pertaining to temporary excavations (e.g., backcuts) are made in consideration of stability of the completed project and, therefore, should not be considered to preclude the responsibilities of the contractor. Recommendations by the geotechnical consultant should not be considered to preclude requirements that are more restrictive by the regulating agencies. The contractor should provide during periods of extensive rainfall plastic sheeting to prevent unprotected slopes from becoming saturated and unstable. When deemed appropriate by the geotechnical consultant or governing agencies the contractor shall install checkdams, desilting basins, sand bags or other drainage control measures.

In relatively level areas and/or slope areas, where saturated soil and/or erosion gullies exist to depths of greater than 1.0 foot; they should be overexcavated and replaced as compacted fill in accordance with the applicable specifications. Where affected materials exist to depths of 1.0 foot or less below proposed finished grade, remedial grading by moisture conditioning in-place, followed by thorough recompaction in accordance with the applicable grading guidelines herein may be attempted. If the desired results are not achieved, all affected materials should be overexcavated and replaced as compacted fill in accordance with the slope repair recommendations herein. If field conditions dictate, the geotechnical consultant may recommend other slope repair procedures.

Section 6 - Excavations

6.1 Unsuitable Materials

Materials that are unsuitable should be excavated under observation and recommendations of the geotechnical consultant. Unsuitable materials include, but may not be limited to, dry, loose, soft, wet, organic compressible natural soils and fractured, weathered, soft bedrock and nonengineered or otherwise deleterious fill materials.

Material identified by the geotechnical consultant as unsatisfactory due to its moisture conditions should be overexcavated; moisture conditioned as needed, to a uniform at or above optimum moisture condition before placement as compacted fill.

If during the course of grading adverse geotechnical conditions are exposed which were not anticipated in the preliminary soil report as determined by the geotechnical consultant additional exploration, analysis, and treatment of these problems may be recommended.

6.2 Cut Slopes

Unless otherwise recommended by the geotechnical consultant and approved by the regulating agencies, permanent cut slopes should not be steeper than 2:1 (horizontal: vertical).

The geotechnical consultant should observe cut slope excavation and if these excavations expose loose cohesionless, significantly fractured or otherwise unsuitable material, the materials should be overexcavated and replaced with a compacted stabilization fill. If encountered specific cross section details should be obtained from the Geotechnical Consultant.

When extensive cut slopes are excavated or these cut slopes are made in the direction of the prevailing drainage, a non-erodible diversion swale (brow ditch) should be provided at the top of the slope.

6.3 Pad Areas

All lot pad areas, including side yard terrace containing both cut and fill materials, transitions, located less than 3 feet deep should be overexcavated to a depth of 3 feet and replaced with a uniform compacted fill blanket of 3 feet. Actual depth of overexcavation may vary and should be delineated by the geotechnical consultant during grading, especially where deep or drastic transitions are present.

For pad areas created above cut or natural slopes, positive drainage should be established away from the top-of-slope. This may be accomplished utilizing a berm drainage swale and/or an appropriate pad gradient. A gradient in soil areas away from the top-of-slopes of 2 percent or greater is recommended.

Section 7 - Compacted Fill

All fill materials should have fill quality, placement, conditioning and compaction as specified below or as approved by the geotechnical consultant.

7.1 Fill Material Quality

Excavated on-site or import materials which are acceptable to the geotechnical consultant may be utilized as compacted fill, provided trash, vegetation and other deleterious materials are removed prior to placement. All import materials anticipated for use on-site should be sampled tested and approved prior to and placement is in conformance with the requirements outlined.

Rocks 12 inches in maximum and smaller may be utilized within compacted fill provided sufficient fill material is placed and thoroughly compacted over and around all rock to effectively fill rock voids. The amount of rock should not exceed 40 percent by dry weight passing the 3/4-inch sieve. The geotechnical consultant may vary those requirements as field conditions dictate.

Where rocks greater than 12 inches but less than four feet of maximum dimension are generated during grading, or otherwise desired to be placed within an engineered fill, special handling in accordance with the recommendations below. Rocks greater than four feet should be broken down or disposed off-site.

7.2 Placement of Fill

Prior to placement of fill material, the geotechnical consultant should observe and approve the area to receive fill. After observation and approval, the exposed ground surface should be scarified to a depth of 6 to 8 inches. The scarified material should be conditioned (i.e. moisture added or air dried by continued discing) to achieve a moisture content at or slightly above optimum moisture conditions and compacted to a minimum of 90 percent of the maximum density or as otherwise recommended in the soils report or by appropriate government agencies.

Compacted fill should then be placed in thin horizontal lifts not exceeding eight inches in loose thickness prior to compaction. Each lift should be moisture conditioned as needed, thoroughly blended to achieve a consistent moisture content at or slightly above optimum and thoroughly compacted by mechanical methods to a minimum of 90 percent of laboratory maximum dry density. Each lift should be treated in a like manner until the desired finished grades are achieved.

The contractor should have suitable and sufficient mechanical compaction equipment and watering apparatus on the job site to handle the amount of fill being placed in consideration of moisture retention properties of the materials and weather conditions.

When placing fill in horizontal lifts adjacent to areas sloping steeper than 5:1 (horizontal: vertical), horizontal keys and vertical benches should be excavated into the adjacent slope area. Keying and benching should be sufficient to provide at least six-foot wide benches and a minimum of four feet of vertical bench height within the firm natural ground, firm bedrock or engineered compacted fill. No compacted fill should be placed in an area after keying and benching until the geotechnical consultant has reviewed the area. Material generated by the benching operation should be moved sufficiently away from

the bench area to allow for the recommended review of the horizontal bench prior to placement of fill.

Within a single fill area where grading procedures dictate two or more separate fills, temporary slopes (false slopes) may be created. When placing fill adjacent to a false slope, benching should be conducted in the same manner as above described. At least a 3-foot vertical bench should be established within the firm core of adjacent approved compacted fill prior to placement of additional fill. Benching should proceed in at least 3-foot vertical increments until the desired finished grades are achieved.

Prior to placement of additional compacted fill following an overnight or other grading delay, the exposed surface or previously compacted fill should be processed by scarification, moisture conditioning as needed to at or slightly above optimum moisture content, thoroughly blended and recompacted to a minimum of 90 percent of laboratory maximum dry density. Where unsuitable materials exist to depths of greater than one foot, the unsuitable materials should be over-excavated.

Following a period of flooding, rainfall or overwatering by other means, no additional fill should be placed until damage assessments have been made and remedial grading performed as described herein.

Rocks 12 inch in maximum dimension and smaller may be utilized in the compacted fill provided the fill is placed and thoroughly compacted over and around all rock. No oversize material should be used within 3 feet of finished pad grade and within 1 foot of other compacted fill areas. Rocks 12 inches up to four feet maximum dimension should be placed below the upper 10 feet of any fill and should not be closer than 15 feet to any slope face. These recommendations could vary as locations of improvements dictate. Where practical, oversized material should not be placed below areas where structures or deep utilities are proposed. Oversized material should be placed in windrows on a clean, overexcavated or unyielding compacted fill or firm natural ground surface. Select native or imported granular soil (S.E. 30 or higher) should be placed and thoroughly flooded over and around all windrowed rock, such that voids are filled. Windrows of oversized material should be staggered so those successive strata of oversized material are not in the same vertical plane.

It may be possible to dispose of individual larger rock as field conditions dictate and as recommended by the geotechnical consultant at the time of placement.

The contractor should assist the geotechnical consultant and/or his representative by digging test pits for removal determinations and/or for testing compacted fill. The contractor should provide this work at no additional cost to the owner or contractor's client.

Fill should be tested by the geotechnical consultant for compliance with the recommended relative compaction and moisture conditions. Field density testing should conform to ASTM Method of Test D 1556-00, D 2922-04. Tests should be conducted at a minimum of approximately two vertical feet or approximately 1,000 to 2,000 cubic yards of fill placed. Actual test intervals may vary as field conditions dictate. Fill found not to be in conformance with the grading recommendations should be removed or otherwise handled as recommended by the geotechnical consultant.

7.3 Fill Slopes

Unless otherwise recommended by the geotechnical consultant and approved by the regulating agencies, permanent fill slopes should not be steeper than 2:1 (horizontal: vertical).

Except as specifically recommended in these grading guidelines compacted fill slopes should be over-built two to five feet and cut back to grade, exposing the firm, compacted fill inner core. The actual amount of overbuilding may vary as field conditions dictate. If the desired results are not achieved, the existing slopes should be overexcavated and reconstructed under the guidelines of the geotechnical consultant. The degree of overbuilding shall be increased until the desired compacted slope surface condition is achieved. Care should be taken by the contractor to provide thorough mechanical compaction to the outer edge of the overbuilt slope surface.

At the discretion of the geotechnical consultant, slope face compaction may be attempted by conventional construction procedures including backrolling. The procedure must create a firmly compacted material throughout the entire depth of the slope face to the surface of the previously compacted firm fill intercore.

During grading operations, care should be taken to extend compactive effort to the outer edge of the slope. Each lift should extend horizontally to the desired finished slope surface or more as needed to ultimately established desired grades. Grade during construction should not be allowed to roll off at the edge of the slope. It may be helpful to elevate slightly the outer edge of the slope. Slough resulting from the placement of individual lifts should not be allowed to drift down over previous lifts. At intervals not

exceeding four feet in vertical slope height or the capability of available equipment, whichever is less, fill slopes should be thoroughly dozer trackrolled.

For pad areas above fill slopes, positive drainage should be established away from the top-of-slope. This may be accomplished using a berm and pad gradient of at least two percent.

Section 8 - Trench Backfill

Utility and/or other excavation of trench backfill should, unless otherwise recommended, be compacted by mechanical means. Unless otherwise recommended, the degree of compaction should be a minimum of 90 percent of the laboratory maximum density.

Within slab areas, but outside the influence of foundations, trenches up to one foot wide and two feet deep may be backfilled with sand and consolidated by jetting, flooding or by mechanical means. If on-site materials are utilized, they should be wheel-rolled, tamped or otherwise compacted to a firm condition. For minor interior trenches, density testing may be deleted or spot testing may be elected if deemed necessary, based on review of backfill operations during construction.

If utility contractors indicate that it is undesirable to use compaction equipment in close proximity to a buried conduit, the contractor may elect the utilization of light weight mechanical compaction equipment and/or shading of the conduit with clean, granular material, which should be thoroughly jetted in-place above the conduit, prior to initiating mechanical compaction procedures. Other methods of utility trench compaction may also be appropriate, upon review of the geotechnical consultant at the time of construction.

In cases where clean granular materials are proposed for use in lieu of native materials or where flooding or jetting is proposed, the procedures should be considered subject to review by the geotechnical consultant. Clean granular backfill and/or bedding are not recommended in slope areas.

Section 9 - Drainage

Where deemed appropriate by the geotechnical consultant, canyon subdrain systems should be installed in accordance with CTE's recommendations during grading.

Typical subdrains for compacted fill buttresses, slope stabilization or sidehill masses, should be installed in accordance with the specifications.

Roof, pad and slope drainage should be directed away from slopes and areas of structures to suitable disposal areas via non-erodible devices (i.e., gutters, downspouts, and concrete swales).

For drainage in extensively landscaped areas near structures, (i.e., within four feet) a minimum of 5 percent gradient away from the structure should be maintained. Pad drainage of at least 2 percent should be maintained over the remainder of the site.

Drainage patterns established at the time of fine grading should be maintained throughout the life of the project. Property owners should be made aware that altering drainage patterns could be detrimental to slope stability and foundation performance.

Section 10 - Slope Maintenance

10.1 - Landscape Plants

To enhance surficial slope stability, slope planting should be accomplished at the completion of grading. Slope planting should consist of deep-rooting vegetation requiring little watering. Plants native to the southern California area and plants relative to native plants are generally desirable. Plants native to other semi-arid and arid areas may also be appropriate. A Landscape Architect should be the best party to consult regarding actual types of plants and planting configuration.

10.2 - Irrigation

Irrigation pipes should be anchored to slope faces, not placed in trenches excavated into slope faces.

Slope irrigation should be minimized. If automatic timing devices are utilized on irrigation systems, provisions should be made for interrupting normal irrigation during periods of rainfall.

10.3 - Repair

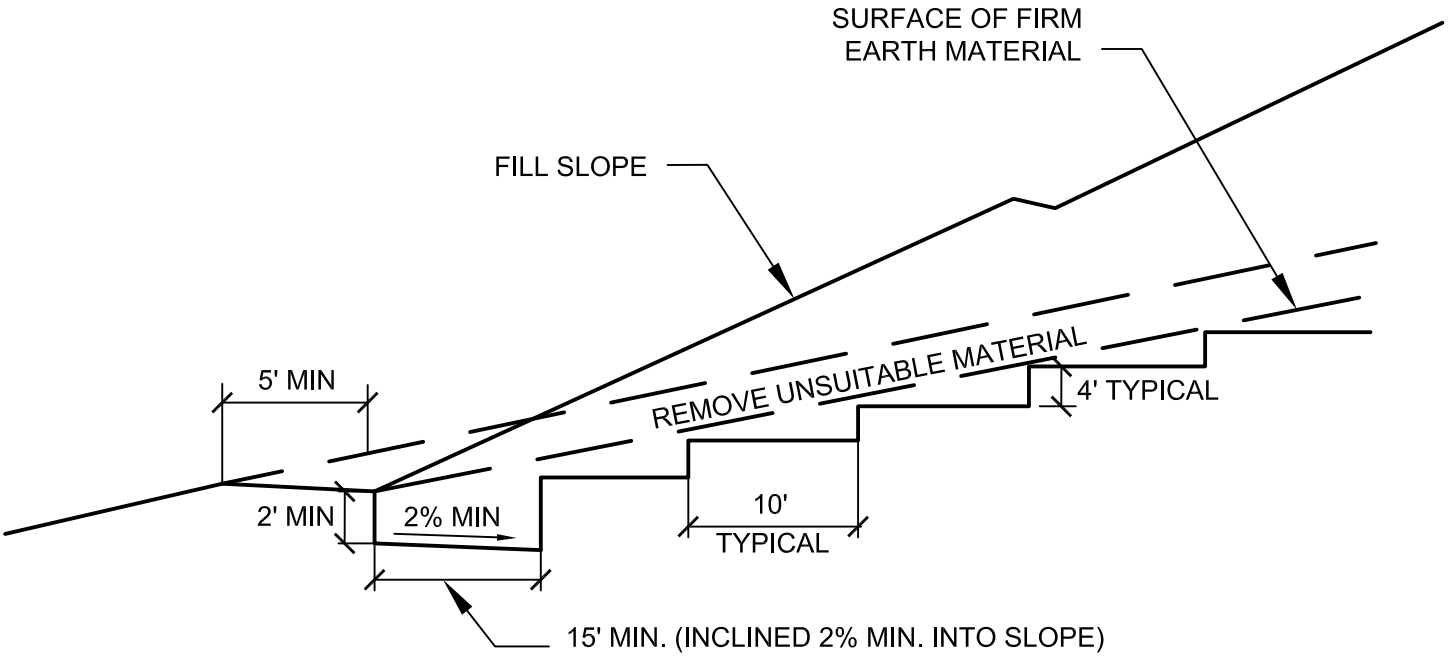
As a precautionary measure, plastic sheeting should be readily available, or kept on hand, to protect all slope areas from saturation by periods of heavy or prolonged rainfall. This measure is strongly recommended, beginning with the period prior to landscape planting.

If slope failures occur, the geotechnical consultant should be contacted for a field review of site conditions and development of recommendations for evaluation and repair.

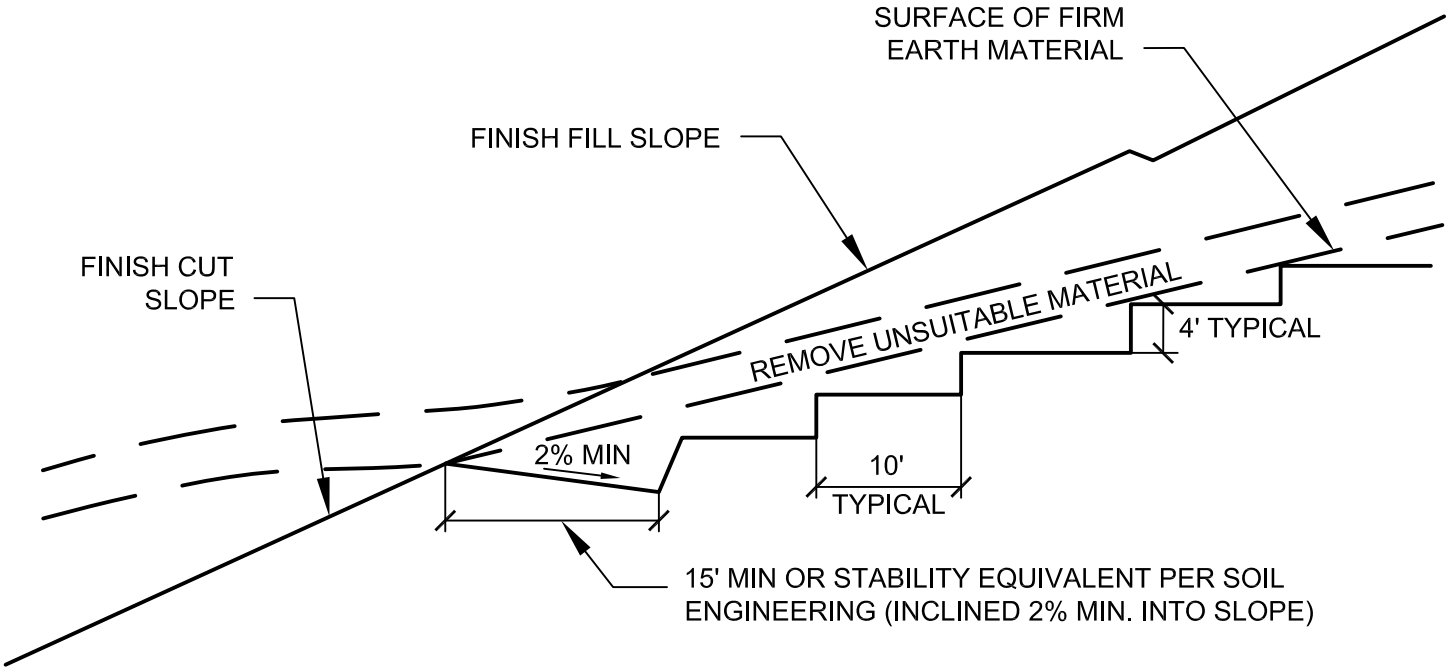
If slope failures occur as a result of exposure to period of heavy rainfall, the failure areas and currently unaffected areas should be covered with plastic sheeting to protect against additional saturation.

In the accompanying Standard Details, appropriate repair procedures are illustrated for superficial slope failures (i.e., occurring typically within the outer one foot to three feet of a slope face).

BENCHING FILL OVER NATURAL

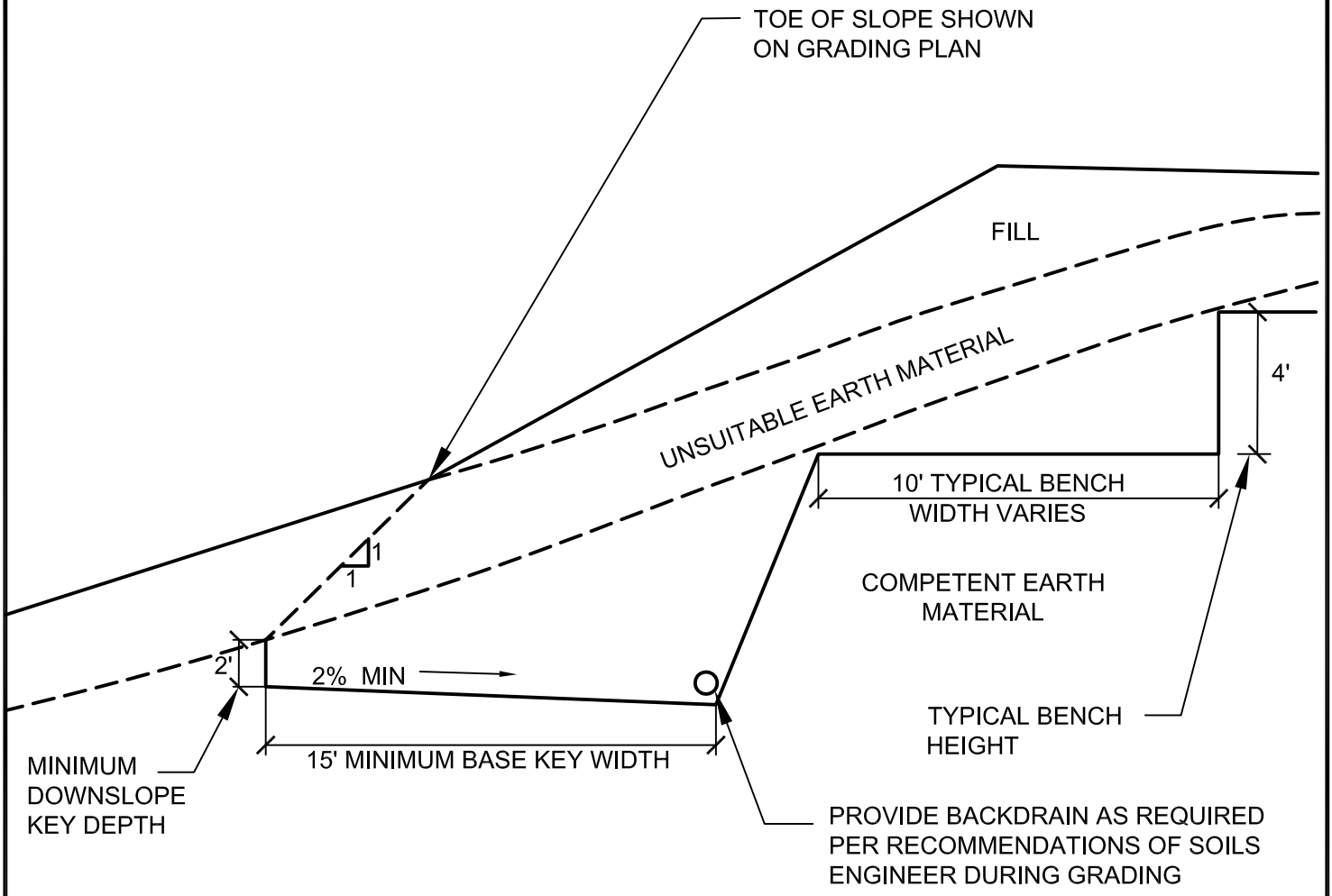


BENCHING FILL OVER CUT



NOT TO SCALE

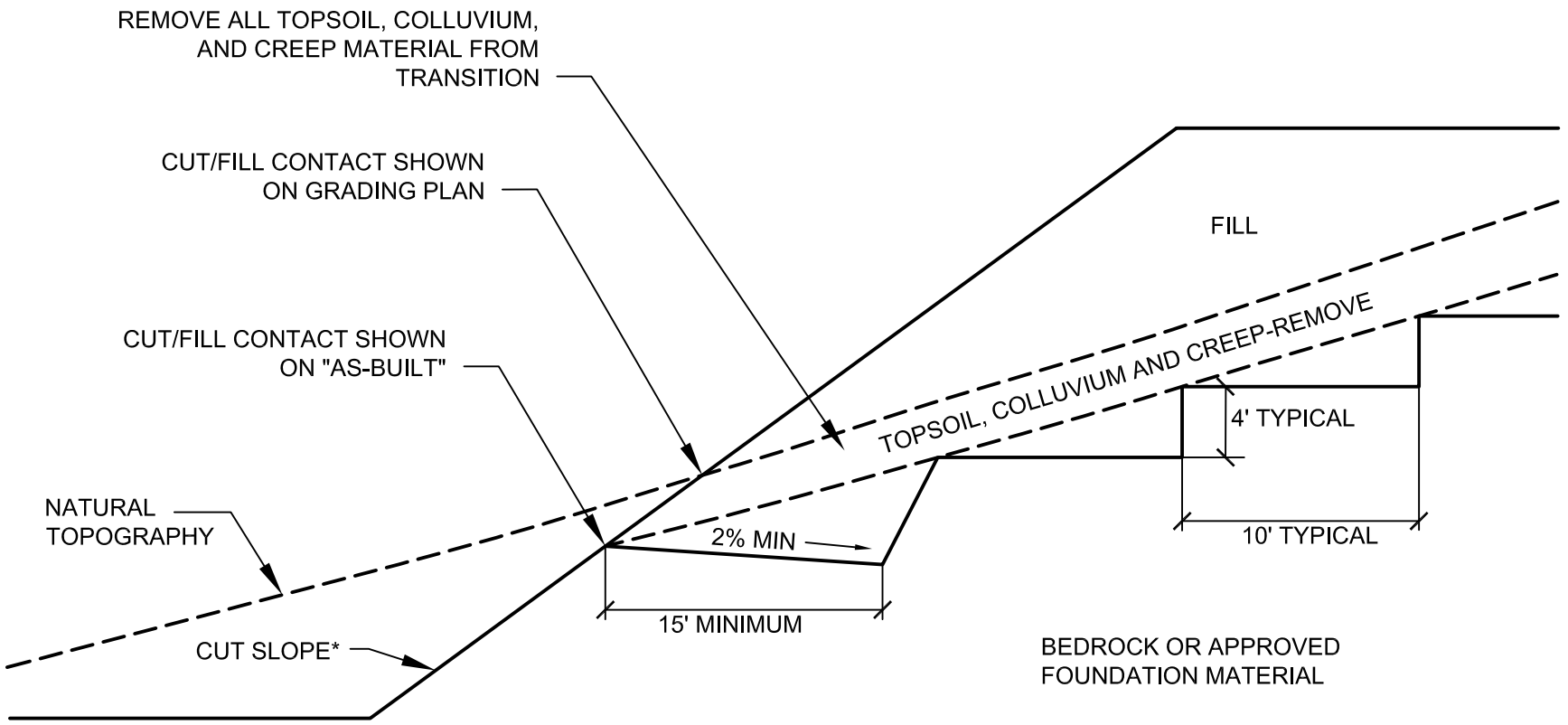
BENCHING FOR COMPACTED FILL DETAIL



WHERE NATURAL SLOPE GRADIENT IS 5:1 OR LESS, BENCHING IS NOT NECESSARY. FILL IS NOT TO BE PLACED ON COMPRESSIBLE OR UNSUITABLE MATERIAL.

NOT TO SCALE

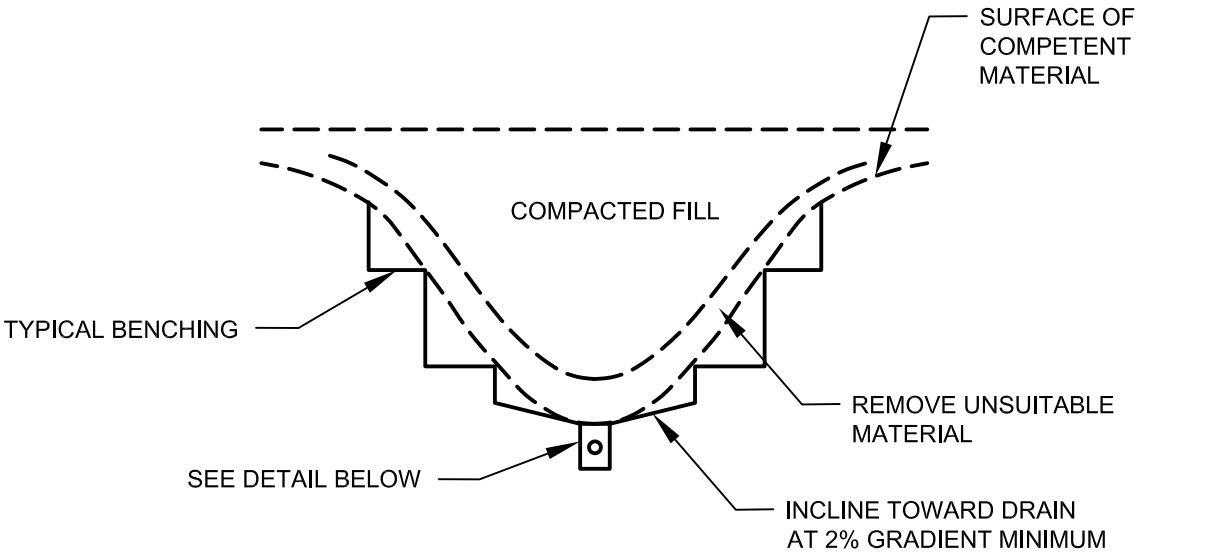
FILL SLOPE ABOVE NATURAL GROUND DETAIL



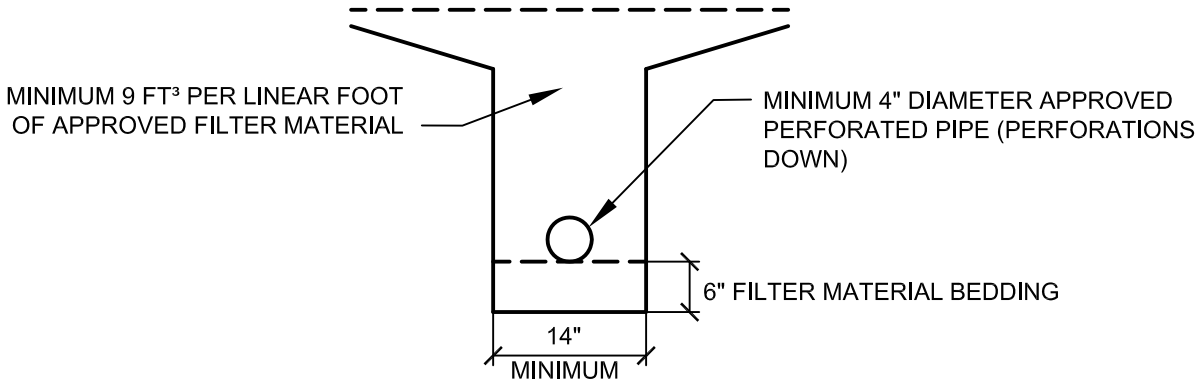
*NOTE: CUT SLOPE PORTION SHOULD BE MADE PRIOR TO PLACEMENT OF FILL

NOT TO SCALE

FILL SLOPE ABOVE CUT SLOPE DETAIL



DETAIL



CALTRANS CLASS 2 PERMEABLE MATERIAL
FILTER MATERIAL TO MEET FOLLOWING
SPECIFICATION OR APPROVED EQUAL:

SIEVE SIZE	PERCENTAGE PASSING
1"	100
¾"	90-100
⅜"	40-100
NO. 4	25-40
NO. 8	18-33
NO. 30	5-15
NO. 50	0-7
NO. 200	0-3

APPROVED PIPE TO BE SCHEDULE 40 POLY-VINYL-CHLORIDE (P.V.C.) OR APPROVED EQUAL. MINIMUM CRUSH STRENGTH 1000 psi

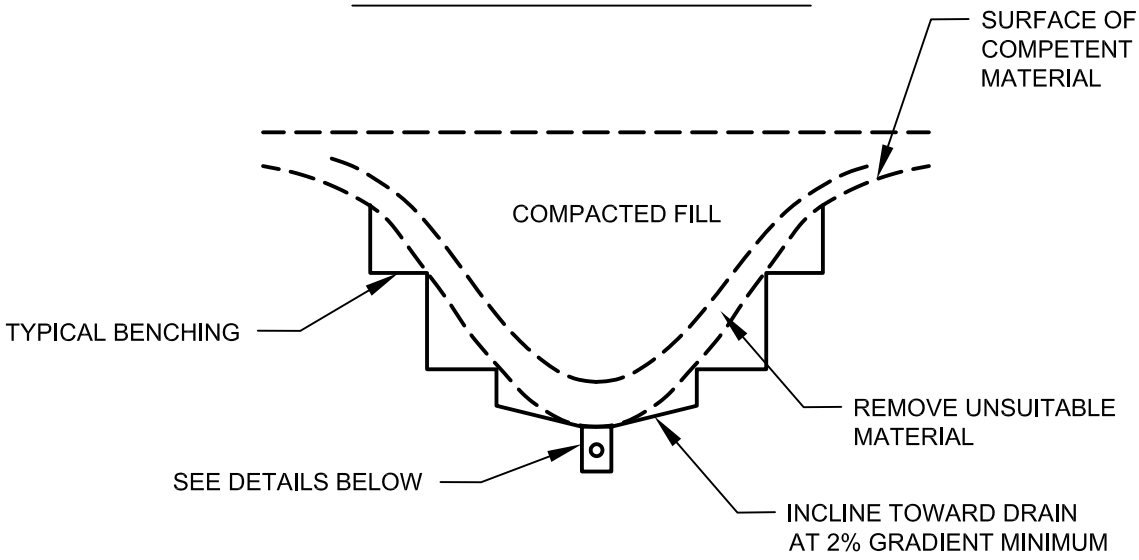
PIPE DIAMETER TO MEET THE FOLLOWING CRITERIA, SUBJECT TO FIELD REVIEW BASED ON ACTUAL GEOTECHNICAL CONDITIONS ENCOUNTERED DURING GRADING

LENGTH OF RUN	PIPE DIAMETER
INITIAL 500'	4"
500' TO 1500'	6"
> 1500'	8"

NOT TO SCALE

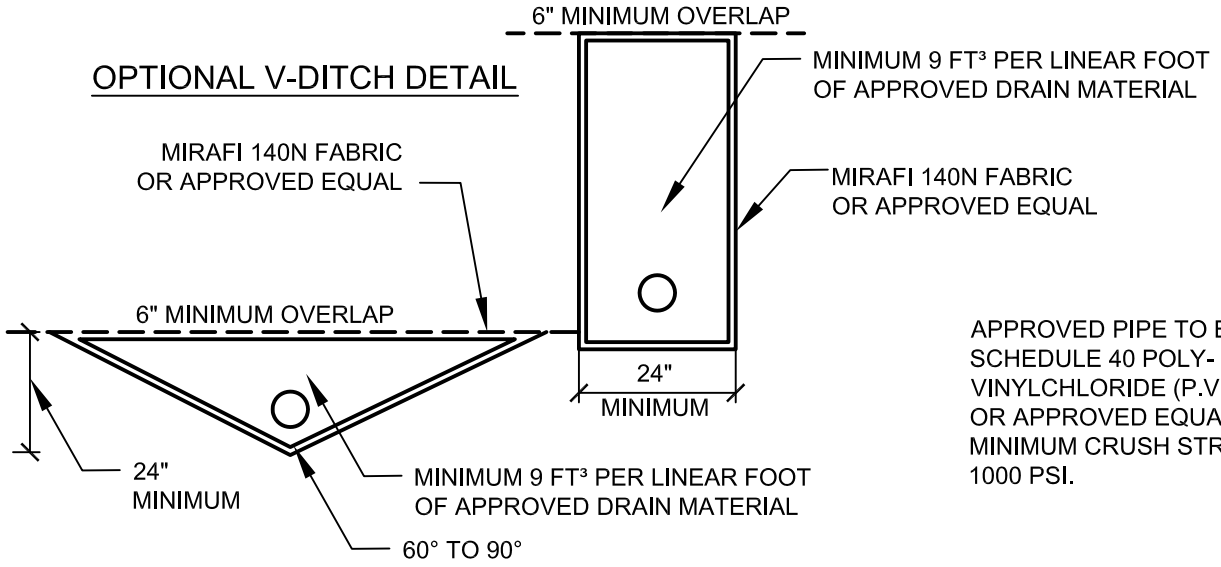
TYPICAL CANYON SUBDRAIN DETAIL

CANYON SUBDRAIN DETAILS



TRENCH DETAILS

OPTIONAL V-DITCH DETAIL



APPROVED PIPE TO BE SCHEDULE 40 POLY-VINYLCHLORIDE (P.V.C.) OR APPROVED EQUAL. MINIMUM CRUSH STRENGTH 1000 PSI.

DRAIN MATERIAL TO MEET FOLLOWING SPECIFICATION OR APPROVED EQUAL:

SIEVE SIZE	PERCENTAGE PASSING
1 ½"	88-100
1"	5-40
¾"	0-17
⅜"	0-7
NO. 200	0-3

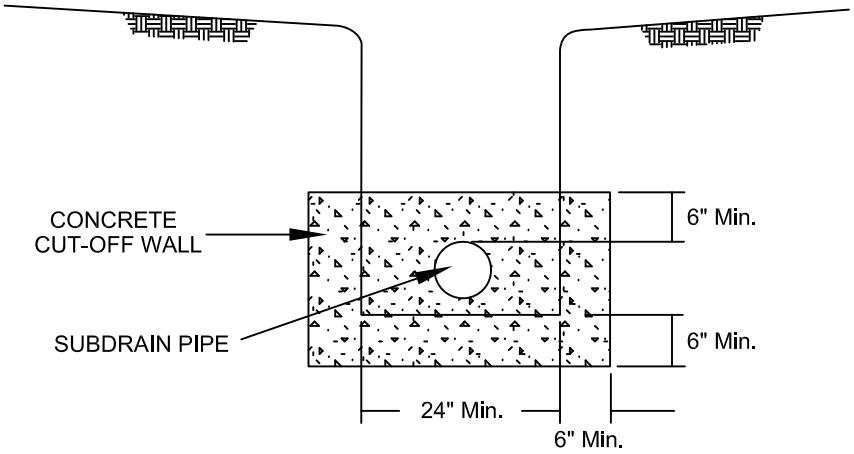
PIPE DIAMETER TO MEET THE FOLLOWING CRITERIA, SUBJECT TO FIELD REVIEW BASED ON ACTUAL GEOTECHNICAL CONDITIONS ENCOUNTERED DURING GRADING

LENGTH OF RUN	PIPE DIAMETER
INITIAL 500'	4"
500' TO 1500'	6"
> 1500'	8"

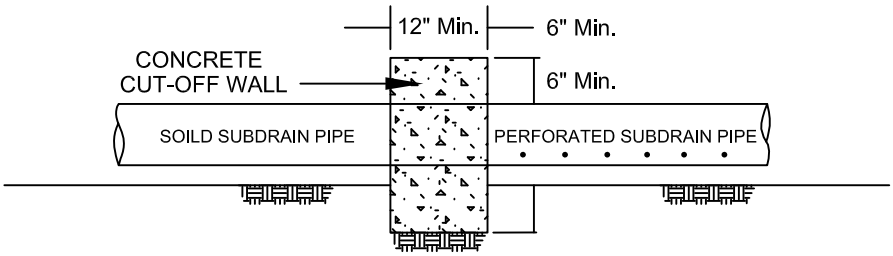
NOT TO SCALE

GEOFABRIC SUBDRAIN

FRONT VIEW



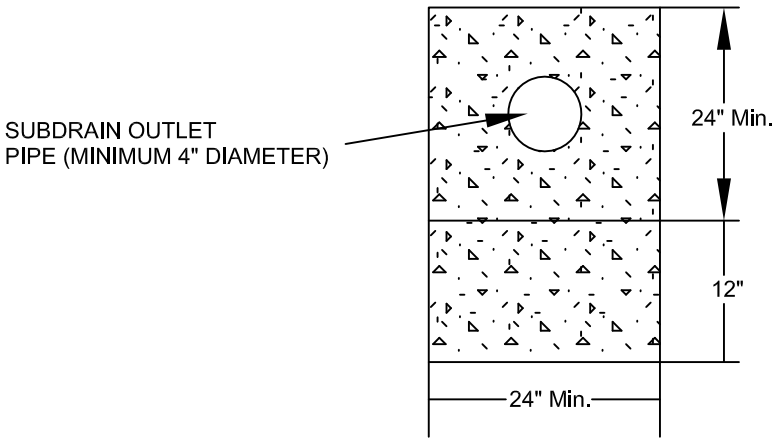
SIDE VIEW



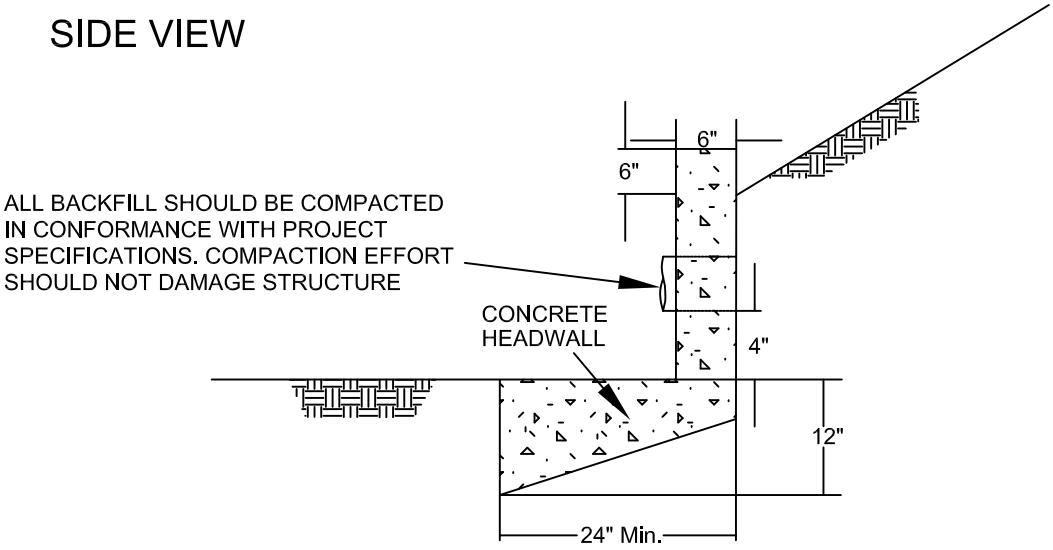
NOT TO SCALE

RECOMMENDED SUBDRAIN CUT-OFF WALL

FRONT VIEW



SIDE VIEW



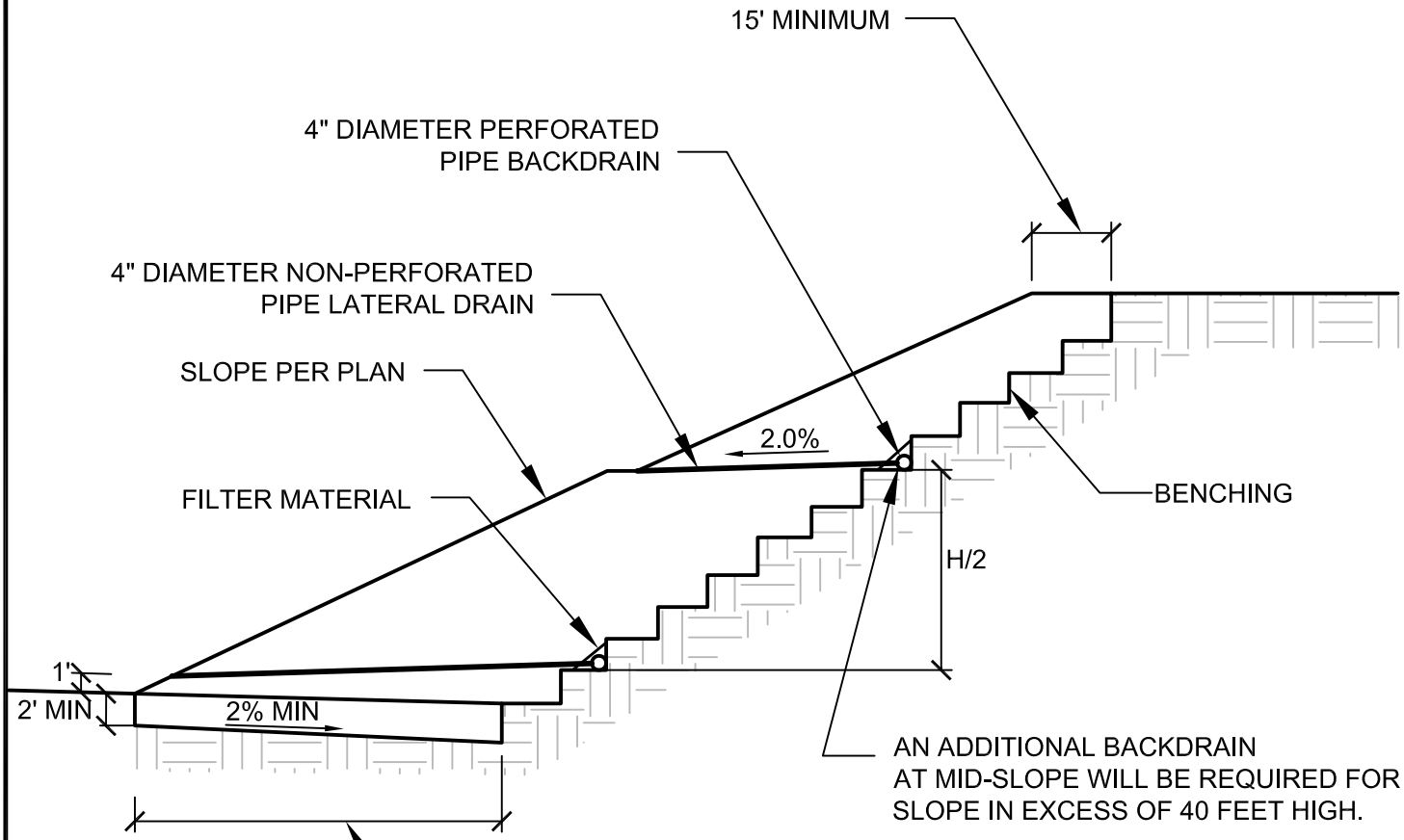
NOTE: HEADWALL SHOULD OUTLET AT TOE OF SLOPE
OR INTO CONTROLLED SURFACE DRAINAGE DEVICE

ALL DISCHARGE SHOULD BE CONTROLLED

THIS DETAIL IS A MINIMUM DESIGN AND MAY BE
MODIFIED DEPENDING UPON ENCOUNTERED
CONDITIONS AND LOCAL REQUIREMENTS

NOT TO SCALE

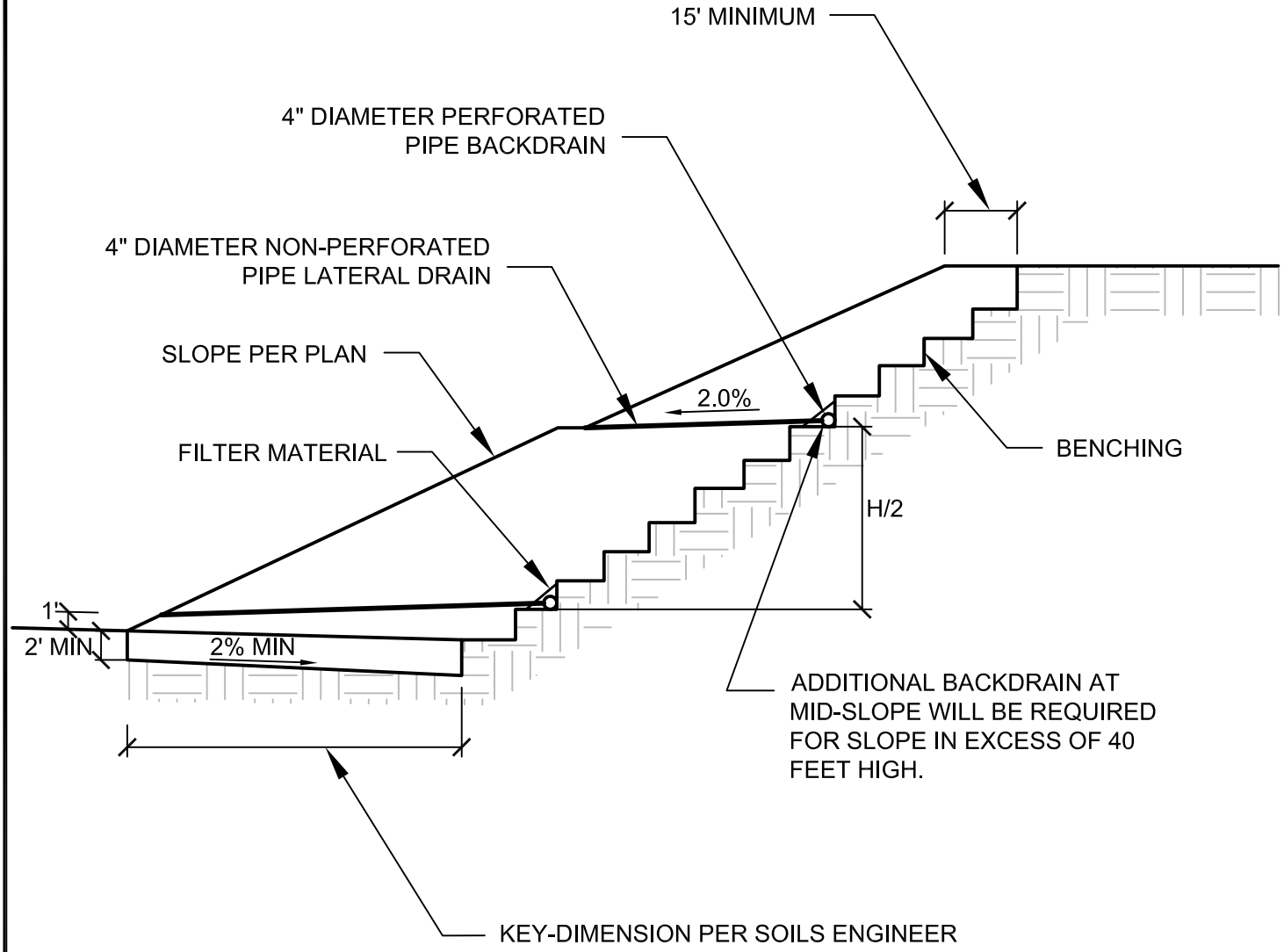
TYPICAL SUBDRAIN OUTLET HEADWALL DETAIL



DIMENSIONS ARE MINIMUM RECOMMENDED

NOT TO SCALE

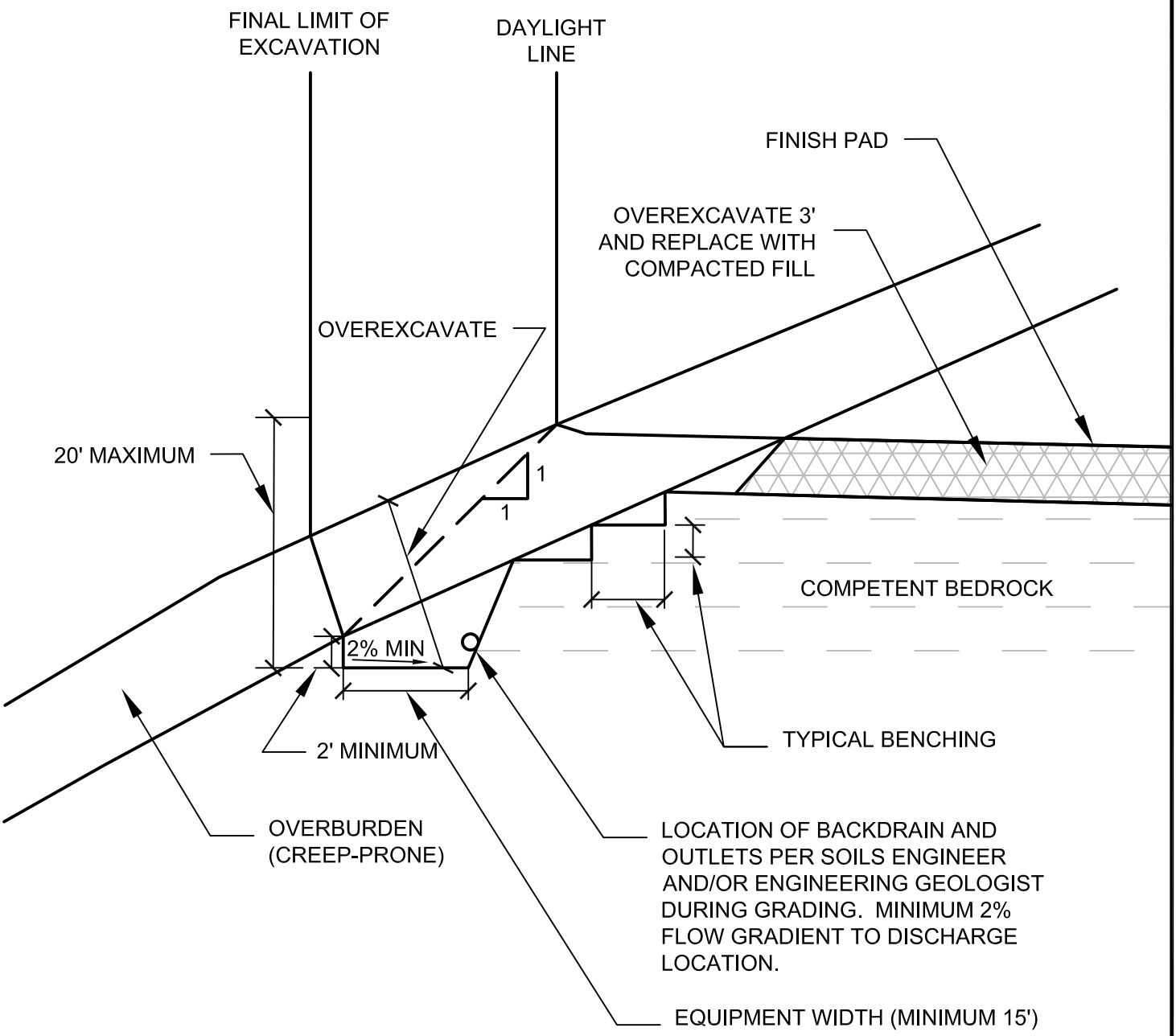
TYPICAL SLOPE STABILIZATION FILL DETAIL



DIMENSIONS ARE MINIMUM RECOMMENDED

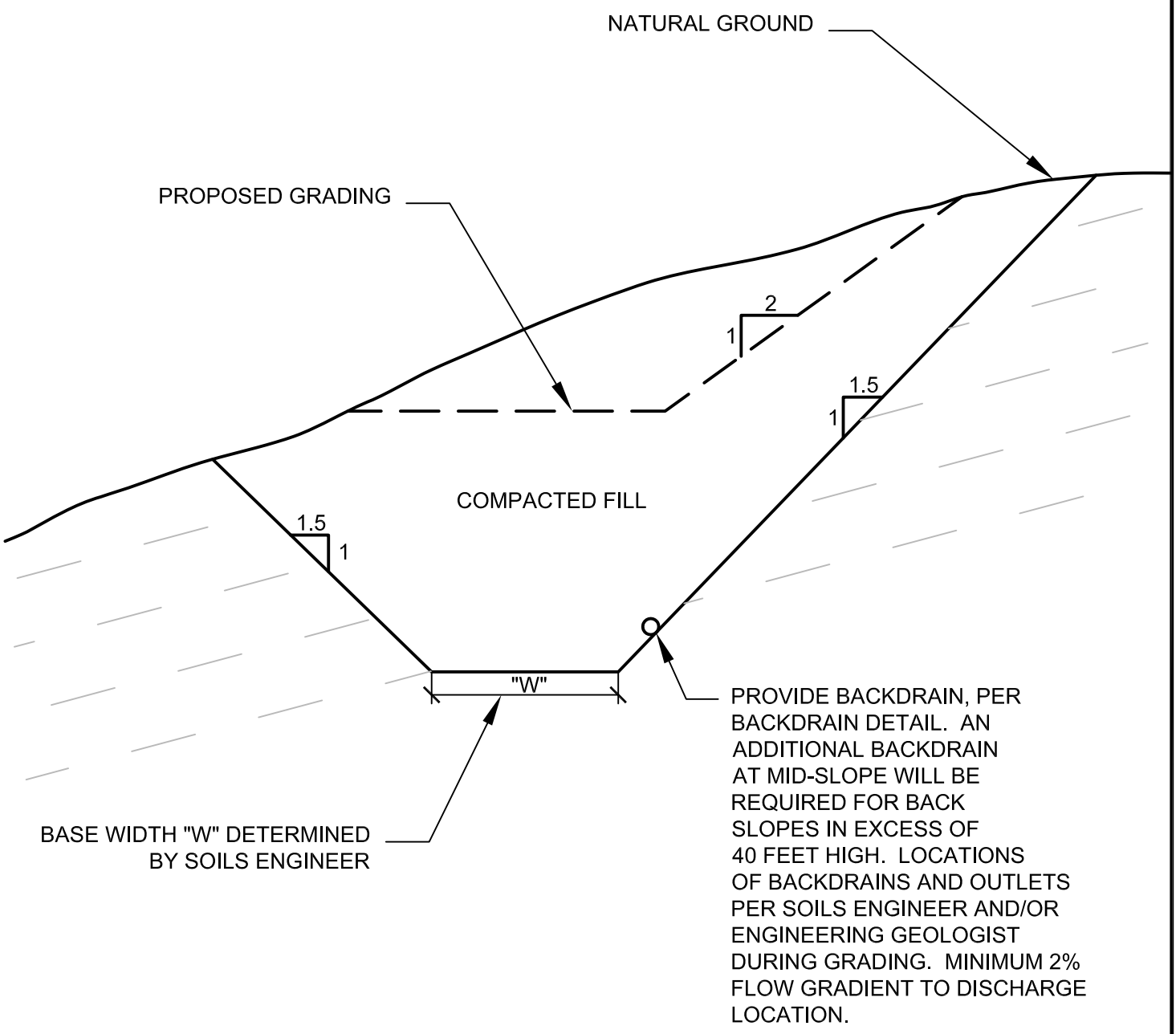
NOT TO SCALE

TYPICAL BUTTRESS FILL DETAIL



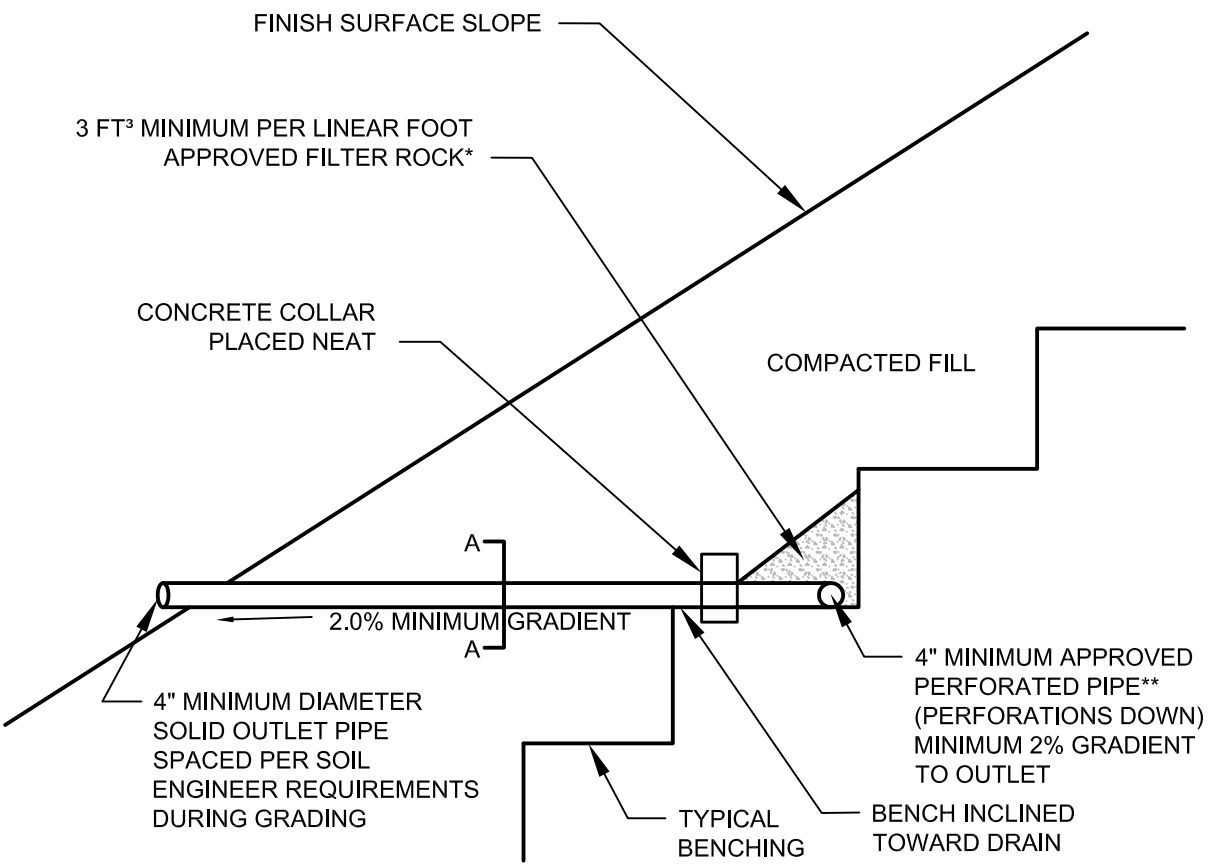
NOT TO SCALE

DAYLIGHT SHEAR KEY DETAIL

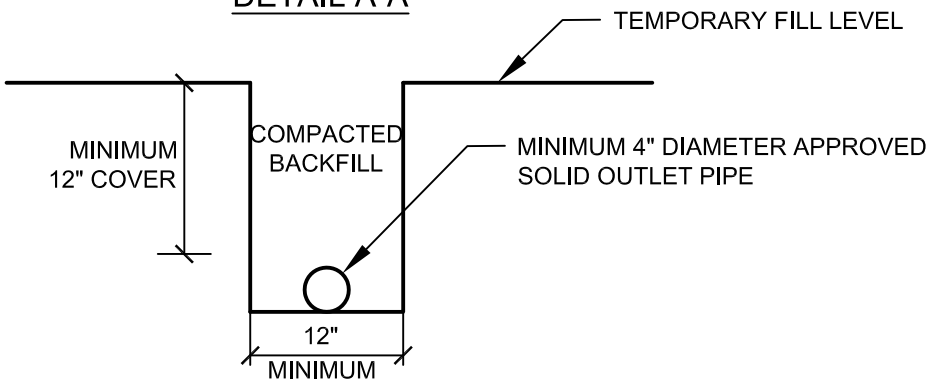


NOT TO SCALE

TYPICAL SHEAR KEY DETAIL



DETAIL A-A



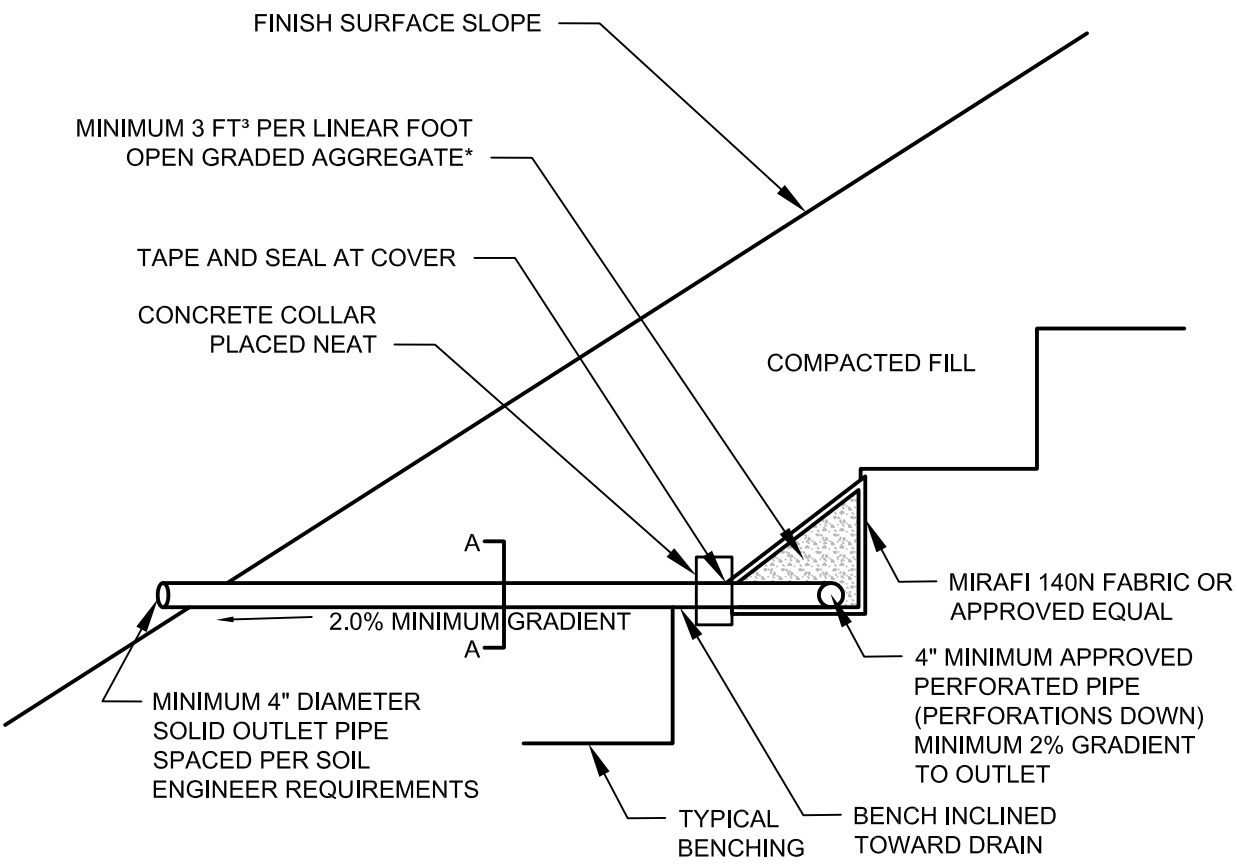
**APPROVED PIPE TYPE:
SCHEDULE 40 POLYVINYL CHLORIDE
(P.V.C.) OR APPROVED EQUAL.
MINIMUM CRUSH STRENGTH 1000 PSI

*FILTER ROCK TO MEET FOLLOWING
SPECIFICATIONS OR APPROVED EQUAL:

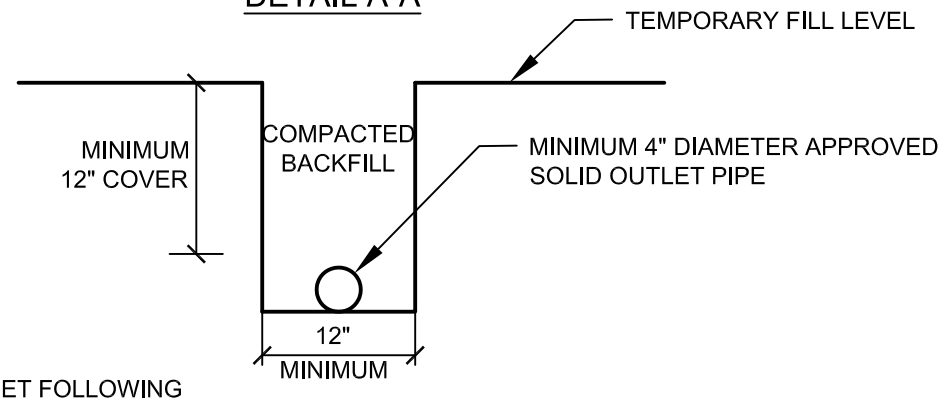
SIEVE SIZE	PERCENTAGE PASSING
1"	100
¾"	90-100
⅜"	40-100
NO. 4	25-40
NO. 30	5-15
NO. 50	0-7
NO. 200	0-3

NOT TO SCALE

TYPICAL BACKDRAIN DETAIL



DETAIL A-A

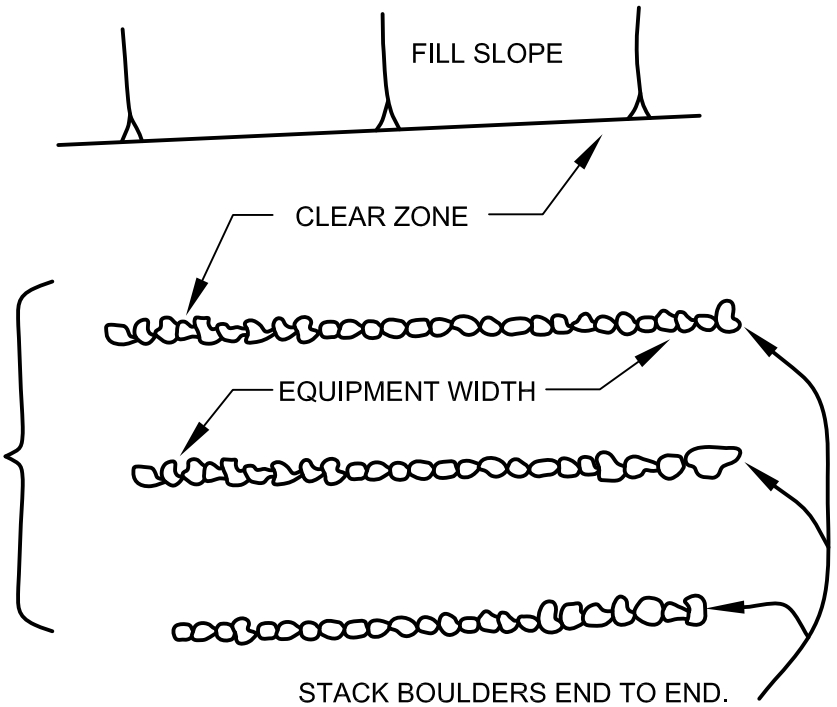


*NOTE: AGGREGATE TO MEET FOLLOWING SPECIFICATIONS OR APPROVED EQUAL:

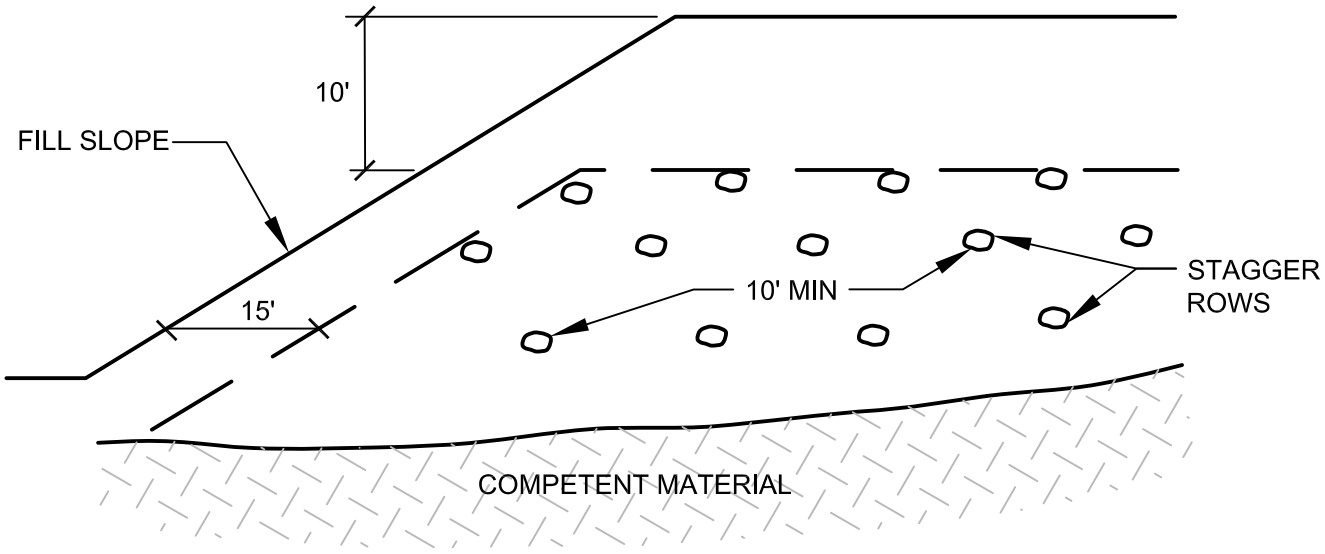
SIEVE SIZE	PERCENTAGE PASSING
1 ½"	100
1"	5-40
¾"	0-17
⅜"	0-7
NO. 200	0-3

NOT TO SCALE

BACKDRAIN DETAIL (GEOFRABIC)

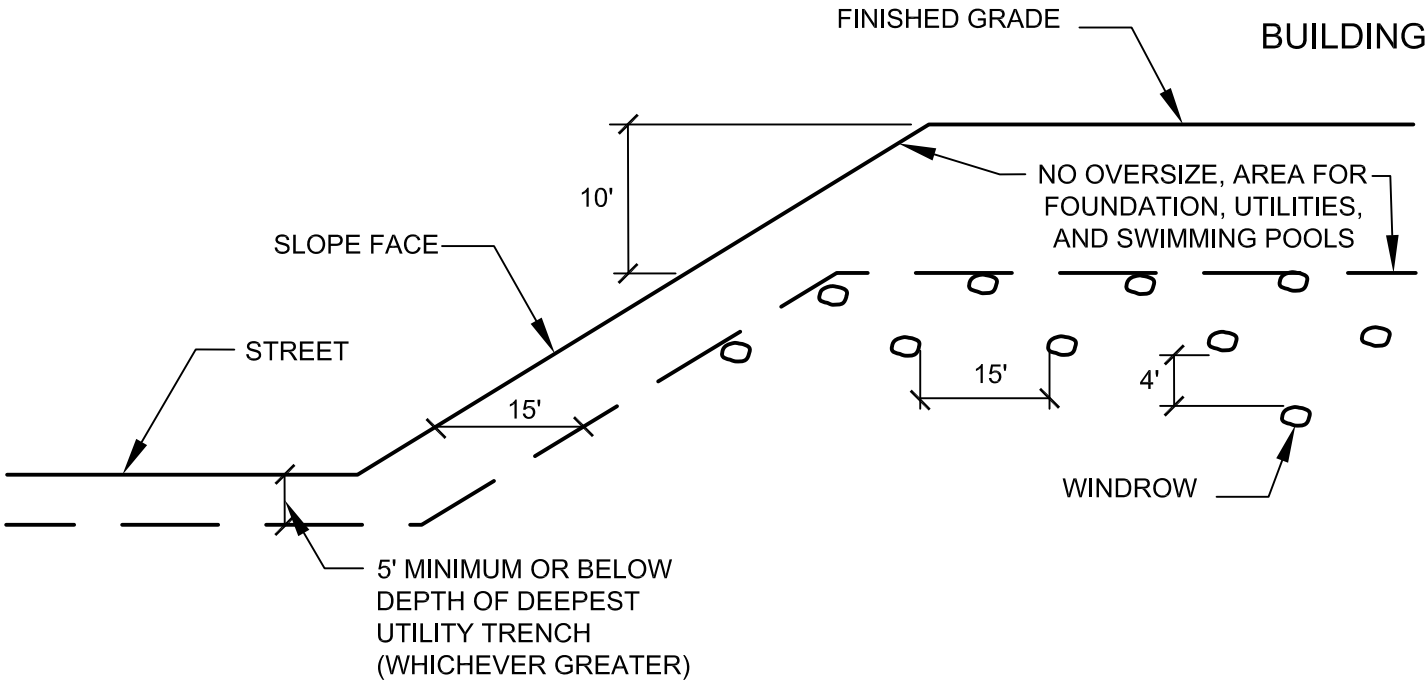


SOIL SHALL BE PUSHED OVER ROCKS AND FLOODED INTO VOIDS. COMPACT AROUND AND OVER EACH WINDROW.

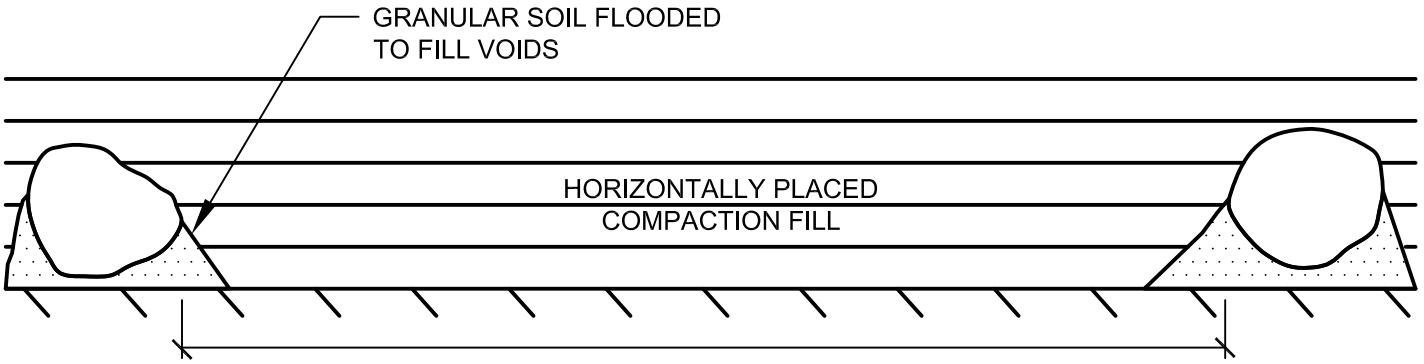


NOT TO SCALE

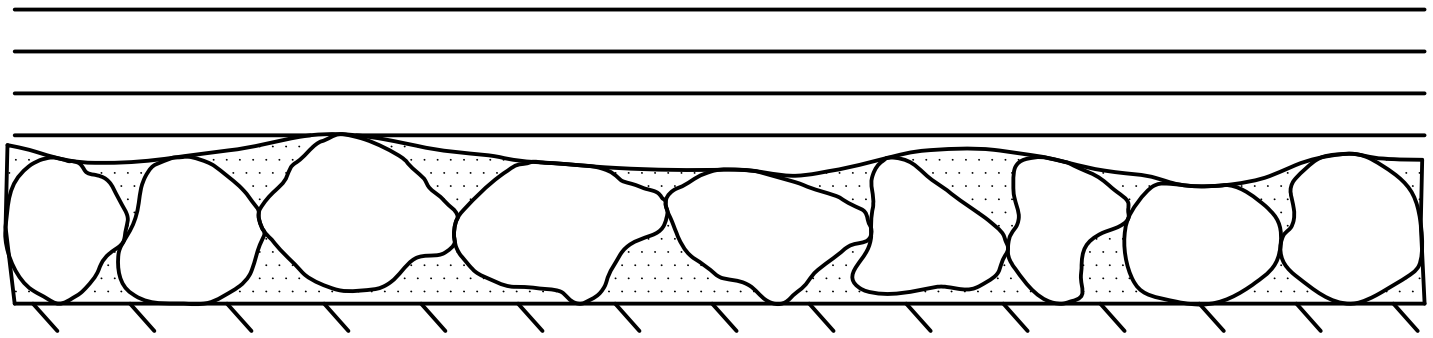
ROCK DISPOSAL DETAIL



TYPICAL WINDROW DETAIL (EDGE VIEW)



PROFILE VIEW

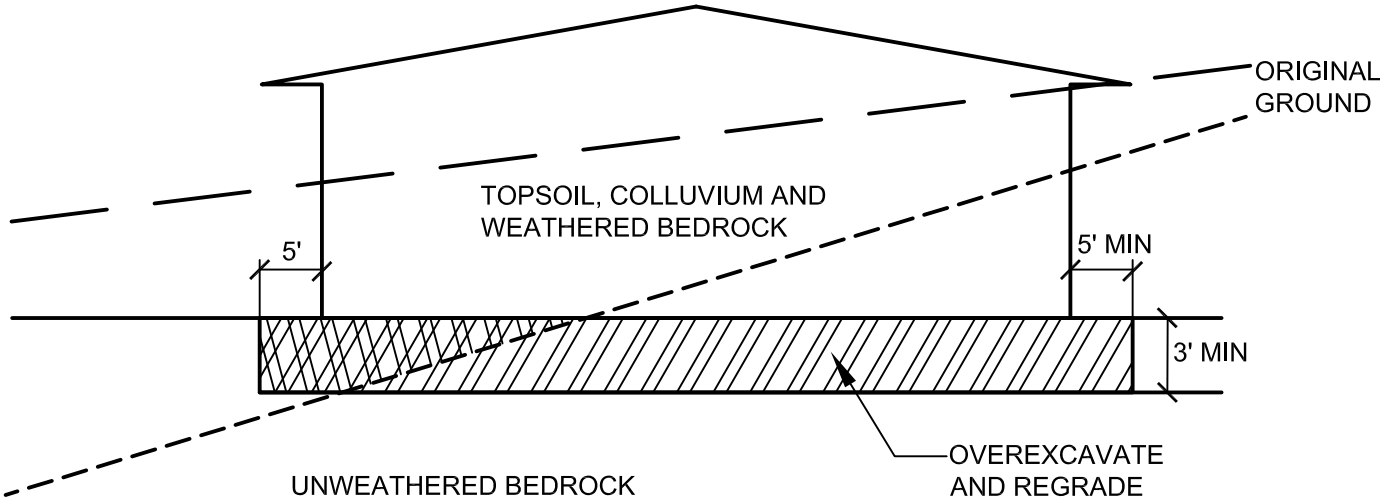


NOT TO SCALE

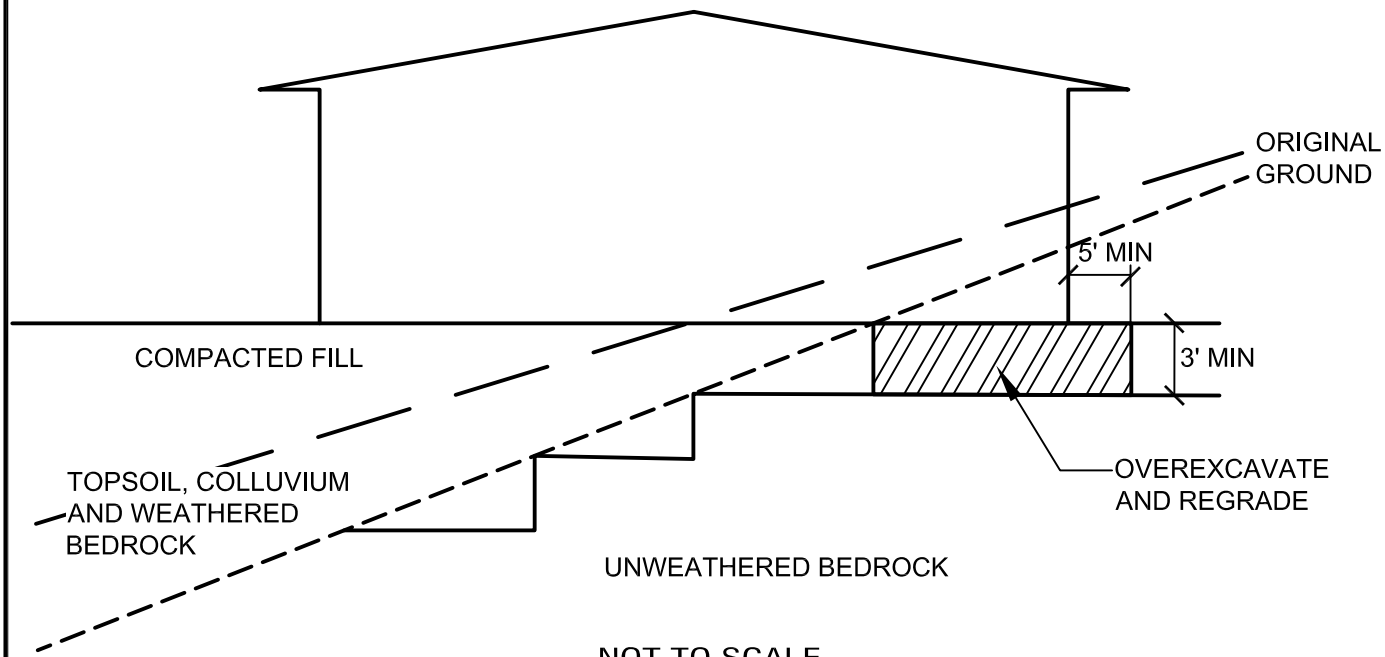
ROCK DISPOSAL DETAIL

GENERAL GRADING RECOMMENDATIONS

CUT LOT



CUT/FILL LOT (TRANSITION)



NOT TO SCALE

TRANSITION LOT DETAIL

August 19, 2019 CTE Job No. 10-14212G

Olivenhain Hills LLC
Attention: Mr. Udi Melamed
745 Cole Ranch Road
Encinitas, California 92024
Telephone: (760) 299-3344 Via Email: udi@ermdevelopment.com

Subject: Response to City of Encinitas Comments
Proposed 9 Lot Subdivision (The Sanctuary)
Ranch View Terrace
Encinitas, California

References: At end of document

Mr. Melamed:

As requested, Construction Testing & Engineering, Inc. (CTE) provides the following response to the referenced comments from the City of Encinitas.

ATTACHMENT C COMMENTS & RESPONSES

City Comment #7 of Attachment C "Engineering (Grading, Storm Water, ETC.) Comments" from the City of Encinitas states "Provide an update soils report based on the currently proposed project with adequate sampling at relevant locations. The previous report was based on the previous project and took sampling in key locations relevant to the previous project."

CTE Response # 7: Based on review of the revised project plans, the structural improvements are concentrated in the eastern portion of the site. This portion of the site was adequately mapped and evaluated due to numerous formational exposures combined with explorations and evaluation of geomorphology. The recommendations provided in the referenced geotechnical documents are suitable for the new location of the proposed improvements. A revised Figure 2 Exploration Location Map is provided herewith.

City Comment #9 of Attachment C "Engineering (Grading, Storm Water, ETC.) Comments" from the City of Encinitas states "The SWQMP references that percolation testing was conducted. Provide percolation testing consistent with the Encinitas BMP Design Manual standards in the location and depth of the proposed bioretention basins. Due to the adverse drainage condition and lack of stormdrain system, perc testing should extend deeper to find a permeable layer for infiltration if not found at a shallow depth."

CTE Response #9: Please see CTE Response #3 in Attachment F Comments & Responses section herein.

ATTACHMENT F COMMENTS & RESPONSES

City Comment #2 of Attachment F "Geotechnical Comments" from the City of Encinitas states "In the "Limited Geotechnical Investigation and Update Report" it is not made clear that all "Quaternary Young Alluvial Flood Plain Deposits" should be removed and replaced as compacted fill as recommended by the original geotechnical report for the project. These deposits are loose, compressible and have a potential for settlement under additional loads and for hydro consolidation. Hydro consolidation was not addressed in either geotechnical report. The recommended site preparation is not accepted without additional justification through laboratory testing (consolidation testing, in-place density testing, etc.)."

CTE Response #2: As stated previously (CTE, 2018 & 2019), CTE's site preparation recommendations in the referenced geotechnical update letter (Section 1.0) for foundations in engineered fill is "existing soils should be excavated to a minimum depth of 36 inches below the bottom of proposed foundations, or to the depth of dense formational material, whichever is greatest." Later in Section 1.0 CTE defines formational materials as Tertiary Torrey Sandstone (Tt) and Tertiary Del Mar Formation (Td). CTE also defines, in Section 1.0, materials requiring overexcavation and backfill with engineered fill as Quaternary Young Alluvium (Qya) and Quaternary Previously Placed Fill (Qppf). Therefore, CTE's aforementioned recommendation for foundations in engineered fill should be interpreted as recommending for, at a minimum, the full depth removal of Qya and Qppf materials. These recommended removals should occur within the footprint of structures (and a minimum lateral distance of five feet) and other distress sensitive improvements.

City Comment #3 of Attachment F "Geotechnical Comments" from the City of Encinitas states "The Tentative Map for the project shows a bioretention basin in the southern portions of lot 5 and lot 2. The percolation tests P-2 through P-4 (Area of Bioretention basin Area) and P-5 (permeable Paver Area) indicates that the soils do not have a percolation rate suitable for infiltration. These areas also do not meet the city requirements for partial infiltration. Were these facts taken into account for the basin design and does it meet City of Encinitas requirements?

CTE Response #3: Based on the City of Encinitas comments provided in the 2nd Review Cycle Comments, CTE performed additional percolation testing to help verify infiltration characteristics at the revised proposed stormwater infiltration locations. Revised proposed infiltration locations include a stormwater retention basin in the northeast corner of the site (near the proposed entrance driveway) and another along the southern property line (PL) of the site, as shown in the revised Figure 2 provided herewith. Updated percolation testing results and a revised Worksheet C.4-1 are provided in Attachment A. An updated summary table is provided herein as Table 1.

TABLE 1

SUMMARY OF RESULTS OF PERCOLATION TESTING WITH FACTOR OF SAFETY APPLIED

Test Location	Test Depth (inches)	Case	Soil Type* (USCS Classification)	Percolation Rate (inches per hour)	Infiltration Rate (inches per hour)	Infiltration Rate with FOS of 2 Applied (inches per hour)
P-1	39.8	I	Qya	1.625	0.272	0.136
P-2	62.3	I	Qya	0.625	0.093	0.047
P-3	36.3	I	Td	0.125	0.018	0.009
P-4	54.0	I	Td	0.500	0.091	0.045
P-5	62.5	I	Tt	0.500	0.077	0.039
P-6	105.0	I	Qya/Tt	0.125	0.016	0.008
P-7	64.0	I	Qya	2.625	0.430	0.215
P-8	112.0	I	Qya	0.125	0.020	0.010

Based on percolation testing results to date, the Quaternary Young Alluvium (Qya) materials appear most suited for infiltration, however potentially suitable infiltration locations appear to be limited to the area west of percolation test P-1 and in the location of percolation tests P-6 and P-7. Both of the aforementioned areas appear suitable for partial infiltration. Tertiary Torrey Sandstone Formation (Tt) and Tertiary Del Mar Formation (Td) materials do not appear favorable for infiltration, and favorability is not anticipated to increase with depth due to the anticipated increasing density of these materials with depth.

For the proposed stormwater basin along the southern PL of the property (characterized by percolation tests P-1 to P-4 & P-8), due to its proximity to the PL and the presence of down-gradient properties, CTE recommends that the basin be fully lined with an impermeable liner and infiltrate be collected via subdrain and discharged to a suitable offsite location. For the proposed stormwater basin in the northeastern portion of the property, partial infiltration appears suitable. As such, CTE generally recommends that the sides of the basin be lined with an impermeable liner (with the bottom of basin left open) and an appropriate emergency overflow drain installed. The lining should extend to the maximum depth of utility trench bottoms, toe of slope elevation (if slopes are proposed), and foundation excavations within 100 feet of the proposed basin.

This letter is subject to the same limitations as other CTE geotechnical documents issued for this project.

CTE appreciates this opportunity to be of service on this project. If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Respectfully submitted,

CONSTRUCTION TESTING & ENGINEERING, INC.

Colm J. Kenny, RCE #84406
Senior Engineer

Jay F. Lynch, CEG #1890
Principal Engineering Geologist

CJK/JFL/AJB:cjk

ATTACHMENTS

Figure 2 Exploration Location Map (Revised)

Attachment A Percolation Test Data (Revised)

References:

City of Encinitas 2nd Review Cycle Comments
Case No. 18-198 TM/DR
Dated July 23, 2019

Percolation Test Results and Infiltration Rates
Proposed 8 Lot Subdivision
Ranch View Terrace
Encinitas, California
CTE Job No. 10-14212G, dated June 21, 2018

Limited Geotechnical Investigation and Update Report
Proposed 8 Lot Subdivision
Ranch View Terrace, Encinitas, California
CTE Job No. 10-14212G, dated April 20, 2018

Preliminary Soil and Geotechnical Investigation
Proposed 13 Lot Subdivision
Ranch View Terrace
Encinitas California
MVE, Inc., Job #1534-87, dated December 30, 1987

LEGEND

TP-1 — APPROXIMATE TEST PIT LOCATION (MV ENGINEERING, 1987)

B-1 — APPROXIMATE HAND AUGER BORING LOCATION (CTE 2018)

Tt — TERTIARY TORREY SANDSTONE

Td — TERTIARY DEL MAR FORMATION

Qya — QUATERNARY YOUNG ALLUVIUM

Qppf — QUATERNARY PREVIOUSLY PLACED FILL

?— APPROXIMATE GEOLOGIC CONTACT QUERIED WHERE UNCERTAIN

P-1 — APPROXIMATE PERCOLATION TEST LOCATION

CTE INC. Construction Testing & Engineering, Inc.
1441 Montiel Rd Ste 115, Escondido, CA 92026 Ph (760) 746-4955

PERCOLATION TEST LOCATION MAP
THE SANCTUARY
RANCH VIEW TERRACE
ENCINITAS, CALIFORNIA

CTE JOB NO:	
10-14212G	
SCALE:	
1" ~ 100'	
DATE:	FIGURE:
9/19	2

\\Esc_server\projects\10-14000 to 10-14999 Projects\10-14212G\Perc\Fig 2 Perc 9-19.dwg

ATTACHMENT A

PERCOLATION TEST DATA (REVISED)

C.1 Percolation Methodology and Field Data

Percolation testing was performed in accordance with SD DEH Case I and III methods, which are performed when presoak water remains in the test hole overnight and when presoak water infiltrates through the hole overnight, respectively. The presoak duration for all of the recent tests ranged from approximately 20 to 24 hours, which is within the SD DEH 15 to 30 hour presoak range. The approximate percolation test and boring locations are presented on Figure 2. Results of the recent percolation testing are presented in the table below.

Project:	**Ranch View Terrace**						
Project No.:	**10-14212**						Tables C-1 to C-5
Percolation Field Data and Calculated Rates							
P-1					**Total Depth:**	**39.75**	**inches**
Time	Test Interval Time (minutes)	Test Refill Depth /Inches	Water Level Initial/Start Depth /Inches	Water Level End/Final Depth /Inches	Incremental Water Level Change (inches)	Percolation Rate inches/minutes	Percolation Rate inches/hour
10:05	Initial	None	31.31	initial	-		
10:35	30	31.50	31.31	33.25	1.94	0.06	3.88
11:05	30	31.25	31.50	33.00	1.50	0.05	3.00
11:35	30	30.44	31.25	32.19	0.94	0.03	1.88
12:05	30	NO	30.44	31.50	1.06	0.04	2.13
12:35	30	31.38	31.50	32.63	1.13	0.04	2.25
13:05	30	NO	31.38	32.19	0.81	0.03	1.63
13:35	30	31.88	32.19	33.06	0.88	0.03	1.75
14:05	30	NO	31.88	32.69	0.81	0.03	1.63

P-2					Total Depth:	62.25	inches
Time	Test Interval Time	Test Refill	Water Level Initial/Start	Water Level End/Final	Incremental Water Level Change	Percolation Rate	Percolation Rate
	(minutes)	Depth /Inches	Depth /Inches	Depth /Inches	(inches)	inches/minutes	inches/hour
10:06	Initial	None	52.25	initial	-		
10:36	30	NO	52.25	52.88	0.63	0.02	1.25
11:06	30	NO	52.88	53.50	0.63	0.02	1.25
11:36	30	NO	53.50	53.63	0.13	0.00	0.25
12:06	30	NO	53.63	53.94	0.31	0.01	0.63
12:36	30	52.75	53.94	54.31	0.38	0.01	0.75
13:06	30	NO	52.75	53.31	0.56	0.02	1.13
13:36	30	NO	53.31	53.56	0.25	0.01	0.50
14:06	30	NO	53.56	53.88	0.31	0.01	0.63

P-3					Total Depth:	36.25	inches
Time	Test Interval Time	Test Refill	Water Level Initial/Start	Water Level End/Final	Incremental Water Level Change	Percolation Rate	Percolation Rate
	(minutes)	Depth /Inches	Depth /Inches	Depth /Inches	(inches)	inches/minutes	inches/hour
10:07	Initial	None	26.75	initial	-		
10:37	30	NO	26.75	26.88	0.13	0.00	0.25
11:07	30	NO	26.88	26.88	0.00	0.00	0.00
11:37	30	NO	26.88	26.94	0.06	0.00	0.13
12:07	30	NO	26.94	26.94	0.00	0.00	0.00
12:37	30	NO	26.94	27.00	0.06	0.00	0.13
13:07	30	NO	27.00	27.00	0.00	0.00	0.00
13:37	30	NO	27.00	27.06	0.06	0.00	0.13
14:07	30	NO	27.06	27.13	0.06	0.00	0.13

P-4					Total Depth:	54	inches
Time	Test Interval Time	Test Refill	Water Level Initial/Start	Water Level End/Final	Incremental Water Level Change	Percolation Rate	Percolation Rate
	(minutes)	Depth /Inches	Depth /Inches	Depth /Inches	(inches)	inches/minutes	inches/hour
10:08	Initial	None	46.75	initial	-		
10:38	30	NO	46.75	47.00	0.25	0.01	0.50
11:08	30	NO	47.00	47.13	0.13	0.00	0.25
11:38	30	NO	47.13	47.38	0.25	0.01	0.50
12:08	30	NO	47.38	47.56	0.19	0.01	0.38
12:38	30	NO	47.56	47.88	0.31	0.01	0.63
13:08	30	46.88	47.88	48.06	0.19	0.01	0.38
13:38	30	NO	46.88	47.13	0.25	0.01	0.50
14:08	30	NO	47.13	47.38	0.25	0.01	0.50

P-5					Total Depth:	62.5	inches
Time	Test Interval Time	Test Refill	Water Level Initial/Start	Water Level End/Final	Incremental Water Level Change	Percolation Rate	Percolation Rate
	(minutes)	Depth /Inches	Depth /Inches	Depth /Inches	(inches)	inches/minutes	inches/hour
10:10	Initial	None	0.00	initial	-		
10:40	30	NO	0.00	53.88	53.88	0.00	0.24
11:10	30	NO	53.88	54.25	0.38	0.01	0.75
11:40	30	NO	54.25	54.44	0.19	0.01	0.38
12:10	30	NO	54.44	54.63	0.19	0.01	0.38
12:40	30	NO	54.63	54.88	0.25	0.01	0.50
13:10	30	53.94	54.88	55.00	0.13	0.00	0.25
13:40	30	NO	53.94	54.19	0.25	0.01	0.50
14:10	30	NO	54.19	54.44	0.25	0.01	0.50

P-6					Total Depth:	105	inches
Time	Test Interval Time	Test Refill	Water Level Initial/Start	Water Level End/Final	Incremental Water Level Change	Percolation Rate	Percolation Rate
	(minutes)	Depth /Inches	Depth /Inches	Depth /Inches	(inches)	inches/minutes	inches/hour
6:30	Initial	None	94.00	initial	-		
7:00	30	NO	94.00	94.50	0.50	0.02	1.00
7:30	30	NO	94.50	94.50	0.00	0.00	0.00
8:00	30	NO	94.50	94.56	0.06	0.00	0.13
8:30	30	NO	94.56	94.63	0.06	0.00	0.13
9:00	30	NO	94.63	94.75	0.13	0.00	0.25
9:30	30	NO	94.75	94.88	0.13	0.00	0.25
10:00	30	NO	94.88	95.00	0.13	0.00	0.25
10:30	30	NO	95.00	95.06	0.06	0.00	0.13

P-7					Total Depth:	64	inches
Time	Test Interval Time	Test Refill	Water Level Initial/Start	Water Level End/Final	Incremental Water Level Change	Percolation Rate	Percolation Rate
	(minutes)	Depth /Inches	Depth /Inches	Depth /Inches	(inches)	inches/minutes	inches/hour
6:32	Initial	None	56.00	initial	-		
7:02	30	55.75	56.00	58.50	2.50	0.08	5.00
7:32	30	55.63	55.75	57.88	2.13	0.07	4.25
8:02	30	56.00	55.63	57.50	1.88	0.06	3.75
8:32	30	55.75	56.00	57.50	1.50	0.05	3.00
9:02	30	56.00	55.75	57.25	1.50	0.05	3.00
9:32	30	56.00	56.00	57.44	1.44	0.05	2.88
10:02	30	55.69	56.00	57.88	1.88	0.06	3.75
10:32	30	NO	55.69	57.00	1.31	0.04	2.63

P-8					Total Depth:	112	inches
Time	Test Interval Time (minutes)	Test Refill Depth /Inches	Water Level Initial/Start Depth /Inches	Water Level End/Final Depth /Inches	Incremental Water Level Change (inches)	Percolation Rate inches/minutes	Percolation Rate inches/hour
6:35	Initial	None	103.50	initial	-		
7:05	30	NO	103.50	103.75	0.25	0.01	0.50
7:35	30	NO	103.75	103.75	0.00	0.00	0.00
8:05	30	NO	103.75	103.88	0.13	0.00	0.25
8:35	30	NO	103.88	104.00	0.13	0.00	0.25
9:05	30	NO	104.00	104.06	0.06	0.00	0.13
9:35	30	NO	104.06	104.13	0.06	0.00	0.13
10:05	30	NO	104.13	104.13	0.00	0.00	0.00
10:35	30	NO	104.13	104.19	0.06	0.00	0.13

C.2 Calculated Infiltration Rates

As per the County of San Diego BMP design documents (February 2016) infiltration rates are to be evaluated through the Porchet Method. CTE utilized the Porchet Method through guidance of the County of Riverside (2011). The intent of the infiltration rate is to take into account bias inherent in percolation test bore hole sidewall infiltration as would not occur at a basin bottom where such sidewalls are not present.

The infiltration rate (It) is derived by the equation:

$$I_t = \frac{\Delta H\ \pi r2\ 60}{\Delta t(\pi r2 + 2\pi r H_{avg})} = \frac{\Delta H\ 60\ r}{\Delta t(r + 2H_{avg})}$$

Where:

I_t = tested infiltration rate, inches/hour
ΔH = change in head over the time interval, inches
Δt = time interval, minutes
* r = effective radius of test hole
H_{avg} = average head over the time interval, inches

Percolation Rate Conversion P-1

		Inches
Time Interval,	$\Delta t =$	30
Final Depth of Water,	$D_f =$	32.69
Test Hole Radius,	$r =$	3
Initial Depth to Water,	$D_0 =$	31.88
Total Depth of Test Hole,	$D_T =$	39.75

$H_o =$	7.875	in
$H_f =$	7.0625	in
$\Delta H = \Delta D =$	0.8125	in
$H_{avg} =$	7.46875	in
$I_t =$	0.272	in/hr

Percolation Rate Conversion P-2

		Inches
Time Interval,	$\Delta t =$	30
Final Depth of Water,	$D_f =$	53.88
Test Hole Radius,	$r =$	3
Initial Depth to Water,	$D_0 =$	53.56
Total Depth of Test Hole,	$D_T =$	62.25

$H_o =$	8.6875	in
$H_f =$	8.375	in
$\Delta H = \Delta D =$	0.3125	in
$H_{avg} =$	8.53125	in
$I_t =$	0.093	in/hr

Percolation Rate Conversion P-3

		Inches
Time Interval,	$\Delta t =$	30
Final Depth of Water,	$D_f =$	27.13
Test Hole Radius,	$r =$	3
Initial Depth to Water,	$D_0 =$	27.06
Total Depth of Test Hole,	$D_T =$	36.25

$H_o =$	9.1875	in
$H_f =$	9.125	in
$\Delta H = \Delta D =$	0.0625	in
$H_{avg} =$	9.15625	in
$I_t =$	0.018	in/hr

Percolation Rate Conversion P-4

		Inches
Time Interval,	$\Delta t =$	30
Final Depth of Water,	$D_f =$	47.38
Test Hole Radius,	$r =$	3
Initial Depth to Water,	$D_0 =$	47.13
Total Depth of Test Hole,	$D_T =$	54

$H_o =$	6.875	in
$H_f =$	6.625	in
$\Delta H = \Delta D =$	0.25	in
$H_{avg} =$	6.75	in
$I_t =$	0.091	in/hr

Percolation Rate Conversion P-5

		Inches
Time Interval,	$\Delta t =$	30
Final Depth of Water,	$D_f =$	54.44
Test Hole Radius,	$r =$	3
Initial Depth to Water,	$D_0 =$	54.19
Total Depth of Test Hole,	$D_T =$	62.5

$H_o =$	8.3125	in
$H_f =$	8.0625	in
$\Delta H = \Delta D =$	0.25	in
$H_{avg} =$	8.1875	in
$I_t =$	0.077	in/hr

Percolation Rate Conversion P-6

		Inches
Time Interval,	$\Delta t =$	30
Final Depth of Water,	$D_f =$	95.06
Test Hole Radius,	$r =$	3
Initial Depth to Water,	$D_0 =$	95.00
Total Depth of Test Hole,	$D_T =$	105

$H_o =$	10	in
$H_f =$	9.9375	in
$\Delta H = \Delta D =$	0.0625	in
$H_{avg} =$	9.96875	in
$I_t =$	0.016	in/hr

Percolation Rate Conversion P-7

		Inches
Time Interval,	$\Delta t =$	30
Final Depth of Water,	$D_f =$	57.00
Test Hole Radius,	$r =$	3
Initial Depth to Water,	$D_0 =$	55.69
Total Depth of Test Hole,	$D_T =$	64

$H_o =$	8.3125	in
$H_f =$	7	in
$\Delta H = \Delta D =$	1.3125	in
$H_{avg} =$	7.65625	in
$I_t =$	0.430	in/hr

Percolation Rate Conversion P-8

		Inches
Time Interval,	$\Delta t =$	30
Final Depth of Water,	$D_f =$	104.19
Test Hole Radius,	$r =$	3
Initial Depth to Water,	$D_0 =$	104.13
Total Depth of Test Hole,	$D_T =$	112

$H_o =$	7.875	in
$H_f =$	7.8125	in
$\Delta H = \Delta D =$	0.0625	in
$H_{avg} =$	7.84375	in
$I_t =$	0.020	in/hr

Worksheet C.4-1: Categorization of Infiltration Feasibility Condition

Categorization of Infiltration Feasibility Condition		Worksheet C.4-1	
Part 1 - Full Infiltration Feasibility Screening Criteria Would infiltration of the full design volume be feasible from a physical perspective without any undesirable consequences that cannot be reasonably mitigated?			
Criteria	Screening Question	Yes	No
1	Is the estimated reliable infiltration rate below proposed facility locations greater than 0.5 inches per hour? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.2 and Appendix D.		X
Provide basis: The NRCS soils across the site are all Type D soils with very high surface runoff. The site soils are consistent with the NRCS mapped soil types based on site explorations and percolation testing. Three soil types were present in the area of the proposed stormwater BMPs, Quaternary Young Alluvium, Tertiary Torrey Sandstone, and Tertiary Del Mar Formation. Five percolation tests were completed within the Alluvium. The calculated infiltration rates (with an applied factor of safety of two) ranged from a low of 0.008 in Test P-6 (just above the underlying Torrey Sandstone Formation) to a high of 0.215 inches per hour in Test P-7. Two percolation tests were completed within the Del Mar Formation. The calculated infiltration rates (with an applied factor of safety of two) ranged from a low of 0.009 in Test P-3 to a high of 0.045 inches per hour in Test P-4. One percolation test was completed within the Torrey Sandstone. The calculated infiltration rate (with an applied factor of safety of two) was 0.039 in Test P-5. Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.			
2	Can infiltration greater than 0.5 inches per hour be allowed without increasing risk of geotechnical hazards (slope stability, groundwater mounding, utilities, or other factors) that cannot be mitigated to an acceptable level? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.2.		X
Provide basis: Due to the general minimal permeability of the geologic units encountered at the site, surface water would likely migrate laterally or mound locally. This could result in the water migrating into utility trench backfill, building up behind proposed retaining walls, or saturating toes of slopes and down gradient and nearby foundations or other improvement areas. The potential adverse effects of mounding are anticipated to be minimized somewhat by installation of an impermeable liner on the sidewalls and bottom of the proposed basin where partial infiltration is proposed. Lining the sides and bottom of the BMP with impermeable liner is recommended to mitigate lateral migration of infiltrate. The lining should extend to the maximum depth of utility trench bottoms, toe of slope elevation (if slopes are proposed), and foundation excavations within 100 feet of the proposed basin. Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.			

Worksheet C.4-1 Page 2 of 4			
Criteria	Screening Question	Yes	No
3	Can infiltration greater than 0.5 inches per hour be allowed without increasing risk of groundwater contamination (shallow water table, storm water pollutants or other factors) that cannot be mitigated to an acceptable level? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.3.	X	
Provide basis: Groundwater is anticipated to be deeper than at least 10 feet below the bottom of the planned basin bottoms. Infiltration at the site is not anticipated to increase the risk of groundwater contamination. According to Geotracker online (a State of California on line resource for listings of regulated contaminated sites), there are no open LUST cases in the site area that could impact the site. An enrolled DTSC site ("Irrigated Lands Regulatory Program") is located immediately southeast of the site. However, no information on cleanup status or remediation was available from Geotracker. The proposed development is not industrial and capture of surface waters is not anticipated to increase the risk of groundwater contamination. Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.			
4	Can infiltration greater than 0.5 inches per hour be allowed without causing potential water balance issues such as change of seasonality of ephemeral streams or increased discharge of contaminated groundwater to surface waters? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.3.	X	
Provide basis: Infiltration at the site is not anticipated to cause potential water balance issues and not anticipated to change the seasonality of ephemeral streams. The site and up-gradient properties are not known contaminated sites according to Geotracker, a State of California on line resource for listings of regulated contaminated sites and site development is not industrial. Lining the basins as recommended in Item 1 above is anticipated to minimize the lateral migration of infiltrate. Site discharge is not anticipated to be contaminated or affect surface waters. Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.			
Part 1 Result*	If all answers to rows 1 - 4 are "Yes" a full infiltration design is potentially feasible. The feasibility screening category is Full Infiltration If any answer from row 1-4 is "No", infiltration may be possible to some extent but would not generally be feasible or desirable to achieve a "full infiltration" design. Proceed to Part 2		No Full

*To be completed using gathered site information and best professional judgment considering the definition of MEP in the MS4 Permit. Additional testing and/or studies may be required by City Engineer to substantiate findings.

Worksheet C.4-1 Page 3 of 4			
Part 2 – Partial Infiltration vs. No Infiltration Feasibility Screening Criteria Would infiltration of water in any appreciable amount be physically feasible without any negative consequences that cannot be reasonably mitigated?			
Criteria	Screening Question	Yes	No
5	Do soil and geologic conditions allow for infiltration in any appreciable rate or volume? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.2 and Appendix D.	X	
Provide basis: CTE understands an appreciable rate to be 0.05 inches per hour or greater. An infiltration rate (with FOS of 2 applied) of 0.136 in/hr was recorded for Test P-1 and 0.215 in/hr was recorded for Test P-7. Additionally, infiltration rates of 0.047 in/hr, 0.045 in/hr, and 0.039 in/hr were recorded for Tests P-2, P-4 and P-5, respectively. While these values are below 0.05 in/hr, some infiltration was observed. Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability and why it was not feasible to mitigate low infiltration rates.			
6	Can Infiltration in any appreciable quantity be allowed without increasing risk of geotechnical hazards (slope stability, groundwater mounding, utilities, or other factors) that cannot be mitigated to an acceptable level? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.2.	X	
Provide basis: See Question 2, Part 1. Sidewalls of the proposed bio-retention BMP basin in the northeastern portion of the site should be lined with an impermeable liner to mitigate the potential for lateral migration of infiltrate and saturation. At a minimum the lining should extend to the maximum depth of utility trench bottoms, toe of slope elevation (if slopes are proposed), and foundation excavations within 100 feet of the proposed basin. If re-introduced, the currently-removed bio-retention BMP basin located along the southern PL of the site should be fully lined with an impermeable liner, and infiltrate collected via a subdrain and discharged to an appropriate offsite location, in order to minimize the risk of infiltrate migrating and detrimentally impacting offsite and down-gradient properties adjacent to the site. Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability and why it was not feasible to mitigate low infiltration rates.			

Worksheet C.4-1 Page 4 of 4			
Criteria	Screening Question	Yes	No
7	Can Infiltration in any appreciable quantity be allowed without posing significant risk for groundwater related concerns (shallow water table, storm water pollutants or other factors)? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.3.	X	
Provide basis: Groundwater is anticipated to be deeper than at least 10 feet below the bottom of the planned basin bottoms. Infiltration at the site is not anticipated to increase the risk of groundwater contamination. According to Geotracker online (a State of California on line resource for listings of regulated contaminated sites), there are no open LUST cases in the site area that could impact the site. An enrolled DTSC site ("Irrigated Lands Regulatory Program") is located immediately southeast of the site. However, no information on cleanup status or remediation was available from Geotracker. The proposed development is not industrial and capture of surface waters is not anticipated to increase the risk of groundwater contamination. Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability and why it was not feasible to mitigate low infiltration rates.			
8	Can infiltration be allowed without violating downstream water rights? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.3.	X	
Provide basis: Infiltration at the site is not anticipated to cause potential water balance issues and not anticipated to change the seasonality of ephemeral streams. The site and up-gradient properties are not known contaminated sites according to Geotracker, a State of California on line resource for listings of regulated contaminated sites and site development is not industrial. Lining the basins as recommended in Item 1 above is anticipated to minimize the lateral migration of infiltrate. Site discharge is not anticipated to be contaminated or affect surface waters. Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability and why it was not feasible to mitigate low infiltration rates.			
Part 2 Result*	If all answers from row 1-4 are yes then partial infiltration design is potentially feasible. The feasibility screening category is Partial Infiltration. If any answer from row 5-8 is no, then infiltration of any volume is considered to be infeasible within the drainage area. The feasibility screening category is No Infiltration.		Partial

*To be completed using gathered site information and best professional judgment considering the definition of MEP in the MS4 Permit. Additional testing and/or studies may be required by City Engineer to substantiate findings

Construction Testing & Engineering, Inc.
Inspection | Testing | Geotechnical | Environmental & Construction Engineering | Civil Engineering | Surveying

November 24, 2020 CTE Job No. 10-14212G

Olivenhain Hills LLC
Attention: Mr. Udi Melamed
745 Cole Ranch Road
Encinitas, California 92024
Telephone: (760) 299-3344 Via Email: udi@ermdevelopment.com

Subject: Report of Geologic Mapping
Proposed 9 Lot Subdivision (The Sanctuary)
Ranch View Terrace
Encinitas, California

Reference: Construction Testing and Engineering
Limited Geotechnical Investigation and Update Report
Proposed 8 Lot Subdivision
Ranch View Terrace, Encinitas, California
CTE project 10.14212G, Dated April 20, 2018

Mr. Melamed:

Construction Testing and Engineering, Inc. (CTE) is pleased to present the results of geologic mapping within the limits of proposed development at the Ranch View Terrace (The Sanctuary). Location of the site is shown on attached Figure 1, Site Index Map. This geologic mapping report was authorized by Mr Udi Melamed on November 5, 2020 through CTE proposal E-0628 dated November 3, 2020. The purpose of this report is to present the attached Geologic Map that depicts the limit of fill within the subject proposed nine lot subdivision.

The geologic mapping was conducted on November 13, 2020. The mapping was based upon observation of surficial conditions. The attached Geologic Map, Figure 2, presents the surficial distribution of these units. Following is a presentation of the observed units.

Quaternary Undocumented Fill: This unit was composed of clayey to silty sand. It was noted by irregular surface topography that formed a berm at the location of Lot 9 that trailed across the northeast corners of Lot 7 and Lot 8. It appears this area was a former stock pond with associated berm leading to the northwest where an apparent intermittent stream was formerly located.

Quaternary Younger Alluvium: This unit was noted by subdued and plain like topography on the north portion of the northeast portion of the property. It supported volunteer growth to include ice plant. At the ground surface it was exposed as a clayey to silty sand.

Tertiary Torrey Sandstone: The formation was composed of weakly cemented and sparsely bedded sandstone. It forms the sloping hillside portions on the southwest margin of the proposed development.

The field evaluation presented in this report has been conducted according to current environmental practice and the standard of care exercised by reputable consultants performing similar tasks in this area. No other warranty, expressed or implied, is made regarding this report. Variations may exist and conditions not observed or described in this report may be present. CTE should be notified of possible variations so that CTE may re-evaluate the findings of this report.

CTE appreciates this opportunity to be of service on this project. If there are any questions regarding this report, please do not hesitate to contact the undersigned.

Respectfully submitted,

CONSTRUCTION TESTING & ENGINEERING, INC.

Dan T. Math, RCE #61013
Principal Engineer

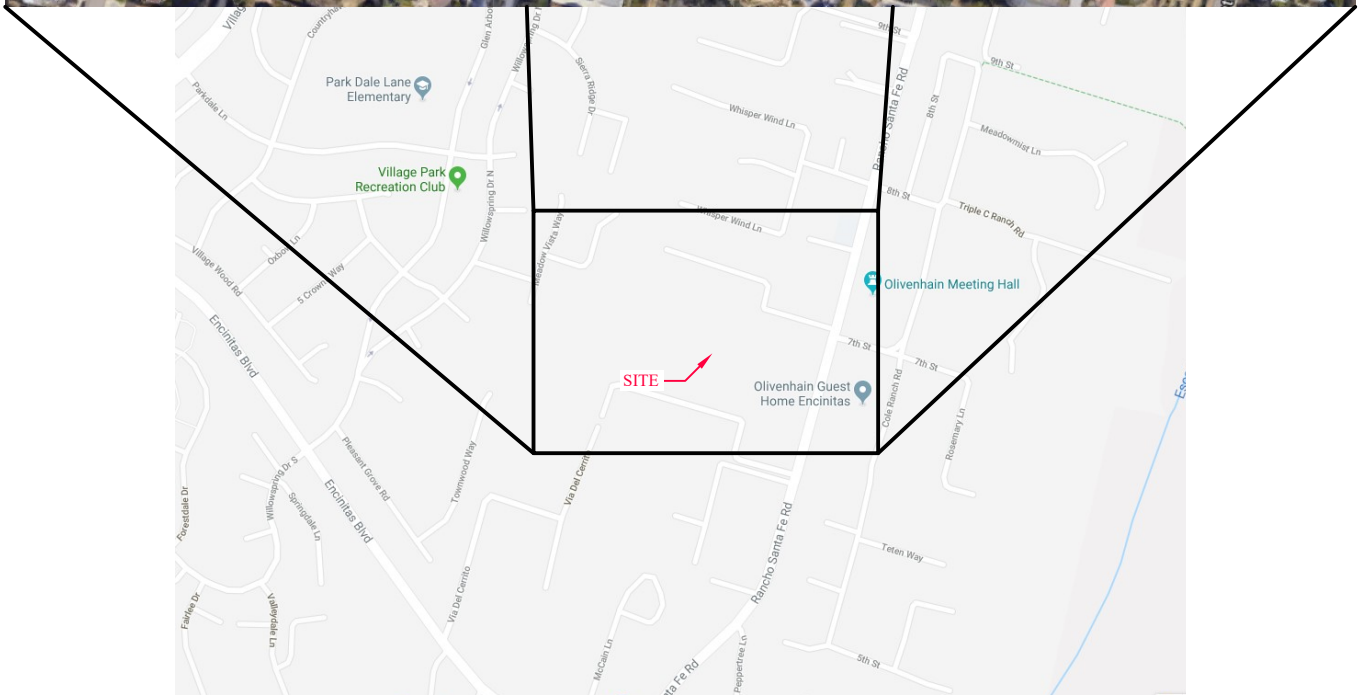
REGISTERED PROFESSIONAL ENGINEER
DANIEL T. MATH
No.61013
EXP.12/31/20
CIVIL
STATE OF CALIFORNIA

Gregory F. Rzonca, CEG #1191
Senior Engineering Geologist

PROFESSIONAL GEOLOGIST
GREGORY F. RZONCA
No.1191
CERTIFIED ENGINEERING GEOLOGIST
Exp. 8/31/21
STATE OF CALIFORNIA

GFR/DTM:ach

Attachments
Figure 1 Site Index Map
Figure 2 Geologic Map

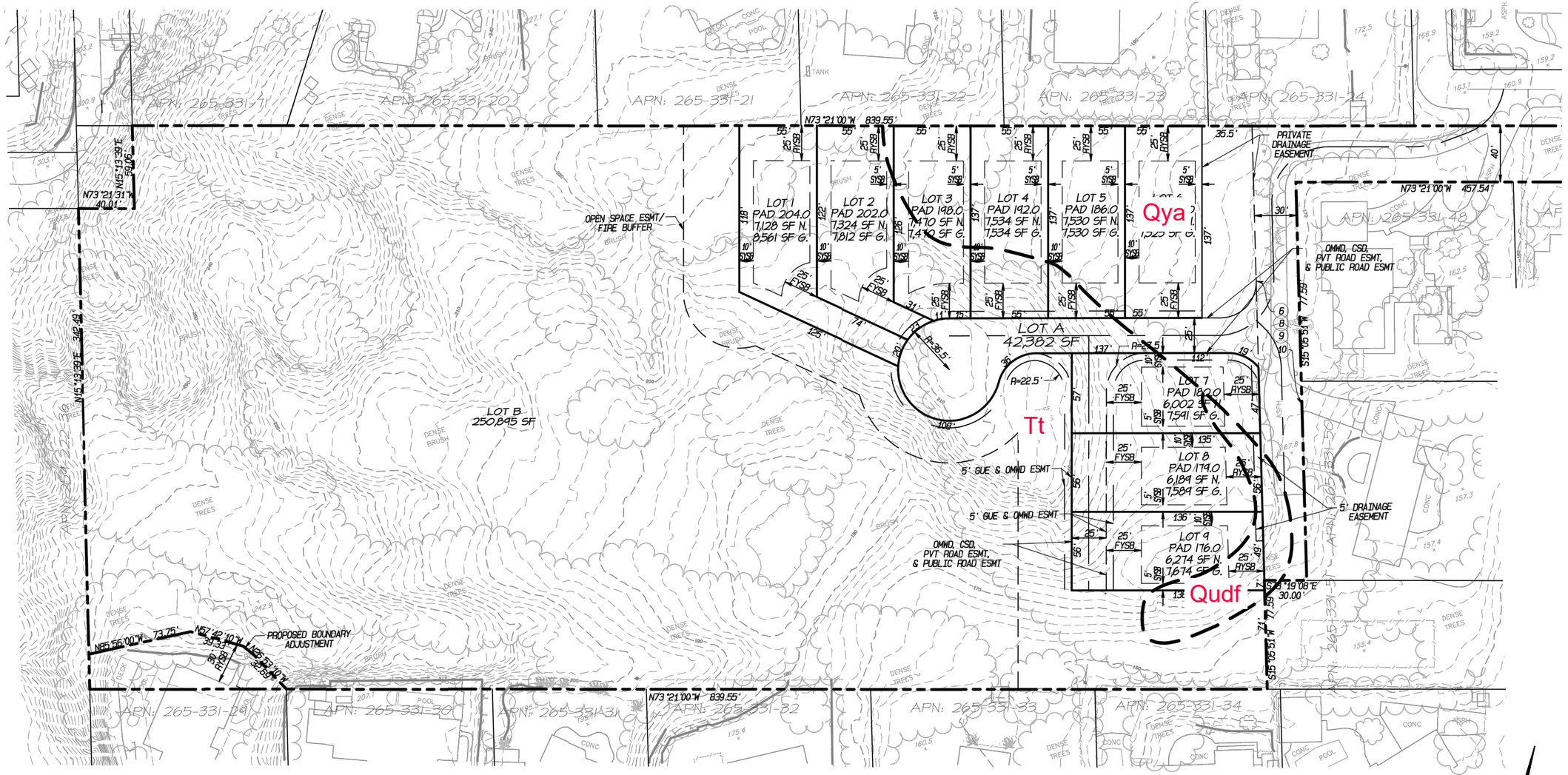


CTE INC. Construction Testing & Engineering, Inc.
1441 Montiel Rd Ste 115, Escondido, CA 92026 Ph (760) 746-4955

SITE INDEX MAP

RANCH VIEW TERRACE, 8 LOTS
RANCH VIEW TERRACE
ENCINITAS, CALIFORNIA

SCALE:	DATE:
AS SHOWN	11/20
CTE JOB NO.:	FIGURE:
10-14212G	1



LEGEND

Qudf	QUATERNARY UNDOCUMENTED FILL
Qya	QUATERNARY YOUNG ALLUVIUM
Tt	TERTIARY TORREY SANDSTONE
~~	APPROXIMATE GEOLOGIC CONTACT

GRAPHIC SCALE

80' 0 40' 80'

1 inch = 80 ft.

CTE INC. Construction Testing & Engineering, Inc.
1441 Montiel Rd Ste 115, Escondido, CA 92026 Ph (760) 746-4955

GEOLOGIC MAP

NINE LOTS ONLY
RANCH VIEW TERRACE
ENCINITAS, CALIFORNIA

CTE JOB NO:	10-14212G
SCALE:	1" = 80'
DATE:	11/20
FIGURE:	2

S:\Projects\10-14000 to 10-14999 Projects\10-14212G\Update Map\Figure 2 Geologic Map.dwg

Appendix E –
City of Encinitas Stormwater Intake and Priority Development Project Stormwater Quality Management Plan for The Sanctuary Development

CITY OF ENCINITAS
STORMWATER INTAKE FORM AND PRIORITY DEVELOPMENT PROJECT STORMWATER QUALITY MANAGEMENT PLAN (SWQMP)

FOR:

THE SANCTUARY DEVELOPMENT

RANCH VIEW TERRACE
ENCINITAS, CA 92024
265-331-49

PREPARED BY:
BRIAN M. ARDOLINO, RCE 71651
PASCO LARET SUITER & ASSOCIATES
535 NORTH HIGHWAY 101, SUITE A
SOLANA BEACH, CA 92075
858-259-8212

PREPARED FOR:
OLIVENHAIN HILLS, LLC
745 COLE RANCH ROAD
ENCINITAS, CA 92024
760-299-3344

DATE OF SWQMP:
MARCH 2019
REVISED DECEMBER 2020

GRADING PLAN PREPARED BY:
BRIAN M. ARDOLINO, RCE 71651
PASCO LARET SUITER & ASSOCIATES
535 NORTH HIGHWAY 101, SUITE A
SOLANA BEACH, CA 92075
858-259-8212

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PREPARER'S CERTIFICATION

I hereby declare that I am the Engineer in Responsible Charge of design of storm water best management practices (BMPs) for this project, and that I have exercised responsible charge over the design of the BMPs as defined in Section 6703 of the Business and Professions Code, and that the design is consistent with the Priority Development Project (PDP) requirements of the City of Encinitas BMP Design Manual, which is a design manual for compliance with local City of Encinitas and regional MS4 Permit (California Regional Water Quality Control Board San Diego Region Order No. R9-2015-0100) requirements for storm water management.

I have read and understand that the City Engineer has adopted minimum requirements for managing urban runoff, including storm water, from land development activities, as described in the BMP Design Manual. I certify that this PDP SWQMP has been completed to the best of my ability and accurately reflects the project being proposed and the applicable BMPs proposed to minimize the potentially negative impacts of this project's land development activities on water quality. I understand and acknowledge that the plan check review of this PDP Storm Water Quality Management Plan (SWQMP) by the City Engineer is confined to a review and does not relieve me, as the Engineer in Responsible Charge of design of storm water BMPs for this project, of my responsibilities for project design.

Engineer of Work's Signature, PE Number

Brian M. Ardolino, RCE 71651
Print Name

Pasco, Laret, Suiter & Associates
Company

12/18/20
Date

Engineer's Seal

PROJECT OWNER'S CERTIFICATION

This PDP SWQMP has been prepared for Olivenhain Hills, LLC by Pasco Laret Suiter & Associates. The PDP SWQMP is intended to comply with the PDP requirements of the City of Encinitas BMP Design Manual, which is a design manual for compliance with local City of Encinitas and regional MS4 Permit (California Regional Water Quality Control Board San Diego Region Order No. R9-2015-0100) requirements for storm water management.

The undersigned, while it owns the subject property, is responsible for the implementation of the provisions of this plan. Once the undersigned transfers its interests in the property, its successor-in-interest shall bear the aforementioned responsibility to implement the best management practices (BMPs) described within this plan, including ensuring on-going operation and maintenance of structural BMPs. A signed copy of this document shall be available on the subject property into perpetuity.

_____
Project Owner's Signature

_____
Print Name

Olivenhain Hills, LLC
Company

_____
Date

SUBMITTAL RECORD

Use this table to keep a record of submittals of this PDP SWQMP. Each time the PDP SWQMP is re-submitted, provide the date and status of the project. In the fourth column, summarize the changes that have been made or indicate if response to plancheck comments is included. When applicable, insert response to plancheck comments behind this page.

Submittal Number	Date	Project Status	Summary of Changes
1	March 2019	☑ Preliminary Design / ☐ Planning/ CEQA ☐ Final Design	
2	January 2020	☑ Preliminary Design / Planning/ CEQA Final Design	
3	December 2020	☑ Preliminary Design / Planning/ CEQA Final Design	
4		Preliminary Design / Planning/ CEQA Final Design	

PROJECT IDENTIFICATION

Project/Applicant Name: Olivenhain Hills, LLC	
Permit/Application Number:	Date: December 2020
Site Address: Ranch View Terrace, Encinitas CA 92024	APN: 265-331-49
Scope of work/project description: The project proposes to develop the existing vacant lot into detached single-family residential lots including a private street, associated underground utilities, and Hydromodification (HMP) Biofiltration basins to meet the requirements for hydromodification management flow control and storm water pollutant control as well as mitigate the 100-year storm event peak discharge rate.	

DETERMINATION OF PROJECT STATUS AND REQUIREMENTS

This form will identify permanent, post construction BMP requirements. Refer to City of Encinitas Stormwater BMP Design Manual for guidance.

Step 1: Is the project a "development project"? Development projects are defined as "construction, rehabilitation, redevelopment, or reconstruction of any public or private projects". See Section 1.3 and Table 1-2 of the manual for guidance. For example, interior remodels, roof replacements, and electrical and plumbing work are not development projects.	☑Yes	***Go to Step 2.***
	□ No	***Stop.*** Permanent BMP requirements do not apply. No SWQMP will be required. Provide discussion below.

If "No", provide discussion / justification explaining why the project is not a "development project":

Step 2: Complete questions below for Project Type Determination.

The project is (select one): ☑ New Development □ Redevelopment

The total proposed, newly created and/or replaced impervious area is: 28,240 ft^2

Is the project in any of the following categories, (a) through (f) below?

Yes ☑	No □	(a)	New development projects or redevelopment projects that create and/or replaced 10,000 square feet or more of impervious surfaces (collectively over the entire project site). This includes commercial, industrial, residential, mixed-use, and public development projects.
Yes □	No ☑	(b)	Redevelopment projects that create and/or replace 5,000 square feet or more of impervious surface (collectively over the entire project site on an existing site of 10,000 square feet or more of impervious surfaces). This includes commercial, industrial, residential, mixed-use, and public development projects.

Yes ☑	No □	(c)	New and redevelopment projects that create and/or replace 5,000 square feet or more of impervious surface (collectively over the entire project site), and support one or more of the following uses: (i) Restaurants. This category is defined as a facility that sells prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (SIC code 5812). (ii) Hillside development projects. This category includes development on any natural slope that is twenty-five percent or greater. (iii) Parking lots. This category is defined as a land area or facility for the temporary parking or storage of motor vehicles used personally, for business, or for commerce. (iv) Streets, roads, highways, freeways, and driveways. This category is defined as any paved impervious surface used for the transportation of automobiles, trucks, motorcycles, and other vehicles.
Yes □	No ☑	(d)	New or redevelopment projects that create and/or replace 2,500 square feet or more of impervious surface (collectively over the entire project site), and discharge directly to an Environmentally Sensitive Area (ESA). "Discharge directly to" includes flow that is conveyed overland a distance of 200 feet or less from the project to the ESA, or conveyed in a pipe or open channel any distance as an isolated flow from the project to the ESA (i.e. not commingled with flows from adjacent lands). Note: ESAs are areas that include but are not limited to all Clean Water Act Section 303(d) impaired water bodies; areas designated as Areas of Special Biological Significance by the State Water Board and SDRWQCB; State Water Quality Protected Areas; water bodies designated with the RARE beneficial use by the State Water Board and SDRWQCB; and any other equivalent environmentally sensitive areas which have been identified by the Copermittees. See manual Section 1.4.2 for additional guidance.
Yes □	No ☑	(e)	New development projects, or redevelopment projects that create and/or replace 5,000 square feet or more of impervious surface, that support one or more of the following uses: (i) Automotive repair shops. This category is defined as a facility that is categorized in any one of the following SIC codes: 5013, 5014, 5541, 7532-7534, or 7536-7539. (ii) Retail gasoline outlets. This category includes retail gasoline outlets that meet the following criteria: (a) 5,000 square feet or more or (b) a projected Average Daily Traffic of 100 or more vehicles per day.
Yes ☑	No □	(f)	New or redevelopment projects that result in the disturbance of one or more acres of land and are expected to generate pollutants post construction. *Note: See manual Section 1.4.2 for additional guidance.*

Does the project meet the definition of one or more of the PDP categories (a) through (f) listed above?

☑ Yes – **The project is a Priority Development Project, the applicant shall provide PDP Post Construction BMPs and *continue to Step 3*.**

□No – **The project is a Standard or Basic Project. *Stop here and complete the "City of Encinitas Stormwater Intake Form for All Developments and Standard Projects SWQMP".***

The following is for *redevelopment PDPs* only:

The area of existing (pre-project) impervious area at the project site is: _____ ft^2 (A)
The total proposed newly created or replaced impervious area is: _____ ft^2 (B)
Percent impervious surface created or replaced (B/A)*100: _____
The percent impervious surface created or replaced is (select one based on the above calculation):

□ Less than or equal to fifty percent (50%) – only new and/or replaced impervious areas are considered PDP subject to treatment and HMP criteria
OR

□ Greater than fifty percent (50%) – the entire site is a PDP; treatment and HMP criteria apply to entire site regardless of whether it is replaced

Step 3 (PDPs only): Do hydromodification control requirements apply? See Section 1.6 of the BMP Design Manual for guidance.	☑ Yes	PDP structural BMPs required for pollutant control (Chapter 5) and hydromodification control (Chapter 6). ***Go to Step 4.***
	□ No	PDP structural BMPs required for pollutant control (Chapter 5) only. Provide brief discussion of exemption to hydromodification control below. ***Go to "Site Information Checklist"***
Discussion / justification if hydromodification control requirements do not apply:		
Step 4 (PDPs subject to treatment and hydromodification controls): Does protection of critical coarse sediment yield areas apply based on review of City of Encinitas Potential Critical Coarse Sediment Yield Area Map? See Section 6.2 of the BMP Design Manual for guidance.	□ Yes	Management measures required for protection of critical coarse sediment yield areas (Chapter 6.2). ***Go to "Site Information Checklist"***
	☑ No	Management measures not required for protection of critical coarse sediment yield areas. Provide brief discussion below. ***Go to "Site Information Checklist"***
Discussion / justification if management measures not required for protection of critical coarse sediment yield areas: Pursuant to the City of Encinitas Potential Critical Coarse Sediment Yield Area GIS layer, there are no potential critical coarse sediment yield areas on or upstream of the project site. Refer to the exhibit located in Attachment 2b.		

SITE INFORMATION CHECKLIST

Project's Watershed (Complete Hydrologic Unit, Area, and Subarea Name with Numeric Identifier)	Carlsbad HU, Escondido Creek HA, San Elijo HSA, 904.61
Parcel Area (Total area of Assessor's Parcel(s) associated with the project)	8.23 Acres (358,293 Square Feet)
Area to be Disturbed by the Project (Project Area)	2.59 Acres (112,739 Square Feet)
Project Proposed Impervious Area (Subset of Project Area)	0.60 Acres (26,040 Square Feet)
Project Proposed Pervious Area (Subset of Project Area)	1.99 Acres (86,699 Square Feet)
Note: Proposed Impervious Area + Proposed Pervious Area = Area to be Disturbed by the Project. This may be less than the Parcel Area.	

Description of Existing Site Condition

Current status of the site (select all that apply):

□ Existing development
□ Previously graded but not built out
□ Demolition completed without new construction
□ Agricultural or other non-impervious use
☑ Vacant, undeveloped/natural

Description / Additional Information:

Existing Land Cover includes (select all that apply):

☑ Vegetative Cover

☑ Non-Vegetated Pervious Areas

□ Impervious Areas

Description / Additional Information:

Underlying soil belongs to Hydrologic Soil Group (select all that apply):

□ NRCS Type A
□ NRCS Type B
□ NRCS Type C
☑ NRCS Type D

Approximate Depth to Groundwater (GW):

□ GW Depth < 5 feet

□ 5 feet < GW Depth < 10 feet

□ 10 feet < GW Depth < 20 feet

☑ GW Depth > 20 feet

Existing Natural Hydrologic Features (select all that apply):

☑ Watercourses

□ Seeps

□ Springs

□ Wetlands

□ None

Description / Additional Information:

Description of Existing Site Drainage Patterns

How is storm water runoff conveyed from the site? At a minimum, this description should answer:

1) Is existing drainage conveyance natural or urban?
2) Is runoff from offsite conveyed through the site? If yes, quantify all offsite drainage areas, design flows, and locations where offsite flows enter the project site, and summarize how such flows are conveyed through the site.
3) Provide details regarding existing project site drainage conveyance network, including any existing storm drains, concrete channels, swales, detention facilities, storm water treatment facilities, natural or constructed channels. And
4) Identify all discharge locations from the existing project site along with a summary of conveyance system size and capacity for each of the discharge locations. Provide summary of the pre-project drainage areas and design flows to each of the existing runoff discharge locations.

Describe existing site drainage patterns:

In the existing condition, the property consists of a natural undeveloped area. Storm water runoff flows overland southeasterly across the property. Offsite storm water runs onto the site along the northwestern and northern property boundary. Storm water runoff discharges along the eastern and southeastern property boundary. The table below summarizes the existing condition 100-year storm event hydrologic analysis which includes the offsite areas.

Drainage Basin	Area (ac)	Q100 (cfs)
POC-1	9.5	22.44

Refer to the "Preliminary Hydrology Study for the Sanctuary, Olivenhain Hills" prepared by Pasco Laret Suiter & Associates dated January 2020.

Description of Proposed Site Development
Project Description / Proposed Land Use and/or Activities: The project proposes to develop the existing vacant lot into detached single-family residential lots including a private street, associated underground utilities, and Hydromodification (HMP) Biofiltration basins to meet the requirements for hydromodification management flow control and storm water pollutant control as well as mitigate the 100-year storm event peak discharge rate.
List/describe proposed impervious features of the project (e.g., buildings, roadways, parking lots, courtyards, athletic courts, other impervious features): Proposed impervious features include the buildings, sidewalk, private street, and patio areas.
List/describe proposed pervious features of the project (e.g., landscape areas): Proposed pervious features include pervious pavers, landscape areas and biofiltration basins.
Does the project include grading and changes to site topography? ☑ Yes ☐ No Description / Additional Information: The project site will be graded to create pads suitable for the construction of structures including new private streets, biofiltration basins, curb and pervious parking stalls, and associated underground utilities. Grading is proposed to honor the existing condition drainage basins.

Description of Proposed Site Drainage Patterns

Does the project include changes to site drainage (e.g., installation of new storm water conveyance systems)?

☑ Yes

□ No

If yes, provide details regarding the proposed project site drainage conveyance network, including storm drains, concrete channels, swales, detention facilities, storm water treatment facilities, natural or constructed channels, and the method for conveying offsite flows through or around the proposed project site. Identify all discharge locations from the proposed project site along with a summary of the conveyance system size and capacity for each of the discharge locations. Provide a summary of pre- and post-project drainage areas and design flows to each of the runoff discharge locations. Reference the drainage study for detailed calculations.

Describe proposed site drainage patterns:

The project site is located on the eastern half of the property. In the proposed condition, offsite run-on will be routed around the project site to the existing points of discharge. All onsite storm water will be collected and conveyed to two proposed Hydromodification Management (HMP) Biofiltration basins which will provide hydromodification management flow control and storm water pollutant control to meet the requirements the California Regional Water Quality Control Board San Diego Region municipal storm water permit (Order No. R9-2013-0001, referred to as MS4 Permit). The HMP Biofiltration basins will also provide mitigation for the 100-year storm event peak discharge. The table below summarizes the existing and proposed condition 100-year storm event hydrologic analyses which include the offsite areas.

Drainage Basin	Existing Condition		Proposed Detained Condition	
	Area (ac)	Q100 (cfs)	Area (ac)	Q100 (cfs)
POC-1	9.5	22.44	9.7	21.71

Refer to the “Preliminary Hydrology Study for the Sanctuary, Olivenhain Hills” prepared by Pasco Laret Suiter & Associates dated December 2020.

Identification and Narrative of Receiving Water and Pollutants of Concern

Describe flow path of storm water from the project site discharge location(s), through urban storm conveyance systems as applicable, to receiving creeks, rivers, and lagoons as applicable, and ultimate discharge to the Pacific Ocean (or bay, lagoon, lake or reservoir, as applicable):

Storm water runoff discharges from the eastern and southeastern boundary of the project site to a small channel along Rancho Santa Fe Road, which flows southerly eventually discharging to Escondido Creek which flows southwesterly to San Elijo Lagoon and ultimately discharges to the Pacific Ocean.

List any 303(d) impaired water bodies within the path of storm water from the project site to the Pacific Ocean (or bay, lagoon, lake or reservoir, as applicable), identify the pollutant(s)/stressor(s) causing impairment, and identify any TMDLs and/or Highest Priority Pollutants from the WQIP for the impaired water bodies:

303(d) Impaired Water Body	Pollutant(s)/Stressor(s)	TMDLs / WQIP Highest Priority Pollutant
Escondido Creek	Benthic community effects, bifenthrin, malathion, nitrogen, DDT, indicator bacteria, manganese, phosphate, selenium, sulfates, total dissolved solids, toxicity	TMDL
San Elijo Lagoon	Eutrophic, indicator bacteria sedimentation/siltation, toxicity	TMDL
Pacific Ocean Shoreline at Cardiff State Beach	indicator bacteria	TMDL

Identification of Project Site Pollutants*

***Identification of project site pollutants is only required if flow-thru treatment BMPs are implemented onsite in lieu of retention or biofiltration BMPs (note the project must also participate in an alternative compliance program unless prior lawful approval to meet earlier PDP requirements is demonstrated)**

Identify pollutants expected from the project site based on all proposed use(s) of the site (see BMP Design Manual Appendix B.6):

Pollutant	Not Applicable to the Project Site	Expected from the Project Site	Also a Receiving Water Pollutant of Concern
Sediment			
Nutrients			
Heavy Metals			
Organic Compounds			
Trash & Debris			
Oxygen Demanding Substances			
Oil & Grease			
Bacteria & Viruses			

Pesticides			

Hydromodification Management Requirements

Do hydromodification management requirements apply (see Section 1.6 of the BMP Design Manual)?

☑ Yes, hydromodification management flow control structural BMPs required.

☐ No, the project will discharge runoff directly to existing underground storm drains discharging directly to water storage reservoirs, lakes, enclosed embayments, or the Pacific Ocean.

☐ No, the project will discharge runoff directly to conveyance channels whose bed and bank are concrete-lined all the way from the point of discharge to water storage reservoirs, lakes, enclosed embayments, or the Pacific Ocean.

☐ No, the project will discharge runoff directly to an area identified as appropriate for an exemption by the WMAA for the watershed in which the project resides.

Description / Additional Information (to be provided if a 'No' answer has been selected above):

Critical Coarse Sediment Yield Areas*

*This section only required if hydromodification management requirements apply

Based on the maps provided within the City of Encinitas Engineering Design Manual dated January 2016, do potential critical coarse sediment yield areas exist within the project drainage boundaries?

□ Yes
☑ No, no critical coarse sediment yield areas to be protected based on WMAA maps

If yes, have any of the optional analyses presented in Section 6.2 of the BMP Design Manual been performed?

□ 6.2.1 Verification of Geomorphic Landscape Units (GLUs) Onsite
□ 6.2.2 Downstream Systems Sensitivity to Coarse Sediment
□ 6.2.3 Optional Additional Analysis of Potential Critical Coarse Sediment Yield Areas Onsite
□ No optional analyses performed, the project will avoid critical coarse sediment yield areas identified based on WMAA maps

If optional analyses were performed, what was the final result?

□ No critical coarse sediment yield areas to be protected based on verification of GLUs onsite
□ Critical coarse sediment yield areas exist but additional analysis has determined that protection is not required. Documentation attached in Attachment 2.b of the SWQMP.
□ Critical coarse sediment yield areas exist and require protection. The project will implement management measures described in Sections 6.2.4 and 6.2.5 as applicable, and the areas are identified on the SWQMP Exhibit.

Discussion / Additional Information:

Flow Control for Post-Project Runoff*

*This section only required if hydromodification management requirements apply

List and describe point(s) of compliance (POCs) for flow control for hydromodification management (see Section 6.3.1). For each POC, provide a POC identification name or number correlating to the project's HMP Exhibit and a receiving channel identification name or number correlating to the project's HMP Exhibit.

There are two (2) POCs for the project, POC-1 and POC-2. POC-1 is located near the northeastern corner of the project site. POC-2 is located near the southeastern corner of the project site. Refer the exhibit located in Attachment 2a for the POC locations.

Has a geomorphic assessment been performed for the receiving channel(s)?

☑ No, the low flow threshold is 0.1Q2 (default low flow threshold)
□ Yes, the result is low flow threshold 0.1Q2
□ Yes, the result is low flow threshold 0.3Q2
□ Yes, the result is low flow threshold 0.5Q2

If a geomorphic assessment has been performed, provide title, date, and preparer:

Discussion / Additional Information: (optional)

Other Site Requirements and Constraints
When applicable, list other site requirements or constraints that will influence storm water management design, such as zoning requirements including setbacks and open space, or local codes governing minimum street width, sidewalk construction, allowable pavement types, and drainage requirements.

SOURCE CONTROL BMP CHECKLIST

All development projects must implement source control BMPs SC-1 through SC-6 where applicable and feasible. See Chapter 4 and Appendix E of the manual for information to implement source control BMPs shown in this checklist.

Answer each category below pursuant to the following.

- "Yes" means the project will implement the source control BMP as described in Chapter 4 and/or Appendix E of the manual. Discussion / justification is not required.
- "No" means the BMP is applicable to the project but it is not feasible to implement. Discussion / justification must be provided.
- "N/A" means the BMP is not applicable at the project site because the project does not include the feature that is addressed by the BMP (e.g., the project has no outdoor materials storage areas). Discussion / justification may be provided.

Source Control Requirement	Applied?		
SC-1 Prevention of Illicit Discharges into the MS4	☑ Yes	□ No	□ N/A
SC-2 Storm Drain Stenciling or Signage	☑ Yes	□ No	□ N/A
SC-3 Protect Outdoor Materials Storage Areas from Rainfall, Run-On, Runoff, and Wind Dispersal	□ Yes	□ No	☑ N/A
SC-4 Protect Materials Stored in Outdoor Work Areas from Rainfall, Run-On, Runoff, and Wind Dispersal	□ Yes	□ No	☑ N/A
SC-5 Protect Trash Storage Areas from Rainfall, Run-On, Runoff, and Wind Dispersal	□ Yes	□ No	☑ N/A
SC-6 Additional BMPs Based on Potential Sources of Runoff Pollutants (must answer for each source listed below)			
☑ Onsite storm drain inlets	☑ Yes	□ No	□ N/A
□ Interior floor drains and elevator shaft sump pumps drain to sewer	□ Yes	□ No	☑ N/A
□ Interior parking garages drain to sewer	□ Yes	□ No	☑ N/A
□ Need for future indoor & structural pest control	□ Yes	□ No	☑ N/A
☑ Landscape/outdoor pesticide use	☑ Yes	□ No	□ N/A
□ Pools, spas, ponds, decorative fountains, and other water features	□ Yes	□ No	☑ N/A
□ Food service	□ Yes	□ No	☑ N/A
□ Refuse/Trash areas must be covered	□ Yes	□ No	☑ N/A
□ Industrial processes	□ Yes	□ No	☑ N/A
□ Outdoor storage of equipment or materials must be covered	□ Yes	□ No	☑ N/A
□ Vehicle and equipment cleaning	□ Yes	□ No	☑ N/A
□ Vehicle/equipment repair and maintenance	□ Yes	□ No	☑ N/A
□ Fuel dispensing areas	□ Yes	□ No	☑ N/A
□ Loading docks	□ Yes	□ No	☑ N/A
□ Fire sprinkler test water	□ Yes	□ No	☑ N/A
□ Miscellaneous drain or wash water	□ Yes	□ No	☑ N/A
☑ Plazas, sidewalks, and parking lots	☑ Yes	□ No	□ N/A

Discussion / justification if SC-1 through SC-6 not implemented. Justification must be provided for ALL "No" answers shown above.

SITE DESIGN BMP CHECKLIST

All development projects must implement site design BMPs SD-1 through SD-8 where applicable and feasible. See Chapter 4 and Appendix E of the manual for information to implement site design BMPs shown in this checklist.

Answer each category below pursuant to the following.

- "Yes" means the project will implement the site design BMP as described in Chapter 4 and/or Appendix E of the manual. Discussion / justification is not required.
- "No" means the BMP is applicable to the project but it is not feasible to implement. Discussion / justification must be provided.
- "N/A" means the BMP is not applicable at the project site because the project does not include the feature that is addressed by the BMP (e.g., the project site has no existing natural areas to conserve). Discussion / justification may be provided.

Source Control Requirement	Applied?		
SD-1 Maintain Natural Drainage Pathways and Hydrologic Features	☑ Yes	□ No	□ N/A
SD-2 Conserve Natural Areas, Soils, and Vegetation	☑ Yes	□ No	□ N/A
SD-3 Minimize Impervious Area	☑ Yes	□ No	□ N/A
SD-4 Minimize Soil Compaction	☑ Yes	□ No	□ N/A
SD-5 Impervious Area Dispersion - Directly Connected Impervious Areas (e.g. roof downspouts connected to street) are not allowed	☑ Yes	□ No	□ N/A
SD-6 Runoff Collection	☑ Yes	□ No	□ N/A
SD-7 Landscaping with Native or Drought Tolerant Species	☑ Yes	□ No	□ N/A
SD-8 Harvesting and Using Precipitation	□ Yes	☑ No	□ N/A

Discussion / justification if SD-1 through SD-8 not implemented. Justification must be provided for ALL "No" answers shown above.

Harvesting and using precipitation is not a feasible BMP for this project. Refer to Attachment 1c.

PDP STRUCTURAL BMPS

All PDPs must implement structural BMPs for storm water pollutant control (see Chapter 5 of the BMP Design Manual). Selection of PDP structural BMPs for storm water pollutant control must be based on the selection process described in Chapter 5. PDPs subject to hydromodification management requirements must also implement structural BMPs for flow control for hydromodification management (see Chapter 6 of the BMP Design Manual). Both storm water pollutant control and flow control for hydromodification management can be achieved within the same structural BMP(s).

PDP structural BMPs must be verified by the local jurisdiction at the completion of construction. This may include requiring the project owner or project owner's representative and engineer of record to certify construction of the structural BMPs (see Section 1.12 of the BMP Design Manual). PDP structural BMPs must be maintained into perpetuity (see Section 7 of the BMP Design Manual). The local jurisdiction will confirm the maintenance annually.

Use this section to provide narrative description of the general strategy for structural BMP implementation at the project site in the box below. Then complete the PDP structural BMP summary information sheet (page 3 of this form) for each structural BMP within the project (copy the BMP summary information page as many times as needed to provide summary information for each individual structural BMP).

Describe the general strategy for structural BMP implementation at the site. This information must describe how the steps for selecting and designing storm water pollutant control BMPs presented in Section 5.1 of the BMP Design Manual were followed, and the results (type of BMPs selected). For projects requiring hydromodification flow control BMPs, indicate whether pollutant control and flow control BMPs are integrated or separate.

DMA-A

Step 1A: The DMA is not self-mitigating, de minimis, or self-retaining.

Step 1B: There are no site design BMPs proposed for the project for which the runoff factor can be adjusted.

Step 2: Harvest and use is not feasible. Refer to Attachment 1c.

Step 3: Partial Infiltration is feasible. Refer to Attachment 1d.

Step 3C: Biofiltration with Partial Retention BMP has been selected and sized per the design criteria to meet both pollutant control and hydromodification management flow control requirements.

DMA-B

Step 1A: The DMA is not self-mitigating, de minimis, or self-retaining.

Step 1B: There are no site design BMPs proposed for the project for which the runoff factor can be adjusted.

Step 2: Harvest and use is not feasible. Refer to Attachment 1c.

Step 3: Infiltration is not feasible. Refer to Attachment 1d.

Step 3C: Biofiltration BMP has been selected and sized per the design criteria to meet both pollutant control and hydromodification management flow control requirements.

STRUCTURAL BMP SUMMARY INFORMATION

Copy this page as necessary to provide information on each individual proposed structural BMP

Structural BMP ID No: BMP-A	DMA No: A
Construction Plan Sheet No:	
Type of structural BMP: □ Retention by harvest and use (HU-1) □ Retention by infiltration basin (INF-1) □ Retention by bioretention (INF-2) □ Retention by permeable pavement (INF-3) ☑ Partial retention by biofiltration with partial retention (PR-1) □ Biofiltration (BF-1) □ Biofiltration with Nutrient Sensitive Media Design (BF-2) □ Proprietary Biofiltration (BF-3) meeting all requirements of Appendix F □ Flow-thru treatment control with prior lawful approval to meet earlier PDP requirements (provide BMP type/description in discussion section below) □ Flow-thru treatment control included as pre-treatment/forebay for an onsite retention or biofiltration BMP (provide BMP type/description and indicate which onsite retention or biofiltration BMP it serves in discussion section below) □ Flow-thru treatment control with alternative compliance (provide BMP type/description in discussion section below) □ Detention pond or vault for hydromodification management □ Other (describe in discussion section below)	
Purpose: □ Pollutant control only □ Hydromodification control only ☑ Combined pollutant control and hydromodification control □ Pre-treatment/forebay for another structural BMP □ Other (describe in discussion section below)	
Who will inspect and certify construction of this BMP? Provide name and contact information for the party responsible to sign BMP verification forms required by the City Engineer (See Section 1.12 of the BMP Design Manual)	Brian M. Ardolino, RCE 71651 Pasco Laret Suiter & Associates 535 North Highway 101, Suite A Solana Beach, CA 92075 858-259-8212
Who will be the final owner of this BMP?	Olivenhain Hills, LLC
Who will maintain this BMP into perpetuity?	Olivenhain Hills, LLC
What is the funding mechanism for maintenance?	Olivenhain Hills, LLC

ATTACHMENT 1 - BACKUP FOR PDP POLLUTANT CONTROL BMPS

This is the cover sheet for Attachment 1.

Indicate which items are included behind this cover sheet:

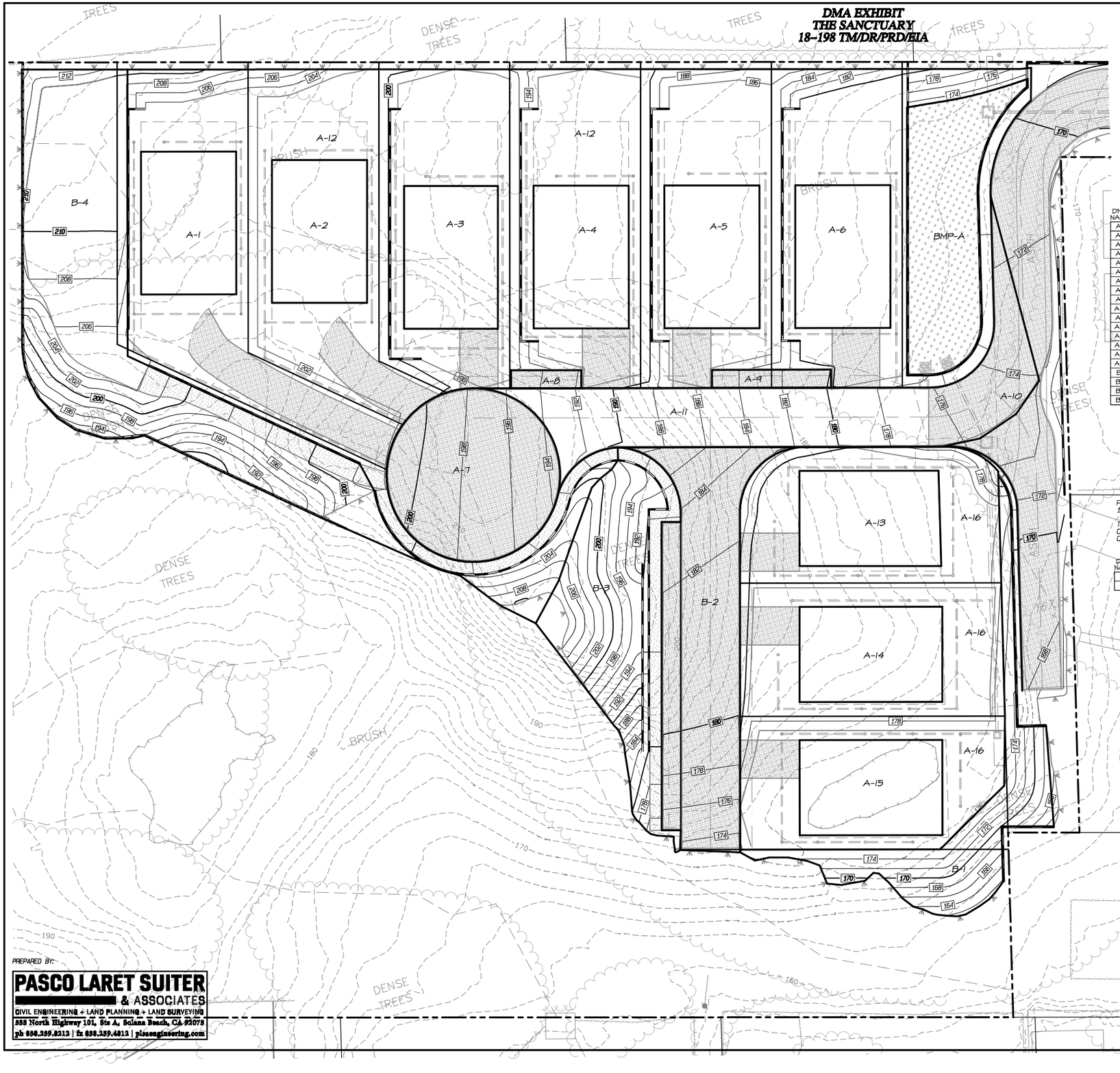
Attachment	Contents	Checklist
Attachment 1a	DMA Exhibit (Required) See DMA Exhibit Checklist on the back of this Attachment cover sheet.	☑ Included
Attachment 1b	Tabular Summary of DMAs Showing DMA ID matching DMA Exhibit, DMA Area, and DMA Type (Required)* *Provide table in this Attachment OR on DMA Exhibit in Attachment 1a	☑ Included on DMA Exhibit in Attachment 1a □ Included as Attachment 1b, separate from DMA Exhibit
Attachment 1c	Form I-7, Harvest and Use Feasibility Screening Checklist (Required unless the entire project will use infiltration BMPs) Refer to Appendix B.3-1 of the BMP Design Manual to complete Form I-7.	☑ Included □ Not included because the entire project will use infiltration BMPs
Attachment 1d	Form I-8, Categorization of Infiltration Feasibility Condition (Required unless the project will use harvest and use BMPs) Refer to Appendices C and D of the BMP Design Manual to complete Form I-8.	☑ Included □ Not included because the entire project will use harvest and use BMPs
Attachment 1e	Pollutant Control BMP Design Worksheets / Calculations (Required) Refer to Appendices B and E of the BMP Design Manual for structural pollutant control BMP design guidelines	☑ Included

Use this checklist to ensure the required information has been included on the DMA Exhibit:

The DMA Exhibit must identify:

- □ Underlying hydrologic soil group
- □ Approximate depth to groundwater
- □ Existing natural hydrologic features (watercourses, seeps, springs, wetlands)
- □ Critical coarse sediment yield areas to be protected
- □ Existing topography and impervious areas
- □ Existing and proposed site drainage network and connections to drainage offsite
- □ Proposed demolition
- □ Proposed grading
- □ Proposed impervious features
- □ Proposed design features and surface treatments used to minimize imperviousness
- □ Drainage management area (DMA) boundaries, DMA ID numbers, and DMA areas (square footage or acreage), and DMA type (i.e., drains to BMP, self-retaining, or self-mitigating)
- □ Potential pollutant source areas and corresponding required source controls (see Chapter 4, Appendix E.1, and Form I-3B)
- □ Structural BMPs (identify location, type of BMP, and size/detail)

DMA EXHIBIT
THE SANCTUARY
18-198 TM/DR/PRD/EIA



BASIN A WQV SIZING

DMA NAME	DMA AREA	FPST	DMA RF	RF * AREA	SOIL TYPE D	IMP NAME BMP-A
A1	2,400	BLDG	0.9	2,160		
A2	2,400	BLDG	0.9	2,160		
A3	2,400	BLDG	0.9	2,160		
A4	2,400	BLDG	0.9	2,160		
A5	2,400	BLDG	0.9	2,160		
A6	2,400	BLDG	0.9	2,160		
A7	4,185	PP	0.1	419		
A8	221	PP	0.1	22		
A9	375	PP	0.1	38		
A10	1,593	PP	0.1	154		
A11	4,440	AC	0.9	3,996		
A12	33,434	L	0.3	10,032		
A13	2,400	BLDG	0.9	2,160		
A14	2,400	BLDG	0.9	2,160		
A15	2,400	BLDG	0.9	2,160		
A16	10,162	L	0.3	3,229		
B1	3,255	L	0.3	977		
B2	5,605	PP	0.1	561		
B3	4,927	L	0.3	1,478		
B4	9,765	L	0.3	2,930		
				43,281	0.03	1,298

IMP SF	MIN AREA	PROP AREA	
2,731	IMP AREA		

BASIN A DCV SIZING

DMA NAME	DMA AREA	FPST	DMA RF	RF * AREA	SOIL TYPE D	IMP NAME BMP-A
A1	2,400	BLDG	1.0	2,400		
A2	2,400	BLDG	1.0	2,400		
A3	2,400	BLDG	1.0	2,400		
A4	2,400	BLDG	1.0	2,400		
A5	2,400	BLDG	1.0	2,400		
A6	2,400	BLDG	1.0	2,400		
A7	4,185	PP	0.2	837		
A8	221	PP	0.2	44		
A9	375	PP	0.2	75		
A10	1,593	PP	0.2	314		
A11	4,440	AC	1.0	4,440		
A12	33,434	L	0.1	3,344		
A13	2,400	BLDG	1.0	2,400		
A14	2,400	BLDG	1.0	2,400		
A15	2,400	BLDG	1.0	2,400		
A16	10,162	L	0.1	1,016		
B1	3,255	L	0.1	326		
B2	5,605	PP	0.2	1,121		
B3	4,927	L	0.1	493		
B4	9,765	L	0.1	977		
TOTAL				34,652	0.03	1,040

IMP SF	MIN AREA	PROP AREA	
2,731	IMP AREA		

15% CONTINGENCY

PROPOSED IMPERVIOUS SURFACE AREA	= 26,040 SF
15% CONTINGENCY	= 3,906 SF
TOTAL TREATMENT AREA	= 99,967 SF
CONTINGENCY IMPERVIOUS AREA	= 29,946 SF
CONTINGENCY PERVIOUS AREA	= 70,021 SF

DMA NAME	DMA AREA	FPST	DMA RF	RF * AREA	SOIL TYPE D	IMP NAME BMP-A
1	29,946	IMPV	0.9	29,946		
2	70,021	PERV	0.3	21,006		
TOTAL				50,952	0.03	1,529

IMP SF	MIN AREA	PROP AREA	
2,731	IMP AREA		

15% CONTINGENCY

PROPOSED IMPERVIOUS SURFACE AREA	= 26,040 SF
15% CONTINGENCY	= 3,906 SF
TOTAL TREATMENT AREA	= 99,967 SF
CONTINGENCY IMPERVIOUS AREA	= 29,946 SF
CONTINGENCY PERVIOUS AREA	= 70,021 SF

DMA NAME	DMA AREA	FPST	DMA RF	RF * AREA	SOIL TYPE D	IMP NAME BMP-A
1	29,946	IMPV	1.0	29,946		
2	70,021	PERV	0.1	7,002		
TOTAL				36,948	0.03	1,108

IMP SF	MIN AREA	PROP AREA	
2,731	IMP AREA		

GRAPHIC SCALE 1"=20'

0 20 40 60

POTENTIAL POLLUTANT SOURCE	SOURCE CONTROL
ONSITE STORM DRAIN INLETS	MARK ALL INLETS WITH THE WORDS "NO DUMPING! FLOWS TO OCEAN" OR SIMILAR. MAINTAIN AND PERIODICALLY REPAINT OR REPLACE INLET MARKINGS. PROVIDE STORM WATER POLLUTION PREVENTION INFORMATION TO NEW SITE OWNERS, LESSEES, OR OPERATORS. INCLUDE THE FOLLOWING IN LEASE AGREEMENTS: "TENANT SHALL NOT ALLOW ANYONE TO DISCHARGE ANYTHING TO STORM DRAINS OR TO STORE OR DEPOSIT MATERIALS SO AS TO CREATE A POTENTIAL DISCHARG TO STORM DRAINS."
LANDSCAPE/OUTDOOR PESTICIDE USE	FINAL LANDSCAPE PLANS SHALL: PRESERVE EXISTING DROUGHT TOLERANT TREES, SHRUBS, AND GROUND COVER TO THE MAXIMUM EXTENT POSSIBLE. BE DESIGNED TO MINIMIZE IRRIGATION AND RUNOFF, PROMOTE SURFACE INFILTRATION WHERE APPROPRIATE, AND MINIMIZE THE USE OF FERTILIZERS AND PESTICIDES. SPECIFY PLANTS THAT ARE TOLERANT OF PERIODIC SATURATED SOIL CONDITIONS FOR AREAS TO RETAIN OR DETAIN STORMWATER. CONSIDER THE USE OF PEST-RESISTANT PLANTS, ESPECIALLY ADJACENT TO HARDSCAPE. SELECT PLANTS APPROPRIATE TO SITE SOILS, SLOPES, CLIMATE, SUN, WIND, RAIN, LAND USE, AIR MOVEMENT, ECOLOGICAL CONSISTENCY, AND PLANT INTERACTIONS. MAINTAIN LANDSCAPING USING MINIMUM OR NO PESTICIDES.
PLAZA, SIDEWALKS, AND PARKING LOTS	PLAZAS, SIDEWALKS, AND PARKING LOTS SHALL BE SWEPT REGULARLY TO PREVENT THE ACCUMULATIONS OF LITTER AND DEBRIS. DEBRIS FROM PRESSURE WASHING SHALL BE COLLECTED TO PREVENT ENTRY INTO THE STORM DRAIN SYSTEM. WASHWATER CONTAINING ANY CLEANING AGENT OR DEGREASER SHALL BE COLLECTED AND DISCHARGED TO THE SANITARY SEWER AND NOT DISCHARGED TO A STORM DRAIN.

PREPARED BY:
PASCO LARET SUITER & ASSOCIATES
CIVIL ENGINEERING + LAND PLANNING + LAND SURVEYING
535 North Highway 101, Ste A, Solana Beach, CA 92075
ph 858.259.8212 | fx 858.259.4812 | plsaengineering.com

ATTACHMENT 1c

Worksheet B.3-1. Harvest and Use Feasibility Screening

Harvest and Use Feasibility Screening	**Worksksheet B.3-1**

1. Is there a demand for harvested water (check all that apply) at the project site that is reliably present during the wet season?
✓Toilet and urinal flushing
✓ Landscape irrigation
Other:_____

2. If there is a demand; estimate the anticipated average wet season demand over a period of 36 hours. Guidance for planning level demand calculations for toilet/urinal flushing and landscape irrigation is provided in Section B.3.2.

Toilet/Urinal Flushing
(9.3 gal/person-day) x (0.13368 cuft/gal) x (1.5 days) = 1.86 cuft/person-36hr
Assume (30 people) x (1.86 cuft/person-36 hr) = 56 cuft/36hr

Landscape Irrigation
(1.38 ac irrigated) x (390 gal/ac-36hr) x (0.13368 cuft/gal) = 72 cuft/36hr

Total = 56 cuft + 72 cuft = 128 cuft

3. Calculate the DCV using worksheet B-2.1.

DCV = 2,187 cuft

3a. Is the 36-hour demand greater than or equal to the DCV?	3b. Is the 36-hour demand greater than 0.25DCV but less than the full DCV?	3c. Is the 36-hour demand less than 0.25DCV?
Yes / ✓ No	Yes / ✓ No	✓ Yes
Harvest and use appears to be feasible. Conduct more detailed evaluation and sizing calculations to confirm that DCV can be used at an adequate rate to meet drawdown criteria.	Harvest and use may be feasible. Conduct more detailed evaluation and sizing calculations to determine feasibility. Harvest and use may only be able to be used for a portion of the site, or (optionally) the storage may need to be upsized to meet long term capture targets while draining in longer than 36 hours.	✓ Harvest and use is considered to be infeasible.

ATTACHMENT 1d

Worksheet C.4-1: Categorization of Infiltration Feasibility Condition

Categorization of Infiltration Feasibility Condition		Worksheet C.4-1	
Part 1 - Full Infiltration Feasibility Screening Criteria Would infiltration of the full design volume be feasible from a physical perspective without any undesirable consequences that cannot be reasonably mitigated?			
Criteria	Screening Question	Yes	No
1	Is the estimated reliable infiltration rate below proposed facility locations greater than 0.5 inches per hour? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.2 and Appendix D.		X
Provide basis: The NRCS soils across the site are all Type D soils with very high surface runoff. The site soils are consistent with the NRCS mapped soil types based on site explorations and percolation testing. Three soil types were present in the area of the proposed stormwater BMPs, Quaternary Young Alluvium, Tertiary Torrey Sandstone, and Tertiary Del Mar Formation. Five percolation tests were completed within the Alluvium. The calculated infiltration rates (with an applied factor of safety of two) ranged from a low of 0.008 in Test P-6 (just above the underlying Torrey Sandstone Formation) to a high of 0.215 inches per hour in Test P-7. Two percolation tests were completed within the Del Mar Formation. The calculated infiltration rates (with an applied factor of safety of two) ranged from a low of 0.009 in Test P-3 to a high of 0.045 inches per hour in Test P-4. One percolation test was completed within the Torrey Sandstone. The calculated infiltration rate (with an applied factor of safety of two) was 0.039 in Test P-5. Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.			
2	Can infiltration greater than 0.5 inches per hour be allowed without increasing risk of geotechnical hazards (slope stability, groundwater mounding, utilities, or other factors) that cannot be mitigated to an acceptable level? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.2.		X
Provide basis: Due to the general minimal permeability of the geologic units encountered at the site, surface water would likely migrate laterally or mound locally. This could result in the water migrating into utility trench backfill, building up behind proposed retaining walls, or saturating toes of slopes and down gradient and nearby foundations or other improvement areas. The potential adverse effects of mounding are anticipated to be minimized somewhat by installation of an impermeable liner on the sidewalls and bottom of the proposed basin where partial infiltration is proposed. Lining the sides and bottom of the BMP with impermeable liner is recommended to mitigate lateral migration of infiltrate. The lining should extend to the maximum depth of utility trench bottoms, toe of slope elevation (if slopes are proposed), and foundation excavations within 100 feet of the proposed basin. Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.			

Worksheet C.4-1 Page 2 of 4			
Criteria	Screening Question	Yes	No
3	Can infiltration greater than 0.5 inches per hour be allowed without increasing risk of groundwater contamination (shallow water table, storm water pollutants or other factors) that cannot be mitigated to an acceptable level? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.3.	X	
Provide basis: Groundwater is anticipated to be deeper than at least 10 feet below the bottom of the planned basin bottoms. Infiltration at the site is not anticipated to increase the risk of groundwater contamination. According to Geotracker online (a State of California on line resource for listings of regulated contaminated sites), there are no open LUST cases in the site area that could impact the site. An enrolled DTSC site ("Irrigated Lands Regulatory Program") is located immediately southeast of the site. However, no information on cleanup status or remediation was available from Geotracker. The proposed development is not industrial and capture of surface waters is not anticipated to increase the risk of groundwater contamination. Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.			
4	Can infiltration greater than 0.5 inches per hour be allowed without causing potential water balance issues such as change of seasonality of ephemeral streams or increased discharge of contaminated groundwater to surface waters? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.3.	X	
Provide basis: Infiltration at the site is not anticipated to cause potential water balance issues and not anticipated to change the seasonality of ephemeral streams. The site and up-gradient properties are not known contaminated sites according to Geotracker, a State of California on line resource for listings of regulated contaminated sites and site development is not industrial. Lining the basins as recommended in Item 1 above is anticipated to minimize the lateral migration of infiltrate. Site discharge is not anticipated to be contaminated or affect surface waters. Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.			
Part 1 Result*	If all answers to rows 1 - 4 are "Yes" a full infiltration design is potentially feasible. The feasibility screening category is Full Infiltration If any answer from row 1-4 is "No", infiltration may be possible to some extent but would not generally be feasible or desirable to achieve a "full infiltration" design. Proceed to Part 2		No Full

*To be completed using gathered site information and best professional judgment considering the definition of MEP in the MS4 Permit. Additional testing and/or studies may be required by City Engineer to substantiate findings.

Worksheet C.4-1 Page 3 of 4			
Part 2 – Partial Infiltration vs. No Infiltration Feasibility Screening Criteria Would infiltration of water in any appreciable amount be physically feasible without any negative consequences that cannot be reasonably mitigated?			
Criteria	Screening Question	Yes	No
5	Do soil and geologic conditions allow for infiltration in any appreciable rate or volume? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.2 and Appendix D.	X	
Provide basis: CTE understands an appreciable rate to be 0.05 inches per hour or greater. An infiltration rate (with FOS of 2 applied) of 0.136 in/hr was recorded for Test P-1 and 0.215 in/hr was recorded for Test P-7. Additionally, infiltration rates of 0.047 in/hr, 0.045 in/hr, and 0.039 in/hr were recorded for Tests P-2, P-4 and P-5, respectively. While these values are below 0.05 in/hr, some infiltration was observed. Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability and why it was not feasible to mitigate low infiltration rates.			
6	Can Infiltration in any appreciable quantity be allowed without increasing risk of geotechnical hazards (slope stability, groundwater mounding, utilities, or other factors) that cannot be mitigated to an acceptable level? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.2.	X	
Provide basis: See Question 2, Part 1. Sidewalls of the proposed bio-retention BMP basin in the northeastern portion of the site should be lined with an impermeable liner to mitigate the potential for lateral migration of infiltrate and saturation. At a minimum the lining should extend to the maximum depth of utility trench bottoms, toe of slope elevation (if slopes are proposed), and foundation excavations within 100 feet of the proposed basin. If re-introduced, the currently-removed bio-retention BMP basin located along the southern PL of the site should be fully lined with an impermeable liner, and infiltrate collected via a subdrain and discharged to an appropriate offsite location, in order to minimize the risk of infiltrate migrating and detrimentally impacting offsite and down-gradient properties adjacent to the site. Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability and why it was not feasible to mitigate low infiltration rates.			

Worksheet C.4-1 Page 4 of 4			
Criteria	Screening Question	Yes	No
7	Can Infiltration in any appreciable quantity be allowed without posing significant risk for groundwater related concerns (shallow water table, storm water pollutants or other factors)? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.3.	X	
Provide basis: Groundwater is anticipated to be deeper than at least 10 feet below the bottom of the planned basin bottoms. Infiltration at the site is not anticipated to increase the risk of groundwater contamination. According to Geotracker online (a State of California on line resource for listings of regulated contaminated sites), there are no open LUST cases in the site area that could impact the site. An enrolled DTSC site ("Irrigated Lands Regulatory Program") is located immediately southeast of the site. However, no information on cleanup status or remediation was available from Geotracker. The proposed development is not industrial and capture of surface waters is not anticipated to increase the risk of groundwater contamination. Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability and why it was not feasible to mitigate low infiltration rates.			
8	Can infiltration be allowed without violating downstream water rights? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.3.	X	
Provide basis: Infiltration at the site is not anticipated to cause potential water balance issues and not anticipated to change the seasonality of ephemeral streams. The site and up-gradient properties are not known contaminated sites according to Geotracker, a State of California on line resource for listings of regulated contaminated sites and site development is not industrial. Lining the basins as recommended in Item 1 above is anticipated to minimize the lateral migration of infiltrate. Site discharge is not anticipated to be contaminated or affect surface waters. Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability and why it was not feasible to mitigate low infiltration rates.			
Part 2 Result*	If all answers from row 1-4 are yes then partial infiltration design is potentially feasible. The feasibility screening category is Partial Infiltration. If any answer from row 5-8 is no, then infiltration of any volume is considered to be infeasible within the drainage area. The feasibility screening category is No Infiltration.		Partial

*To be completed using gathered site information and best professional judgment considering the definition of MEP in the MS4 Permit. Additional testing and/or studies may be required by City Engineer to substantiate findings

ATTACHMENT 1e

3009 Melamed
12/20/2020

Appendix B: Stormwater Pollutant Control Hydrologic Calculations and Sizing Methods

Worksheet B.2-1. DCV

DMA-A

Design Capture Volume		**Worksheet B-2.1**		
1	85th percentile 24-hr storm depth from Figure B.1-1	d=	0.54	inches
2	Area tributary to BMP (s)	A=	1.91	acres
3	Area weighted runoff factor (estimate using Appendix B.1.1 and B.2.1) * See calculation below	C=	0.48	unitless
4	Street trees volume reduction	TCV=	0	cubic-feet
5	Rain barrels volume reduction (1 cubic foot=7.48 gallons)	RCV=	0	cubic-feet
6	Calculate DCV = (3630 x C x d x A) – TCV - RCV	DCV=	1797	cubic-feet

	Area (sq ft)	Runoff Factor	A x RF	Weighted RF
Impervious	26956	0.9	24260.4	
Pervious Pavers	6415	0.1	641.5	
Landscape	49829	0.3	14948.7	
Total	83200		39851	0.48

DMA A

Worksheet B.5-1: Simple Sizing Method for Biofiltration BMPs			
1	Remaining DCV After implementing retention BMPs	1797.0	cu-ft
Partial Retention			
2	Infiltration rate from Worksheet D.5-1 if partial infiltration is feasible	0.004	in/hr
3	Allowable drawdown time for aggregate storage below the underdrain	36	hours
4	Depth of runoff that can be infiltrated [Line 2 x Line 3]	0.14	inches
5	Aggregate pore space	0.40	in/in
6	Required depth of gravel below the underdrain [Line 4 / Line 5]	0.36	inches
7	Assumed surface area of the biofiltration BMP	3200.0	sq-ft
8	Media retained pore storage	0.1	in/in
9	Volume retained pore storage	518.40	cu-ft
10	DCV that requires biofiltration [Line 1 - Line 9]	1278.6	cu-ft
BMP Parameters			
11	Surface Poding [6 inch minimum, 12 inch maximum]	13.0	inches
12	Media Thickness [18 in Min], also add mulch layer thicknes to this line	18	inches
13	Aggregate Storage above underdrain inver (12 inches typical) - Use 0 inches for sizing if the aggregate is not over the entire bottom surface area	12	inches
14	Freely drained pore storage	0.2	in/in
15	Media filtration rate to be used for sizing (5 in/hr. with no outlet control; if the filtration rate is controlled by the outlet, use the outlet controlled rate which will be less than 5 in/hr.)	1.496	in/hr
Baseline Calculations			
16	Allowable Routing Time for sizing	6	hours
17	Depth filtered during storm [Line 15 x Line 16]	9	inches
18	Depth of Detention Storage [Line 11 + (Line 12 x Line 14) + (Line 13 x Line 5)]	21.40	inches
19	Total Depth Treated [Line 17 + Line 18]	30.38	inches
Option 1 - Biofilter 1.5 times the DCV			
20	Required biofiltered volume [1.5 x Line 10]	1918	cu-ft
21	Required Footprint [Line 20 / Line 19] x 12	757.7	sq-ft
Option 2 - Store 0.75 of remaining DCV in pores and poding			
22	Required Storage (surface + pores) Volume [0.75 x Line 10]	959	cu-ft
23	Required Footprint [Line 22 / Line 18] x 12	538	sq-ft
Footprint of the BMP			
24	Area draining to the BMP	83200	sq-ft
25	Adjusted Runoff Factor for drainage area (Refer to Appendix B.1 and B.2)	0.48	
26	BMP Footprint Sizing Factor (Default 0.03 or an alternative minimum footprint sizing factor from Worksheet B.5-2, Line 11)	0.03	
27	Minimum BMP Footprint [Line 24 x Line 25 x Line 26]	1198	sq-ft
28	Footprint of the BMP = Maximum (Minimum(Line 21, Line 23), Line 27)	1198	sq-ft

ATTACHMENT 2 - BACKUP FOR PDP HYDROMODIFICATION CONTROL MEASURES

This is the cover sheet for Attachment 2.

□ Mark this box if this attachment is not included because the project is exempt from PDP hydromodification management requirements.

Indicate which items are included behind this cover sheet:

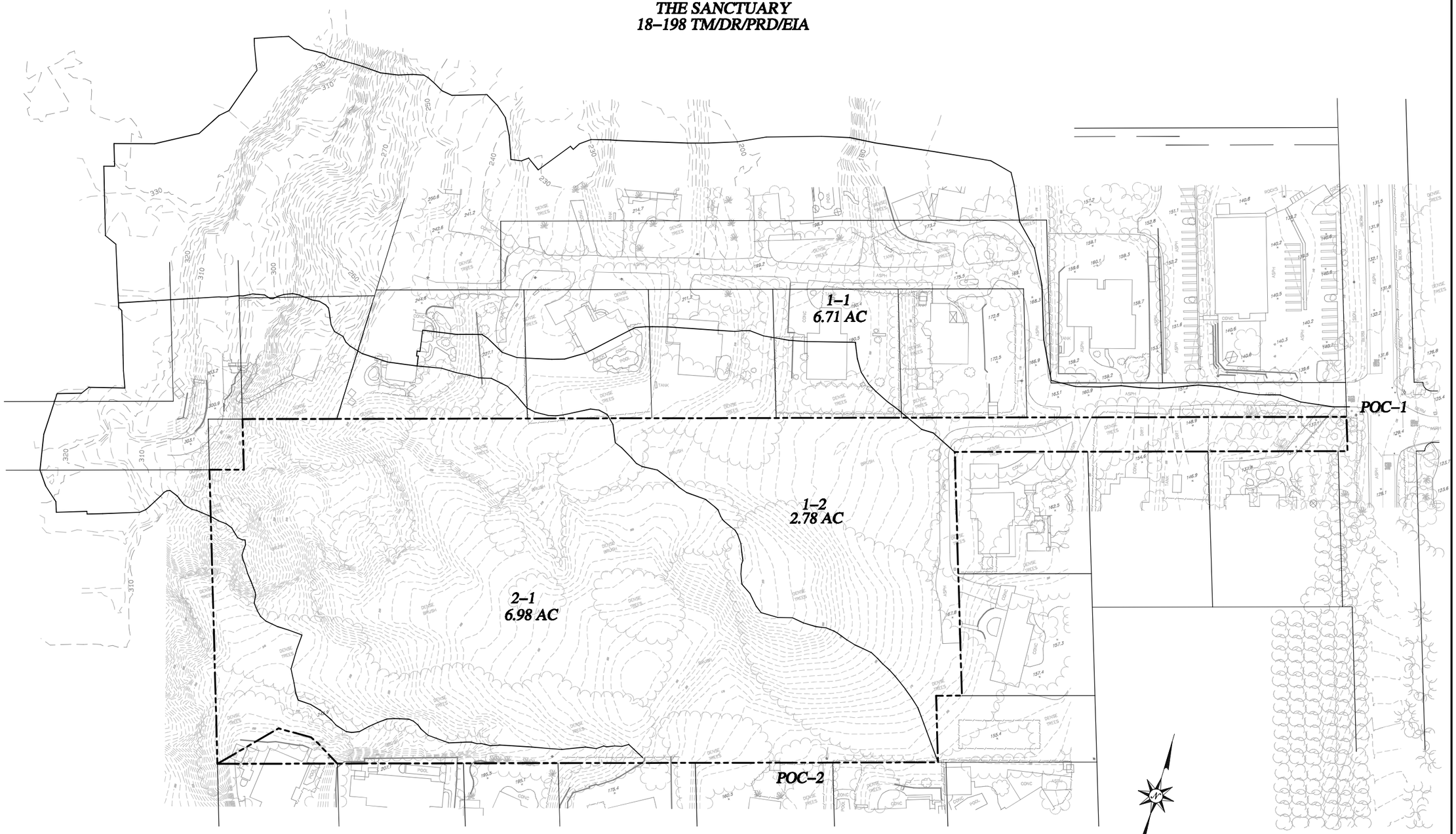
Attachment	Contents	Checklist
Attachment 2a	Hydromodification Management Exhibit (Required)	☑ Included See Hydromodification Management Exhibit Checklist on the back of this Attachment cover sheet.
Attachment 2b	Management of Critical Coarse Sediment Yield Areas (WMAA Exhibit is required, additional analyses are optional) See Section 6.2 of the BMP Design Manual.	☑ Exhibit showing project drainage boundaries marked on City of Encinitas Potential Critical Coarse Sediment Yield Area Map (Required) Optional analyses for Critical Coarse Sediment Yield Area Determination □ 6.2.1 Verification of Geomorphic Landscape Units Onsite □ 6.2.2 Downstream Systems Sensitivity to Coarse Sediment □ 6.2.3 Optional Additional Analysis of Potential Critical Coarse Sediment Yield Areas Onsite
Attachment 2c	Geomorphic Assessment of Receiving Channels (Optional) See Section 6.3.4 of the BMP Design Manual.	☑ Not performed □ Included □ Submitted as separate stand-alone document
Attachment 2d	Flow Control Facility Design, including Structural BMP Drawdown Calculations and Overflow Design Summary (Required) See Chapter 6 and Appendix G of the BMP Design Manual	☑ Included □ Submitted as separate stand-alone document
Attachment 2e	Vector Control Plan (Required when structural BMPs will not drain in 96 hours)	□ Included ☑ Not required because BMPs will drain in less than 96 hours

Use this checklist to ensure the required information has been included on the Hydromodification Management Exhibit:

The Hydromodification Management Exhibit must identify:

- □ Underlying hydrologic soil group
- □ Approximate depth to groundwater
- □ Existing natural hydrologic features (watercourses, seeps, springs, wetlands)
- □ Critical coarse sediment yield areas to be protected
- □ Existing topography
- □ Existing and proposed site drainage network and connections to drainage offsite
- □ Proposed grading
- □ Proposed impervious features
- □ Proposed design features and surface treatments used to minimize imperviousness
- □ Point(s) of Compliance (POC) for Hydromodification Management
- □ Existing and proposed drainage boundary and drainage area to each POC (when necessary, create separate exhibits for pre-development and post-project conditions)
- □ Structural BMPs for hydromodification management (identify location, type of BMP, and size/detail)

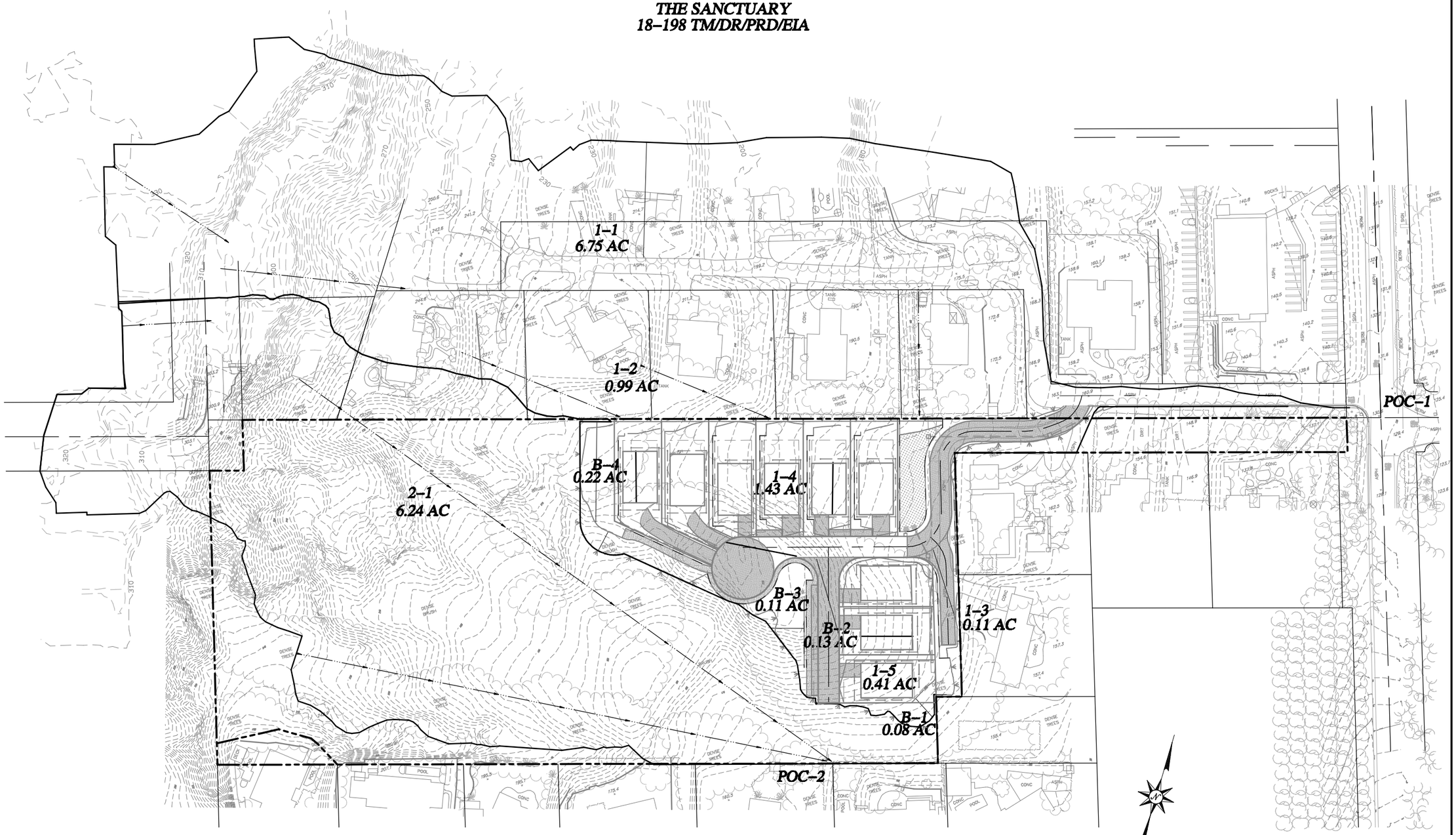
PREDEVELOPED HMP EXHIBIT
THE SANCTUARY
18–198 TM/DR/PRD/EIA



GRAPHIC SCALE 1"=50'
0 50 100 150

PREPARED BY:
PASCO LARET SUITER & ASSOCIATES
CIVIL ENGINEERING + LAND PLANNING + LAND SURVEYING
535 North Highway 101, Ste A, Solana Beach, CA 92075
ph 858.259.8212 | fx 858.259.4812 | plsaengineering.com

POSTDEVELOPED HMP EXHIBIT
THE SANCTUARY
18–198 TM/DR/PRD/EIA



PREPARED BY:
PASCO LARET SUITER & ASSOCIATES
CIVIL ENGINEERING + LAND PLANNING + LAND SURVEYING
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ph 858.259.8212 | fx 858.259.4812 | plsengineering.com

ATTACHMENT 2b

3009 Melamed

February 1, 2019

1 inch = 200 feet

0 150 300 Feet

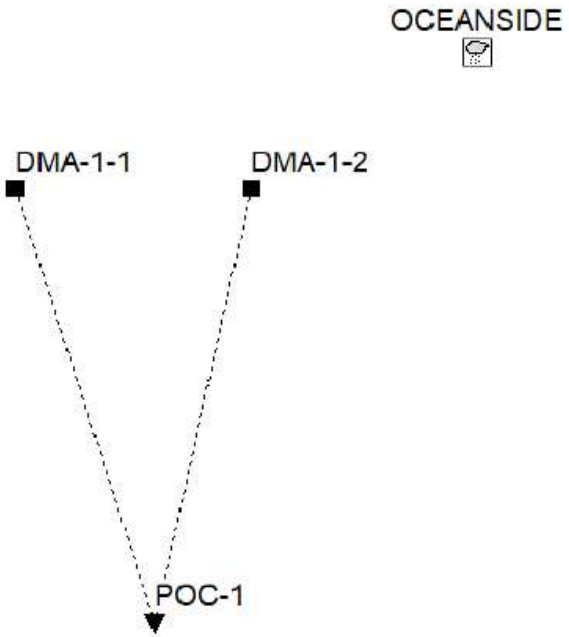
N

Every reasonable effort has been made to assure the accuracy of the data provided; nevertheless, some information may not be accurate. The City of Encinitas assumes no liability or responsibility arising from the use of or reliance upon this information.

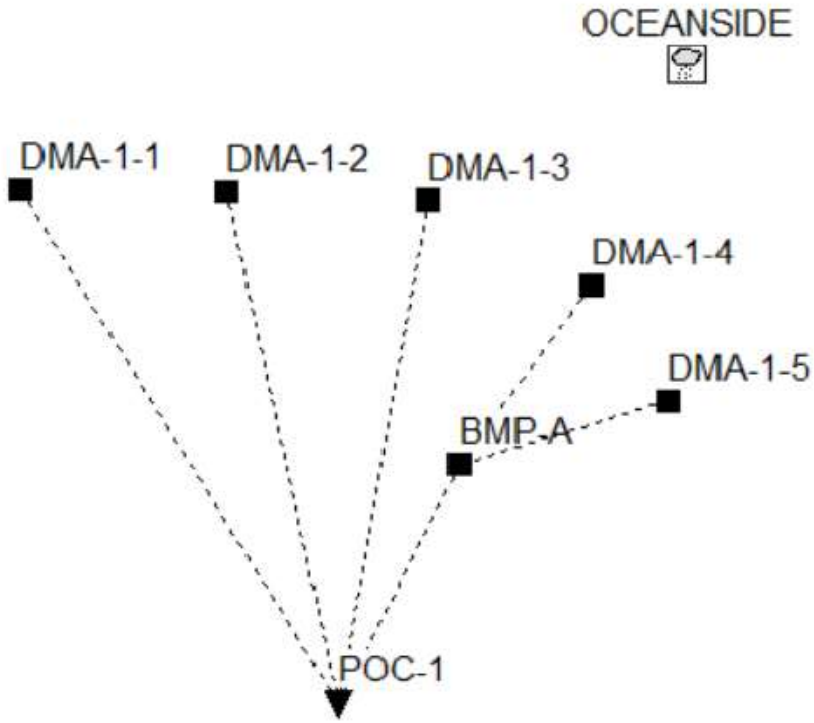
ATTACHMENT 2d

SWMM MODEL SCHEMATICS

PRE-PROJECT MODEL



POST-PROJECT MODEL



```
[TITLE]
;;Project Title/Notes
3009 Melamed
Pre-Project Condition

[OPTIONS]
;;Option             Value
FLOW_UNITS           CFS
INFILTRATION         GREEN_AMPT
FLOW_ROUTING         KINWAVE
LINK_OFFSETS         DEPTH
MIN_SLOPE            0
ALLOW_PONDING        NO
SKIP_STEADY_STATE    NO

START_DATE           08/28/1951
START_TIME           05:00:00
REPORT_START_DATE    08/28/1951
REPORT_START_TIME    05:00:00
END_DATE             05/23/2008
END_TIME             23:00:00
SWEEP_START          01/01
SWEEP_END            12/31
DRY_DAYS             0
REPORT_STEP          01:00:00
WET_STEP             00:15:00
DRY_STEP             04:00:00
ROUTING_STEP         0:01:00
RULE_STEP            00:00:00

INERTIAL_DAMPING     PARTIAL
NORMAL_FLOW_LIMITED  BOTH
FORCE_MAIN_EQUATION  H-W
VARIABLE_STEP        0.75
LENGTHENING_STEP     0
MIN_SURFAREA         12.557
MAX_TRIALS           8
HEAD_TOLERANCE       0.005
SYS_FLOW_TOL         5
LAT_FLOW_TOL         5
MINIMUM_STEP         0.5
THREADS              1

[EVAPORATION]
;;Data Source    Parameters
;;-------------- ----------------
MONTHLY          .06    .08    .11    .15    .17    .19    .19    .18    .15    .11    .08    .06
DRY_ONLY         NO

[RAINGAGES]
;;Name           Format    Interval SCF      Source
```

```
;;-------------- --------- ------ ------ ----------
OCEANSIDE        INTENSITY 1:00     1.0      TIMESERIES OCEANSIDE

[SUBCATCHMENTS]
;;Name           Rain Gage        Outlet           Area     %Imperv  Width    %Slope   CurbLen  SnowPack
;;-------------- ---------------- ---------------- -------- -------- -------- -------- -------- ----------------
DMA-1-1          OCEANSIDE        POC-1            6.71     21       1771     12       0
DMA-1-2          OCEANSIDE        POC-1            2.78     2        304      15       0
DMA-2-1          OCEANSIDE        POC-2            6.98     5.5      609      17       0

[SUBAREAS]
;;Subcatchment   N-Imperv   N-Perv     S-Imperv   S-Perv     PctZero    RouteTo    PctRouted
;;-------------- ---------- ---------- ---------- ---------- ---------- ---------- ----------
DMA-1-1          0.012      0.08       0.05       0.1        25         OUTLET
DMA-1-2          0.012      0.08       0.05       0.1        25         OUTLET
DMA-2-1          0.012      0.08       0.05       0.1        25         OUTLET

[INFILTRATION]
;;Subcatchment   Suction    Ksat       IMD
;;-------------- ---------- ---------- ----------
DMA-1-1          9          0.025      0.33
DMA-1-2          9          0.025      0.33
DMA-2-1          9          0.025      0.33

[OUTFALLS]
;;Name           Elevation  Type       Stage Data       Gated    Route To
;;-------------- ---------- ---------- ---------------- -------- ----------------
;Basin 200
POC-1            0          FREE                        NO
POC-2            0          FREE                        NO

[TIMESERIES]
;;Name           Date       Time       Value
;;-------------- ---------- ---------- ----------
OCEANSIDE        FILE "J:\Active Jobs\3009 OLIVENHAIN HILLLS, LLC\CIVIL\REPORTS\SWMM\Rainfall_data\oceanside.dat"

[REPORT]
;;Reporting Options
SUBCATCHMENTS ALL
NODES ALL
LINKS ALL

[TAGS]

[MAP]
DIMENSIONS 0.000 0.000 10000.000 10000.000
Units      None

[COORDINATES]
;;Node           X-Coord            Y-Coord
;;-------------- ------------------ ------------------
```

```
POC-1             -915.842           2722.772
POC-2             2945.545           3032.178

[VERTICES]
;;Link           X-Coord            Y-Coord
;;-------------- ------------------ ------------------

[Polygons]
;;Subcatchment   X-Coord            Y-Coord
;;-------------- ------------------ ------------------
DMA-1-1           -1955.446          6150.990
DMA-1-2           -198.020           6150.990
DMA-2-1           2908.416           6398.515

[SYMBOLS]
;;Gage           X-Coord            Y-Coord
;;-------------- ------------------ ------------------
OCEANSIDE         1500.000           7200.000
```

```
[TITLE]
;;Project Title/Notes
3009 Melamed
Post-Project Condition

[OPTIONS]
;;Option             Value
FLOW_UNITS           CFS
INFILTRATION         GREEN_AMPT
FLOW_ROUTING         KINWAVE
LINK_OFFSETS         DEPTH
MIN_SLOPE            0
ALLOW_PONDING        NO
SKIP_STEADY_STATE    NO

START_DATE           08/28/1951
START_TIME           05:00:00
REPORT_START_DATE    08/28/1951
REPORT_START_TIME    05:00:00
END_DATE             05/23/2008
END_TIME             23:00:00
SWEEP_START          01/01
SWEEP_END            12/31
DRY_DAYS             0
REPORT_STEP          01:00:00
WET_STEP             00:15:00
DRY_STEP             04:00:00
ROUTING_STEP         0:01:00
RULE_STEP            00:00:00

INERTIAL_DAMPING     PARTIAL
NORMAL_FLOW_LIMITED  BOTH
FORCE_MAIN_EQUATION  H-W
VARIABLE_STEP        0.75
LENGTHENING_STEP     0
MIN_SURFAREA         12.557
MAX_TRIALS           8
HEAD_TOLERANCE       0.005
SYS_FLOW_TOL         5
LAT_FLOW_TOL         5
MINIMUM_STEP         0.5
THREADS              1

[EVAPORATION]
;;Data Source    Parameters
;;-------------- ----------------
MONTHLY          .06    .08    .11    .15    .17    .19    .19    .18    .15    .11    .08    .06
DRY_ONLY         NO

[RAINGAGES]
;;Name           Format    Interval SCF      Source
```

```
;;-------------- --------- ------ ------ ----------
OCEANSIDE        INTENSITY 1:00     1.0      TIMESERIES OCEANSIDE

[SUBCATCHMENTS]
;;Name           Rain Gage        Outlet           Area     %Imperv  Width    %Slope   CurbLen  SnowPack
;;-------------- ---------------- ---------------- -------- -------- -------- -------- -------- ----------------
DMA-1-1          OCEANSIDE        POC-1            6.75     21       1782     12       0
DMA-1-2          OCEANSIDE        POC-1            0.99     6        240      11       0
DMA-2-1          OCEANSIDE        POC-2            6.24     6.2      545      17       0
DMA-1-3          OCEANSIDE        POC-1            .11      0        56       8        0
DMA-1-4          OCEANSIDE        BMP-A            1.34     32.2     862      9        0
BMP-A            OCEANSIDE        POC-1            0.08512  0        53       0        0
DMA-B-1          OCEANSIDE        DMA-2-1          .08      0        113      50       0
DMA-B-2          OCEANSIDE        POC-2            .13      0        61       7        0
DMA-1-5          OCEANSIDE        BMP-A            0.41     39.6     290      3        0
DMA-B-3          OCEANSIDE        POC-2            .11      0        133      50       0
DMA-B-4          OCEANSIDE        POC-2            .22      0        139      30       0

[SUBAREAS]
;;Subcatchment   N-Imperv   N-Perv     S-Imperv   S-Perv     PctZero    RouteTo    PctRouted
;;-------------- ---------- ---------- ---------- ---------- ---------- ---------- ----------
DMA-1-1          0.012      0.08       0.05       0.1        25         OUTLET
DMA-1-2          0.012      0.08       0.05       0.1        25         OUTLET
DMA-2-1          0.012      0.08       0.05       0.1        25         OUTLET
DMA-1-3          0.012      0.017      0.05       0.1        25         OUTLET
DMA-1-4          0.012      0.06       0.05       0.1        25         OUTLET
BMP-A            0.012      0.06       0.05       0.1        25         OUTLET
DMA-B-1          0.012      0.06       0.05       0.1        25         OUTLET
DMA-B-2          0.012      0.017      0.05       0.1        25         OUTLET
DMA-1-5          0.012      0.06       0.05       0.1        25         OUTLET
DMA-B-3          0.012      0.06       0.05       0.1        25         OUTLET
DMA-B-4          0.012      0.06       0.05       0.1        25         OUTLET

[INFILTRATION]
;;Subcatchment   Suction    Ksat       IMD
;;-------------- ---------- ---------- ----------
DMA-1-1          9          0.025      0.33
DMA-1-2          9          0.025      0.33
DMA-2-1          9          0.025      0.33
DMA-1-3          9          0.019      0.33
DMA-1-4          9          0.019      0.33
BMP-A            9          0.025      0.33
DMA-B-1          9          0.019      0.33
DMA-B-2          9          0.019      0.33
DMA-1-5          9          0.019      0.33
DMA-B-3          9          0.019      0.33
DMA-B-4          9          0.019      0.33

[LID_CONTROLS]
;;Name           Type/Layer Parameters
;;-------------- ---------- ----------
```

```
BMP-A            BC
BMP-A            SURFACE    12         0          0          0          5
BMP-A            SOIL       18         0.4        0.2        0.1        5          5          1.5
BMP-A            STORAGE    12         0.67       0.004      0
BMP-A            DRAIN      0.1987     0.5        0          6          0          0

[LID_USAGE]
;;Subcatchment   LID Process      Number  Area       Width      InitSat    FromImp    ToPerv     RptFile                  DrainTo
FromPerv
;;-------------- ---------------- ------- ---------- ---------- ---------- ---------- ---------- ------------------------ ------------
---- ----------
BMP-A            BMP-A            1       3707.83    0          0          100        0          *                        *
0

[OUTFALLS]
;;Name           Elevation  Type       Stage Data       Gated    Route To
;;-------------- ---------- ---------- ---------------- -------- ----------------
POC-1            0          FREE                        NO
POC-2            0          FREE                        NO

[TIMESERIES]
;;Name           Date       Time       Value
;;-------------- ---------- ---------- ----------
OCEANSIDE        FILE "J:\Active Jobs\3009 OLIVENHAIN HILLLS, LLC\CIVIL\REPORTS\SWMM\Rainfall_data\oceanside.dat"

[REPORT]
;;Reporting Options
SUBCATCHMENTS ALL
NODES ALL
LINKS ALL

[TAGS]

[MAP]
DIMENSIONS 0.000 0.000 10000.000 10000.000
Units      None

[COORDINATES]
;;Node           X-Coord            Y-Coord
;;-------------- ------------------ ------------------
POC-1            -915.842           2722.772
POC-2            2945.545           3032.178

[VERTICES]
;;Link           X-Coord            Y-Coord
;;-------------- ------------------ ------------------

[Polygons]
;;Subcatchment   X-Coord            Y-Coord
;;-------------- ------------------ ------------------
DMA-1-1          -3388.626          6018.957
```

```
DMA-1-2          -1683.168          6324.257
DMA-2-1          3317.536           4928.910
DMA-1-3          -297.030           6274.752
DMA-1-4          829.208            5668.317
BMP-A            -86.634            4405.941
DMA-B-1          4319.307           6386.139
DMA-B-2          5309.406           5829.208
DMA-1-5          1344.086           4854.071
DMA-B-3          5725.444           5014.319
DMA-B-3          5685.519           4987.702
DMA-B-4          5951.686           4215.820

[SYMBOLS]
;;Gage            X-Coord            Y-Coord
;;--------------- ------------------ ------------------
OCEANSIDE        3909.953           8530.806
```

```
EPA STORM WATER MANAGEMENT MODEL - VERSION 5.1 (Build 5.1.013)
--------------------------------------------------------------

3009 Melamed
Pre-Project Condition


***********************************************************
NOTE: The summary statistics displayed in this report are
based on results found at every computational time step,
not just on results from each reporting time step.
***********************************************************

****************
Analysis Options
****************
Flow Units ............... CFS
Process Models:
  Rainfall/Runoff ........ YES
  RDII ................... NO
  Snowmelt ............... NO
  Groundwater ............ NO
  Flow Routing ........... NO
  Water Quality .......... NO
Infiltration Method ...... GREEN_AMPT
Starting Date ............ 08/28/1951 05:00:00
Ending Date .............. 05/23/2008 23:00:00
Antecedent Dry Days ...... 0.0
Report Time Step ......... 01:00:00
Wet Time Step ............ 00:15:00
Dry Time Step ............ 04:00:00


**************************        Volume         Depth
Runoff Quantity Continuity     acre-feet        inches
**************************     ---------       -------
Total Precipitation ......       926.561       675.090
Evaporation Loss .........        42.600        31.038
Infiltration Loss ........       632.719       460.997
Surface Runoff ...........       267.250       194.718
Final Storage ............         0.006         0.004
Continuity Error (%) .....        -1.728


**************************        Volume        Volume
Flow Routing Continuity        acre-feet      10^6 gal
**************************     ---------     ---------
Dry Weather Inflow .......         0.000         0.000
Wet Weather Inflow .......       267.249        87.087
Groundwater Inflow .......         0.000         0.000
RDII Inflow ..............         0.000         0.000
External Inflow ..........         0.000         0.000
External Outflow .........       267.249        87.087
Flooding Loss ............         0.000         0.000
```

```
Evaporation Loss .........         0.000         0.000
Exfiltration Loss ........         0.000         0.000
Initial Stored Volume ....         0.000         0.000
Final Stored Volume ......         0.000         0.000
Continuity Error (%) .....         0.000
```

****
Subcatchment Runoff Summary
****

Subcatchment	Total Precip in	Total Runon in	Total Evap in	Total Infil in	Imperv Runoff in	Perv Runoff in	Total Runoff in	Total Runoff 10^6 gal	Peak Runoff CFS	Runoff Coeff
DMA-1-1	675.09	0.00	38.35	407.54	123.65	118.25	241.90	44.07	7.63	0.358
DMA-1-2	675.09	0.00	24.04	510.16	11.84	140.09	151.92	11.47	3.11	0.225
DMA-2-1	675.09	0.00	26.80	492.81	32.43	133.97	166.40	31.54	7.84	0.246

```
Analysis begun on:  Wed Dec  9 11:42:24 2020
Analysis ended on:  Wed Dec  9 11:43:04 2020
Total elapsed time: 00:00:40
```

```
  EPA STORM WATER MANAGEMENT MODEL - VERSION 5.1 (Build 5.1.013)
  --------------------------------------------------------------

  3009 Melamed
  Post-Project Condition


  ***********************************************************
  NOTE: The summary statistics displayed in this report are
  based on results found at every computational time step,
  not just on results from each reporting time step.
  ***********************************************************

  ****************
  Analysis Options
  ****************
  Flow Units ............... CFS
  Process Models:
    Rainfall/Runoff ........ YES
    RDII ................... NO
    Snowmelt ............... NO
    Groundwater ............ NO
    Flow Routing ........... NO
    Water Quality .......... NO
  Infiltration Method ...... GREEN_AMPT
  Starting Date ............ 08/28/1951 05:00:00
  Ending Date .............. 05/23/2008 23:00:00
  Antecedent Dry Days ...... 0.0
  Report Time Step ......... 01:00:00
  Wet Time Step ............ 00:15:00
  Dry Time Step ............ 04:00:00


  *************************        Volume         Depth
  Runoff Quantity Continuity     acre-feet        inches
  *************************     ---------       -------
  Initial LID Storage ......         0.013         0.009
  Total Precipitation ......       926.286       675.090
  Evaporation Loss .........        47.020        34.269
  Infiltration Loss ........       593.278       432.389
  Surface Runoff ...........       250.697       182.711
  LID Drainage .............        43.878        31.979
  Final Storage ............         0.023         0.017
  Continuity Error (%) .....        -0.928


  *************************        Volume        Volume
  Flow Routing Continuity        acre-feet      10^6 gal
  *************************     ---------     ---------
  Dry Weather Inflow .......         0.000         0.000
  Wet Weather Inflow .......       294.575        95.992
  Groundwater Inflow .......         0.000         0.000
  RDII Inflow ..............         0.000         0.000
  External Inflow ..........         0.000         0.000
```

External Outflow	294.575	95.992
Flooding Loss	0.000	0.000
Evaporation Loss	0.000	0.000
Exfiltration Loss	0.000	0.000
Initial Stored Volume	0.000	0.000
Final Stored Volume	0.000	0.000
Continuity Error (%)	0.000	

****
Subcatchment Runoff Summary
****

Subcatchment	Total Precip in	Total Runon in	Total Evap in	Total Infil in	Imperv Runoff in	Perv Runoff in	Total Runoff in	Total Runoff 10^6 gal	Peak Runoff CFS	Runoff Coeff
DMA-1-1	675.09	0.00	34.54	405.58	123.67	118.26	241.93	44.34	7.68	0.358
DMA-1-2	675.09	0.00	22.31	484.04	35.50	138.68	174.18	4.68	1.11	0.258
DMA-2-1	675.09	2.46	23.09	486.66	36.69	135.20	171.89	29.12	7.10	0.254
DMA-1-3	675.09	0.00	21.76	476.43	0.00	187.91	187.91	0.56	0.13	0.278
DMA-1-4	675.09	0.00	46.58	322.99	189.94	126.01	315.95	11.50	1.55	0.468
BMP-A	675.09	6629.64	784.50	62.94	0.00	0.00	6456.91	14.92	2.13	0.884
DMA-B-1	675.09	0.00	21.92	474.20	0.00	191.99	191.99	0.42	0.09	0.284
DMA-B-2	675.09	0.00	21.78	476.58	0.00	187.35	187.35	0.66	0.15	0.278
DMA-1-5	675.09	0.00	52.50	288.51	232.88	110.90	343.78	3.83	0.48	0.509
DMA-B-3	675.09	0.00	21.84	473.60	0.00	192.30	192.30	0.57	0.13	0.285
DMA-B-4	675.09	0.00	21.86	476.56	0.00	186.57	186.57	1.11	0.25	0.276

****
LID Performance Summary
****

Subcatchment	LID Control	Total Inflow in	Evap Loss in	Infil Loss in	Surface Outflow in	Drain Outflow in	Initial Storage in	Final Storage in	Continuity Error %
BMP-A	BMP-A	7304.73	784.53	62.94	271.04	6186.09	1.80	2.13	-0.00

Analysis begun on: Wed Dec 9 12:05:35 2020
Analysis ended on: Wed Dec 9 12:06:17 2020
Total elapsed time: 00:00:42

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POC-1

SWMM INPUT

PRE-PROJECT											
DMA	Basin	Area (ac)	Width (Area/Flow Length) (ft)	% Slope	% Impervious	% "B" Soils	% "C" Soils	% "D" Soils	Weighted Infiltration (in/hr):	Weighted Suction Head (in):	Weighted Initial Deficit:
1-1		6.71	1771	12.0%	21%	0%	0%	100%	0.025	9.000	0.330
1-2		2.78	304	15.0%	2%	0%	0%	100%	0.025	9.000	0.330
	Total:	**9.49**									

POST-PROJECT											
DMA	BMP	Area (ac)	Width (Area/Flow Length) (ft)	% Impervious	% Slope	% "B" Soils	% "C" Soils	% "D" Soils	Weighted Infiltration (in/hr):	Weighted Suction Head (in):	Weighted Initial Deficit:
1-1	N/A	6.75	1782	21.0%	12.0%	0%	0.0%	100%	0.025	9.000	0.330
1-2	N/A	0.99	240	6.0%	11.0%	0%	0.0%	100%	0.025	9.000	0.330
1-3	N/A	0.11	56	0.0%	8.0%	0%	0.0%	100%	0.019	9.000	0.330
1-4	A	1.34	862	32.2%	9.0%	0%	0.0%	100%	0.019	9.000	0.330
1-5	A	0.41	290	39.6%	3.0%	0%	0.0%	100%	0.019	9.000	0.330
BMP-A	A	0.08512	53	0.0%	0.0%	0%	0.0%	100%	0.025	9.000	0.330
	Total:	**9.69**									

D:	0.025	in/hr	D:	9	in	D:	0.33	

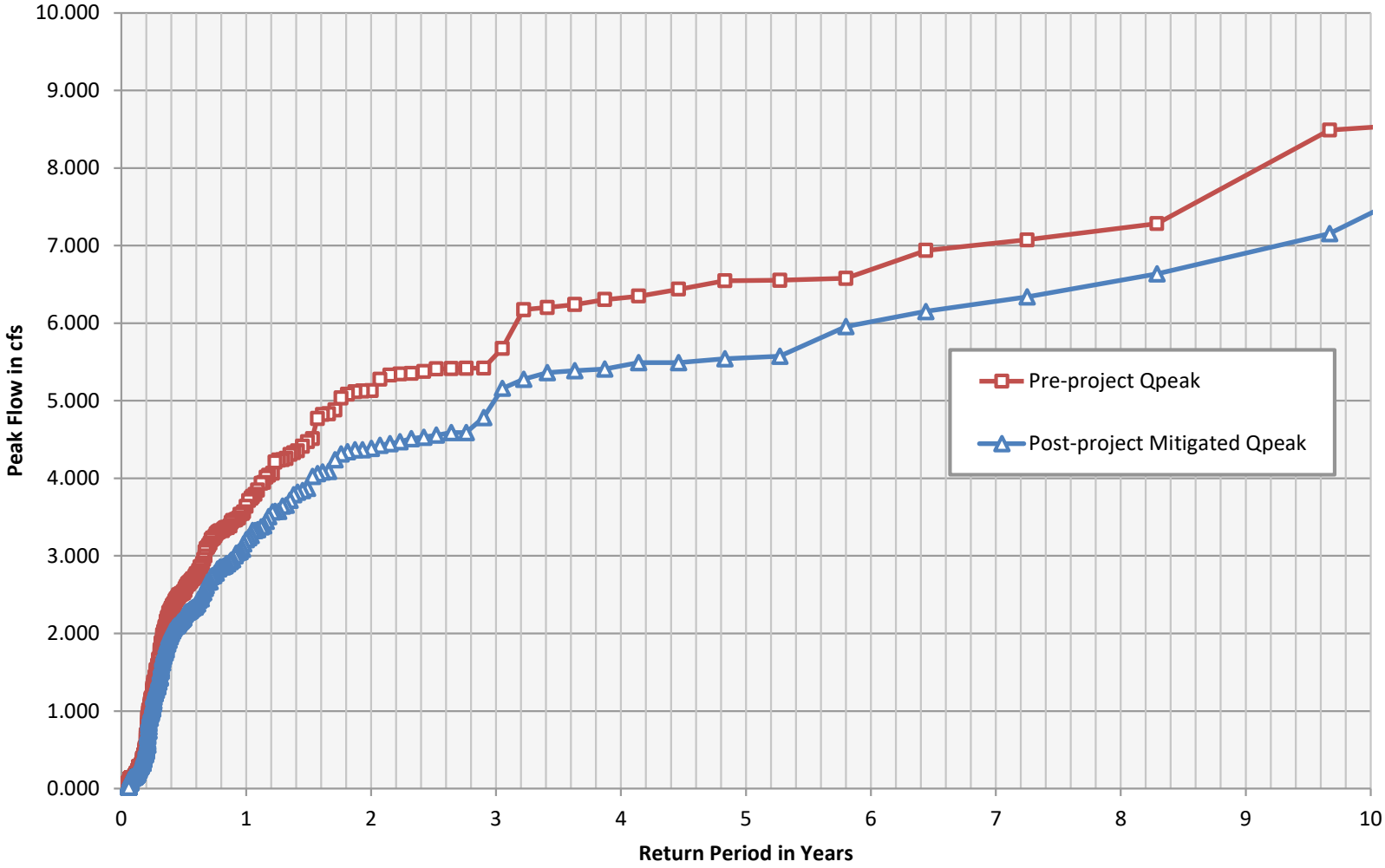
POC-1

Peak Flow Frequency Summary

Return Period	Pre-project Qpeak (cfs)	Post-project - Mitigated Q (cfs)
LF = 0.1xQ2	0.513	0.439
2-year	5.132	4.389
5-year	6.549	5.554
10-year	8.525	7.417

Peak Flow Frequency Curves

POC-1



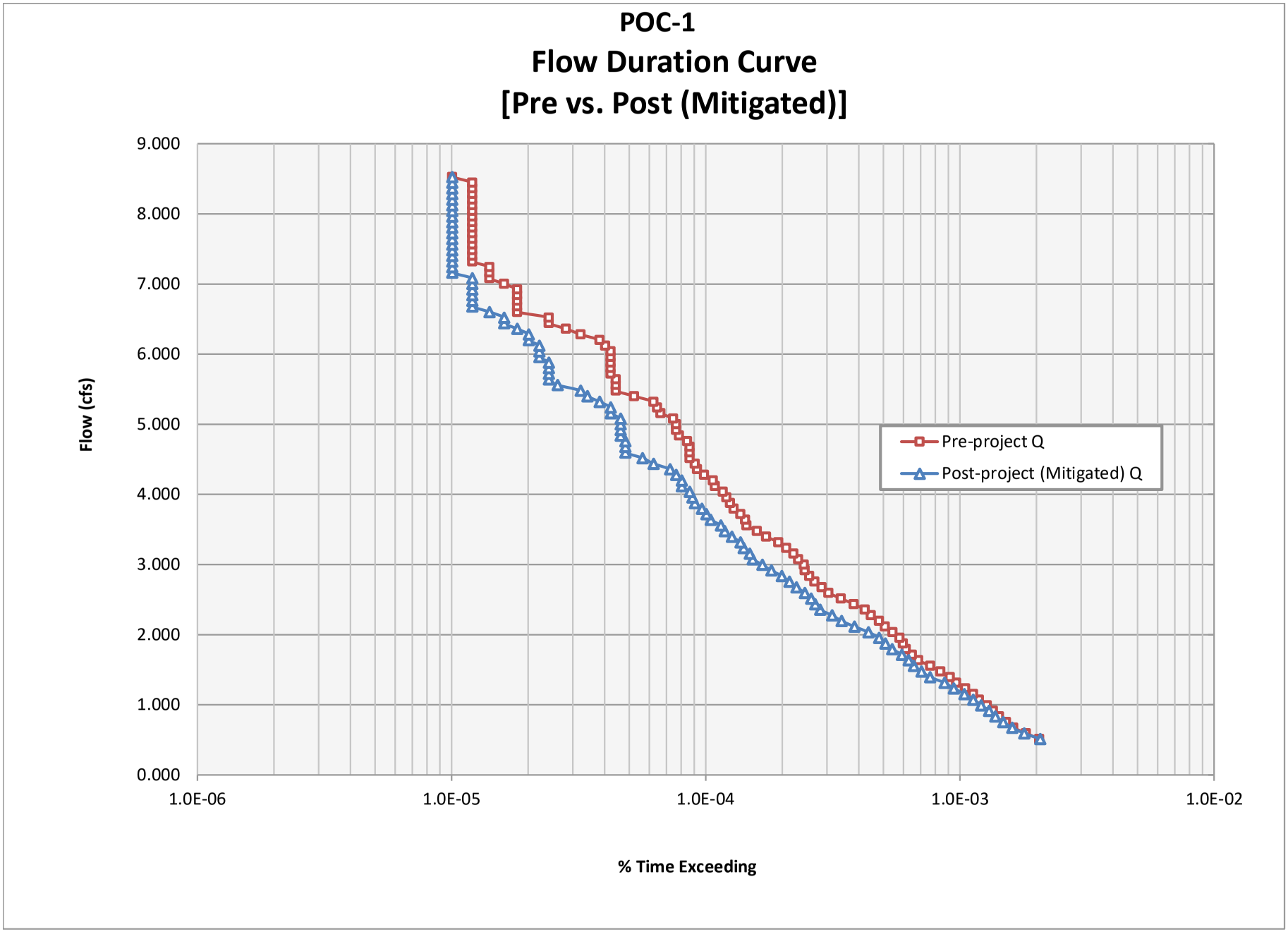
POC-1

Low-flow Threshold:	10%	
0.1xQ2 (Pre):	0.513	cfs
Q10 (Pre):	8.525	cfs
Ordinate #:	100	
Incremental Q (Pre):	0.08012	cfs
Total Hourly Data:	497370	hours

The proposed BMP: PASSED

Interval	Pre-project Flow (cfs)	Pre-project Hours	Pre-project % Time Exceeding	Post-project Hours	Post-project % Time Exceeding	Percentage	Pass/Fail
0	0.513	1020	2.05E-03	1028	2.07E-03	101%	Pass
1	0.593	905	1.82E-03	890	1.79E-03	98%	Pass
2	0.673	807	1.62E-03	799	1.61E-03	99%	Pass
3	0.754	755	1.52E-03	736	1.48E-03	97%	Pass
4	0.834	709	1.43E-03	685	1.38E-03	97%	Pass
5	0.914	671	1.35E-03	647	1.30E-03	96%	Pass
6	0.994	635	1.28E-03	602	1.21E-03	95%	Pass
7	1.074	591	1.19E-03	561	1.13E-03	95%	Pass
8	1.154	560	1.13E-03	518	1.04E-03	93%	Pass
9	1.234	522	1.05E-03	470	9.45E-04	90%	Pass
10	1.314	481	9.67E-04	432	8.69E-04	90%	Pass
11	1.395	454	9.13E-04	379	7.62E-04	83%	Pass
12	1.475	417	8.38E-04	351	7.06E-04	84%	Pass
13	1.555	380	7.64E-04	327	6.57E-04	86%	Pass
14	1.635	341	6.86E-04	312	6.27E-04	91%	Pass
15	1.715	322	6.47E-04	294	5.91E-04	91%	Pass
16	1.795	305	6.13E-04	269	5.41E-04	88%	Pass
17	1.875	297	5.97E-04	253	5.09E-04	85%	Pass
18	1.955	288	5.79E-04	239	4.81E-04	83%	Pass
19	2.035	270	5.43E-04	217	4.36E-04	80%	Pass
20	2.116	252	5.07E-04	191	3.84E-04	76%	Pass
21	2.196	239	4.81E-04	170	3.42E-04	71%	Pass
22	2.276	222	4.46E-04	156	3.14E-04	70%	Pass
23	2.356	210	4.22E-04	140	2.81E-04	67%	Pass
24	2.436	190	3.82E-04	134	2.69E-04	71%	Pass
25	2.516	169	3.40E-04	129	2.59E-04	76%	Pass
26	2.596	151	3.04E-04	122	2.45E-04	81%	Pass
27	2.676	142	2.86E-04	113	2.27E-04	80%	Pass
28	2.757	133	2.67E-04	106	2.13E-04	80%	Pass
29	2.837	127	2.55E-04	99	1.99E-04	78%	Pass
30	2.917	122	2.45E-04	90	1.81E-04	74%	Pass
31	2.997	121	2.43E-04	83	1.67E-04	69%	Pass
32	3.077	115	2.31E-04	76	1.53E-04	66%	Pass
33	3.157	110	2.21E-04	74	1.49E-04	67%	Pass
34	3.237	103	2.07E-04	70	1.41E-04	68%	Pass
35	3.317	96	1.93E-04	68	1.37E-04	71%	Pass
36	3.397	86	1.73E-04	63	1.27E-04	73%	Pass
37	3.478	79	1.59E-04	59	1.19E-04	75%	Pass
38	3.558	72	1.45E-04	57	1.15E-04	79%	Pass
39	3.638	71	1.43E-04	52	1.05E-04	73%	Pass
40	3.718	68	1.37E-04	50	1.01E-04	74%	Pass
41	3.798	64	1.29E-04	48	9.65E-05	75%	Pass
42	3.878	62	1.25E-04	45	9.05E-05	73%	Pass
43	3.958	60	1.21E-04	44	8.85E-05	73%	Pass
44	4.038	58	1.17E-04	43	8.65E-05	74%	Pass
45	4.119	54	1.09E-04	40	8.04E-05	74%	Pass
46	4.199	53	1.07E-04	40	8.04E-05	75%	Pass
47	4.279	49	9.85E-05	38	7.64E-05	78%	Pass
48	4.359	46	9.25E-05	36	7.24E-05	78%	Pass
49	4.439	45	9.05E-05	31	6.23E-05	69%	Pass
50	4.519	43	8.65E-05	28	5.63E-05	65%	Pass

Interval	Pre-project Flow (cfs)	Pre-project Hours	Pre-project % Time Exceeding	Post-project Hours	Post-project % Time Exceeding	Percentage	Pass/Fail
51	4.599	43	8.65E-05	24	4.83E-05	56%	Pass
52	4.679	43	8.65E-05	24	4.83E-05	56%	Pass
53	4.759	42	8.44E-05	24	4.83E-05	57%	Pass
54	4.840	39	7.84E-05	23	4.62E-05	59%	Pass
55	4.920	38	7.64E-05	23	4.62E-05	61%	Pass
56	5.000	38	7.64E-05	23	4.62E-05	61%	Pass
57	5.080	37	7.44E-05	23	4.62E-05	62%	Pass
58	5.160	33	6.63E-05	21	4.22E-05	64%	Pass
59	5.240	32	6.43E-05	21	4.22E-05	66%	Pass
60	5.320	31	6.23E-05	19	3.82E-05	61%	Pass
61	5.400	26	5.23E-05	17	3.42E-05	65%	Pass
62	5.481	22	4.42E-05	16	3.22E-05	73%	Pass
63	5.561	22	4.42E-05	13	2.61E-05	59%	Pass
64	5.641	22	4.42E-05	12	2.41E-05	55%	Pass
65	5.721	21	4.22E-05	12	2.41E-05	57%	Pass
66	5.801	21	4.22E-05	12	2.41E-05	57%	Pass
67	5.881	21	4.22E-05	12	2.41E-05	57%	Pass
68	5.961	21	4.22E-05	11	2.21E-05	52%	Pass
69	6.041	21	4.22E-05	11	2.21E-05	52%	Pass
70	6.121	20	4.02E-05	11	2.21E-05	55%	Pass
71	6.202	19	3.82E-05	10	2.01E-05	53%	Pass
72	6.282	16	3.22E-05	10	2.01E-05	63%	Pass
73	6.362	14	2.81E-05	9	1.81E-05	64%	Pass
74	6.442	12	2.41E-05	8	1.61E-05	67%	Pass
75	6.522	12	2.41E-05	8	1.61E-05	67%	Pass
76	6.602	9	1.81E-05	7	1.41E-05	78%	Pass
77	6.682	9	1.81E-05	6	1.21E-05	67%	Pass
78	6.762	9	1.81E-05	6	1.21E-05	67%	Pass
79	6.843	9	1.81E-05	6	1.21E-05	67%	Pass
80	6.923	9	1.81E-05	6	1.21E-05	67%	Pass
81	7.003	8	1.61E-05	6	1.21E-05	75%	Pass
82	7.083	7	1.41E-05	6	1.21E-05	86%	Pass
83	7.163	7	1.41E-05	5	1.01E-05	71%	Pass
84	7.243	7	1.41E-05	5	1.01E-05	71%	Pass
85	7.323	6	1.21E-05	5	1.01E-05	83%	Pass
86	7.403	6	1.21E-05	5	1.01E-05	83%	Pass
87	7.484	6	1.21E-05	5	1.01E-05	83%	Pass
88	7.564	6	1.21E-05	5	1.01E-05	83%	Pass
89	7.644	6	1.21E-05	5	1.01E-05	83%	Pass
90	7.724	6	1.21E-05	5	1.01E-05	83%	Pass
91	7.804	6	1.21E-05	5	1.01E-05	83%	Pass
92	7.884	6	1.21E-05	5	1.01E-05	83%	Pass
93	7.964	6	1.21E-05	5	1.01E-05	83%	Pass
94	8.044	6	1.21E-05	5	1.01E-05	83%	Pass
95	8.124	6	1.21E-05	5	1.01E-05	83%	Pass
96	8.205	6	1.21E-05	5	1.01E-05	83%	Pass
97	8.285	6	1.21E-05	5	1.01E-05	83%	Pass
98	8.365	6	1.21E-05	5	1.01E-05	83%	Pass
99	8.445	6	1.21E-05	5	1.01E-05	83%	Pass
100	8.525	5	1.01E-05	5	1.01E-05	100%	Pass


POC-1
Flow Duration Curve
[Pre vs. Post (Mitigated)]
9.000
8.000
7.000
6.000
5.000
4.000
3.000
2.000
1.000
0.000
Flow (cfs)
1.0E-06
1.0E-05
1.0E-04
1.0E-03
1.0E-02
% Time Exceeding
Pre-project Q
Post-project (Mitigated) Q

BMP-A

SWMM Model Flow Coefficient Calculation

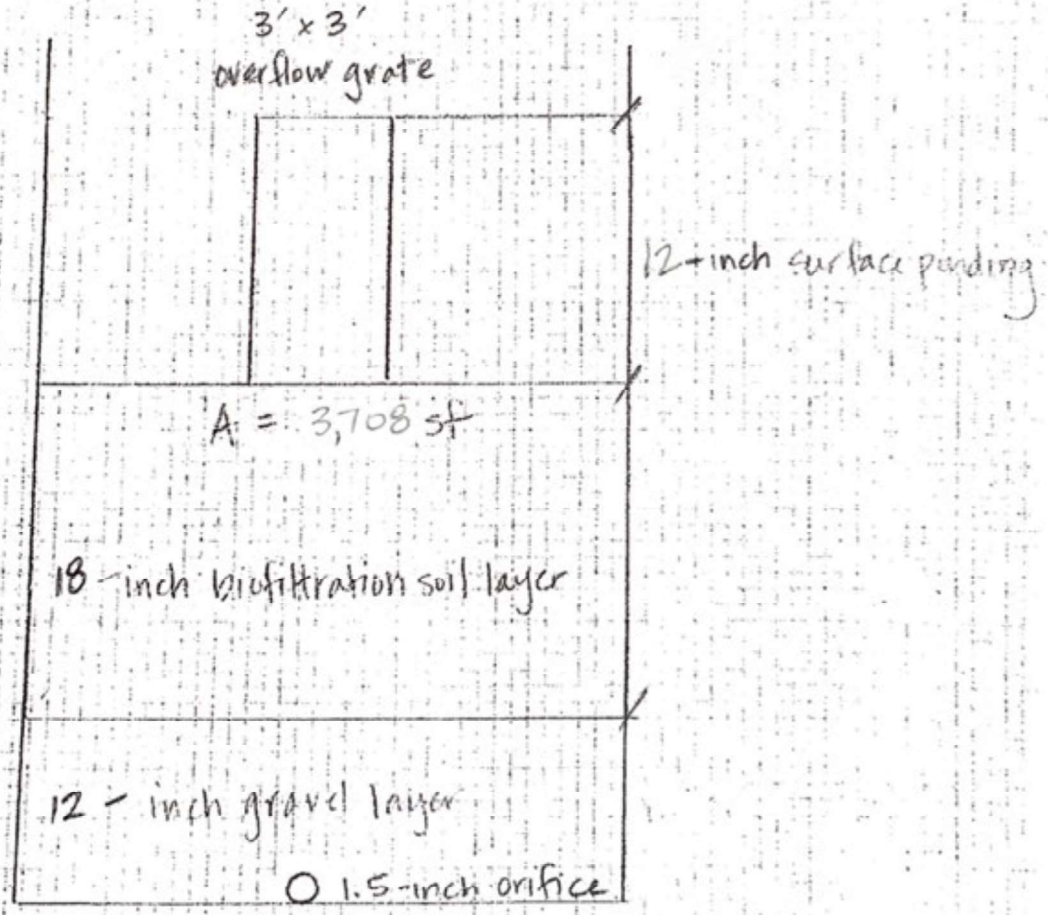
PARAMETER	ABBREV.	Bio-Retention Cell LID BMP	
Ponding Depth	PD	12	in
Bioretention Soil Layer	S	18	in
Gravel Layer	G	12	in
TOTAL		3.5	ft
		42	in
Orifice Coefficient	c_g	0.6	--
Low Flow Orifice Diameter	D	1.5	in
Drain exponent	n	0.5	--
Flow Rate (volumetric)	Q	0.110	cfs
Ponding Depth Surface Area	A_{PD}	3708	ft^2
Bioretention Surface Area	A_S, A_G	3708	ft^2
	A_S, A_G	0.0851	ac
Porosity of Bioretention Soil	n	1.00	-
Flow Rate (per unit area)	q	1.276	in/hr
Effective Ponding Depth	PD_{eff}	**12.00**	in
Flow Coefficient	C	**0.1987**	--

PASCO LARET SUITER & ASSOCIATES

Melamed

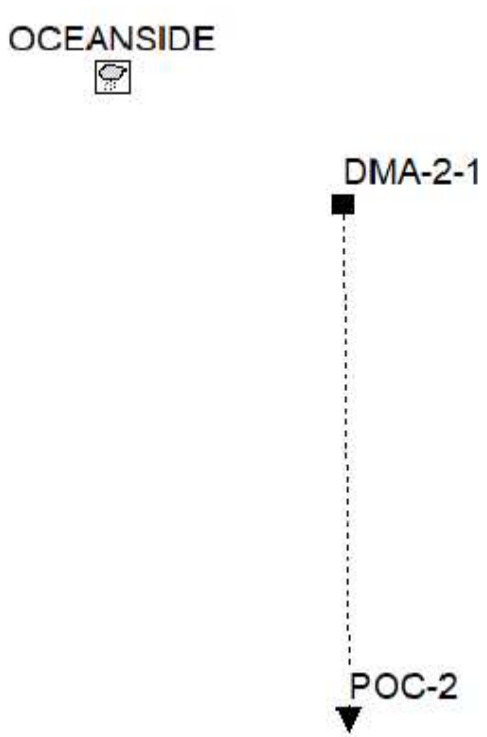
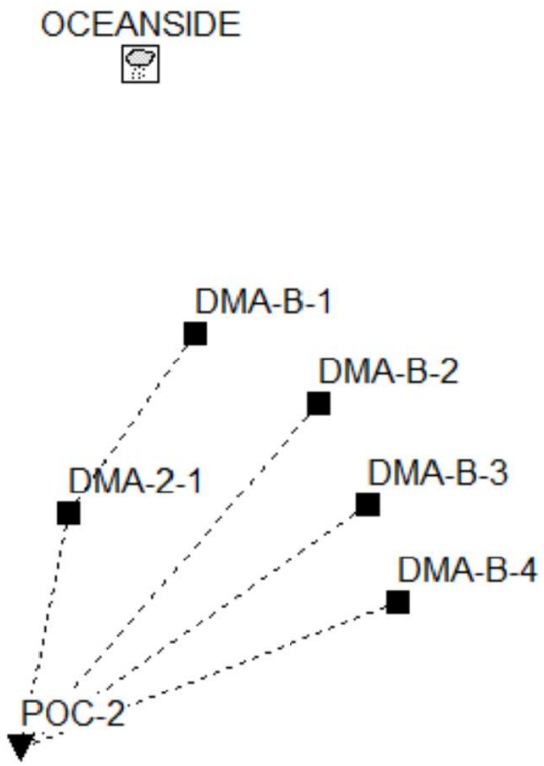
Date 12/9/2020 Job# 3009

HMP. Partial Infiltration Basin BMP-A



not to scale

SWMM MODEL SCHEMATICS

PRE-PROJECT MODEL	POST-PROJECT MODEL
	

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POC-2

SWMM INPUT

PRE-PROJECT

DMA	Basin	Area (ac)	Width (Area/Flow Length) (ft)	% Slope	% Impervious	% "B" Soils	% "C" Soils	% "D" Soils	Weighted Infiltration (in/hr):	Weighted Suction Head (in):	Weighted Initial Deficit:
2-1		6.98	609	17.0%	5.5%	0%	0%	100%	0.025	9.000	0.330
	Total:	**6.98**									

POST-PROJECT

DMA	BMP	Area (ac)	Width (Area/Flow Length) (ft)	% Impervious	% Slope	% "B" Soils	% "C" Soils	% "D" Soils	Weighted Infiltration (in/hr):	Weighted Suction Head (in):	Weighted Initial Deficit:
2-1	N/A	6.24	545	6.2%	17.0%	0%	0.0%	100%	0.025	9.000	0.330
B-1	N/A	0.08	113	0.0%	50.0%	0%	0.0%	100%	0.019	9.000	0.330
B-2	N/A	0.13	61	0.0%	7.0%	0%	0.0%	100%	0.019	9.000	0.330
B-3	N/A	0.11	133	0.0%	50.0%	0%	0.0%	100%	0.019	9.000	0.330
B-4	N/A	0.22	139	0.0%	30.0%	0%	0.0%	100%	0.019	9.000	0.330
	Total:	**6.78**									

Infiltration:		
D:	0.025	in/hr

Suction Head:		
D:	9	in

Initial Deficit	
D:	0.33

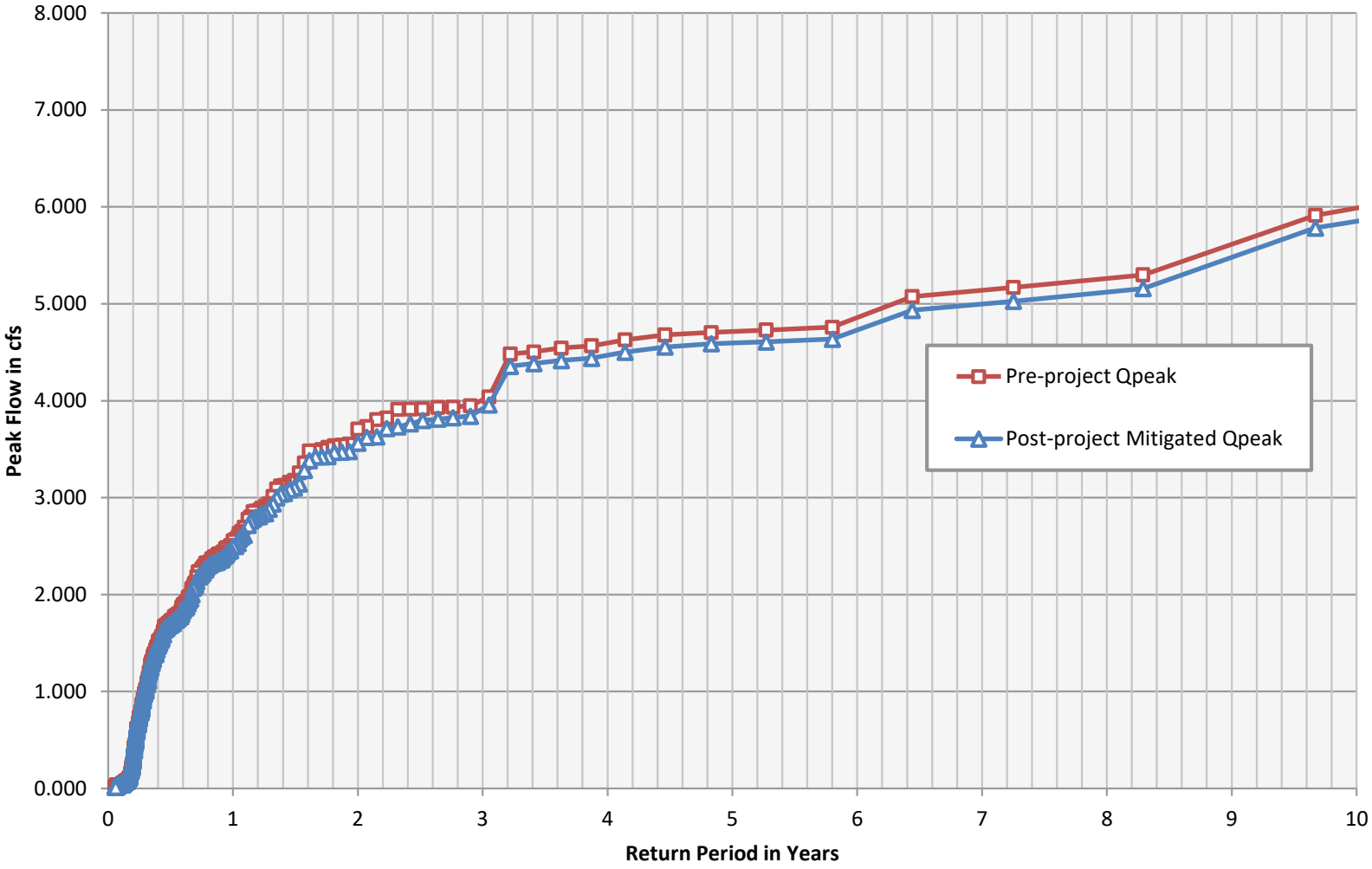
POC-2

Peak Flow Frequency Summary

Return Period	Pre-project Qpeak (cfs)	Post-project - Mitigated Q (cfs)
LF = 0.1xQ2	0.371	0.356
2-year	3.705	3.562
5-year	4.714	4.595
10-year	5.987	5.850

Peak Flow Frequency Curves

POC-2



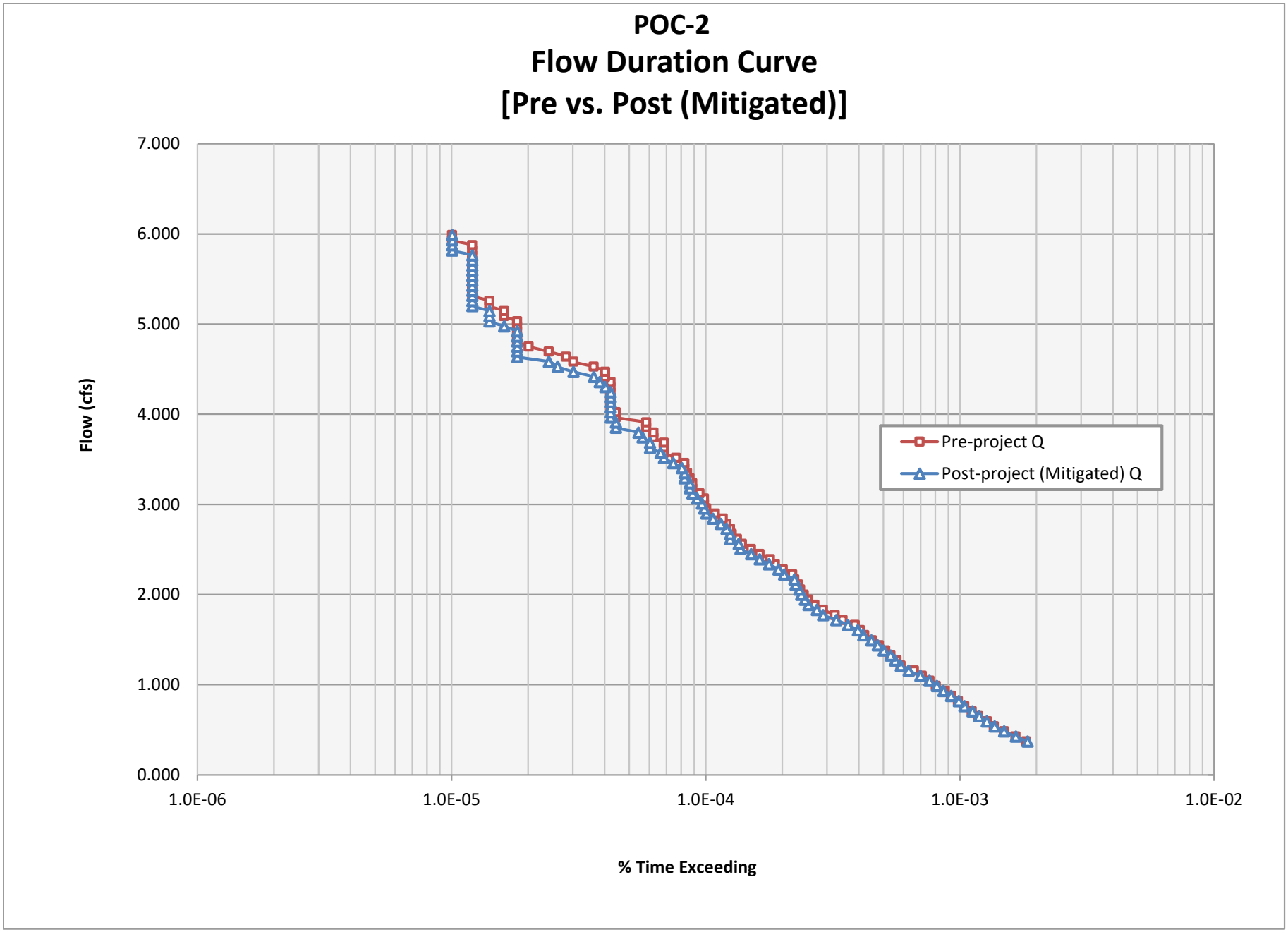
POC-2

Low-flow Threshold:	10%	
0.1xQ2 (Pre):	0.371	cfs
Q10 (Pre):	5.987	cfs
Ordinate #:	100	
Incremental Q (Pre):	0.05617	cfs
Total Hourly Data:	497370	hours

The proposed BMP: PASSED

Interval	Pre-project Flow (cfs)	Pre-project Hours	Pre-project % Time Exceeding	Post-project Hours	Post-project % Time Exceeding	Percentage	Pass/Fail
0	0.371	906	1.82E-03	917	1.84E-03	101%	Pass
1	0.427	824	1.66E-03	825	1.66E-03	100%	Pass
2	0.483	741	1.49E-03	742	1.49E-03	100%	Pass
3	0.539	676	1.36E-03	681	1.37E-03	101%	Pass
4	0.595	636	1.28E-03	633	1.27E-03	100%	Pass
5	0.651	587	1.18E-03	591	1.19E-03	101%	Pass
6	0.708	554	1.11E-03	557	1.12E-03	101%	Pass
7	0.764	517	1.04E-03	518	1.04E-03	100%	Pass
8	0.820	489	9.83E-04	492	9.89E-04	101%	Pass
9	0.876	459	9.23E-04	459	9.23E-04	100%	Pass
10	0.932	434	8.73E-04	428	8.61E-04	99%	Pass
11	0.988	400	8.04E-04	403	8.10E-04	101%	Pass
12	1.045	378	7.60E-04	377	7.58E-04	100%	Pass
13	1.101	352	7.08E-04	347	6.98E-04	99%	Pass
14	1.157	328	6.59E-04	312	6.27E-04	95%	Pass
15	1.213	291	5.85E-04	291	5.85E-04	100%	Pass
16	1.269	280	5.63E-04	276	5.55E-04	99%	Pass
17	1.325	265	5.33E-04	265	5.33E-04	100%	Pass
18	1.382	253	5.09E-04	249	5.01E-04	98%	Pass
19	1.438	239	4.81E-04	236	4.74E-04	99%	Pass
20	1.494	224	4.50E-04	223	4.48E-04	100%	Pass
21	1.550	209	4.20E-04	207	4.16E-04	99%	Pass
22	1.606	201	4.04E-04	197	3.96E-04	98%	Pass
23	1.662	192	3.86E-04	180	3.62E-04	94%	Pass
24	1.719	172	3.46E-04	162	3.26E-04	94%	Pass
25	1.775	160	3.22E-04	144	2.90E-04	90%	Pass
26	1.831	144	2.90E-04	136	2.73E-04	94%	Pass
27	1.887	133	2.67E-04	126	2.53E-04	95%	Pass
28	1.943	126	2.53E-04	122	2.45E-04	97%	Pass
29	1.999	121	2.43E-04	118	2.37E-04	98%	Pass
30	2.056	117	2.35E-04	116	2.33E-04	99%	Pass
31	2.112	115	2.31E-04	112	2.25E-04	97%	Pass
32	2.168	111	2.23E-04	111	2.23E-04	100%	Pass
33	2.224	109	2.19E-04	101	2.03E-04	93%	Pass
34	2.280	100	2.01E-04	96	1.93E-04	96%	Pass
35	2.336	93	1.87E-04	88	1.77E-04	95%	Pass
36	2.393	89	1.79E-04	81	1.63E-04	91%	Pass
37	2.449	81	1.63E-04	75	1.51E-04	93%	Pass
38	2.505	75	1.51E-04	68	1.37E-04	91%	Pass
39	2.561	69	1.39E-04	67	1.35E-04	97%	Pass
40	2.617	66	1.33E-04	62	1.25E-04	94%	Pass
41	2.673	63	1.27E-04	62	1.25E-04	98%	Pass
42	2.730	62	1.25E-04	60	1.21E-04	97%	Pass
43	2.786	60	1.21E-04	57	1.15E-04	95%	Pass
44	2.842	58	1.17E-04	53	1.07E-04	91%	Pass
45	2.898	54	1.09E-04	50	1.01E-04	93%	Pass
46	2.954	50	1.01E-04	49	9.85E-05	98%	Pass
47	3.010	49	9.85E-05	48	9.65E-05	98%	Pass
48	3.067	49	9.85E-05	46	9.25E-05	94%	Pass
49	3.123	47	9.45E-05	44	8.85E-05	94%	Pass
50	3.179	44	8.85E-05	43	8.65E-05	98%	Pass

Interval	Pre-project Flow (cfs)	Pre-project Hours	Pre-project % Time Exceeding	Post-project Hours	Post-project % Time Exceeding	Percentage	Pass/Fail
51	3.235	44	8.85E-05	43	8.65E-05	98%	Pass
52	3.291	43	8.65E-05	41	8.24E-05	95%	Pass
53	3.347	42	8.44E-05	41	8.24E-05	98%	Pass
54	3.404	41	8.24E-05	40	8.04E-05	98%	Pass
55	3.460	41	8.24E-05	37	7.44E-05	90%	Pass
56	3.516	38	7.64E-05	34	6.84E-05	89%	Pass
57	3.572	34	6.84E-05	33	6.63E-05	97%	Pass
58	3.628	34	6.84E-05	30	6.03E-05	88%	Pass
59	3.684	34	6.84E-05	30	6.03E-05	88%	Pass
60	3.741	31	6.23E-05	28	5.63E-05	90%	Pass
61	3.797	31	6.23E-05	27	5.43E-05	87%	Pass
62	3.853	29	5.83E-05	22	4.42E-05	76%	Pass
63	3.909	29	5.83E-05	22	4.42E-05	76%	Pass
64	3.965	22	4.42E-05	21	4.22E-05	95%	Pass
65	4.021	22	4.42E-05	21	4.22E-05	95%	Pass
66	4.078	21	4.22E-05	21	4.22E-05	100%	Pass
67	4.134	21	4.22E-05	21	4.22E-05	100%	Pass
68	4.190	21	4.22E-05	21	4.22E-05	100%	Pass
69	4.246	21	4.22E-05	21	4.22E-05	100%	Pass
70	4.302	21	4.22E-05	20	4.02E-05	95%	Pass
71	4.359	21	4.22E-05	19	3.82E-05	90%	Pass
72	4.415	20	4.02E-05	18	3.62E-05	90%	Pass
73	4.471	20	4.02E-05	15	3.02E-05	75%	Pass
74	4.527	18	3.62E-05	13	2.61E-05	72%	Pass
75	4.583	15	3.02E-05	12	2.41E-05	80%	Pass
76	4.639	14	2.81E-05	9	1.81E-05	64%	Pass
77	4.696	12	2.41E-05	9	1.81E-05	75%	Pass
78	4.752	10	2.01E-05	9	1.81E-05	90%	Pass
79	4.808	9	1.81E-05	9	1.81E-05	100%	Pass
80	4.864	9	1.81E-05	9	1.81E-05	100%	Pass
81	4.920	9	1.81E-05	9	1.81E-05	100%	Pass
82	4.976	9	1.81E-05	8	1.61E-05	89%	Pass
83	5.033	9	1.81E-05	7	1.41E-05	78%	Pass
84	5.089	8	1.61E-05	7	1.41E-05	88%	Pass
85	5.145	8	1.61E-05	7	1.41E-05	88%	Pass
86	5.201	7	1.41E-05	6	1.21E-05	86%	Pass
87	5.257	7	1.41E-05	6	1.21E-05	86%	Pass
88	5.313	6	1.21E-05	6	1.21E-05	100%	Pass
89	5.370	6	1.21E-05	6	1.21E-05	100%	Pass
90	5.426	6	1.21E-05	6	1.21E-05	100%	Pass
91	5.482	6	1.21E-05	6	1.21E-05	100%	Pass
92	5.538	6	1.21E-05	6	1.21E-05	100%	Pass
93	5.594	6	1.21E-05	6	1.21E-05	100%	Pass
94	5.650	6	1.21E-05	6	1.21E-05	100%	Pass
95	5.707	6	1.21E-05	6	1.21E-05	100%	Pass
96	5.763	6	1.21E-05	6	1.21E-05	100%	Pass
97	5.819	6	1.21E-05	5	1.01E-05	83%	Pass
98	5.875	6	1.21E-05	5	1.01E-05	83%	Pass
99	5.931	5	1.01E-05	5	1.01E-05	100%	Pass
100	5.987	5	1.01E-05	5	1.01E-05	100%	Pass


POC-2
Flow Duration Curve
[Pre vs. Post (Mitigated)]
7.000
6.000
5.000
4.000
3.000
2.000
1.000
0.000
Flow (cfs)
1.0E-06
1.0E-05
1.0E-04
1.0E-03
1.0E-02
% Time Exceeding
Pre-project Q
Post-project (Mitigated) Q

Drawdown Calculation for BMP-A

Project Name	Melamed	
Project No	3009	
Surface Drawdown Time:	9.4	**hr**
Surface Area	**3708**	**sq ft**
Underdrain Orifice Diameter: in	**1.5**	in
C:	**0.6**	
Surface Ponding (to invert of lowest surface discharge opening in outlet structure):	**1**	ft
Amended Soil Depth:	**1.5**	ft
Gravel Depth:	**1**	ft
Orifice Q =	**0.109**	cfs
Effective Depth	20.4	in
Infiltration controlled by orifice	1.276	in/hr

Manning's *n* Values for Overland Flow[1]

The BMP Design Manuals within the County of San Diego allow for a land surface description other than short prairie grass to be used for hydromodification BMP design only if documentation provided is consistent with Table A.6 of the SWMM 5 User's Manual.

In January 2016, the EPA released the SWMM Reference Manual Volume I – Hydrology (SWMM Hydrology Reference Manual). The SWMM Hydrology Reference Manual complements the SWMM 5 User's Manual by providing an in-depth description of the program's hydrologic components. Table 3-5 of the SWMM Hydrology Reference Manual expounds upon Table A.6 of the SWMM 5 User's Manual by providing Manning's *n* values for additional overland flow surfaces. Therefore, in order to provide SWMM users with a wider range of land surfaces suitable for local application and to provide Copermittees with confidence in the design parameters, we recommend using the values published by Yen and Chow in Table 3-5 of the EPA SWMM Reference Manual Volume I – Hydrology. The values are provided in the table below:

Overland Surface	**Manning value (*n*)**
Smooth asphalt pavement	0.010
Smooth impervious surface	0.011
Tar and sand pavement	0.012
Concrete pavement	0.014
Rough impervious surface	0.015
Smooth bare packed soil	0.017
Moderate bare packed soil	0.025
Rough bare packed soil	0.032
Gravel soil	0.025
Mowed poor grass	0.030
Average grass, closely clipped sod	0.040
Pasture	0.040
Timberland	0.060
Dense grass	0.060
Shrubs and bushes	0.080
Land Use	
Business	0.014
Semibusiness	0.022
Industrial	0.020
Dense residential	0.025
Suburban residential	0.030
Parks and lawns	0.040

[1]Content summarized from *Improving Accuracy in Continuous Simulation Modeling: Guidance for Selecting Pervious Overland Flow Manning's n Values in the San Diego Region* (TRWE, 2016).

Map Scale: 1:1,720 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 25 50 100 150

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Lines

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Points

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: San Diego County Area, California
Survey Area Data: Version 13, Sep 12, 2018

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Nov 3, 2014—Nov 22, 2014

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
AtD2	Altamont clay, 9 to 15 percent slopes, eroded	D	1.0	11.9%
AtE2	Altamont clay, 15 to 30 percent slopes, eroded	D	1.0	12.1%
RuG	Rough broken land	D	6.5	76.0%
Totals for Area of Interest			**8.5**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

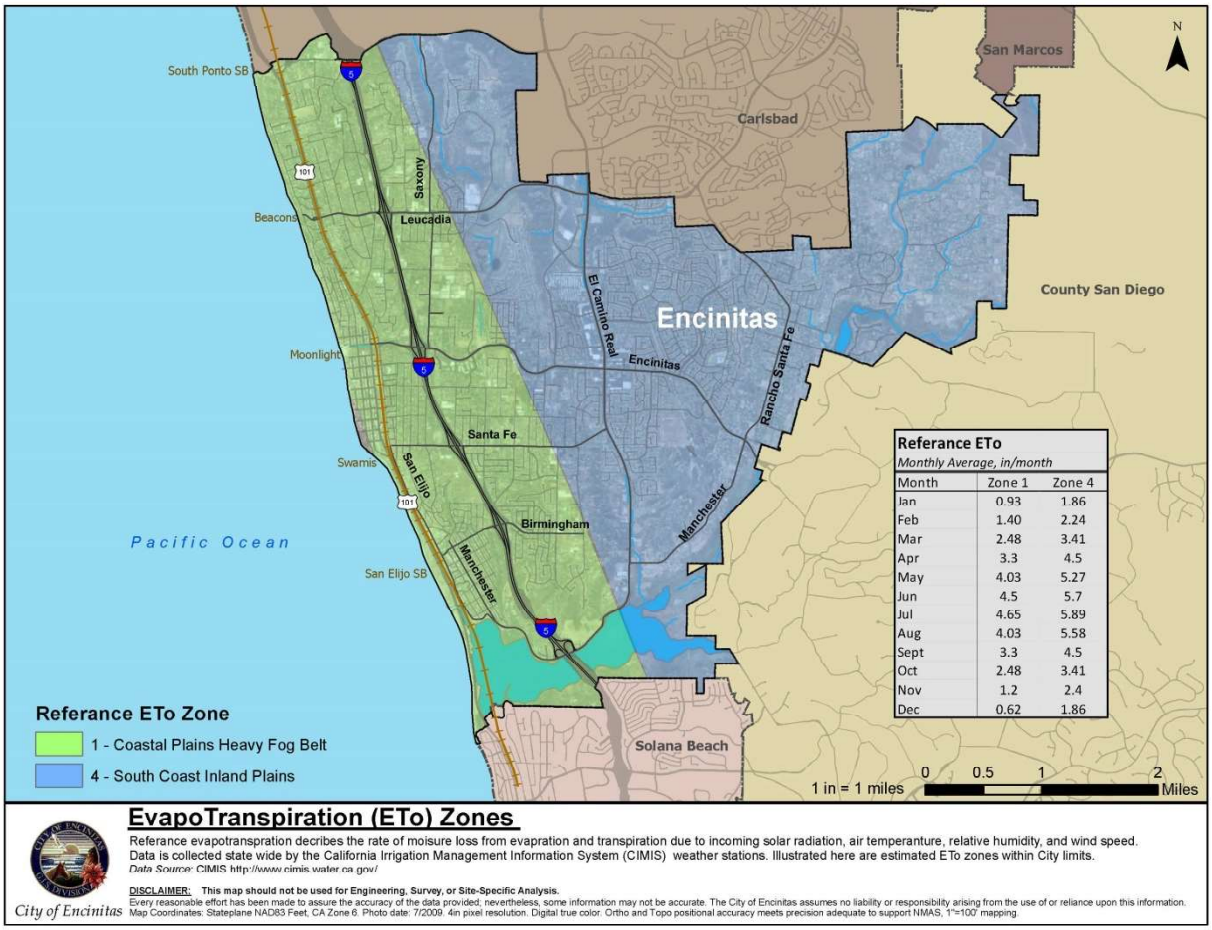


Figure G.1-2: California Irrigation Management Information System "Reference Evapotranspiration Zones"

Table G.1-1: Monthly Average Reference Evapotranspiration by ETo Zone (inches/month and inches/day) for use in SWMM Models for Hydromodification Management Studies in San Diego County CIMIS Zones 1, 4, 6, 9, and 16 (See CIMIS ETo Zone Map)

	January	February	March	April	May	June	July	August	September	October	November	December
Zone	in/month	in/month	in/month	in/month	in/month	in/month	in/month	in/month	in/month	in/month	in/month	in/month
1	0.93	1.4	2.48	3.3	4.03	4.5	4.65	4.03	3.3	2.48	1.2	0.62
4	1.86	2.24	3.41	4.5	5.27	5.7	5.89	5.58	4.5	3.41	2.4	1.86
6	1.86	2.24	3.41	4.8	5.58	6.3	6.51	6.2	4.8	3.72	2.4	1.86
9	2.17	2.8	4.03	5.1	5.89	6.6	7.44	6.82	5.7	4.03	2.7	1.86
16	1.55	2.52	4.03	5.7	7.75	8.7	9.3	8.37	6.3	4.34	2.4	1.55
	January	**February**	**March**	**April**	**May**	**June**	**July**	**August**	**September**	**October**	**November**	**December**
Days	31	28	31	30	31	30	31	31	30	31	30	31
Zone	in/day	in/day	in/day	in/day	in/day	in/day	in/day	in/day	in/day	in/day	in/day	in/day
1	0.030	0.050	0.080	0.110	0.130	0.150	0.150	0.130	0.110	0.080	0.040	0.020
4	0.060	0.080	0.110	0.150	0.170	0.190	0.190	0.180	0.150	0.110	0.080	0.060
6	0.060	0.080	0.110	0.160	0.180	0.210	0.210	0.200	0.160	0.120	0.080	0.060
9	0.070	0.100	0.130	0.170	0.190	0.220	0.240	0.220	0.190	0.130	0.090	0.060
16	0.050	0.090	0.130	0.190	0.250	0.290	0.300	0.270	0.210	0.140	0.080	0.050

ATTACHMENT 3 - STRUCTURAL BMP MAINTENANCE INFORMATION

This is the cover sheet for Attachment 3.

Indicate which items are included behind this cover sheet:

Attachment	Contents	Checklist
Attachment 3a	Structural BMP Maintenance Thresholds and Actions (Required)	☑ Included See Structural BMP Maintenance Information Checklist on the back of this Attachment cover sheet.
Attachment 3b	Draft Maintenance Agreement (when applicable)	□ Included □ Not Applicable

Use this checklist to ensure the required information has been included in the Structural BMP Maintenance Information Attachment:

□ **Preliminary Design / Planning / CEQA level submittal:**

Attachment 3a must identify:

□ Typical maintenance indicators and actions for proposed structural BMP(s) based on Section 7.7 of the BMP Design Manual

Attachment 3b is not required for preliminary design / planning / CEQA level submittal.

□ **Final Design level submittal:**

Attachment 3a must identify:

□ Specific maintenance indicators and actions for proposed structural BMP(s). This shall be based on Section 7.7 of the BMP Design Manual and enhanced to reflect actual proposed components of the structural BMP(s)

□ How to access the structural BMP(s) to inspect and perform maintenance

□ Features that are provided to facilitate inspection (e.g., observation ports, cleanouts, silt posts, or other features that allow the inspector to view necessary components of the structural BMP and compare to maintenance thresholds)

□ Manufacturer and part number for proprietary parts of structural BMP(s) when applicable

□ Maintenance thresholds specific to the structural BMP(s), with a location-specific frame of reference (e.g., level of accumulated materials that triggers removal of the materials, to be identified based on viewing marks on silt posts or measured with a survey rod with respect to a fixed benchmark within the BMP)

□ Recommended equipment to perform maintenance

□ When applicable, necessary special training or certification requirements for inspection and maintenance personnel such as confined space entry or hazardous waste management

Attachment 3b: For private entity operation and maintenance, Attachment 3b shall include a draft maintenance agreement in the local jurisdiction's standard format (PDP applicant to contact the City Engineer to obtain the current maintenance agreement forms).

Attachment 3a: Structural BMP Maintenance Thresholds and Actions

Inspection and Maintenance Activities for Treatment Control BMPs (TC-BMPs)

The structural treatment control BMPs for the proposed project consist of two (2) biofiltration basins, including one with partial retention. The discussions below provide inspection frequency, maintenance indicators and maintenance activities for the proposed structural BMPs. The proposed biofiltration basins should be inspected and maintained to ensure proper functionality over time. The following tables provide recommendations for inspection and maintenance for the biofiltration basins in order to ensure their lasting effectiveness.

Biofiltration Basin

During inspection, the inspector shall check for the maintenance indicators given below and take the appropriate maintenance action:

Typical Maintenance Indicator(s) for Vegetated BMPs	Maintenance Actions
Accumulation of sediment, litter, or debris	Remove and properly dispose of accumulated materials, without damage to the vegetation.
Poor vegetation establishment	Re-seed, re-plant, or re-establish vegetation per original plans.
Overgrown vegetation	Mow or trim as appropriate, but not less than the design height of the vegetation per original plans when applicable
Erosion due to concentrated irrigation flow	Repair/re-seed/re-plant eroded areas and adjust the irrigation system.
Erosion due to concentrated storm water runoff flow	Repair/re-seed/re-plant eroded areas, and make appropriate corrective measures such as adding erosion control blankets, adding stone at flow entry points, or minor re-grading to restore proper drainage according to the original plan. If the issue is not corrected by restoring the BMP to the original plan and grade, the City Engineer shall be contacted prior to any additional repairs or reconstruction.
Standing water in or biofiltration basin for longer than 96 hours following a storm event*	Make appropriate corrective measures such as adjusting irrigation system, removing obstructions of debris or invasive vegetation, clearing underdrains (where applicable), or repairing/replacing clogged or compacted soils.
Obstructed inlet or outlet structure	Clear obstructions.
Damage to structural componentssuch as weirs,	Repair or replace as applicable.
*These BMPs typically include a surface ponding layer as part of their function which may take 96 hours to drain following a storm event.	

Inspection and Maintenance Frequency

The Table below lists the TC-BMPs to be inspected and maintained and the minimum frequency of inspection and maintenance activities.

Summary Table of Inspection and Maintenance Frequency

BMP	Inspection Frequency	Maintenance Frequency
Biofiltration Basin	At a minimum: annually, and after major storm events	Routine maintenance to remove accumulated materials at the inlets and outlets: annually, on or before September 30th. As-needed maintenance based on maintenance indicators

The frequencies given in the Summary Table of Inspection and Maintenance Frequency are minimum recommended frequencies for inspection and maintenance activities for the project. Typically, the frequency of maintenance required for structural BMPs is site and drainage area specific. If it is determined during the regularly scheduled inspection and/or routine maintenance that a structural BMP requires more frequent maintenance (e.g., to remove accumulated trash) it may be necessary to increase the frequency of inspection and/or routine maintenance.

Recordkeeping Requirements

The party responsible to ensure implementation and funding of maintenance of structural BMPs shall maintain records documenting the inspection and maintenance activities. The records must be kept a minimum of 5 years and shall be made available to the City of Encinitas for inspection upon request at any time.

PR-1

Biofiltration with Partial Retention

BMP MAINTENANCE FACT SHEET
FOR
STRUCTURAL BMP PR-1 BIOFILTRATION WITH PARTIAL RETENTION

Biofiltration with partial retention facilities are vegetated surface water systems that filter water through vegetation and soil or engineered media prior to infiltrating into native soils, discharge via underdrain, or overflow to the downstream conveyance system. These BMPs have an elevated underdrain discharge point that creates storage capacity in the aggregate storage layer. Typical biofiltration with partial retention components include:

- Inflow distribution mechanisms (e.g., perimeter flow spreader or filter strips)
- Energy dissipation mechanism for concentrated inflows (e.g., splash blocks or riprap)
- Shallow surface ponding for captured flows
- Side slope and basin bottom vegetation selected based on climate and ponding depth
- Non-floating mulch layer
- Media layer (planting mix or engineered media) capable of supporting vegetation growth
- Filter course layer consisting of aggregate to prevent the migration of fines into uncompacted native soils or the aggregate storage layer
- Aggregate storage layer with underdrain(s)
- Uncompacted native soils at the bottom of the facility
- Overflow structure

Normal Expected Maintenance

Biofiltration with partial retention requires routine maintenance to: remove accumulated materials such as sediment, trash or debris; maintain vegetation health; maintain infiltration capacity of the media layer; replenish mulch; and maintain integrity of side slopes, inlets, energy dissipators, and outlets. A summary table of standard inspection and maintenance indicators is provided within this Fact Sheet.

Non-Standard Maintenance or BMP Failure

If any of the following scenarios are observed, the BMP is not performing as intended to protect downstream waterways from pollution and/or erosion. Corrective maintenance, increased inspection and maintenance, BMP replacement, or a different BMP type will be required.

- The BMP is not drained between storm events. Surface ponding longer than approximately 24 hours following a storm event may be detrimental to vegetation health, and surface ponding longer than approximately 96 hours following a storm event poses a risk of vector (mosquito) breeding. Poor drainage can result from clogging of the media layer, filter course, aggregate storage layer, underdrain, or outlet structure. The specific cause of the drainage issue must be determined and corrected.
- Sediment, trash, or debris accumulation greater than 25% of the surface ponding volume within one month. This means the load from the tributary drainage area is too high, reducing BMP function or clogging the BMP. This would require pretreatment measures within the tributary area draining to the BMP to intercept the materials. Pretreatment components, especially for sediment, will extend the life of components that are more expensive to replace such as media, filter course, and aggregate layers.

- Erosion due to concentrated storm water runoff flow that is not readily corrected by adding erosion control blankets, adding stone at flow entry points, or minor re-grading to restore proper drainage according to the original plan. If the issue is not corrected by restoring the BMP to the original plan and grade, the [City Engineer] shall be contacted prior to any additional repairs or reconstruction.

Other Special Considerations

Biofiltration with partial retention is a vegetated structural BMP. Vegetated structural BMPs that are constructed in the vicinity of, or connected to, an existing jurisdictional water or wetland could inadvertently result in creation of expanded waters or wetlands. As such, vegetated structural BMPs have the potential to come under the jurisdiction of the United States Army Corps of Engineers, SDRWQCB, California Department of Fish and Wildlife, or the United States Fish and Wildlife Service. This could result in the need for specific resource agency permits and costly mitigation to perform maintenance of the structural BMP. Along with proper placement of a structural BMP, **routine maintenance is key to preventing this scenario**.

PR-1
Biofiltration with Partial Retention

SUMMARY OF STANDARD INSPECTION AND MAINTENANCE FOR PR-1 BIOFILTRATION WITH PARTIAL RETENTION		
The property owner is responsible to ensure inspection, operation and maintenance of permanent BMPs on their property unless responsibility has been formally transferred to an agency, community facilities district, homeowners association, property owners association, or other special district. Maintenance frequencies listed in this table are average/typical frequencies. Actual maintenance needs are site-specific, and maintenance may be required more frequently. Maintenance must be performed whenever needed, based on maintenance indicators presented in this table. The BMP owner is responsible for conducting regular inspections to see when maintenance is needed based on the maintenance indicators. During the first year of operation of a structural BMP, inspection is recommended at least once prior to August 31 and then monthly from September through May. Inspection during a storm event is also recommended. After the initial period of frequent inspections, the minimum inspection and maintenance frequency can be determined based on the results of the first year inspections.		
Threshold/Indicator	**Maintenance Action**	**Typical Maintenance Frequency**
Accumulation of sediment, litter, or debris	Remove and properly dispose of accumulated materials, without damage to the vegetation or compaction of the media layer.	• Inspect monthly. If the BMP is 25% full* or more in one month, increase inspection frequency to monthly plus after every 0.1-inch or larger storm event. • Remove any accumulated materials found at each inspection.
Obstructed inlet or outlet structure	Clear blockage.	• Inspect monthly and after every 0.5-inch or larger storm event. • Remove any accumulated materials found at each inspection.
Damage to structural components such as weirs, inlet or outlet structures	Repair or replace as applicable.	• Inspect annually. • Maintenance when needed.
Poor vegetation establishment	Re-seed, re-plant, or re-establish vegetation per original plans.	• Inspect monthly. • Maintenance when needed.
Dead or diseased vegetation	Remove dead or diseased vegetation, re-seed, re-plant, or re-establish vegetation per original plans.	• Inspect monthly. • Maintenance when needed.
Overgrown vegetation	Mow or trim as appropriate.	• Inspect monthly. • Maintenance when needed.
2/3 of mulch has decomposed, or mulch has been removed	Remove decomposed fraction and top off with fresh mulch to a total depth of 3 inches.	• Inspect monthly. • Replenish mulch annually, or more frequently when needed based on inspection.

*"25% full" is defined as ¼ of the depth from the design bottom elevation to the crest of the outflow structure (e.g., if the height to the outflow opening is 12 inches from the bottom elevation, then the materials must be removed when there is 3 inches of accumulation – this should be marked on the outflow structure).

SUMMARY OF STANDARD INSPECTION AND MAINTENANCE FOR PR-1 BIOFILTRATION WITH PARTIAL RETENTION (Continued from previous page)		
Threshold/Indicator	**Maintenance Action**	**Typical Maintenance Frequency**
Erosion due to concentrated irrigation flow	Repair/re-seed/re-plant eroded areas and adjust the irrigation system.	• Inspect monthly. • Maintenance when needed.
Erosion due to concentrated storm water runoff flow	Repair/re-seed/re-plant eroded areas, and make appropriate corrective measures such as adding erosion control blankets, adding stone at flow entry points, or minor re-grading to restore proper drainage according to the original plan. If the issue is not corrected by restoring the BMP to the original plan and grade, the [City Engineer] shall be contacted prior to any additional repairs or reconstruction.	• Inspect after every 0.5-inch or larger storm event. If erosion due to storm water flow has been observed, increase inspection frequency to after every 0.1-inch or larger storm event. • Maintenance when needed. If the issue is not corrected by restoring the BMP to the original plan and grade, the [City Engineer] shall be contacted prior to any additional repairs or reconstruction.
Standing water in BMP for longer than 24 hours following a storm event Surface ponding longer than approximately 24 hours following a storm event may be detrimental to vegetation health	Make appropriate corrective measures such as adjusting irrigation system, removing obstructions of debris or invasive vegetation, clearing underdrains, or repairing/replacing clogged or compacted soils.	• Inspect monthly and after every 0.5-inch or larger storm event. If standing water is observed, increase inspection frequency to after every 0.1-inch or larger storm event. • Maintenance when needed.
Presence of mosquitos/larvae For images of egg rafts, larva, pupa, and adult mosquitos, see http://www.mosquito.org/biology	If mosquitos/larvae are observed: first, immediately remove any standing water by dispersing to nearby landscaping; second, make corrective measures as applicable to restore BMP drainage to prevent standing water. If mosquitos persist following corrective measures to remove standing water, or if the BMP design does not meet the 96-hour drawdown criteria due to release rates controlled by an orifice installed on the underdrain, the [City Engineer] shall be contacted to determine a solution. A different BMP type, or a Vector Management Plan prepared with concurrence from the County of San Diego Department of Environmental Health, may be required.	• Inspect monthly and after every 0.5-inch or larger storm event. If mosquitos are observed, increase inspection frequency to after every 0.1-inch or larger storm event. • Maintenance when needed.
Underdrain clogged	Clear blockage.	• Inspect if standing water is observed for longer than 24-96 hours following a storm event. • Maintenance when needed.

References

American Mosquito Control Association.
http://www.mosquito.org/
California Storm Water Quality Association (CASQA). 2003. Municipal BMP Handbook.
https://www.casqa.org/resources/bmp-handbooks/municipal-bmp-handbook
County of San Diego. 2014. Low Impact Development Handbook.
http://www.sandiegocounty.gov/content/sdc/dpw/watersheds/susmp/lid.html
San Diego County Copermittees. 2016. Model BMP Design Manual, Appendix E, Fact Sheet PR-1.
http://www.projectcleanwater.org/index.php?option=com_content&view=article&id=250&Itemid=220

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PR-1

Biofiltration with Partial Retention

Date:	Inspector:	BMP ID No.:
Permit No.:	APN(s):	
Property / Development Name:	Responsible Party Name and Phone Number:	
Property Address of BMP:	Responsible Party Address:	

INSPECTION AND MAINTENANCE CHECKLIST FOR PR-1 BIOFILTRATION WITH PARTIAL RETENTION PAGE 1 of 5			
Threshold/Indicator	**Maintenance Recommendation**	**Date**	**Description of Maintenance Conducted**
Accumulation of sediment, litter, or debris Maintenance Needed? ☐ YES ☐ NO ☐ N/A	☐ Remove and properly dispose of accumulated materials, without damage to the vegetation ☐ If sediment, litter, or debris accumulation exceeds 25% of the surface ponding volume within one month (25% full*), add a forebay or other pre-treatment measures within the tributary area draining to the BMP to intercept the materials. ☐ Other / Comments:		
Poor vegetation establishment Maintenance Needed? ☐ YES ☐ NO ☐ N/A	☐ Re-seed, re-plant, or re-establish vegetation per original plans ☐ Other / Comments:		

*"25% full" is defined as ¼ of the depth from the design bottom elevation to the crest of the outflow structure (e.g., if the height to the outflow opening is 12 inches from the bottom elevation, then the materials must be removed when there is 3 inches of accumulation – this should be marked on the outflow structure).

PR-1

Biofiltration with Partial Retention

Date:	Inspector:	BMP ID No.:
Permit No.:	APN(s):	

INSPECTION AND MAINTENANCE CHECKLIST FOR PR-1 BIOFILTRATION WITH PARTIAL RETENTION PAGE 2 of 5			
Threshold/Indicator	**Maintenance Recommendation**	**Date**	**Description of Maintenance Conducted**
Dead or diseased vegetation Maintenance Needed? ☐ YES ☐ NO ☐ N/A	☐ Remove dead or diseased vegetation, re-seed, re-plant, or re-establish vegetation per original plans ☐ Other / Comments:		
Overgrown vegetation Maintenance Needed? ☐ YES ☐ NO ☐ N/A	☐ Mow or trim as appropriate ☐ Other / Comments:		
2/3 of mulch has decomposed, or mulch has been removed Maintenance Needed? ☐ YES ☐ NO ☐ N/A	☐ Remove decomposed fraction and top off with fresh mulch to a total depth of 3 inches ☐ Other / Comments:		

PR-1

Biofiltration with Partial Retention

Date:	Inspector:	BMP ID No.:
Permit No.:	APN(s):	

INSPECTION AND MAINTENANCE CHECKLIST FOR PR-1 BIOFILTRATION WITH PARTIAL RETENTION PAGE 3 of 5			
Threshold/Indicator	**Maintenance Recommendation**	**Date**	**Description of Maintenance Conducted**
Erosion due to concentrated irrigation flow Maintenance Needed? ☐ YES ☐ NO ☐ N/A	☐ Repair/re-seed/re-plant eroded areas and adjust the irrigation system ☐ Other / Comments:		
Erosion due to concentrated storm water runoff flow Maintenance Needed? ☐ YES ☐ NO ☐ N/A	☐ Repair/re-seed/re-plant eroded areas, and make appropriate corrective measures such as adding erosion control blankets, adding stone at flow entry points, or minor re-grading to restore proper drainage according to the original plan ☐ If the issue is not corrected by restoring the BMP to the original plan and grade, the [City Engineer] shall be contacted prior to any additional repairs or reconstruction ☐ Other / Comments:		

PR-1

Biofiltration with Partial Retention

Date:	Inspector:	BMP ID No.:
Permit No.:	APN(s):	

INSPECTION AND MAINTENANCE CHECKLIST FOR PR-1 BIOFILTRATION WITH PARTIAL RETENTION PAGE 4 of 5			
Threshold/Indicator	**Maintenance Recommendation**	**Date**	**Description of Maintenance Conducted**
Obstructed inlet or outlet structure Maintenance Needed? ☐ YES ☐ NO ☐ N/A	☐ Clear blockage ☐ Other / Comments:		
Underdrain clogged (inspect underdrain if standing water is observed for longer than 24-96 hours following a storm event) Maintenance Needed? ☐ YES ☐ NO ☐ N/A	☐ Clear blockage ☐ Other / Comments:		
Damage to structural components such as weirs, inlet or outlet structures Maintenance Needed? ☐ YES ☐ NO ☐ N/A	☐ Repair or replace as applicable ☐ Other / Comments:		

PR-1

Biofiltration with Partial Retention

Date:	Inspector:	BMP ID No.:
Permit No.:	APN(s):	

INSPECTION AND MAINTENANCE CHECKLIST FOR PR-1 BIOFILTRATION WITH PARTIAL RETENTION PAGE 5 of 5			
Threshold/Indicator	**Maintenance Recommendation**	**Date**	**Description of Maintenance Conducted**
Standing water in BMP for longer than 24 hours following a storm event* Surface ponding longer than approximately 24 hours following a storm event may be detrimental to vegetation health Maintenance Needed? ☐ YES ☐ NO ☐ N/A	☐ Make appropriate corrective measures such as adjusting irrigation system, removing obstructions of debris or invasive vegetation, clearing underdrains, or repairing/replacing clogged or compacted soils ☐ Other / Comments:		
Presence of mosquitos/larvae For images of egg rafts, larva, pupa, and adult mosquitos, see http://www.mosquito.org/biology Maintenance Needed? ☐ YES ☐ NO ☐ N/A	☐ Apply corrective measures to remove standing water in BMP when standing water occurs for longer than 24-96 hours following a storm event.** ☐ Other / Comments:		

*Surface ponding longer than approximately 24 hours following a storm event may be detrimental to vegetation health, and surface ponding longer than approximately 96 hours following a storm event poses a risk of vector (mosquito) breeding. Poor drainage can result from clogging of the media layer, filter course, aggregate storage layer, underdrain, or outlet structure. The specific cause of the drainage issue must be determined and corrected.

**If mosquitos persist following corrective measures to remove standing water, or if the BMP design does not meet the 96-hour drawdown criteria due to release rates controlled by an orifice installed on the underdrain, the [City Engineer] shall be contacted to determine a solution. A different BMP type, or a Vector Management Plan prepared with concurrence from the County of San Diego Department of Environmental Health, may be required.

BF-1
Biofiltration

BMP MAINTENANCE FACT SHEET
FOR
STRUCTURAL BMP BF-1 BIOFILTRATION

Biofiltration facilities are vegetated surface water systems that filter water through vegetation, and soil or engineered media prior to discharge via underdrain or overflow to the downstream conveyance system. Biofiltration facilities have limited or no infiltration. They are typically designed to provide enough hydraulic head to move flows through the underdrain connection to the storm drain system. Typical biofiltration components include:

- Inflow distribution mechanisms (e.g., perimeter flow spreader or filter strips)
- Energy dissipation mechanism for concentrated inflows (e.g., splash blocks or riprap)
- Shallow surface ponding for captured flows
- Side slope and basin bottom vegetation selected based on climate and ponding depth
- Non-floating mulch layer
- Media layer (planting mix or engineered media) capable of supporting vegetation growth
- Filter course layer consisting of aggregate to prevent the migration of fines into uncompacted native soils or the aggregate storage layer
- Aggregate storage layer with underdrain(s)
- Impermeable liner or uncompacted native soils at the bottom of the facility
- Overflow structure

Normal Expected Maintenance

Biofiltration requires routine maintenance to: remove accumulated materials such as sediment, trash or debris; maintain vegetation health; maintain infiltration capacity of the media layer; replenish mulch; and maintain integrity of side slopes, inlets, energy dissipators, and outlets. A summary table of standard inspection and maintenance indicators is provided within this Fact Sheet.

Non-Standard Maintenance or BMP Failure

If any of the following scenarios are observed, the BMP is not performing as intended to protect downstream waterways from pollution and/or erosion. Corrective maintenance, increased inspection and maintenance, BMP replacement, or a different BMP type will be required.

- The BMP is not drained between storm events. Surface ponding longer than approximately 24 hours following a storm event may be detrimental to vegetation health, and surface ponding longer than approximately 96 hours following a storm event poses a risk of vector (mosquito) breeding. Poor drainage can result from clogging of the media layer, filter course, aggregate storage layer, underdrain, or outlet structure. The specific cause of the drainage issue must be determined and corrected.
- Sediment, trash, or debris accumulation greater than 25% of the surface ponding volume within one month. This means the load from the tributary drainage area is too high, reducing BMP function or clogging the BMP. This would require pretreatment measures within the tributary area draining to the BMP to intercept the materials. Pretreatment components, especially for sediment, will extend the life of components that are more expensive to replace such as media, filter course, and aggregate layers.
- Erosion due to concentrated storm water runoff flow that is not readily corrected by adding erosion control blankets, adding stone at flow entry points, or minor re-grading to restore proper drainage according to the original plan. If the issue is not corrected by restoring the BMP to the original plan and grade, the [City Engineer] shall be contacted prior to any additional repairs or reconstruction.

Other Special Considerations

Biofiltration is a vegetated structural BMP. Vegetated structural BMPs that are constructed in the vicinity of, or connected to, an existing jurisdictional water or wetland could inadvertently result in creation of expanded waters or wetlands. As such, vegetated structural BMPs have the potential to come under the jurisdiction of the United States Army Corps of Engineers, SDRWQCB, California Department of Fish and Wildlife, or the United States Fish and Wildlife Service. This could result in the need for specific resource agency permits and costly mitigation to perform maintenance of the structural BMP. Along with proper placement of a structural BMP, **routine maintenance is key to preventing this scenario**.

BF-1
Biofiltration

SUMMARY OF STANDARD INSPECTION AND MAINTENANCE FOR BF-1 BIOFILTRATION		
The property owner is responsible to ensure inspection, operation and maintenance of permanent BMPs on their property unless responsibility has been formally transferred to an agency, community facilities district, homeowners association, property owners association, or other special district. Maintenance frequencies listed in this table are average/typical frequencies. Actual maintenance needs are site-specific, and maintenance may be required more frequently. Maintenance must be performed whenever needed, based on maintenance indicators presented in this table. The BMP owner is responsible for conducting regular inspections to see when maintenance is needed based on the maintenance indicators. During the first year of operation of a structural BMP, inspection is recommended at least once prior to August 31 and then monthly from September through May. Inspection during a storm event is also recommended. After the initial period of frequent inspections, the minimum inspection and maintenance frequency can be determined based on the results of the first year inspections.		
Threshold/Indicator	**Maintenance Action**	**Typical Maintenance Frequency**
Accumulation of sediment, litter, or debris	Remove and properly dispose of accumulated materials, without damage to the vegetation or compaction of the media layer.	• Inspect monthly. If the BMP is 25% full* or more in one month, increase inspection frequency to monthly plus after every 0.1-inch or larger storm event. • Remove any accumulated materials found at each inspection.
Obstructed inlet or outlet structure	Clear blockage.	• Inspect monthly and after every 0.5-inch or larger storm event. • Remove any accumulated materials found at each inspection.
Damage to structural components such as weirs, inlet or outlet structures	Repair or replace as applicable	• Inspect annually. • Maintenance when needed.
Poor vegetation establishment	Re-seed, re-plant, or re-establish vegetation per original plans.	• Inspect monthly. • Maintenance when needed.
Dead or diseased vegetation	Remove dead or diseased vegetation, re-seed, re-plant, or re-establish vegetation per original plans.	• Inspect monthly. • Maintenance when needed.
Overgrown vegetation	Mow or trim as appropriate.	• Inspect monthly. • Maintenance when needed.
2/3 of mulch has decomposed, or mulch has been removed	Remove decomposed fraction and top off with fresh mulch to a total depth of 3 inches.	• Inspect monthly. • Replenish mulch annually, or more frequently when needed based on inspection.

*"25% full" is defined as ¼ of the depth from the design bottom elevation to the crest of the outflow structure (e.g., if the height to the outflow opening is 12 inches from the bottom elevation, then the materials must be removed when there is 3 inches of accumulation – this should be marked on the outflow structure).

SUMMARY OF STANDARD INSPECTION AND MAINTENANCE FOR BF-1 BIOFILTRATION (Continued from previous page)		
Threshold/Indicator	**Maintenance Action**	**Typical Maintenance Frequency**
Erosion due to concentrated irrigation flow	Repair/re-seed/re-plant eroded areas and adjust the irrigation system.	• Inspect monthly. • Maintenance when needed.
Erosion due to concentrated storm water runoff flow	Repair/re-seed/re-plant eroded areas, and make appropriate corrective measures such as adding erosion control blankets, adding stone at flow entry points, or minor re-grading to restore proper drainage according to the original plan. If the issue is not corrected by restoring the BMP to the original plan and grade, the [City Engineer] shall be contacted prior to any additional repairs or reconstruction.	• Inspect after every 0.5-inch or larger storm event. If erosion due to storm water flow has been observed, increase inspection frequency to after every 0.1-inch or larger storm event. • Maintenance when needed. If the issue is not corrected by restoring the BMP to the original plan and grade, the [City Engineer] shall be contacted prior to any additional repairs or reconstruction.
Standing water in BMP for longer than 24 hours following a storm event Surface ponding longer than approximately 24 hours following a storm event may be detrimental to vegetation health	Make appropriate corrective measures such as adjusting irrigation system, removing obstructions of debris or invasive vegetation, clearing underdrains, or repairing/replacing clogged or compacted soils.	• Inspect monthly and after every 0.5-inch or larger storm event. If standing water is observed, increase inspection frequency to after every 0.1-inch or larger storm event. • Maintenance when needed.
Presence of mosquitos/larvae For images of egg rafts, larva, pupa, and adult mosquitos, see http://www.mosquito.org/biology	If mosquitos/larvae are observed: first, immediately remove any standing water by dispersing to nearby landscaping; second, make corrective measures as applicable to restore BMP drainage to prevent standing water. If mosquitos persist following corrective measures to remove standing water, or if the BMP design does not meet the 96-hour drawdown criteria due to release rates controlled by an orifice installed on the underdrain, the [City Engineer] shall be contacted to determine a solution. A different BMP type, or a Vector Management Plan prepared with concurrence from the County of San Diego Department of Environmental Health, may be required.	• Inspect monthly and after every 0.5-inch or larger storm event. If mosquitos are observed, increase inspection frequency to after every 0.1-inch or larger storm event. • Maintenance when needed.
Underdrain clogged	Clear blockage.	• Inspect if standing water is observed for longer than 24-96 hours following a storm event. • Maintenance when needed.

References

American Mosquito Control Association.
http://www.mosquito.org/
California Storm Water Quality Association (CASQA). 2003. Municipal BMP Handbook.
https://www.casqa.org/resources/bmp-handbooks/municipal-bmp-handbook
County of San Diego. 2014. Low Impact Development Handbook.
http://www.sandiegocounty.gov/content/sdc/dpw/watersheds/susmp/lid.html
San Diego County Copermittees. 2016. Model BMP Design Manual, Appendix E, Fact Sheet BF-1.
http://www.projectcleanwater.org/index.php?option=com_content&view=article&id=250&Itemid=220

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BF-1
Biofiltration

Date:	Inspector:	BMP ID No.:
Permit No.:	APN(s):	
Property / Development Name:	Responsible Party Name and Phone Number:	
Property Address of BMP:	Responsible Party Address:	

INSPECTION AND MAINTENANCE CHECKLIST FOR BF-1 BIOFILTRATION PAGE 1 of 5			
Threshold/Indicator	**Maintenance Recommendation**	**Date**	**Description of Maintenance Conducted**
Accumulation of sediment, litter, or debris Maintenance Needed? ☐ YES ☐ NO ☐ N/A	☐ Remove and properly dispose of accumulated materials, without damage to the vegetation ☐ If sediment, litter, or debris accumulation exceeds 25% of the surface ponding volume within one month (25% full*), add a forebay or other pre-treatment measures within the tributary area draining to the BMP to intercept the materials. ☐ Other / Comments:		
Poor vegetation establishment Maintenance Needed? ☐ YES ☐ NO ☐ N/A	☐ Re-seed, re-plant, or re-establish vegetation per original plans ☐ Other / Comments:		

*"25% full" is defined as ¼ of the depth from the design bottom elevation to the crest of the outflow structure (e.g., if the height to the outflow opening is 12 inches from the bottom elevation, then the materials must be removed when there is 3 inches of accumulation – this should be marked on the outflow structure).

Date:	Inspector:	BMP ID No.:
Permit No.:	APN(s):	

INSPECTION AND MAINTENANCE CHECKLIST FOR BF-1 BIOFILTRATION PAGE 2 of 5			
Threshold/Indicator	**Maintenance Recommendation**	**Date**	**Description of Maintenance Conducted**
Dead or diseased vegetation Maintenance Needed? ☐ YES ☐ NO ☐ N/A	☐ Remove dead or diseased vegetation, re-seed, re-plant, or re-establish vegetation per original plans ☐ Other / Comments:		
Overgrown vegetation Maintenance Needed? ☐ YES ☐ NO ☐ N/A	☐ Mow or trim as appropriate ☐ Other / Comments:		
2/3 of mulch has decomposed, or mulch has been removed Maintenance Needed? ☐ YES ☐ NO ☐ N/A	☐ Remove decomposed fraction and top off with fresh mulch to a total depth of 3 inches ☐ Other / Comments:		

Date:	Inspector:	BMP ID No.:
Permit No.:	APN(s):	

INSPECTION AND MAINTENANCE CHECKLIST FOR BF-1 BIOFILTRATION PAGE 3 of 5			
Threshold/Indicator	**Maintenance Recommendation**	**Date**	**Description of Maintenance Conducted**
Erosion due to concentrated irrigation flow Maintenance Needed? ☐ YES ☐ NO ☐ N/A	☐ Repair/re-seed/re-plant eroded areas and adjust the irrigation system ☐ Other / Comments:		
Erosion due to concentrated storm water runoff flow Maintenance Needed? ☐ YES ☐ NO ☐ N/A	☐ Repair/re-seed/re-plant eroded areas, and make appropriate corrective measures such as adding erosion control blankets, adding stone at flow entry points, or minor re-grading to restore proper drainage according to the original plan ☐ If the issue is not corrected by restoring the BMP to the original plan and grade, the [City Engineer] shall be contacted prior to any additional repairs or reconstruction ☐ Other / Comments:		

BF-1
Biofiltration

Date:	Inspector:	BMP ID No.:
Permit No.:	APN(s):	

INSPECTION AND MAINTENANCE CHECKLIST FOR BF-1 BIOFILTRATION PAGE 4 of 5			
Threshold/Indicator	**Maintenance Recommendation**	**Date**	**Description of Maintenance Conducted**
Obstructed inlet or outlet structure Maintenance Needed? ☐ YES ☐ NO ☐ N/A	☐ Clear blockage ☐ Other / Comments:		
Underdrain clogged (inspect underdrain if standing water is observed for longer than 24-96 hours following a storm event) Maintenance Needed? ☐ YES ☐ NO ☐ N/A	☐ Clear blockage ☐ Other / Comments:		
Damage to structural components such as weirs, inlet or outlet structures Maintenance Needed? ☐ YES ☐ NO ☐ N/A	☐ Repair or replace as applicable ☐ Other / Comments:		

BF-1
Biofiltration

Date:	Inspector:	BMP ID No.:
Permit No.:	APN(s):	

INSPECTION AND MAINTENANCE CHECKLIST FOR BF-1 BIOFILTRATION PAGE 5 of 5			
Threshold/Indicator	**Maintenance Recommendation**	**Date**	**Description of Maintenance Conducted**
Standing water in BMP for longer than 24-96 hours following a storm event* Surface ponding longer than approximately 24 hours following a storm event may be detrimental to vegetation health Maintenance Needed? ☐ YES ☐ NO ☐ N/A	☐ Make appropriate corrective measures such as adjusting irrigation system, removing obstructions of debris or invasive vegetation, clearing underdrains, or repairing/replacing clogged or compacted soils ☐ Other / Comments:		
Presence of mosquitos/larvae For images of egg rafts, larva, pupa, and adult mosquitos, see http://www.mosquito.org/biology Maintenance Needed? ☐ YES ☐ NO ☐ N/A	☐ Apply corrective measures to remove standing water in BMP when standing water occurs for longer than 24-96 hours following a storm event.** ☐ Other / Comments:		

*Surface ponding longer than approximately 24 hours following a storm event may be detrimental to vegetation health, and surface ponding longer than approximately 96 hours following a storm event poses a risk of vector (mosquito) breeding. Poor drainage can result from clogging of the media layer, filter course, aggregate storage layer, underdrain, or outlet structure. The specific cause of the drainage issue must be determined and corrected.

**If mosquitos persist following corrective measures to remove standing water, or if the BMP design does not meet the 96-hour drawdown criteria due to release rates controlled by an orifice installed on the underdrain, the [City Engineer] shall be contacted to determine a solution. A different BMP type, or a Vector Management Plan prepared with concurrence from the County of San Diego Department of Environmental Health, may be required.

ATTACHMENT 4 - COPY OF PLAN SHEETS SHOWING PERMANENT STORM WATER BMPS

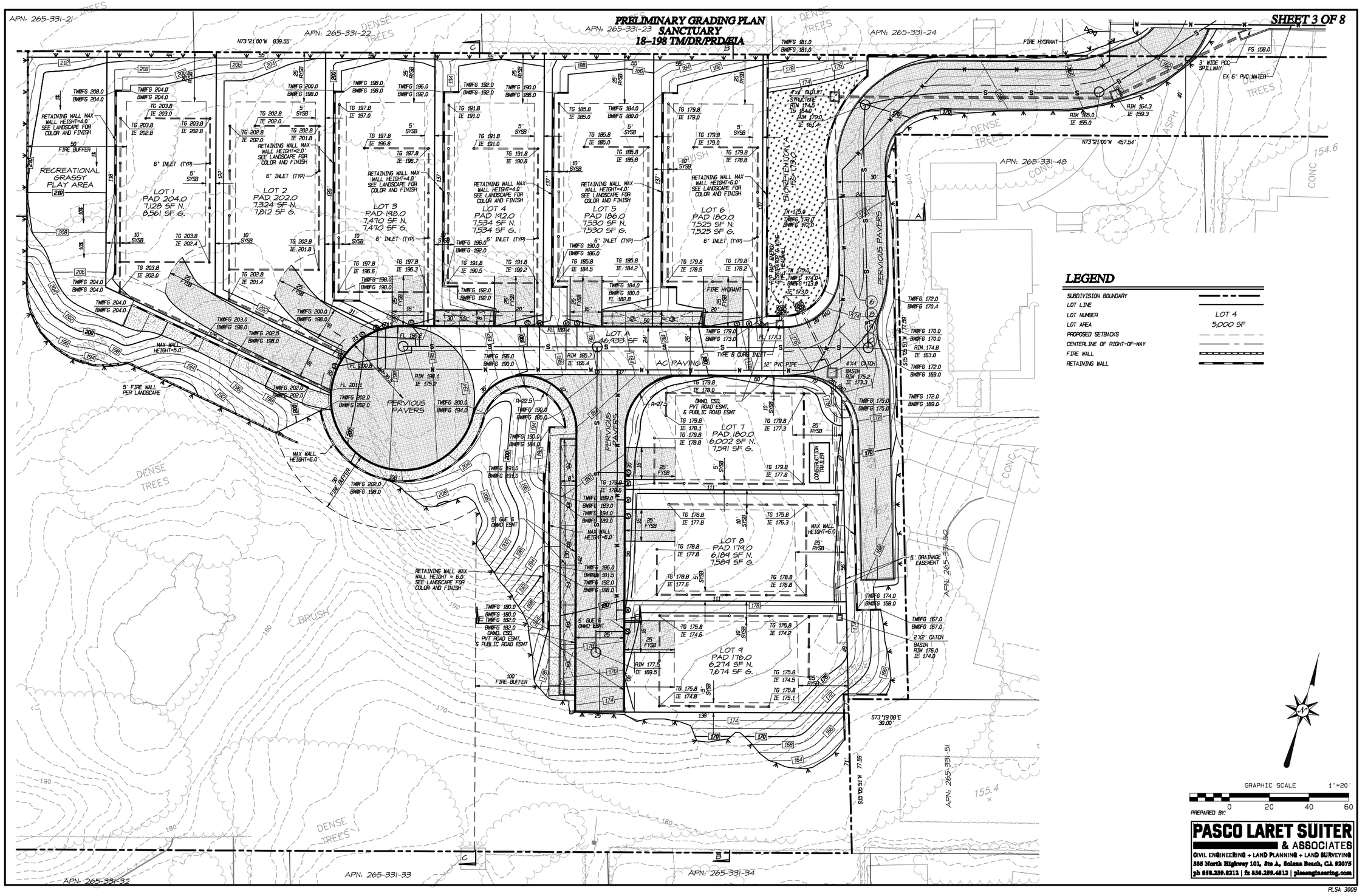
This is the cover sheet for Attachment 4.

Use this checklist to ensure the required information has been included on the plans:

The plans must identify:

- □ Structural BMP(s) with ID numbers matching Form I-6 Summary of PDP Structural BMPs
- □ The grading and drainage design shown on the plans must be consistent with the delineation of DMAs shown on the DMA exhibit
- □ Details and specifications for construction of structural BMP(s)
- □ Signage indicating the location and boundary of structural BMP(s) as required by the [City Engineer]
- □ How to access the structural BMP(s) to inspect and perform maintenance
- □ Features that are provided to facilitate inspection (e.g., observation ports, cleanouts, silt posts, or other features that allow the inspector to view necessary components of the structural BMP and compare to maintenance thresholds)
- □ Manufacturer and part number for proprietary parts of structural BMP(s) when applicable
- □ Maintenance thresholds specific to the structural BMP(s), with a location-specific frame of reference (e.g., level of accumulated materials that triggers removal of the materials, to be identified based on viewing marks on silt posts or measured with a survey rod with respect to a fixed benchmark within the BMP)
- □ Recommended equipment to perform maintenance
- □ When applicable, necessary special training or certification requirements for inspection and maintenance personnel such as confined space entry or hazardous waste management
- □ Include landscaping plan sheets showing vegetation requirements for vegetated structural BMP(s)
- □ All BMPs must be fully dimensioned on the plans
- □ When proprietary BMPs are used, site-specific cross section with outflow, inflow, and model number shall be provided. Photocopies of general brochures are not acceptable.

PRELIMINARY GRADING PLAN
SANCTUARY
18-198 TM/DR/PRD#1A



LEGEND

SUBDIVISION BOUNDARY	
LOT LINE	
LOT NUMBER	LOT 4
LOT AREA	5,000 SF
PROPOSED SETBACKS	
CENTERLINE OF RIGHT-OF-WAY	
FIRE WALL	
RETAINING WALL	

GRAPHIC SCALE 1"=20'

0 20 40 60

PREPARED BY:

PASCO LARET SUITER & ASSOCIATES

CIVIL ENGINEERING + LAND PLANNING + LAND SURVEYING
535 North Highway 101, Ste A, Solana Beach, CA 92075
ph 858.259.8212 | fx 858.259.4812 | planeng@sbcglobal.net

PLSA 3009

Appendix F –
Phase 1 Environmental Site Assessment – Ranch View Terrace

PHASE 1 ENVIRONMENTAL SITE ASSESSMENT
RANCH VIEW TERRACE
UNDEVELOPED PROPERTY AT PROPOSED NINE LOT SUBDIVISION
ENCINITAS, CALIFORNIA 92024

PREPARED FOR:

OLIVENHAIN HILLS, LLC
ATTENTION: MR. UDI MELAMED
745 COLE RANCH ROAD
ENCINITAS, CALIFORNIA 92024

PREPARED BY:

CONSTRUCTION TESTING & ENGINEERING, INC.
1441 MONTIEL ROAD, SUITE 115
ESCONDIDO, CALIFORNIA

CTE Job No. 10-14212E

February 18, 2019

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1.0 EXECUTIVE SUMMARY

This Phase 1 Environmental Site Assessment (Phase 1 ESA) was prepared by Construction Testing and Engineering, Incorporated (CTE) for Olivenhain Hills, LLC (Attention: Mr. Udi Melamed) regarding the property at the proposed nine lot subdivision on Ranch View Terrace in Encinitas, California (hereby known as the subject site). The subject site currently exists as an undeveloped property contiguous in all directions to other residential housing developments. It is located on the southwest corner of Ranch View Terrace and Rancho Santa Fe Road.

This Phase 1 ESA report is in general conformance with ASTM E 1527-13, and included reconnaissance level observations of the site and nearby area, regulatory document review, and review of reasonably accessible historic documents, including Environmental Data Resources, Inc. (EDR) records.

History of the site extends back to 1893 with the earliest accessed historical topographic map that does not map structures within the subject site, but does show structures and roads developed contiguous east of the subject site. The first accessed aerial photograph of the subject site in 1939 shows mixed site use to include undeveloped native land on the western portion and clearing for apparent agricultural purposes on the eastern portion. Agriculture as a site use predominantly disappears by 1979, and the subject site remained undeveloped until present day. The subject site currently exists undeveloped with dense vegetation of both native and introduced species and contains varying gradients of elevation changes throughout. A records review of the subject site and

the neighboring properties did not indicate spills or releases that could adversely affect the subject site.

Site observations indicate the site is undeveloped and supports native and imported plant growth. Locally vegetation is very dense and overgrown. Remnant trails and weathered debris indicate the present of past unsheltered inhabitation. Hazardous materials and petroleum products were not noted during the site observations.

Data gaps have occurred due to dense vegetation that disallowed observation of the entire property, lack of a key site manager, and indistinct property boundaries. However, these data gaps are not anticipated to affect the findings of this Phase 1 ESA, based upon the findings of the implemented scope as presented.

The findings of this Phase 1 Environmental Site Assessment did not indicate the presence of a Recognized Environmental Condition on the subject site. This Executive Summary is not inclusive of all the data and findings of this Phase 1 ESA. As such, the following report should be reviewed in its entirety to evaluate site environmental conditions.

2.0 INTRODUCTION

2.1 Purpose

Construction Testing and Engineering, Incorporated ("CTE") has prepared this Phase 1 Environmental Site Assessment report for the site at the proposed nine lot subdivision in Encinitas,

California (APN 265-331-4900). The subject site is currently undeveloped surrounded by detached single unit residential housing developments. Attached Figure 1 Site Index Map shows the general location of the subject site.

This Phase 1 ESA was authorized on January 30, 2019 by Udi Melamed as a representative for Olivenhain Hills, LLC, through CTE proposal E-0589 dated January 30, 2019. The purpose of this Phase 1 ESA is to provide an assessment of obvious environmental conditions on the site or adjoining properties that could impact the subject property within the scope of ASTM E 1527-13. It is understood that Olivenhain Hills, LLC is utilizing this Phase 1 ESA as a part of a requirement by the City of Encinitas for a Tentative Map Application process. Currently, there is proposed development of the subject site to include nine residential housing lots.

Information collected and referenced by this report is included in the attached Appendices that are organized as follows:

- Appendix A User Provided Information
- Appendix B Environmental Data Resources (EDR) Records Report
- Appendix C Sanborn Maps
- Appendix D Historical City Directories
- Appendix E Historical Aerial Photographs
- Appendix F Historical Topographic Maps
- Appendix G Site Reconnaissance Photographs
- Appendix H Resumes

2.2 Scope of Services

The scope of services for the Phase 1 ESA generally follows the ASTM scope of work for Phase 1 Environmental Site Assessments (ASTM E 1527-13). The scope of services included:

- Site Reconnaissance, through observations of the site and adjacent properties from public vantages of adjacent and nearby properties. Photographs were taken of the site and adjacent properties.
- Document Review, accomplished by review of regulatory agency files and lists summaries completed in general conformance with the guidelines of ASTM E 1527-13 as provided by EDR, a commercial vendor.
- Site History, by access to reasonably accessible historical documents as presented in ASTM E 1527-13 in order to evaluate past uses of the site and selected adjacent or nearby properties. Reviewed historic information includes Sanborn fire insurance maps, aerial photographs, topographic maps, city reverse telephone directories, and reference to consultant and regulatory agency documents as applicable.
- Reporting, the accumulated data and resulting conclusions are presented in this report.

2.3 Significant Assumptions

The Phase 1 ESA was conducted in general accordance with ASTM E 1527-13. No other warranties, expressed or implied, are made by Construction Testing and Engineering, Inc. (CTE). CTE's evaluations, analyses, and opinions should not be taken as representations regarding subsurface conditions at the subject property. Subsurface conditions may differ from the conditions implied by superficial observations.

This report was prepared in general accordance with the standard of practice for reputable environmental consultants in the site area at this time. It makes no other representations or

qualifications. CTE should be notified of variations in the data or findings presented in this report. CTE may re-evaluate this report depending upon changed conditions, or further supplied information.

Documentation provided by Environmental Data Resources Inc. (EDR), third parties, sub-consultants, and public domain, as referred to in this report, are assumed to be complete and correct, and have been used and referenced with the understanding that CTE is under no responsibility or liability for their accuracy. CTE's conclusions are based upon such information and documentation, and CTE's observations of site conditions, as they existed on the date of site observations. Site conditions may change significantly over a short period of time and additional data may become available, as a result data reported and conclusions drawn in this report are limited to current conditions, and may not be relied upon at a significantly later date (generally considered as 180 days) and/or following property use changes, whichever occurs first. An update report may be prepared after 180 days, but after one year a new Phase 1 ESA is to be prepared according to ASTM E 1527-13 guidance.

2.4 Limitations and Exceptions

Reasonable efforts have been made during this assessment to uncover *Recognized Environmental Conditions* (RECs). "Reasonable efforts" are limited to information gathered from visual observations of unobstructed areas, recorded database information held in public record, and available information gathered from interviews and selected historic documents, and may not identify all environmental conditions pertinent to the site.

Limitations and exceptions for this site include the following:

- This assessment is not an environmental compliance audit or report. Some observations and discussion in this report may address regulated conditions, operations, or activities; however, compliance with those conditions, operations, or activities is outside the scope of this report. This report does not constitute a legal opinion or legal advice, which should be obtained from independent legal counsel, if considered necessary.

- This report does not address non-scope ASTM considerations. Additional non-scope ASTM considerations, including, but not limited to, asbestos containing materials (ACMs), radon, lead-based paint (LBP), lead in drinking water, wetlands, protected environments and habitat, industrial hygiene, indoor air quality, mold, regulatory permitting requirements, and high voltage power lines are note addressed in this report.

- CTE does not have authority to render decisions on the part of a regulatory authority. Accordingly findings, opinions and this document in its entirety should not be considered a regulatory opinion or finding.

- The Phase 1 ESA portion of this report is of scope limited to ASTM E 1527-13 guidance. It does not include soil sampling and laboratory analyses.

- This report should not be considered to represent a legal opinion respective to the findings and conclusions presented herein.

2.5 Special Terms and Conditions

No special terms or conditions exist between CTE and Olivenhain Hills, LLC. CTE does not have a financial interest in this site, other than preparation of this report and preparation of a Geotechnical Investigative Report performed under contract with Olivenhain Hills, LLC. The Geotechnical Investigative Report is contracted under CTE proposal G-4333, dated March 20, 2018.

2.6 User Reliance

This report is prepared for Olivenhain Hills, LLC; no other parties may rely on this report without express written permission of CTE and Olivenhain Hills, LLC. This report is not for use or benefit of

another person or entity without advance written consent of CTE and Olivenhain Hills, LLC. This report is prepared using currently accepted standard of care for conducting such assessments in this area at this time.

The findings and opinions presented herein are relative to the dates of the site work and should not be relied upon to represent future dates. This report may be utilized for 180 days from the date of purchase or the date of the currently intended transaction. Additionally, this report may not be utilized should the property or adjacent sites use change.

3.0 SITE DESCRIPTION AND CONDITIONS

3.1 Location and Description

The subject site is set in a mostly residential area of Encinitas, California. Location of the site is shown on attached Figure 1. A larger rectangular portion of the subject site extends 800 feet on its major axis (perpendicular to Ranch Santa Fe Road) and 400 feet on its minor axis (Parallel to Ranch Santa Fe Road). A smaller narrow rectangular strip extends the subject site further east from its northeast corner to contact the subject site with Rancho Santa Fe Road. This narrow strip has approximate dimensions of 500 feet by 50 feet. The total area of the subject site is approximately 8.45 acres. At this time, addresses were not found that are associated with the subject site. The boundaries of the site respective to adjacent development were not clearly delineated in provided documents. Furthermore, boundary fences or markers do not appear to have been established on or adjacent to the site. As such a data gap respective to property limits has occurred.

The subject site currently exists as an undeveloped property with dense vegetation comprising of both native and introduced species covering the majority of the site area. There is an approximate 40 to 50 foot high hill in the southeast section of the subject site that is covered by a tall grove of Eucalyptus trees. The subject site generally inclines in elevation from east to west. Elevations range from approximately 155 feet above mean sea level in the southeast corner up to approximately 280 feet in the northwest corner of the subject site. Elevation changes steepen in most western section of the subject site. Naturally cut drainage conveyances, some up to five feet in depth, were observed throughout the site flowing generally in a southeast direction.

Residential housing developments are contiguous to the subject site in all directions excepting a church that is contiguous to the northeast portion of the subject site. Ranch Santa Fe Road traverses in a north-south direction east of the subject site. Interstate 5 is the closest highway to the subject site and it is located greater than two miles southwest of the subject site.

4.0 USER PROVIDED INFORMATION

4.1 Questionnaire

An Owner and User Questionnaire were completed by Mr. Udi Melamet, as representative for Olivenhain Hills, LLC. Mr. Melamet indicated in the questionnaire that the current owner of the property since 1976 was Stuart Family Trust. He also indicated that the property was being purchased under fair market value and that the Phase 1 ESA was being performed as part of a requirement by the City of Encinitas for the Tentative Map Application process. He indicated the current use of the property was vacant and he was unaware of environmental clean up liens,

environmental engineering controls, land use limitations, or other potential adverse environmental conditions on the subject site.

The User Questionnaire and Owner Questionnaire are attached as Appendix A, and should be reviewed for additional information.

4.2 Preliminary Title Report

A Preliminary Title Report (PTR) prepared by First American Title Company for the property subject to this Phase 1 ESA in Encinitas, California was supplied to CTE by Olivenhain Hills, LLC, representative, Udi Melamet. The order number was DIV-5297330 (04), dated April 26, 2018. The PTR did not indicate environmental liens are present at the subject site. The PTR is attached in Appendix A for further review as necessary.

5.0 RECORDS REVIEW

5.1 Regulatory Data Base Review

CTE reviewed federal, state, and local environmental databases for information regarding documented and suspected releases of regulated materials at the subject property and vicinity based upon reference to an environmental database search performed by EDR, an environmental database search firm. EDR's search was performed for the standard ASTM E 1527-13 recommended distances from the center of the site. The standard ASTM search was performed for the site at 33.04379 degrees north latitude and -117.23833 degrees west longitude. CTE has summarized the findings of the EDR report in the following, and a copy of the EDR report is included in Appendix B.

5.2 Subject Site Listings

The subject site was not listed on the reviewed databases dealing with hazardous material/waste generation, storage, and disposal. The subject site was also not listed on databases dealing with releases or hazardous waste cleanups in the past. The EDR report databases were cross checked with Geotracker, a publicly available online resource for properties under environmental review. The site was not listed on the Geotracker database.

5.3 Vicinity Property Listings

Properties in the nearby vicinity of the subject site were listed on databases searched in the EDR report. Most of these databases track properties or businesses that handle regulated hazardous materials/waste or have records as a cleanup site in the past or present. Nearby properties that are at or above the subject site elevation may be evaluated due to the potential surface and subsurface water run-on to the subject site. A review of properties listed on Geotracker, a public available listing of properties under regulatory review due to environmental issues, was also performed.

Properties in the vicinity of the subject site were not discovered that could have an impact on the subject site. A property noted as the Encinitas Landfill (Maxson Street Landfill) is located less than half of a mile south of the subject site. This landfill has been closed since 1977 and was noted as having accepted non-hazardous waste material.

The vicinity property listings are provided in the radius report included in Appendix B, and may be reviewed for further information as desired.

5.4 Geologic Conditions

Based on the regional geologic map prepared by Kennedy and Tan (2007), the subject site is underlain by two separate formational contacts. One contact is located near the western perimeter of the subject site and includes Quaternary Very Old Paralic Deposits, Undivided Unit 10 from middle to early Pleistocene to the west northwest and Tertiary Torrey Sandstone from the middle Eocene to the east. A second contact is located near the eastern perimeter of the subject site and includes the Tertiary Torrey Sandstone to the west and Tertiary Del Mar Formation from the middle Eocene to the east.

A Geotechnical Investigation performed by CTE on April 20, 2018 encountered Quaternary Young Alluvium in areas of least gradient throughout the site extending to a maximum encountered depth of 9.3 feet below ground surface. Tertiary Torrey Sandstone and Tertiary Del Mar Formation were encountered in a manner that agrees with the Kennedy and Tan (2007) regional geologic map.

5.5 Surface Water

The property does not appear to be graded in most areas, but is generally inclined down to the southeast. The approximate 40 to 50 foot hill located in the southeast portion of the subject site is expected to divert the flow somewhat but discharge is still expected to occur mostly in the southeast corner of the subject site. The gradients of subject site vary greatly, but are generally gentle (<5%) in the northeast corner, steeper (5-15%) throughout the mid-portion of the subject site, and steepest (>15%) on the western portion of the subject site and on the hill in the southeast portion. Surface water run-off from the subject site occurs as both sheet flow and concentrated flow as is evident

from the conveyances that were observed naturally occurring throughout the subject site. Additionally, run-on to the subject site is expected to occur from properties throughout the northwest and west vicinity of the subject site. Storm water run-off from the site is disposed of offsite by either discharge to a controlled MS4 conveyance system southeast of the subject site prior to discharge into a natural water body and/or discharge into the nearest water body, which is Escondido Creek to the east.

5.6 Groundwater

Groundwater wells (monitoring or private) were not apparent on the subject site. Groundwater may be within 50 feet below ground surface on the subject site considering Escondido Creek is approximately a half of a mile east of the subject site. Groundwater is expected to be shallower in the lower elevation portions of the subject site. Groundwater data from nearby wells was not discovered in documents reviewed as part of this Phase 1 ESA. The Geotechnical Investigation performed by CTE on April 20, 2018 explored to a maximum depth of 9.3 feet below ground surface and groundwater was not encountered.

5.7 Historical Use Information on the Subject Property and Adjoining Properties

The following historical sources were utilized to prepare this Phase 1 ESA:

- Sanborn Fire Insurance Maps, attached in Appendix D
- Historical telephone directories, attached in Appendix E
- Historical aerial photographs, attached in Appendix F
- Historical topographic maps, attached in Appendix G

5.7.1 Sanborn Fire Insurance Maps

Historical Sanborn Fire Insurance Maps were not found to provide coverage of the subject site as per EDR's research of their records. The Sanborn Fire Insurance Maps search is provided in Appendix C.

5.7.2 Reverse Telephone Directories

The accessed EDR Reverse Telephone Directories did not list occupants of the subject site throughout the multiple years that were searched. A review of addresses in the vicinity of the subject site was also performed. Addresses in the vicinity of the subject site were searched but were not identified with uses that could affect the subject site. The reverse telephone directories are provided in Appendix D, and should be referenced for additional details as desired.

5.7.3 Historical Aerial Photographs

Historical aerial photographs dating back to 1939 were accessed by EDR. Following is a brief summary of the reviewed aerial photographs. The aerial photographs are provided in Appendix E, and should be referenced for additional details.

TABLE 5.7.3 SUMMARY NOTES AERIAL PHOTOGRAPHS	
Aerial Photograph Dates	Observations
1939, 1946, 1953, 1964	Subject site appears as mixed use. Western portion of the subject site appears as undeveloped native land. Eastern portion of the subject site appears as cleared for apparent agricultural purposes. Rancho Santa Fe Road observed east of the subject site. Undeveloped native land apparent in most areas north and south of the subject site while agriculture is present in most areas east and west of the subject site. Minimal developments in the vicinity are present by the 1964 photograph.
1966, 1970	Subject site appears mostly as it did previously. Vicinity properties become increasingly developed with apparent residential uses. There are now contiguous properties to the north and south of the subject site. Ranch View Terrace is now present as well.
1979, 1985, 1989, 1990, 1994, 1996, 2005, 2009, 2012, 2016	Agricultural use on the subject site is no longer apparent. The subject site appears mostly as it does presently. The narrow strip of land on the east end of the subject site may have been used as a portion of vicinity properties. Increased developments of residential houses and roadways in the vicinity throughout the years until appearing mostly as they do presently by the 2005 photograph.

5.7.4 Historical Topographic Maps

Historical topographic maps dating back to 1893 were accessed by EDR. Following is a brief summary of the reviewed topographic maps. The historical topographic maps are provided in Appendix F, and should be reference for additional details.

TABLE 5.7.4 SUMMARY NOTES TOPOGRAPHIC MAPS	
Topographic Map Dates	Observations
1893, 1901	Developments or roads are not mapped on the subject site. Multiple blocks of roads and some structures are mapped east of the subject site followed by a blue line creek. Minimal amount of roadways mapped west of the subject site. Based on contours, steeper terrain is apparent on the west end of the subject site and the gradient decreases towards the east end of the subject site.
1948, 1949, 1968	A blue line pond is apparent in the middle of the subject site. This pond is not confirmed from Historical Aerial Photographs. Street configuration of Rancho Santa Fe Road, 7th Street, and Ranch View Terrace are observed as they appear today by 1968. Elevation gradient is similar to that of previous topographic maps. 200' contour traverses through mid-section of the subject site in a north-south direction.
1983, 1996, 2012	Pond no longer apparent on the subject site. Streets and developments in the vicinity increase throughout the years. Contours around the subject site remain consistent.

6.0 SITE RECONNAISSANCE

The site reconnaissance was conducted on February 11, 2019 by Gregory Rzonca and Brandon Alderson, as representatives of CTE. Observations were taken of the site and nearby properties. Selected pictures taken during the site reconnaissance are attached as Appendix G.

6.1 Methodology and Limiting Conditions

The site reconnaissance consisted of walking the subject property and observing a representative amount of rooms within the buildings on the subject site. Additionally, the adjacent and nearby properties were observed from public vantages. The site location is shown on Figure 1 that also depicts the subject site limits.

6.2 Site Observations

The subject site was observed to be an undeveloped property that contained dense vegetation throughout. The northeast corner of the subject site was observed as a graded area covered with ice plants. A hill in the southeastern portion of the subject site contained a tall Eucalyptus tree grove. Other areas consisted primarily of a mixed native/introduced shrubs and bushes. Aside from the hill in the southeast portion, the subject site primarily sloped to the southeast increasing in gradient to the west. Areas of concentrated flow were observed traversing southeast through the middle of the subject site as apparent from eroded naturally made channels.

Small single person wide trails were observed in some areas of the subject site although many of them were overgrown with vegetation indicating use some time ago. Additionally, an area was observed with abandoned items indicative of possible site use for overnight stay. Neighboring

properties were observed contiguous on all sides of the subject site. Some of these properties were seen without bordering fences/walls to the subject site. Neighboring properties to the north and west were observed as above subject site elevation and could be sources of run-on to the subject site. Indications of hazardous substances or petroleum products were not observed from these properties. However, a data gap has occurred as not all of areas of the subject site could be observed due to the dense vegetative growth and steep terrain.

Selected pictures from the site reconnaissance are included in Appendix G.

6.2.1 Summary of Observations

The following table provides a summary of observed conditions. For conditions marked as "Observed or Noted" and/or "Significant Concern", a summary of the observations are provided following the table.

TABLE 6.2.1
SUMMARY OF SUBJECT SITE OBSERVATIONS

CONDITIONS	NOT OBSERVED OR NOTED	OBSERVED OR NOTED	SIGNIFICANT CONCERN
Hazardous Substances/Petroleum Products	X		
Waste Generation/Storage/Disposal	X		
ASTs	X		
USTs	X		
PCB Containing Equipment	X		
Chemical/Petroleum Odors	X		
Pools of Liquid	X		
Floor Drains/Sumps/Wells	X		

TABLE 6.2.1 SUMMARY OF SUBJECT SITE OBSERVATIONS			
Drums	X		
Stains or Corrosion	X		
Unidentified Substance Containers	X		
Stained Soil or Pavement	X		
Stressed Vegetation	X		
Pits, Ponds or Lagoons	X		
Wastewater Discharges/Disposal Systems	X		
Septic Systems/Cesspools	X		
Non-Hazardous Solid Waste Disposal Areas	X		
Drinking Water Systems	X		
Wells (private/monitoring)	X		
Other	X		

6.3 Vicinity Observations

The site reconnaissance was performed to evaluate potential environmental impacts to the subject property from adjacent and nearby properties. CTE's site observations are summarized in the following Table 6.3.

TABLE 6.3 SUMMARY OF VICINITY OBSERVATIONS	
Direction From Site	Observations
North	Ranch View Terrace and residential housing complexes as well as a church to the northeast.
East	Rancho Santa Fe Road followed by 7th Street and other residential housing complexes.
South	Residential housing complexes.
West	Steep hill inclining to the west followed by other residential housing complexes.

7.0 INTERVIEWS

As an undeveloped property, a key site manager was not identified for the subject site. As such interviews were not conducted as part of this Phase 1 ESA. This data gap is not unusual for unused properties such as the subject site, and is not expected to adversely affect the findings of this Phase 1 ESA.

8.0 FINDINGS AND OPINIONS

CTE has performed a Phase 1 Environmental Site Assessment in general conformance with the scope and limitations of ASTM E 1527-13 for the property addressed as APN 265-331-4900. The approximate property location is depicted on attached Figure 1. Exceptions and deviations to this practice are described in Section 2.4 and Section 10.0. Following are CTE's findings and opinions regarding potential environmental concerns at the subject site:

1) Run-on to the subject site is expected from neighboring properties to the west and northwest of the subject site. The properties in these areas are developed as residential and observations of hazardous substances or petroleum products were not noted from these areas that could be observed. Additionally, these properties were not observed on the databases searched as having contained hazardous substances or petroleum products in the past or present. Accordingly the run-on from these sites is not expected to pose a Recognized Environmental Condition on the subject site.
2) Identification of a nearby landfill was made within half of a mile south of the subject site. The landfill has been closed since 1977 and is at an elevation lower than the subject site. Groundwater is also not expected to flow in a direction from the landfill to the subject site.

Indications of contamination from the landfill were not made from the database documents searched. Due to a distance of greater than 1,000 feet from the subject site, soil vapors typically associated with landfills are not anticipated to reach the site. As such, this landfill is not expected to pose a Recognized Environmental Condition on the subject site.

3) Debris typically associated with past unsheltered housing was observed in an area on the subject site. Current habitation by such was not noted. Hazardous substances or petroleum products were not observed in this area. Possible past unsheltered use of the subject site is not expected to pose a Recognized Environmental Condition on the subject site.

4) From aerial photographs, the east portion of the subject site was apparently utilized for agricultural purposes in the past during a time frame when organochlorine pesticides (OCPs) such as DDT and DDE were utilized. OCPs take a considerable time to degrade under natural conditions. As such, there is a possibility for the presence of organochlorine pesticides (OCPs) within topsoil on properties where such historic pesticide application has occurred. The State of California and USEPA have established human health criteria for concentrations of OCPs. However, the presence of these pesticides is considered exempt as a Recognized Environmental Condition (REC) per ASTM E 1527-13 guidelines, provided the pesticides were applied as typical of agricultural properties. Further indications of the presence or misuse of pesticides were not discovered by this Phase 1 ESA.

9.0 CONCLUSIONS

CTE has performed a Phase 1 Environmental Site Assessment in general conformance with the scope and limitations of ASTM Practice E 1527-13 for the property at the proposed nine subdivision lot on Ranch View Terrace in Encinitas, California. Any exceptions to, or deviations from, this practice are described in Section 2.4 and Section 10.0 of this report.

The presence of environmental issues at the subject property was considered with respect to ASTM 1527-13 "Standard Practice for Environmental Site Assessments: Phase 1 Environmental Site Assessment Process". *ASTM E 1527-13* defines a *Recognized Environmental Condition (REC) as "—the presence or likely presence of any hazardous substances or petroleum products in, on or at a property: (1) due to 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."*

This assessment has revealed no evidence of *Recognized Environmental Conditions* in connection with the subject property.

10.0 DEVIATIONS

Areas of the subject site could not be observed due to dense vegetative growth throughout the subject site producing a data gap. The findings of this Phase 1 ESA indicate the data gap does not present an environmental issue to the subject site.

A key site manager was not available for an interview. However, the lack of such is not unusual for unused vacant land as the subject site. The lack of key site manager is not anticipated to impact the findings of this Phase 1 ESA.

The boundaries of the site respective to adjacent development were not clearly delineated in provided documents. Furthermore, boundary fences or markers do not appear to have been established on or adjacent to the site. As such a data gap respective to property limits has occurred. However, based upon observation of the site and adjacent properties this data gap is unlikely to affect the findings of this Phase 1 ESA.

11.0 ADDITIONAL SERVICES

Additional services were not conducted by CTE related to this Phase 1 ESA.

12.0 REFERENCES

ASTM (2013) "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process," Designation E 1527-13.

California State Water Resources Control Board website, "Geotracker," *(http://geotracker.waterboards.ca.gov/).*

Construction Testing & Engineering, Inc, "Limited Geotechnical Investigation and Update Report," April 20, 2018 (CTE Job #10-14212G).

Kennedy, M.P., and Tan S.S., (2008) *"*Geologic Map of the San Diego 30'X 60' Quadrangle, California," California Geological Survey, Regional Map No. 3.

12.0 SIGNATURES AND QUALIFICATIONS OF ENVIRONMENTAL PROFESSIONALS

This report is prepared by appropriately credentialed professionals with experience in preparing environmental site assessments in exceedance of ASTM E 1527-13 requirements. This report is

prepared in accordance with the standard of practice utilized by reputable consultants practicing in this area at the time of this report. No other warranties are expressed or implied. This report is prepared for Olivenhain Hills, LLC. No other parties may rely on this report without express written permission of Construction Testing and Engineering, Inc. and Olivenhain Hills, LLC.

Respectfully submitted,

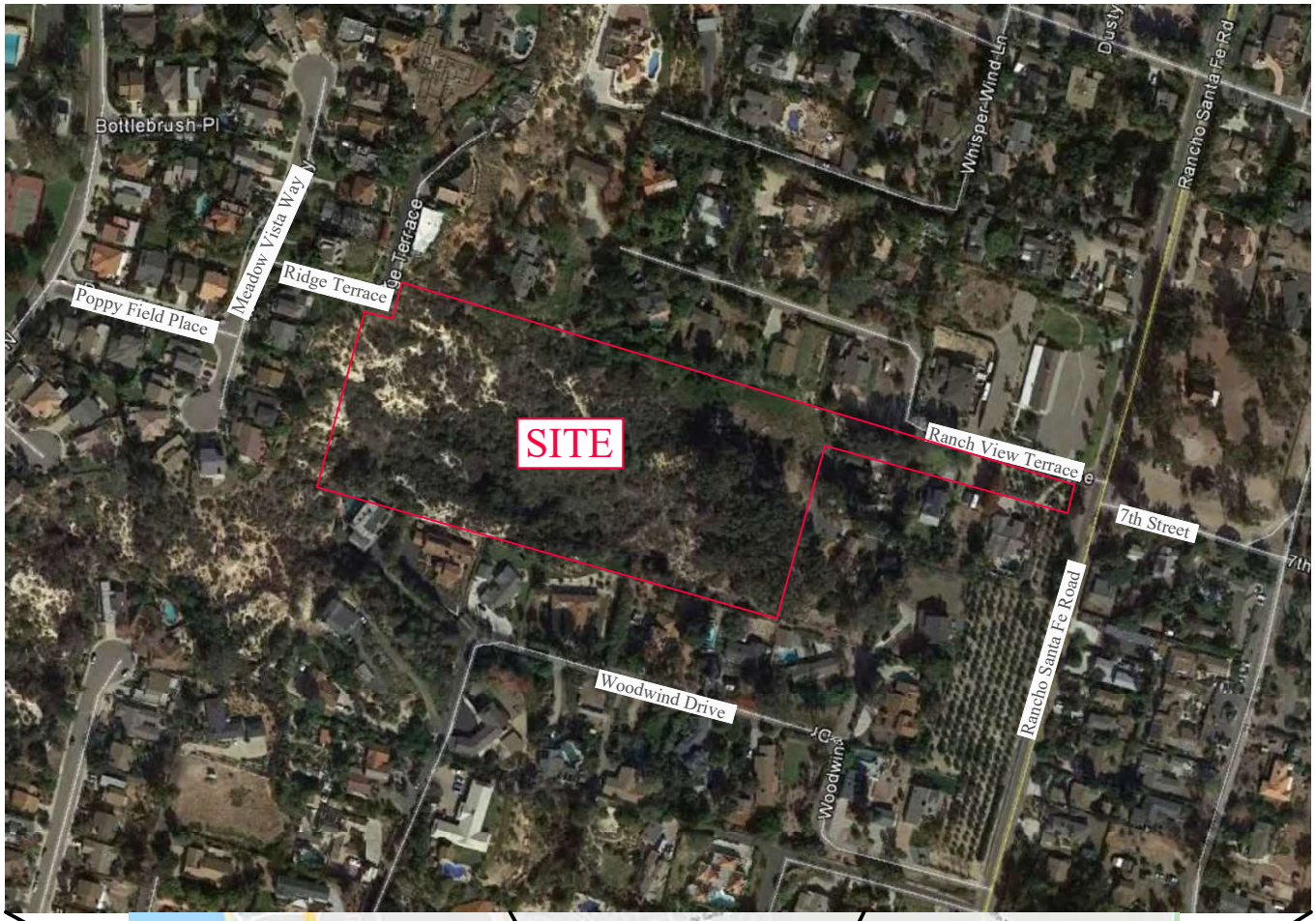
CONSTRUCTION TESTING & ENGINEERING, INC.

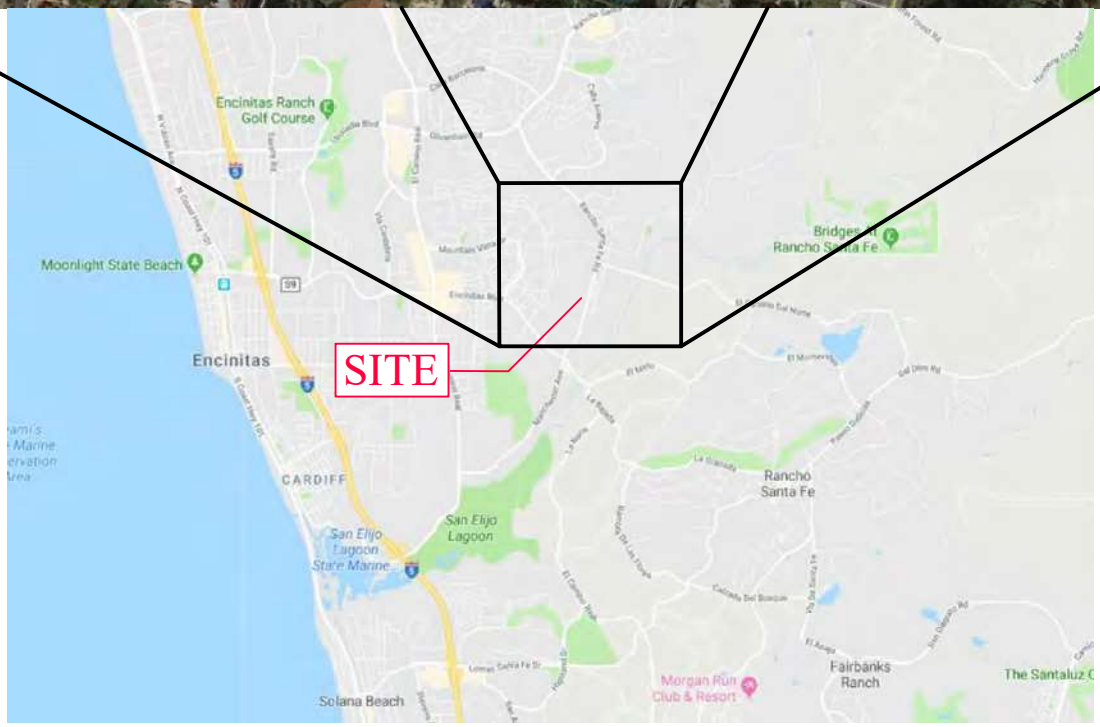
Dan T. Math, RCE #61013
Principal Engineer

Gregory F. Rzonca, CEG #1191
Senior Certified Engineering Geologist

BNA/GFR/DTM:nri

Distribution: Electronic to Olivenhain Hills, LLC (Attention Mr. Udi Melamed: udi@ermdevelopment.com)





Approximate property boundary location

CTE INC. Construction Testing & Engineering, Inc.
1441 Montiel Rd Ste 115, Escondido, CA 92026 Ph (760) 746-4955

SITE INDEX MAP
RANCH VIEW TERRACE EIGHT LOT SUBDIVISION
RANCH VIEW TERRACE
ENCINITAS, CALIFORNIA

SCALE:	DATE:
NONE	02/19
CTE JOB NO.: 10-14212E	FIGURE: 1

APPENDIX A

USER PROVIDED INFORMATION

Updated

First American Title Company

7676 Hazard Center Drive, Ste 1100
San Diego, CA 92108
California Department of Insurance License No. 151

Julie Wood
Great Pacific Escrow
6105 Paseo Delicias, Suite 3
Rancho Santa Fe, CA 92067
Phone: (858)756-1704
Fax: (858)224-1535

Customer Reference:	2253-JW
Order Number:	DIV-5297330 (04)
Title Officer:	Korey Mulvey
Phone:	(619)231-4670
Fax No.:	(877)648-8386
E-Mail:	titleunit4@firstam.com
Buyer:	ERM Development-West Corp.
Owner:	Stuart
Property:	Ranch View Terrace 49 Encinitas, CA 92024

PRELIMINARY REPORT

In response to the above referenced application for a policy of title insurance, this company hereby reports that it is prepared to issue, or cause to be issued, as of the date hereof, a Policy or Policies of Title Insurance describing the land and the estate or interest therein hereinafter set forth, insuring against loss which may be sustained by reason of any defect, lien or encumbrance not shown or referred to as an Exception below or not excluded from coverage pursuant to the printed Schedules, Conditions and Stipulations of said Policy forms.

The printed Exceptions and Exclusions from the coverage and Limitations on Covered Risks of said policy or policies are set forth in Exhibit A attached. *The policy to be issued may contain an arbitration clause. When the Amount of Insurance is less than that set forth in the arbitration clause, all arbitrable matters shall be arbitrated at the option of either the Company or the Insured as the exclusive remedy of the parties.* Limitations on Covered Risks applicable to the CLTA and ALTA Homeowner's Policies of Title Insurance which establish a Deductible Amount and a Maximum Dollar Limit of Liability for certain coverages are also set forth in Exhibit A. Copies of the policy forms should be read. They are available from the office which issued this report.

Please read the exceptions shown or referred to below and the exceptions and exclusions set forth in Exhibit A of this report carefully. The exceptions and exclusions are meant to provide you with notice of matters which are not covered under the terms of the title insurance policy and should be carefully considered.

It is important to note that this preliminary report is not a written representation as to the condition of title and may not list all liens, defects, and encumbrances affecting title to the land.

This report (and any supplements or amendments hereto) is issued solely for the purpose of facilitating the issuance of a policy of title insurance and no liability is assumed hereby. If it is desired that liability be assumed prior to the issuance of a policy of title insurance, a Binder or Commitment should be requested.

Dated as of April 26, 2018 at 7:30 A.M.

The form of Policy of title insurance contemplated by this report is:

ALTA/CLTA Homeowner's (EAGLE) Policy of Title Insurance (2010) and ALTA Ext Loan Policy 1056.06 (06-17-06) if the land described is an improved residential lot or condominium unit on which there is located a one-to-four family residence; or ALTA Standard Owner's Policy 2006 (WRE 06-17-06) and the ALTA Loan Policy 2006 (06-17-06) if the land described is an unimproved residential lot or condominium unit

A specific request should be made if another form or additional coverage is desired.

Title to said estate or interest at the date hereof is vested in:

Keith E. Stuart, George W. Stuart, III And Andrea Stuart, As Successor Cotrustees Of The Stuart 1976 Family Trust, Dated 5/24/1976, As Amended And Restated 8/31/2009, subject to exception no. 21

The estate or interest in the land hereinafter described or referred to covered by this Report is:

Fee

The Land referred to herein is described as follows:

(See attached Legal Description)

At the date hereof exceptions to coverage in addition to the printed Exceptions and Exclusions in said policy form would be as follows:

1. General and special taxes and assessments for the fiscal year 2018-2019, a lien not yet due or payable.

2. Assessment liens, if applicable, collected with the general and special taxes, including but not limited to those disclosed by the reflection of the following on the tax roll:

   1915 Bond for ASMNT DIST 96-1.

3. The lien of supplemental taxes, if any, assessed pursuant to Chapter 3.5 commencing with Section 75 of the California Revenue and Taxation Code.

4. The effect of a map purporting to show the land and other property, filed October 18, 1958 as Record of Survey Map No. 4807 of Record of Surveys.

5. The effect of a map purporting to show the land and other property, filed May 20, 1964 as Record of Survey Map No. 6407 of Record of Surveys.

6. An easement for road and public utilities and incidental purposes in the document recorded May 21, 1971 as Instrument No. 105642 of Official Records.

7. An easement for road, sewer, water, gas, power, telephone lines and incidental purposes in the document recorded June 03, 1971 as Instrument No. 115765 of Official Records.

   The location of the easement cannot be determined from record information.

8. An easement for road, sewer, water, gas, power, telephone lines and incidental purposes in the document recorded July 23, 1971 as Instrument No. 160231 of Official Records.

9. An easement for public utilities and incidental purposes in the document recorded August 03, 1971 as Instrument No. 170581 of Official Records.

10. An easement for road and public utilities and incidental purposes in the document recorded February 02, 1976 as Instrument No. 31576 of Official Records.

11. The effect of a map purporting to show the land and other property, filed September 23, 1976 as Parcel Map No. 5126 of Parcel Maps.

12. An easement for public utilities and incidental purposes in the document recorded December 14, 1976 as Instrument No. 418183 of Official Records.

13. The terms and provisions contained in the document entitled "Consent to Use Land" recorded March 30, 1992 as Instrument No. 92-179723 of Official Records.

14. The Terms, Provisions and Easement(s) contained in the document entitled "Notice of Intent to Preserve Easement" recorded March 30, 1992 as Instrument No. 92-179724 of Official Records.

    The location of the easement cannot be determined from record information.

15. An easement for underground communication facilities and appurtenances, pipelines and appurtenances and incidental purposes in the document recorded March 28, 2001 as Instrument No. 01-182048 of Official Records.

16. An option in favor of OLIVENHAIN HILLS LLC, A CALIFORNIA LIMITED LIABILITY COMPANY as contained in or disclosed by a document recorded March 29, 2018 as INSTRUMENT NO. 18-126665 of Official Records.

17. Any facts, rights, interests, or claims that may exist or arise due to the following matters as disclosed by a survey location plat as provided to this company:

    Encroachments of a wood deck, pool, brick patio, house, block wall, steps, wood patio, chain link fence, concrete pad and shed onto said land from the property located to the south.

18. Any defects, liens, encumbrances or other matters which name parties with the same or similar names as George W. Stuart (One Matter). The name search necessary to ascertain the existence of such matters has not been completed. In order to complete this preliminary report or commitment, we will require a statement of information.

19. Water rights, claims or title to water, whether or not shown by the public records.

20. Rights of the public in and to that portion of the land lying within any Road, Street, Alley or Highway.

Prior to the issuance of any policy of title insurance, the Company will require:

21. With respect to the trust referred to in the vesting:
a. A certification pursuant to Section 18100.5 of the California Probate Code in a form satisfactory to the Company.
b. Copies of those excerpts from the original trust documents and amendments thereto which designate the trustee and confer upon the trustee the power to act in the pending transaction.
c. Other requirements which the Company may impose following its review of the material required herein and other information which the Company may require.

INFORMATIONAL NOTES

Note: The policy to be issued may contain an arbitration clause. When the Amount of Insurance is less than the certain dollar amount set forth in any applicable arbitration clause, all arbitrable matters shall be arbitrated at the option of either the Company or the Insured as the exclusive remedy of the parties. If you desire to review the terms of the policy, including any arbitration clause that may be included, contact the office that issued this Commitment or Report to obtain a sample of the policy jacket for the policy that is to be issued in connection with your transaction.

1. General and special taxes and assessments for the fiscal year 2017-2018.

First Installment:	$3,234.12, PAID
Penalty:	$0.00
Second Installment:	$3,234.12, PAID
Penalty:	$0.00
Tax Rate Area:	19102
A. P. No.:	265-331-49-00

2. The property covered by this report is vacant land.

3. According to the public records, there has been no conveyance of the land within a period of twenty-four months prior to the date of this report, except as follows:

   None

4. We find no open deeds of trust. Escrow please confirm before closing.

   NOTE to proposed insured lender only: No Private transfer fee covenant, as defined in Federal Housing Finance Agency Final Rule 12 CFR Part 1228, that was created and first appears in the Public Records on or after February 8, 2011, encumbers the Title except as follows: None

The map attached, if any, may or may not be a survey of the land depicted hereon. First American expressly disclaims any liability for loss or damage which may result from reliance on this map except to the extent coverage for such loss or damage is expressly provided by the terms and provisions of the title insurance policy, if any, to which this map is attached.

LEGAL DESCRIPTION

Real property in the City of Encinitas, County of San Diego, State of California, described as follows:

THAT PORTION OF LOT 94 OF COLONY OLIVENHAIN, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 326, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, AND OF LOT 27 OF RANCHO LAS ENCINITAS, ACCORDING TO MAP THEREOF NO. 848, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, TOGETHER WITH PORTIONS OF B AND C STREETS, SAN DIEGO AVENUE AND OF THE SOUTH HALF OF 7TH STREET AS SHOWN ON SAID MAPS, DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT IN THE WESTERLY LINE OF LOT 30 OF SAID MAP NO. 326 DISTANT THEREON NORTH 15° 03' 50" EAST 361.69 FEET FROM THE SOUTHWESTERLY CORNER OF SAID LOT 30; THENCE NORTH 15° 03' 50" EAST ALONG SAID WESTERLY LINE TO THE NORTHWESTERLY CORNER OF SAID LOT 30; THENCE SOUTH 73° 21' EAST ALONG THE NORTHERLY LINE OF SAID LOT 30 TO THE NORTHEASTERLY CORNER THEREOF; THENCE NORTH 15° 04' EAST ALONG THE NORTHERLY PROLONGATION OF THE EASTERLY LINE OF SAID LOT 30 A DISTANCE OF 40.00 FEET TO THE CENTER LINE OF SAID 7TH STREET; THENCE ALONG SAID CENTER LINE AND THE WESTERLY PROLONGATION THEREOF NORTH 73° 21' WEST TO THE CENTER LINE OF SAID SAN DIEGO AVENUE; THENCE SOUTH 15° 03' 50" WEST ALONG SAID CENTER LINE AND THE SOUTHERLY PROLONGATION THEREOF TO A POINT IN A LINE WHICH BEARS NORTH 73° 21' WEST PARALLEL WITH SAID WESTERLY PROLONGATION OF 7TH STREET FROM THE TRUE POINT OF BEGINNING; THENCE SOUTH 73° 21' EAST ALONG SAID PARALLEL LINE TO THE TRUE POINT OF BEGINNING.

EXCEPTING THEREFROM THAT PORTION DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT IN THE WESTERLY LINE OF LOT 30 OF SAID MAP 326 DISTANT THEREON NORTH 15° 03' 50" EAST 361.69 FEET FROM THE SOUTHWESTERLY CORNER OF SAID LOT 30; THENCE NORTH 15° 03' 50" EAST ALONG SAID WESTERLY LINE TO THE NORTHWESTERLY CORNER OF SAID LOT 30' AND THE TRUE POINT OF BEGINNING; THENCE NORTH 73° 21' WEST ALONG THE WESTERLY PROLONGATION OF THE NORTHERLY LINE OF SAID LOT 30, A DISTANCE OF 155 FEET; THENCE PARALLEL WITH SAID WESTERLY LINE SOUTH 15° 03' 50" WEST 142 FEET; THENCE SOUTH 73° 21' EAST 155 FEET TO SAID WESTERLY LINE; THENCE NORTH 15° 03' 50" EAST 142 FEET TO THE TRUE POINT OF BEGINNING.

ALSO EXCEPTING THEREFROM THAT PORTION DESCRIBED AS FOLLOWS:

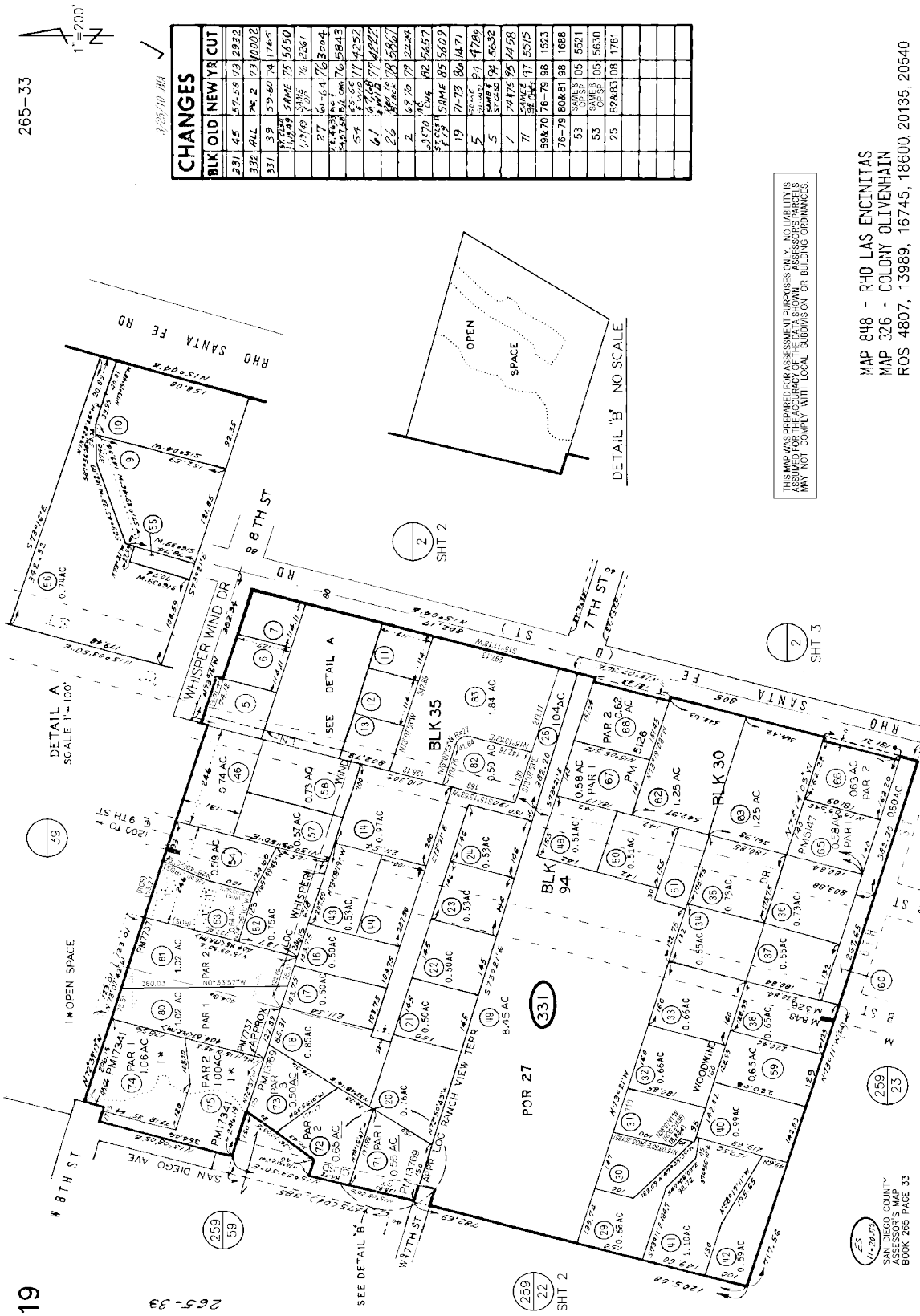
BEGINNING AT THE NORTHWESTERLY CORNER OF SAID LOT 30; THENCE SOUTH 15° 03' 50" WEST ALONG THE WESTERLY LINE OF SAID LOT A DISTANCE OF 142.00 FEET TO THE TRUE POINT OF BEGINNING; THENCE CONTINUING SOUTH 15° 03' 50" WEST 142.00 FEET; THENCE NORTH 73° 21' WEST ALONG A LINE PARALLEL WITH THE WESTERLY PROLONGATION OF THE NORTHERLY LINE OF SAID LOT 30 A DISTANCE OF 155 FEET; THENCE PARALLEL WITH SAID WESTERLY LINE NORTH 15° 03' 50" EAST 142 FEET; THENCE SOUTH 73° 21' EAST 155 FEET TO THE TRUE POINT OF BEGINNING.

AND ALSO EXCEPTING THEREFROM THAT PORTION DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHWESTERLY CORNER OF SAID LOT 30' THENCE SOUTH 15° 03' 30" WEST ALONG THE WESTERLY LINE OF SAID LOT 284.00 FEET TO THE TRUE POINT OF BEGINNING; THENCE CONTINUING SOUTH 15° 03' 50" WEST TO A POINT DISTANT THEREON

NORTH 15° 03' 50" EAST 361.69 FEET FROM THE SOUTHWEST CORNER OF SAID LOT 30; THENCE NORTH 73° 21' WEST 185.00 FEET; THENCE PARALLEL WITH THE WESTERLY LINE OF SAID LOT 30 TO A LINE THAT BEARS NORTH 73° 21' WEST FROM THE TRUE POINT OF BEGINNING; THENCE SOUTH 73° 21' EAST 185.00 FEET TO THE TRUE POINT OF BEGINNING.

APN: 265-331-49-00


265-33
1"=200'
CHANGES
BLK OLD NEW YR CUT
331 45 57-58 73 2932
332 ALL PR 2 73 10002
331 39 59-60 74 1765
SAME 75 5650
SAME 76 2261
27 61-64 76 3004
76 5843
54 77 4252
61 77 4222
26 78 5867
2 69 70 79 2224
SAME 82 5657
SAME 85 5609
19 71-73 86 1471
5 94 4789
5 94 5632
1 74&75 95 1458
71 97 5515
69&70 76-79 98 1523
76-79 80&81 98 1688
53 SAME & OP SP 05 5521
53 SAME & OP SP 05 5630
25 82&83 08 1761
THIS MAP WAS PREPARED FOR ASSESSMENT PURPOSES ONLY. NO LIABILITY IS ASSUMED FOR THE ACCURACY OF THE DATA SHOWN. ASSESSOR'S PARCELS MAY NOT COMPLY WITH LOCAL SUBDIVISION OR BUILDING ORDINANCES.
MAP 848 - RHO LAS ENCINITAS
MAP 326 - COLONY OLIVENHAIN
ROS 4807, 13989, 16745, 18600, 20135, 20540
DETAIL "B" NO SCALE
OPEN SPACE
DETAIL A
SCALE 1"=100'
RHO SANTA FE RD
8TH ST
7TH ST
WHISPER WIND DR
SEE DETAIL A
BLK 35
BLK 30
BLK 94
POR 27
331
SHT 2
SHT 3
SAN DIEGO AVE
W 8TH ST
W 7TH ST
SEE DETAIL "B"
LOC RANCH VIEW TERR
1* OPEN SPACE
SAN DIEGO COUNTY ASSESSOR'S MAP BOOK 265 PAGE 33
19
265-33

NOTICE

Section 12413.1 of the California Insurance Code, effective January 1, 1990, requires that any title insurance company, underwritten title company, or controlled escrow company handling funds in an escrow or sub-escrow capacity, wait a specified number of days after depositing funds, before recording any documents in connection with the transaction or disbursing funds. This statute allows for funds deposited by wire transfer to be disbursed the same day as deposit. In the case of cashier's checks or certified checks, funds may be disbursed the next day after deposit. In order to avoid unnecessary delays of three to seven days, or more, please use wire transfer, cashier's checks, or certified checks whenever possible.

First American Title

First American Title Company
7676 Hazard Center Drive, Ste 1100
San Diego, CA 92108
(619)238-1776

WIRE INSTRUCTIONS
for
First American Title Company, Demand/Draft Sub-Escrow Deposits
San Diego County, California

PAYABLE TO: First American Title Company

BANK: **First American Trust, FSB**

ADDRESS: 5 First American Way, Santa Ana, CA 92707

ACCOUNT NO: 3008270000

ROUTING NUMBER: 122241255

PLEASE REFERENCE THE FOLLOWING:
PROPERTY: Ranch View Terrace 49, Encinitas, CA 92024

FILE NUMBER: DIV-5297330 (04)

PLEASE USE THE ABOVE INFORMATION WHEN WIRING FUNDS TO **First American Title Company**. **FUNDS MUST BE WIRED FROM A BANK WITHIN THE UNITED STATES.** PLEASE NOTIFY **Korey Mulvey** AT **(619)231-4670** OR **kmulvey@firstam.com** WHEN YOU HAVE TRANSMITTED YOUR WIRE.

IF YOUR FUNDS ARE BEING WIRED FROM A NON-U.S. BANK, ADDITIONAL CHARGES MAY APPLY. PLEASE CONTACT YOUR ESCROW OFFICER/CLOSER FOR INTERNATIONAL WIRING INSTRUCTIONS.

AN ACH TRANSFER CANNOT BE ACCEPTED FOR CLOSING, BECAUSE IT IS NOT THE SAME AS A WIRE AND REQUIRES ADDITIONAL TIME FOR CLEARANCE.

FIRST AMERICAN TRUST CONTACT INFO: Banking Services 1-877-600-9473

ALL WIRES WILL BE RETURNED IF THE FILE NUMBER AND/OR PROPERTY REFERENCE ARE NOT INCLUDED

With cyber crimes on the increase, it is important to be ever vigilant. If you receive an e-mail or any other communication that appears to be generated from a First American employee that contains new, revised or altered bank wire instructions, consider it suspect and call our office at a number you trust. Our bank wire instructions seldom change.

EXHIBIT A
LIST OF PRINTED EXCEPTIONS AND EXCLUSIONS (BY POLICY TYPE)

CLTA STANDARD COVERAGE POLICY – 1990

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance or governmental regulation (including but not limited to building or zoning laws, ordinances, or regulations) restricting, regulating, prohibiting or relating (i) the occupancy, use, or enjoyment of the land; (ii) the character, dimensions or location of any improvement now or hereafter erected on the land; (iii) a separation in ownership or a change in the dimensions or area of the land or any parcel of which the land is or was a part; or (iv) environmental protection, or the effect of any violation of these laws, ordinances or governmental regulations, except to the extent that a notice of the enforcement thereof or a notice of a defect, lien, or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.

   (b) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
2. Rights of eminent domain unless notice of the exercise thereof has been recorded in the public records at Date of Policy, but not excluding from coverage any taking which has occurred prior to Date of Policy which would be binding on the rights of a purchaser for value without knowledge.
3. Defects, liens, encumbrances, adverse claims or other matters:
   (a) whether or not recorded in the public records at Date of Policy, but created, suffered, assumed or agreed to by the insured claimant;
   (b) not known to the Company, not recorded in the public records at Date of Policy, but known to the insured claimant and not disclosed in writing to the Company by the insured claimant prior to the date the insured claimant became an insured under this policy;
   (c) resulting in no loss or damage to the insured claimant;
   (d) attaching or created subsequent to Date of Policy; or
   (e) resulting in loss or damage which would not have been sustained if the insured claimant had paid value for the insured mortgage or for the estate or interest insured by this policy.
4. Unenforceability of the lien of the insured mortgage because of the inability or failure of the insured at Date of Policy, or the inability or failure of any subsequent owner of the indebtedness, to comply with the applicable doing business laws of the state in which the land is situated.
5. Invalidity or unenforceability of the lien of the insured mortgage, or claim thereof, which arises out of the transaction evidenced by the insured mortgage and is based upon usury or any consumer credit protection or truth in lending law.
6. Any claim, which arises out of the transaction vesting in the insured the estate of interest insured by this policy or the transaction creating the interest of the insured lender, by reason of the operation of federal bankruptcy, state insolvency or similar creditors' rights laws.

EXCEPTIONS FROM COVERAGE - SCHEDULE B, PART I

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records.
   Proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the public, records.
2. Any facts, rights, interests, or claims which are not shown by the public records but which could be ascertained by an inspection of the land or which may be asserted by persons in possession thereof.
3. Easements, liens or encumbrances, or claims thereof, not shown by the public records.
4. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by the public records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b) or (c) are shown by the public records.
6. Any lien or right to a lien for services, labor or material not shown by the public records.

CLTA/ALTA HOMEOWNER'S POLICY OF TITLE INSURANCE (12-02-13)

EXCLUSIONS

In addition to the Exceptions in Schedule B, You are not insured against loss, costs, attorneys' fees, and expenses resulting from:

1. Governmental police power, and the existence or violation of those portions of any law or government regulation concerning:
   a. building;
   b. zoning;
   c. land use;
   d. improvements on the Land;
   e. land division; and
   f. environmental protection.

   This Exclusion does not limit the coverage described in Covered Risk 8.a., 14, 15, 16, 18, 19, 20, 23 or 27.
2. The failure of Your existing structures, or any part of them, to be constructed in accordance with applicable building codes. This Exclusion does not limit the coverage described in Covered Risk 14 or 15.
3. The right to take the Land by condemning it. This Exclusion does not limit the coverage described in Covered Risk 17.
4. Risks:
   a. that are created, allowed, or agreed to by You, whether or not they are recorded in the Public Records;
   b. that are Known to You at the Policy Date, but not to Us, unless they are recorded in the Public Records at the Policy Date;
   c. that result in no loss to You; or
   d. that first occur after the Policy Date - this does not limit the coverage described in Covered Risk 7, 8.e., 25, 26, 27 or 28.
5. Failure to pay value for Your Title.
6. Lack of a right:
   a. to any land outside the area specifically described and referred to in paragraph 3 of Schedule A; and
   b. in streets, alleys, or waterways that touch the Land.

   This Exclusion does not limit the coverage described in Covered Risk 11 or 21.
7. The transfer of the Title to You is invalid as a preferential transfer or as a fraudulent transfer or conveyance under federal bankruptcy, state insolvency, or similar creditors' rights laws.
8. Contamination, explosion, fire, flooding, vibration, fracturing, earthquake, or subsidence.
9. Negligence by a person or an Entity exercising a right to extract or develop minerals, water, or any other substances.

LIMITATIONS ON COVERED RISKS

Your insurance for the following Covered Risks is limited on the Owner's Coverage Statement as follows:
For Covered Risk 16, 18, 19, and 21 Your Deductible Amount and Our Maximum Dollar Limit of Liability shown in Schedule A.
The deductible amounts and maximum dollar limits shown on Schedule A are as follows:

	Your Deductible Amount	Our Maximum Dollar Limit of Liability
Covered Risk 16:	1% of Policy Amount Shown in Schedule A or $2,500 (whichever is less)	$10,000
Covered Risk 18:	1% of Policy Amount Shown in Schedule A or $5,000 (whichever is less)	$25,000
Covered Risk 19:	1% of Policy Amount Shown in Schedule A or $5,000 (whichever is less)	$25,000
Covered Risk 21:	1% of Policy Amount Shown in Schedule A or $2,500 (whichever is less)	$5,000

2006 ALTA LOAN POLICY (06-17-06)

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   (i) the occupancy, use, or enjoyment of the Land;

(ii) the character, dimensions, or location of any improvement erected on the Land;

(iii) the subdivision of land; or

(iv) environmental protection;

or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.

(b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.

2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters

(a) created, suffered, assumed, or agreed to by the Insured Claimant;

(b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;

(c) resulting in no loss or damage to the Insured Claimant;

(d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 13, or 14); or

(e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.

4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business laws of the state where the Land is situated.
5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury or any consumer credit protection or truth-in-lending law.
6. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is

(a) a fraudulent conveyance or fraudulent transfer, or

(b) a preferential transfer for any reason not stated in Covered Risk 13(b) of this policy.

7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the Insured Mortgage in the Public Records. This Exclusion does not modify or limit the coverage provided under Covered Risk 11(b).

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

EXCEPTIONS FROM COVERAGE

[Except as provided in Schedule B - Part II,[t[or T]his policy does not insure against loss or damage, and the Company will not pay costs, attorneys' fees or expenses, that arise by reason of:

[PART I

[The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.
2. Any facts, rights, interests, or claims that are not shown by the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the land.
3. Easements, liens or encumbrances, or claims thereof, not shown by the Public Records.
4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and not shown by the Public Records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b), or (c) are shown by the Public Records.
6. Any lien or right to a lien for services, labor or material not shown by the public records.]

PART II

In addition to the matters set forth in Part I of this Schedule, the Title is subject to the following matters, and the Company insures against loss or damage sustained in the event that they are not subordinate to the lien of the Insured Mortgage:]

2006 ALTA OWNER'S POLICY (06-17-06)

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to

(i) the occupancy, use, or enjoyment of the Land;

(ii) the character, dimensions, or location of any improvement erected on the Land;

(iii) the subdivision of land; or

(iv) environmental protection;

or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.

(b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.

2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters

(a) created, suffered, assumed, or agreed to by the Insured Claimant;

(b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;

(c) resulting in no loss or damage to the Insured Claimant;

(d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 9 or 10); or

(e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Title.

4. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction vesting the Title as shown in Schedule A, is

(a) a fraudulent conveyance or fraudulent transfer, or

(b) a preferential transfer for any reason not stated in Covered Risk 9 of this policy.

5. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the deed or other instrument of transfer in the Public Records that vests Title as shown in Schedule A.

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

EXCEPTIONS FROM COVERAGE

This policy does not insure against loss or damage, and the Company will not pay costs, attorneys' fees or expenses, that arise by reason of:

[The above policy form may be issued to afford ither Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.
2. Any facts, rights, interests, or claims that are not shown by the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.
3. Easements, liens or encumbrances, or claims thereof, not shown by the Public Records.
4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and not shown by the Public Records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b), or (c) are shown by the Public Records.
6. Any lien or right to a lien for services, labor or material not shown by the Public Records.
7. [Variable exceptions such as taxes, easements, CC&R's, etc. shown here.]

ALTA EXPANDED COVERAGE RESIDENTIAL LOAN POLICY (12-02-13)

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to

(i) the occupancy, use, or enjoyment of the Land;

(ii) the character, dimensions, or location of any improvement erected on the Land;

(iii) the subdivision of land; or

(iv) environmental protection;

or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5, 6, 13(c), 13(d), 14 or 16.

(b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 5, 6, 13(c), 13(d), 14 or 16.

2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters

   (a) created, suffered, assumed, or agreed to by the Insured Claimant;

   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;

   (c) resulting in no loss or damage to the Insured Claimant;

   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 16, 17, 18, 19, 20, 21, 22, 23, 24, 27 or 28); or

   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.
4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business laws of the state where the Land is situated.
5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury or any consumer credit protection or truth-in-lending law. This Exclusion does not modify or limit the coverage provided in Covered Risk 26.
6. Any claim of invalidity, unenforceability or lack of priority of the lien of the Insured Mortgage as to Advances or modifications made after the Insured has Knowledge that the vestee shown in Schedule A is no longer the owner of the estate or interest covered by this policy. This Exclusion does not modify or limit the coverage provided in Covered Risk 11.
7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching subsequent to Date of Policy. This Exclusion does not modify or limit the coverage provided in Covered Risk 11(b) or 25.
8. The failure of the residential structure, or any portion of it, to have been constructed before, on or after Date of Policy in accordance with applicable building codes. This Exclusion does not modify or limit the coverage provided in Covered Risk 5 or 6.
9. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is

   (a) a fraudulent conveyance or fraudulent transfer, or

   (b) a preferential transfer for any reason not stated in Covered Risk 27(b) of this policy.
10. Contamination, explosion, fire, flooding, vibration, fracturing, earthquake, or subsidence.
11. Negligence by a person or an Entity exercising a right to extract or develop minerals, water, or any other substances.

First American Title

Privacy Information
We Are Committed to Safeguarding Customer Information
In order to better serve your needs now and in the future, we may ask you to provide us with certain information. We understand that you may be concerned about what we will do with such information - particularly any personal or financial information. We agree that you have a right to know how we will utilize the personal information you provide to us. Therefore, together with our subsidiaries we have adopted this Privacy Policy to govern the use and handling of your personal information.

Applicability
This Privacy Policy governs our use of the information that you provide to us. It does not govern the manner in which we may use information we have obtained from any other source, such as information obtained from a public record or from another person or entity. First American has also adopted broader guidelines that govern our use of personal information regardless of its source. First American calls these guidelines its Fair Information Values.

Types of Information
Depending upon which of our services you are utilizing, the types of nonpublic personal information that we may collect include:
- Information we receive from you on applications, forms and in other communications to us, whether in writing, in person, by telephone or any other means;
- Information about your transactions with us, our affiliated companies, or others; and
- Information we receive from a consumer reporting agency.

Use of Information
We request information from you for our own legitimate business purposes and not for the benefit of any nonaffiliated party. Therefore, we will not release your information to nonaffiliated parties except: (1) as necessary for us to provide the product or service you have requested of us; or (2) as permitted by law. We may, however, store such information indefinitely, including the period after which any customer relationship has ceased. Such information may be used for any internal purpose, such as quality control efforts or customer analysis. We may also provide all of the types of nonpublic personal information listed above to one or more of our affiliated companies. Such affiliated companies include financial service providers, such as title insurers, property and casualty insurers, and trust and investment advisory companies, or companies involved in real estate services, such as appraisal companies, home warranty companies and escrow companies. Furthermore, we may also provide all the information we collect, as described above, to companies that perform marketing services on our behalf, on behalf of our affiliated companies or to other financial institutions with whom we or our affiliated companies have joint marketing agreements.

Former Customers
Even if you are no longer our customer, our Privacy Policy will continue to apply to you.

Confidentiality and Security
We will use our best efforts to ensure that no unauthorized parties have access to any of your information. We restrict access to nonpublic personal information about you to those individuals and entities who need to know that information to provide products or services to you. We will use our best efforts to train and oversee our employees and agents to ensure that your information will be handled responsibly and in accordance with this Privacy Policy and First American's Fair Information Values. We currently maintain physical, electronic, and procedural safeguards that comply with federal regulations to guard your nonpublic personal information.

Information Obtained Through Our Web Site
First American Financial Corporation is sensitive to privacy issues on the Internet. We believe it is important you know how we treat the information about you we receive on the Internet.
In general, you can visit First American or its affiliates' Web sites on the World Wide Web without telling us who you are or revealing any information about yourself. Our Web servers collect the domain names, not the e-mail addresses, of visitors. This information is aggregated to measure the number of visits, average time spent on the site, pages viewed and similar information. First American uses this information to measure the use of our site and to develop ideas to improve the content of our site.
There are times, however, when we may need information from you, such as your name and email address. When information is needed, we will use our best efforts to let you know at the time of collection how we will use the personal information. Usually, the personal information we collect is used only by us to respond to your inquiry, process an order or allow you to access specific account/profile information. If you choose to share any personal information with us, we will only use it in accordance with the policies outlined above.

Business Relationships
First American Financial Corporation's site and its affiliates' sites may contain links to other Web sites. While we try to link only to sites that share our high standards and respect for privacy, we are not responsible for the content or the privacy practices employed by other sites.

Cookies
Some of First American's Web sites may make use of "cookie" technology to measure site activity and to customize information to your personal tastes. A cookie is an element of data that a Web site can send to your browser, which may then store the cookie on your hard drive.
FirstAm.com uses stored cookies. The goal of this technology is to better serve you when visiting our site, save you time when you are here and to provide you with a more meaningful and productive Web site experience.

Fair Information Values
Fairness We consider consumer expectations about their privacy in all our businesses. We only offer products and services that assure a favorable balance between consumer benefits and consumer privacy.
Public Record We believe that an open public record creates significant value for society, enhances consumer choice and creates consumer opportunity. We actively support an open public record and emphasize its importance and contribution to our economy.
Use We believe we should behave responsibly when we use information about a consumer in our business. We will obey the laws governing the collection, use and dissemination of data.
Accuracy We will take reasonable steps to help assure the accuracy of the data we collect, use and disseminate. Where possible, we will take reasonable steps to correct inaccurate information. When, as with the public record, we cannot correct inaccurate information, we will take all reasonable steps to assist consumers in identifying the source of the erroneous data so that the consumer can secure the required corrections.
Education We endeavor to educate the users of our products and services, our employees and others in our industry about the importance of consumer privacy. We will instruct our employees on our fair information values and on the responsible collection and use of data. We will encourage others in our industry to collect and use information in a responsible manner.
Security We will maintain appropriate facilities and systems to protect against unauthorized access to and corruption of the data we maintain.

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SELLER VACANT LAND QUESTIONNAIRE

(C.A.R. Form VLQ, 11/12)

I. Seller makes the following disclosures with regard to the real property described as 2 Vacant lots, Ranch View Terrace, APN 265-331-2600, Assessor's Parcel No. 265-331-2600+4900 situated in Encinitas, County of San Diego, California ("Property").

II. **The following are representations made by the Seller. Unless otherwise specified in writing, Broker and any real estate licensee or other person working with or through Broker have not verified information provided by Seller. A real estate broker is qualified to advise on real estate transactions. If Seller or Buyer desire legal advice, they should consult an attorney.**

III. **Note to Seller:** PURPOSE: To tell the Buyer about known material or significant items affecting the value or desirability of the Property and help to eliminate misunderstandings about the condition of the Property.

- Answer based on actual knowledge and recollection at this time.
- Something that you do not consider material or significant may be perceived differently by a Buyer.
- Think about what you would want to know if you were buying the Property today.
- Read the questions carefully and take your time.

IV. **Note to Buyer:** PURPOSE: To give you more information about known material or significant items affecting the value or desirability of the Property and help to eliminate misunderstandings about the condition of the Property.

- Something that may be material or significant to you, may not be perceived the same way by the Seller.
- If something is important to you, be sure to put your concerns and questions in writing (C.A.R. Form BMI).
- Sellers can only disclose what they actually know. Seller may not know about all material or significant items.
- Seller's disclosures are not a substitute for your own investigations, personal judgments or common sense.

V. **SELLER AWARENESS: For each statement below, answer the question "Are you (Seller) aware of..." by checking either "Yes" or "No." Provide explanations to answers in the space provided or attach additional comments and check section VI.**

BOUNDARIES, ACCESS AND PROPERTY USE BY OTHERS:	ARE YOU (SELLER) AWARE OF...
1. Surveys, markers, stakes, pins or maps showing the location of the Property	☐ Yes ☑ No
2. Any unrecorded easement, encroachment or other dispute, maintenance or use agreement affecting access to, or the boundaries of, the Property	☑ Yes ☐ No
3. Use of the Property, or any part of it, by anyone other than you, with or without permission, for any purpose, including but not limited to, using or maintaining roads, driveways or other forms of ingress or egress, or other travel or drainage	☑ Yes ☐ No
4. Leases, rental agreements, service contracts, licenses, permits or related agreements regarding use of the Property by others	☐ Yes ☑ No
5. Use of any neighboring property by you	☐ Yes ☑ No
6. The absence or limitation of legal or physical access to the Property	☐ Yes ☑ No

Explanation: (2) LOOKS LIKE NEIGHBORS AT APN # 265-331-29 WINWARD DR. ARE ENCROACHING WITH THEIR HOUSE & POOL

(3) RANCH VIEW TERRACE IS USED BY RESIDENCES TO ACCESS THEIR HOMES

GEOLOGIC CONDITIONS AND ENVIRONMENTAL HAZARDS:	ARE YOU (SELLER) AWARE OF...
7. Fill (compacted or otherwise), soil instability, caves, mines, caverns, or slippage on the Property	☐ Yes ☑ No
8. Radon, methane or other gases, contaminated soil or water, hazardous waste, or waste disposal sites on the Property	☐ Yes ☑ No
9. Fuel, oil or chemical storage tanks above or underground	☐ Yes ☑ No
10. Past or present treatment or eradication of pests or odors	☐ Yes ☑ No

Explanation: _____

Buyer's Initials (DS) (_____)

Seller's Initials (DS) (DS)

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Reviewed by _____ Date _____

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Property Address: 2 Vacant lots, Ranch View Terrace, APN 265-331-2600 and 265-331-4900, Encinitas, Ca 92024 Date: _____

GOVERNMENTAL: ARE YOU (SELLER) AWARE OF...

11. Agricultural use restrictions pursuant to the Williamson Act or other law — ☐ Yes ☒ No
12. Whether the Property is in or adjacent to an area with Right to Farm rights — ☐ Yes ☒ No
13. Presence of any endangered, threatened, "candidate" species, wetlands, historic artifacts or human remains on the Property — ☒ Yes ☐ No
14. Any protected habitat for plants, trees, animals or insects that apply to or could affect the Property — ☒ Yes ☐ No
15. Conditions or laws that may affect the ability to place and/or use a manufactured home on the Property — ☐ Yes ☒ No
16. Special taxes pursuant to the Mello -Roos Community Facilities Act, Improvement Bond Act of 1915 or other law — ☐ Yes ☒ No
17. Ongoing or contemplated eminent domain, condemnation, annexation or change in zoning or general plan that apply to or could affect the Property — ☐ Yes ☒ No
18. Existence or pendency of any rent control, occupancy restrictions or retrofit requirements that apply to or could affect the Property — ☐ Yes ☒ No
19. Existing or contemplated building or use moratorium that apply to or could affect the Property — ☐ Yes ☒ No
20. Current or proposed bonds, assessments, or fees that do not appear on the Property tax bill that apply to or could affect the Property — ☐ Yes ☒ No
21. Proposed construction, reconfiguration, or closure of nearby government facilities or amenities such as schools, parks, roadways and traffic signals — ☐ Yes ☒ No
22. Existing or proposed government requirements affecting the Property **(i)** that tall grass, brush or other vegetation be cleared; **(ii)** that restrict tree (or other landscaping) planting, removal or cutting, or **(iii)** that flammable materials be removed — ☒ Yes ☐ No

Explanation (13 & 14) - MOST LIKELY ENDANGERED & PROTECTED HABITATE (22) - WE RECIEVE A LETTER REQUIRING WEED ABATEMENT

WATER-RELATED ISSUES: ARE YOU (SELLER) AWARE OF...

23. Standing water, flooding, pumps, underground water, or water-related soil settling or slippage on or affecting the Property — ☐ Yes ☒ No
24. Rivers, streams, flood channels, underground springs, high water table, floods or tides on or affecting the Property — ☐ Yes ☒ No

Explanation: _____

UTILITIES AND SERVICES: ARE YOU (SELLER) AWARE OF...

25. Whether any of the following utilities or services are available ON the Property — ☐ Yes ☒ No
    If yes, check which ones: ☐ wells ☐ sewer ☐ septic ☐ sanitation ☐ leach lines ☐ water ☐ gas ☐ electric ☐ telephone ☐ cable ☐ other _____
    If no, are you aware of the distance such utilities or services are from the Property? — ☐ Yes ☒ No

Explanation: _____

LANDSCAPING, AGRICULTURE, STRUCTURES OR OTHER IMPROVEMENTS: ARE YOU (SELLER) AWARE OF...

26. Diseases or infestations affecting trees, plants or vegetation on or near the Property — ☐ Yes ☒ No
27. Diseases, infestation or other reason affecting the production of any agricultural trees or crops on the Property — ☐ Yes ☒ No
28. Operational sprinklers or irrigation systems on the Property — ☐ Yes ☒ No
    If yes, are they ☐ automatic or ☐ manually operated
29. Any structures or improvements (such as pad, foundations, or shelter) — ☐ Yes ☒ No

Explanation: _____

NEIGHBORHOOD: ARE YOU (SELLER) AWARE OF...

30. Neighborhood noise, nuisance or other problems from sources such as, but not limited to, the following: neighbors, livestock, wildlife, insects or pests, traffic, parking congestion, airplanes, trains, light rail, subway, trucks, freeways, buses, schools, parks, refuse storage or landfill processing, agricultural operations, business, odor, recreational facilities, restaurants, entertainment complexes or facilities, parades, sporting events, fairs, neighborhood parties, litter, construction, air conditioning equipment, air compressors, generators, pool equipment or appliances, or wildlife — ☐ Yes ☒ No

Explanation: _____

Buyer's Initials (DS ZM _____) Seller's Initials (DS AS _____) (_____) 25

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Reviewed by _____ Date _____

SELLER VACANT LAND QUESTIONNAIRE (VLQ PAGE 2 OF 4)

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BUT THROUGH FURTHER ~~[illegible]~~ INVESTIGATING FIND WE CANT ABATE BECAUSE OF HABITATE + LAWS FORBIDDING SUCH

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Property Address: *2 Vacant lots, Ranch View Terrace, APN 265-331-2600 and 265-331-4900, Encinitas, Ca 92024* Date: _____

COMMON INTEREST CONDOMINIUMS AND DEVELOPMENTS: **ARE YOU (SELLER) AWARE OF...**

31. Any Homeowner or Property Owner Association (OA) governing the Property, or any pending or proposed dues increases, special assessments, rules changes, insurance, availability issues or threatened or pending litigation by or against the OA affecting the Property ☐ Yes ☒ No

Explanation: _____

TITLE, OWNERSHIP AND LEGAL CLAIMS: **ARE YOU (SELLER) AWARE OF...**

32. Any other person or entity on title other than Seller(s) signing this form ☐ Yes ☒ No
33. Leases, options or claims affecting or relating to title or use of the Property ☐ Yes ☒ No
34. Any other person or entity other than Seller(s) signing this form with a legal claim to oil, mineral, gas or water rights ☐ Yes ☒ No
35. Past, present, pending or threatened lawsuits, mediations, arbitrations, tax liens, abatement liens, mechanics' liens, notice of default, bankruptcy or other court filings, or government hearings affecting or relating to the Property, OA or neighborhood ☐ Yes ☒ No

Explanation: _____

DISASTER RELIEF, INSURANCE OR CIVIL SETTLEMENT: **ARE YOU (SELLER) AWARE OF...**

36. Financial relief or assistance, insurance or settlement, sought or received, from any federal, state, local or private agency, insurer or private party, by past or present owners of the Property, due to any actual or alleged damage to the Property arising from a flood, earthquake, fire, other disaster or occurrence or defect, whether or not any money received was actually used to correct damage ☐ Yes ☒ No

Explanation: _____

OTHER: **ARE YOU (SELLER) AWARE OF...**

37. Reports, inspections, disclosures, warranties, maintenance recommendations, estimates, studies, surveys or other documents, pertaining to the condition of the Property or easements, encroachments, boundary disputes or environmental conditions affecting the Property ☒ Yes ☐ No
(If yes, provide any such documents in your possession to Buyer)
38. Department of Real Estate Public Report or subdivision map ☐ Yes ☒ No
39. An Order from a government health official identifying the Property as being contaminated by methamphetamine (If yes, attach a copy of the Order.) ☐ Yes ☒ No
40. The release of an illegal controlled substance on or beneath the Property ☐ Yes ☒ No
41. Whether the Property is located in or adjacent to an "industrial use" zone ☐ Yes ☒ No
(In general, a zone or district allowing manufacturing, commercial or airport uses.)
42. Whether the Property is affected by a nuisance created by an "industrial use" zone ☐ Yes ☒ No
43. Whether the Property is located within 1 mile of a former federal or state ordnance location ☐ Yes ☒ No
(In general, an area once used for military training purposes that may contain potentially explosive munitions.)
44. Whether the Property is a condominium or located in a planned unit development or other common interest subdivision ☐ Yes ☒ No
45. Insurance claims affecting the Property within the past 5 years ☐ Yes ☒ No
46. Matters affecting title of the Property ☐ Yes ☒ No
47. Any past or present known material facts or other significant items affecting the value or desirability of the Property not otherwise disclosed to Buyer ☐ Yes ☒ No

Explanation: (37) SURVEY PROVIDED BY OWNER OF PROPERTY WHO MAYBE ENCROACHING WITH THEIR HOUSE & POOL APN # 265-331-29 (WINDWARD DR)

VI. ☐ **(IF CHECKED) ADDITIONAL COMMENTS:** The attached addendum contains an explanation or additional comments in response to specific questions answered "yes" above. Refer to line and question number in explanation.

Buyer's Initials (DS ZM) (_____)

Seller's Initials (DS AS) (DS AS)

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Property Address: *2 Vacant lots, Ranch View Terrace, APN 265-331-2600 and 265-331-4900, Encinitas, Ca 92024* Date _____

Seller represents that Seller has provided the answers and, if any, explanations and comments on this Form and any attached addenda and that such information is true and correct to the best of Seller's knowledge as of the date signed by Seller. Seller acknowledges (i) Seller's obligation to disclose information requested by this Form is independent from any duty of disclosure that a real estate licensee may have in this transaction, and (ii) nothing that any such real estate licensee does or says to Seller relieves Seller from his/her own duty of disclosure.

Date 2-28-2018 2018-02-28
SELLER DocuSigned by: 51490E82D59D489...
By
Print name *Stuart 1976 Familiy Trust*
Title TRUSTEE

Date 2/28/2018
SELLER DocuSigned by: George Stuart 54EDC29223894D7...
By
Print name
Title

By signing below, Buyer acknowledges that Buyer has read, understands and has received a copy of this Seller Vacant Land Questionnaire form.

Date 3/1/2018
BUYER DocuSigned by: 0163512E63704D4...
By
Print name *Olivenhain Hills, LLC*
Title

Date
BUYER
By
Print name
Title

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EXEMPT SELLER DISCLOSURE

(C.A.R. Form ESD, Revised 12/16)

1. Seller ( ) landlord) makes the following disclosures with regard to the real property or manufactured home described as 2 Vacant lots, Ranch View Terrace, APN 265-331-2600 and 265-331-4900 situated in Encinitas (City), San Diego (County), California, 92024 (Zip Code) Assessor's Parcel No. 265-331-2600+4900 ("Property").

2. A. Under California law (Civil Code §1102, et seq.) most Sellers of real property containing 1-4 residential units are required to provide prospective Buyers with a completed Real Estate Transfer Disclosure Statement ("TDS"). Certain Sellers are exempt from completing the TDS but not exempt from making other disclosures. Sellers who are not legally required to complete a TDS can use this form to make other required disclosures, including the disclosure of material facts of which they are aware.

   B. Under Civil Code Section 1101.4(b), on or before January 1, 2017 non-compliant plumbing fixtures in any single family residential real property built before January 1, 1994 shall be replaced by the Property owner with water-conserving plumbing fixtures.

3. **THE FOLLOWING ARE REPRESENTATIONS MADE BY THE SELLER AND ARE NOT THE REPRESENTATIONS OF THE AGENT(S), IF ANY. THIS DISCLOSURE STATEMENT IS NOT A WARRANTY OF ANY KIND BY THE SELLER OR ANY AGENT(S) AND IS NOT A SUBSTITUTE FOR ANY INSPECTIONS OR WARRANTIES THE PRINCIPAL(S) MAY WISH TO OBTAIN. A REAL ESTATE BROKER IS QUALIFIED TO ADVISE ON REAL ESTATE TRANSACTIONS. IF SELLER OR BUYER DESIRE LEGAL ADVICE, CONSULT AN ATTORNEY.**

4. **Are you (Seller) aware of any of the following? (Explain any "yes" answers below.)**

   A. Within the last 3 years, the death of an occupant of the Property upon the Property [ ] Yes [X] No

   B. An Order from a government health official identifying the Property as being contaminated by methamphetamine. (If yes, attach a copy of the Order.) [ ] Yes [X] No

   C. The release of an illegal controlled substance on or beneath the Property [ ] Yes [X] No

   D. Whether the Property is located in or adjacent to an "industrial use" zone [ ] Yes [X] No
   (In general, a zone or district allowing manufacturing, commercial or airport uses.)

   E. Whether the Property is affected by a nuisance created by an "industrial use" zone [ ] Yes [X] No

   F. Whether the Property is located within 1 mile of a former federal or state ordinance location [ ] Yes [X] No
   (In general, an area once used for military training purposes that may contain potentially explosive munitions.)

   G. Whether the Property is a condominium or located in a planned unit development or other common interest subdivision [ ] Yes [X] No

   H. Insurance claims affecting the Property within the past 5 years [ ] Yes [X] No

   I. Matters affecting title of the Property [ ] Yes [X] No

   J. Material facts or defects affecting the Property not otherwise disclosed to Buyer [ ] Yes [X] No

   K. Plumbing fixtures on the Property that are non-compliant plumbing fixtures as defined by Civil Code Section 1101.3 [ ] Yes [X] No

   Explanation, or [ ] (if checked) see attached: _____

5. Seller represents that the information herein is true and correct to the best of Seller's knowledge as of the date signed by Seller. Seller hereby authorizes any agent(s) representing any principal(s) in this transaction to provide a Copy of this statement to any person or entity in connection with any actual or anticipated sale of the Property.

   Seller/Landlord DocuSigned by: KEITH STUART Date 2018-02-28

   Seller/Landlord DocuSigned by: George Stuart 64EDC29223894D7... Stuart 1976 Familiy Trust Date 2-28-2018

   DocuSigned by: 51490E82D59D469... Date 2/28/2018

6. **By signing below, Buyer acknowledges Buyer has received, read, and understands this Exempt Seller Disclosure form.**

   Buyer/Tenant DocuSigned by: 0163512E63704D4... Olivenhain Hills, LLC Date 3/1/2018

   Buyer/Tenant _____ Date _____

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525 South Virgil Avenue, Los Angeles, California 90020

Reviewed by _____

CONSTRUCTION TESTING & ENGINEERING, INC.
Due Diligence Environmental Questionnaire – ***User (Client)***

Completion of this form by the User (person who is seeking to use ASTM Practice E1527 to complete an environmental site assessment of the property) is necessary to allow the use to, in part, qualify for the Landowner Liability Protections (LLPs) offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001. The user is invited to review pertinent regulations and guidance documents such as ASTM Designation E1527-13 "Standard Practice for Environmental Site Assessments: Phase 1 Environmental Site Assessment Process." for clarification and additional information.

Subject Property Address/Location: Ranch View Terrace 8 Lot Subdivision, Encinitas, CA

Please email to: Brandon@cte-inc.net

Completed by: UDI MELAMED

Company or Organization: OLIVENHAIN HILLS LLC

Title: Managing Member

Date: 2/1/19

1.) Why is the Phase I ESA be performed? (refinance, purchase, sale, etc.)

Required by City of Encinitas as part of the Tentative Map application

2.) Has a search of recorded land title records (or judicial records where appropriate, see note 1 below) identify any environmental liens filed or recorded against the property under federal, tribal, state or local law? NO

Note 1: In certain jurisdictions, federal, tribal, state, or local statutes or regulations specify that environmental liens and AULs be filed in judicial records rather than in land title records, in such cases judicial records must be searched for environmental liens and AULs (Activity Use Limitations such as engineering control of contaminants).

3.) Are you aware of any activity, environmental engineering, land use limitations, and/or institutional controls that are in place on the property? If so, have any been filed or recorded in a registry? NO

4.) Are you aware of any specialized knowledge or experience related to the property or nearby properties that is pertinent to potential adverse environmental conditions?

No

5.) Does the purchase price being paid (or proposed to be paid) for this property reasonably reflect the fair market value of the property? If this assessment is part of a re-finance, do you have any knowledge pertaining to the purchase price of the property when it was last sold in comparison to the fair market value at that time? Yes

6.) If there is a significant difference between the purchase price and fair market value, have you considered whether the lower purchase price is/was due to known or suspect contamination at the property? N/A

7.) Are you aware of commonly known or reasonably obtainable information that would help CTE to identify conditions indicative of releases or threatened releases of hazardous wastes/materials at the property? Such information includes (but is not limited to): NO

- Past uses of the property
- Specific chemicals that are present or may have been present on the property
- Any hazardous material and/or petroleum product storage (including above ground and underground storage tanks) on the property or adjacent properties
- Any hazardous material or petroleum product spill or release that have taken place on the property or adjacent properties
- Any environmental cleanups on the property or adjacent property
- Additional Information

7.) Based on your knowledge, experience, written and/or verbal reports related to the property, are there any obvious indicators that point to the presence or likely presence of contamination at the property? NO

CONSTRUCTION TESTING & ENGINEERING, INC.
Due Diligence Environmental Questionnaire – ***Owner***

SITE ADDRESS: Ranch View Terrace 8 Lot Subdivision, Encinitas, CA

Please email to: Brandon@cte-inc.net

Completed by: VDI MELAMED

Company or Organization: Olivenhain Hills LLC

Title Managing Member

Date: 2/1/19

1.) Who is the current owner of the subject property and when was it purchased?

Stuart Family Trust 1976

2.) What is the current use of the property and for how long?

Vacant land

3.) Who are the past owners of the property and years of ownership (if available)?

Stuart Family Trust ~~Estate~~ has owned the property for nearly 50 years

4.) What was the past use of the subject property?

Vacant land
Not used

5.) Are you aware of any environmental cleanup liens that are filed or recorded against the subject property? No

6.) Are you aware of any activity, environmental engineering, land use limitations, and/or institutional controls that are in place on the property? If so, have any been filed or recorded in a registry? No

7.) Are you aware of any specialized knowledge or experience related to the property or nearby properties that is pertinent to potential adverse environmental conditions?

NO

8.) Are you aware of commonly known or reasonably obtainable information that would help CTE to identify conditions indicative of releases or threatened releases of hazardous wastes/materials at the property? Such information includes (but is not limited to): NO

- Past uses of the property
- Specific chemicals that are present or may have been present on the property
- Any hazardous material and/or petroleum product storage (including above ground and underground storage tanks) on the property or adjacent properties
- Any hazardous material or petroleum product spill or release that have taken place on the property or adjacent properties
- Any environmental cleanups on the property or adjacent property
- Additional Information

9.) Based on your knowledge, experience, written and/or verbal reports related to the property, are there any obvious indicators that point to the presence or likely presence of contamination at the property? NO

APPENDIX B

ENVIRONMENTAL DATA RESOURCES (EDR) RECORDS REPORT

Ranch View Terrace
2200-2430 7th St
Encinitas, CA 92024

Inquiry Number: 5550368.2s
January 31, 2019

The EDR Radius Map™ Report with GeoCheck®

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), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

2200-2430 7TH ST
ENCINITAS, CA 92024

COORDINATES

Latitude (North):	33.0437850 - 33° 2' 37.62''
Longitude (West):	117.2383330 - 117° 14' 17.99''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	477746.4
UTM Y (Meters):	3655975.0
Elevation:	181 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	5641310 RANCHO SANTA FE, CA
Version Date:	2012
West Map:	5641296 ENCINITAS, CA
Version Date:	2012

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20140603
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
2200-2430 7TH ST
ENCINITAS, CA 92024

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
1	RESIDENCE	409 E STREET	HIST UST	Lower	439, 0.083, East
A2	CECIL J. HANNAN	2433 - 7TH ST.	HIST UST	Lower	700, 0.133, ESE
A3	CECIL J. HANNAN	2433 - 7TH 07TH ST	SWEEPS UST	Lower	700, 0.133, ESE
A4	CECIL J HANNAN	2433-7TH ST	HIST UST	Lower	700, 0.133, ESE
B5	MAXSON STREET LANDFI	MAXSON ST	SWF/LF, WMUDS/SWAT	Lower	1902, 0.360, SSW
B6	SD CO OF PUB WKS ENC	2099 ENCINITAS BL	SWF/LF, EMI, CIWQS	Lower	1902, 0.360, SSW
7	MAY BE ENCINITAS LAN	SAN ELIJO LAGOON	WMUDS/SWAT	Lower	1937, 0.367, South
8	ENCINITAS II (BURN S	ENCINITAS BLVD, 1/4	WMUDS/SWAT	Lower	1974, 0.374, SSW

EXECUTIVE SUMMARY

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
Proposed NPL ---------- Proposed National Priority List Sites
NPL LIENS ---------- Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ---------- National Priority List Deletions

Federal CERCLIS list

FEDERAL FACILITY ---------- Federal Facility Site Information listing
SEMS ---------- Superfund Enterprise Management System

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE ---------- Superfund Enterprise Management System Archive

Federal RCRA CORRACTS facilities list

CORRACTS ---------- Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF ---------- RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG ---------- RCRA - Large Quantity Generators
RCRA-SQG ---------- RCRA - Small Quantity Generators
RCRA-CESQG ---------- RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

LUCIS ---------- Land Use Control Information System
US ENG CONTROLS ---------- Engineering Controls Sites List

US INST CONTROL ..... Sites with Institutional Controls

Federal ERNS list

ERNS ..... Emergency Response Notification System

State- and tribal - equivalent NPL

RESPONSE ..... State Response Sites

State- and tribal - equivalent CERCLIS

ENVIROSTOR ..... EnviroStor Database

State and tribal leaking storage tank lists

LUST ..... Geotracker's Leaking Underground Fuel Tank Report
SAN DIEGO CO. SAM ..... Environmental Case Listing
INDIAN LUST ..... Leaking Underground Storage Tanks on Indian Land
CPS-SLIC ..... Statewide SLIC Cases

State and tribal registered storage tank lists

FEMA UST ..... Underground Storage Tank Listing
UST ..... Active UST Facilities
AST ..... Aboveground Petroleum Storage Tank Facilities
INDIAN UST ..... Underground Storage Tanks on Indian Land

State and tribal voluntary cleanup sites

INDIAN VCP ..... Voluntary Cleanup Priority Listing
VCP ..... Voluntary Cleanup Program Properties

State and tribal Brownfields sites

BROWNFIELDS ..... Considered Brownfieds Sites Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS ..... A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

SWRCY ..... Recycler Database
HAULERS ..... Registered Waste Tire Haulers Listing
INDIAN ODI ..... Report on the Status of Open Dumps on Indian Lands
ODI ..... Open Dump Inventory
DEBRIS REGION 9 ..... Torres Martinez Reservation Illegal Dump Site Locations
IHS OPEN DUMPS ..... Open Dumps on Indian Land

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL ..... Delisted National Clandestine Laboratory Register

HIST Cal-Sites	Historical Calsites Database
SCH	School Property Evaluation Program
CDL	Clandestine Drug Labs
San Diego Co. HMMD	Hazardous Materials Management Division Database
CERS HAZ WASTE	CERS HAZ WASTE
Toxic Pits	Toxic Pits Cleanup Act Sites
US CDL	National Clandestine Laboratory Register

Local Lists of Registered Storage Tanks

CERS TANKS	California Environmental Reporting System (CERS) Tanks
CA FID UST	Facility Inventory Database

Local Land Records

LIENS	Environmental Liens Listing
LIENS 2	CERCLA Lien Information
DEED	Deed Restriction Listing

Records of Emergency Release Reports

HMIRS	Hazardous Materials Information Reporting System
CHMIRS	California Hazardous Material Incident Report System
LDS	Land Disposal Sites Listing
MCS	Military Cleanup Sites Listing
SPILLS 90	SPILLS 90 data from FirstSearch

Other Ascertainable Records

RCRA NonGen / NLR	RCRA - Non Generators / No Longer Regulated
FUDS	Formerly Used Defense Sites
DOD	Department of Defense Sites
SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR	Financial Assurance Information
EPA WATCH LIST	EPA WATCH LIST
2020 COR ACTION	2020 Corrective Action Program List
TSCA	Toxic Substances Control Act
TRIS	Toxic Chemical Release Inventory System
SSTS	Section 7 Tracking Systems
ROD	Records Of Decision
RMP	Risk Management Plans
RAATS	RCRA Administrative Action Tracking System
PRP	Potentially Responsible Parties
PADS	PCB Activity Database System
ICIS	Integrated Compliance Information System
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS	Material Licensing Tracking System
COAL ASH DOE	Steam-Electric Plant Operation Data
COAL ASH EPA	Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER	PCB Transformer Registration Database
RADINFO	Radiation Information Database
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS	Incident and Accident Data
CONSENT	Superfund (CERCLA) Consent Decrees

INDIAN RESERV	Indian Reservations
FUSRAP	Formerly Utilized Sites Remedial Action Program
UMTRA	Uranium Mill Tailings Sites
LEAD SMELTERS	Lead Smelter Sites
US AIRS	Aerometric Information Retrieval System Facility Subsystem
US MINES	Mines Master Index File
ABANDONED MINES	Abandoned Mines
FINDS	Facility Index System/Facility Registry System
DOCKET HWC	Hazardous Waste Compliance Docket Listing
UXO	Unexploded Ordnance Sites
ECHO	Enforcement & Compliance History Information
FUELS PROGRAM	EPA Fuels Program Registered Listing
CA BOND EXP. PLAN	Bond Expenditure Plan
Cortese	"Cortese" Hazardous Waste & Substances Sites List
CUPA Listings	CUPA Resources List
DRYCLEANERS	Cleaner Facilities
EMI	Emissions Inventory Data
ENF	Enforcement Action Listing
Financial Assurance	Financial Assurance Information Listing
HAZNET	Facility and Manifest Data
ICE	ICE
HIST CORTESE	Hazardous Waste & Substance Site List
HWP	EnviroStor Permitted Facilities Listing
HWT	Registered Hazardous Waste Transporter Database
MINES	Mines Site Location Listing
MWMP	Medical Waste Management Program Listing
NPDES	NPDES Permits Listing
PEST LIC	Pesticide Regulation Licenses Listing
PROC	Certified Processors Database
Notify 65	Proposition 65 Records
UIC	UIC Listing
UIC GEO	UIC GEO (GEOTRACKER)
WASTEWATER PITS	Oil Wastewater Pits Listing
WDS	Waste Discharge System
MILITARY PRIV SITES	MILITARY PRIV SITES (GEOTRACKER)
PROJECT	PROJECT (GEOTRACKER)
WDR	Waste Discharge Requirements Listing
SAN DIEGO CO LOP	Local Oversight Program Listing
CIWQS	California Integrated Water Quality System
CERS	CERS
NON-CASE INFO	NON-CASE INFO (GEOTRACKER)
WIP	Well Investigation Program Case List
OTHER OIL GAS	OTHER OIL & GAS (GEOTRACKER)
PROD WATER PONDS	PROD WATER PONDS (GEOTRACKER)
SAMPLING POINT	SAMPLING POINT (GEOTRACKER)
WELL STIM PROJ	Well Stimulation Project (GEOTRACKER)

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP	EDR Proprietary Manufactured Gas Plants
EDR Hist Auto	EDR Exclusive Historical Auto Stations
EDR Hist Cleaner	EDR Exclusive Historical Cleaners

EXECUTIVE SUMMARY

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.

STANDARD ENVIRONMENTAL RECORDS

State and tribal landfill and/or solid waste disposal site lists

SWF/LF: The Solid Waste Facilities/Landfill Sites records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. The data come from the Integrated Waste Management Board's Solid Waste Information System (SWIS) database.

A review of the SWF/LF list, as provided by EDR, has revealed that there are 2 SWF/LF sites within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
MAXSON STREET LANDFI	***MAXSON ST***	***SSW 1/4 - 1/2 (0.360 mi.)***	***B5***	***10***
Database: SAN DIEGO CO. LF, Date of Government Version: 04/18/2018 Operational Status: CLOSED Facility Status: CLOSED SITES				
SD CO OF PUB WKS ENC	***2099 ENCINITAS BL***	***SSW 1/4 - 1/2 (0.360 mi.)***	***B6***	***18***
Database: SWF/LF (SWIS), Date of Government Version: 11/12/2018 Facility ID: 37-AA-0016 Operational Status: Closed Regulation Status: Unpermitted				

ADDITIONAL ENVIRONMENTAL RECORDS

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT: The Waste Management Unit Database System is used for program tracking and inventory of waste management units. The source is the State Water Resources Control Board.

A review of the WMUDS/SWAT list, as provided by EDR, and dated 04/01/2000 has revealed that there are 3 WMUDS/SWAT sites within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
MAXSON STREET LANDFI	***MAXSON ST***	***SSW 1/4 - 1/2 (0.360 mi.)***	***B5***	***10***
MAY BE ENCINITAS LAN	SAN ELIJO LAGOON	S 1/4 - 1/2 (0.367 mi.)	7	23
ENCINITAS II (BURN S	ENCINITAS BLVD, 1/4	SSW 1/4 - 1/2 (0.374 mi.)	8	24

Local Lists of Registered Storage Tanks

SWEEPS UST: 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.

A review of the SWEEPS UST list, as provided by EDR, and dated 06/01/1994 has revealed that there is 1 SWEEPS UST site within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
CECIL J. HANNAN Comp Number: 20243	2433 - 7TH 07TH ST	ESE 1/8 - 1/4 (0.133 mi.)	A3	9

HIST UST: Historical UST Registered Database.

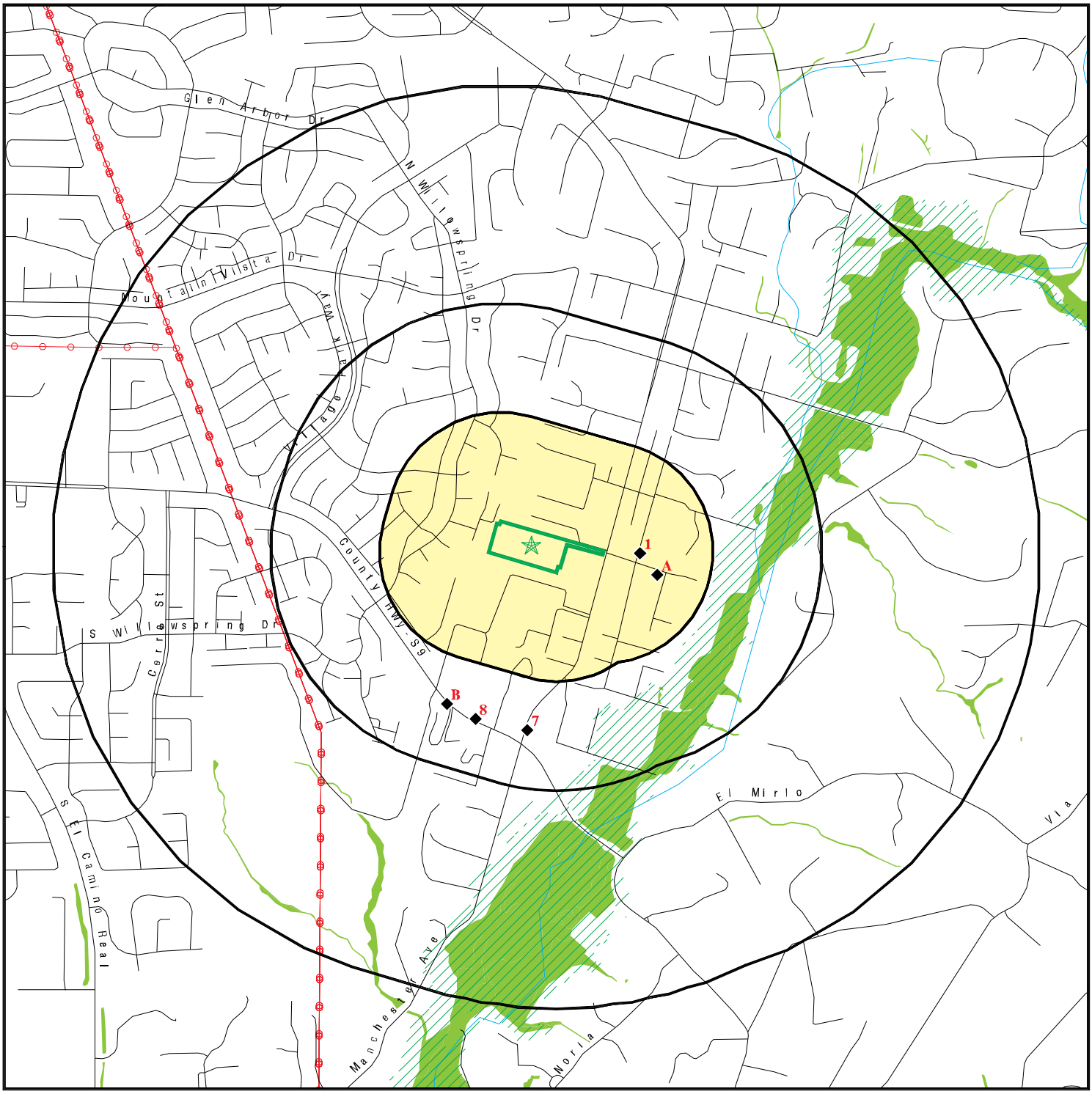
A review of the HIST UST list, as provided by EDR, and dated 10/15/1990 has revealed that there are 3 HIST UST sites within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
RESIDENCE	409 E STREET	E 0 - 1/8 (0.083 mi.)	1	8
CECIL J. HANNAN Facility Id: 00000032734	2433 - 7TH ST.	ESE 1/8 - 1/4 (0.133 mi.)	A2	8
CECIL J HANNAN	2433-7TH ST	ESE 1/8 - 1/4 (0.133 mi.)	A4	9

EXECUTIVE SUMMARY

There were no unmapped sites in this report.

OVERVIEW MAP - 5550368.2S



- 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
- Indian Reservations BIA
- Power transmission lines
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- State Wetlands
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Ranch View Terrace ADDRESS: 2200-2430 7th St Encinitas CA 92024 LAT/LONG: 33.043785 / 117.238333	CLIENT: Construction Testing & Eng. CONTACT: Brandon Alderson INQUIRY #: 5550368.2s DATE: January 31, 2019 5:24 pm

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DETAIL MAP - 5550368.2S

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites

0 1/16 1/8 1/4 Miles

- Indian Reservations BIA
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- State Wetlands
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Ranch View Terrace ADDRESS: 2200-2430 7th St Encinitas CA 92024 LAT/LONG: 33.043785 / 117.238333	CLIENT: Construction Testing & Eng. CONTACT: Brandon Alderson INQUIRY #: 5550368.2s DATE: January 31, 2019 5:27 pm

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	0.001		0	NR	NR	NR	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site list								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-CESQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	0.001		0	NR	NR	NR	NR	0
State- and tribal - equivalent NPL								
RESPONSE	1.000		0	0	0	0	NR	0
State- and tribal - equivalent CERCLIS								
ENVIROSTOR	1.000		0	0	0	0	NR	0
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.500		0	0	2	NR	NR	2
State and tribal leaking storage tank lists								
LUST	0.500		0	0	0	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
SAN DIEGO CO. SAM	0.500		0	0	0	NR	NR	0
INDIAN LUST	0.500		0	0	0	NR	NR	0
CPS-SLIC	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		0	0	NR	NR	NR	0
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal voluntary cleanup sites								
INDIAN VCP	0.500		0	0	0	NR	NR	0
VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
WMUDS/SWAT	0.500		0	0	3	NR	NR	3
SWRCY	0.500		0	0	0	NR	NR	0
HAULERS	0.001		0	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	0.001		0	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	0	0	NR	0
SCH	0.250		0	0	NR	NR	NR	0
CDL	0.001		0	NR	NR	NR	NR	0
San Diego Co. HMMD	0.001		0	NR	NR	NR	NR	0
CERS HAZ WASTE	0.250		0	0	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
US CDL	0.001		0	NR	NR	NR	NR	0
Local Lists of Registered Storage Tanks								
SWEEPS UST	0.250		0	1	NR	NR	NR	1
HIST UST	0.250		1	2	NR	NR	NR	3
CERS TANKS	0.250		0	0	NR	NR	NR	0
CA FID UST	0.250		0	0	NR	NR	NR	0
Local Land Records								
LIENS	0.001		0	NR	NR	NR	NR	0

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
LIENS 2	0.001		0	NR	NR	NR	NR	0
DEED	0.500		0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS	0.001		0	NR	NR	NR	NR	0
CHMIRS	0.001		0	NR	NR	NR	NR	0
LDS	0.001		0	NR	NR	NR	NR	0
MCS	0.001		0	NR	NR	NR	NR	0
SPILLS 90	0.001		0	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	0.001		0	NR	NR	NR	NR	0
EPA WATCH LIST	0.001		0	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	0.001		0	NR	NR	NR	NR	0
TRIS	0.001		0	NR	NR	NR	NR	0
SSTS	0.001		0	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	0.001		0	NR	NR	NR	NR	0
RAATS	0.001		0	NR	NR	NR	NR	0
PRP	0.001		0	NR	NR	NR	NR	0
PADS	0.001		0	NR	NR	NR	NR	0
ICIS	0.001		0	NR	NR	NR	NR	0
FTTS	0.001		0	NR	NR	NR	NR	0
MLTS	0.001		0	NR	NR	NR	NR	0
COAL ASH DOE	0.001		0	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	0.001		0	NR	NR	NR	NR	0
RADINFO	0.001		0	NR	NR	NR	NR	0
HIST FTTS	0.001		0	NR	NR	NR	NR	0
DOT OPS	0.001		0	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	0.001		0	NR	NR	NR	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	0.001		0	NR	NR	NR	NR	0
US AIRS	0.001		0	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.001		0	NR	NR	NR	NR	0
FINDS	0.001		0	NR	NR	NR	NR	0
DOCKET HWC	0.001		0	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
ECHO	0.001		0	NR	NR	NR	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
Cortese	0.500		0	0	0	NR	NR	0
CUPA Listings	0.250		0	0	NR	NR	NR	0

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
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
EMI	0.001		0	NR	NR	NR	NR	0
ENF	0.001		0	NR	NR	NR	NR	0
Financial Assurance	0.001		0	NR	NR	NR	NR	0
HAZNET	0.001		0	NR	NR	NR	NR	0
ICE	0.001		0	NR	NR	NR	NR	0
HIST CORTESE	0.500		0	0	0	NR	NR	0
HWP	1.000		0	0	0	0	NR	0
HWT	0.250		0	0	NR	NR	NR	0
MINES	0.001		0	NR	NR	NR	NR	0
MWMP	0.250		0	0	NR	NR	NR	0
NPDES	0.001		0	NR	NR	NR	NR	0
PEST LIC	0.001		0	NR	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
Notify 65	1.000		0	0	0	0	NR	0
UIC	0.001		0	NR	NR	NR	NR	0
UIC GEO	0.001		0	NR	NR	NR	NR	0
WASTEWATER PITS	0.500		0	0	0	NR	NR	0
WDS	0.001		0	NR	NR	NR	NR	0
MILITARY PRIV SITES	0.001		0	NR	NR	NR	NR	0
PROJECT	0.001		0	NR	NR	NR	NR	0
WDR	0.001		0	NR	NR	NR	NR	0
SAN DIEGO CO LOP	0.001		0	NR	NR	NR	NR	0
CIWQS	0.001		0	NR	NR	NR	NR	0
CERS	0.001		0	NR	NR	NR	NR	0
NON-CASE INFO	0.001		0	NR	NR	NR	NR	0
WIP	0.250		0	0	NR	NR	NR	0
OTHER OIL GAS	0.001		0	NR	NR	NR	NR	0
PROD WATER PONDS	0.001		0	NR	NR	NR	NR	0
SAMPLING POINT	0.001		0	NR	NR	NR	NR	0
WELL STIM PROJ	0.001		0	NR	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LF	0.001		0	NR	NR	NR	NR	0
RGA LUST	0.001		0	NR	NR	NR	NR	0
- Totals --		0	1	3	5	0	0	9

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

1
East
< 1/8
0.083 mi.
439 ft.

RESIDENCE
409 E STREET
OLIVENHAIN, CA 92024

HIST UST **S118414580**
N/A

Relative:
Lower

Actual:
101 ft.

HIST UST:

File Number:	0002F205
URL:	http://geotracker.waterboards.ca.gov/ustpdfs/pdf/0002F205.pdf
Region:	Not reported
Facility ID:	Not reported
Facility Type:	Not reported
Other Type:	Not reported
Contact Name:	Not reported
Telephone:	Not reported
Owner Name:	Not reported
Owner Address:	Not reported
Owner City,St,Zip:	Not reported
Total Tanks:	Not reported
Tank Num:	Not reported
Container Num:	Not reported
Year Installed:	Not reported
Tank Capacity:	Not reported
Tank Used for:	Not reported
Type of Fuel:	Not reported
Container Construction Thickness:	Not reported
Leak Detection:	Not reported

Click here for Geo Tracker PDF:

A2
ESE
1/8-1/4
0.133 mi.
700 ft.

CECIL J. HANNAN
2433 - 7TH ST.
OLIVENHAIN, CA 92024

Site 1 of 3 in cluster A

HIST UST **U001571326**
N/A

Relative:
Lower

Actual:
110 ft.

HIST UST:

File Number:	Not reported
URL:	Not reported
Region:	STATE
Facility ID:	00000032734
Facility Type:	Other
Other Type:	POOL HEATER
Contact Name:	Not reported
Telephone:	6199422618
Owner Name:	CECIL J. HANNAN
Owner Address:	2433 - 7TH ST.
Owner City,St,Zip:	OLIVENHAIN, CA 92024
Total Tanks:	0001
Tank Num:	001
Container Num:	1
Year Installed:	1980
Tank Capacity:	00001000
Tank Used for:	PRODUCT
Type of Fuel:	DIESEL
Container Construction Thickness:	10
Leak Detection:	None

A3
ESE
1/8-1/4
0.133 mi.
700 ft.

CECIL J. HANNAN
2433 - 7TH 07TH ST
OLIVENHAIN, CA 92024

SWEEPS UST **S106924122**
N/A

Site 2 of 3 in cluster A

Relative:
Lower

Actual:
110 ft.

SWEEPS UST:

Status:	Not reported
Comp Number:	20243
Number:	Not reported
Board Of Equalization:	44-023139
Referral Date:	Not reported
Action Date:	Not reported
Created Date:	Not reported
Owner Tank Id:	Not reported
SWRCB Tank Id:	37-000-020243-000001
Tank Status:	Not reported
Capacity:	1000
Active Date:	Not reported
Tank Use:	M.V. FUEL
STG:	PRODUCT
Content:	OTHER
Number Of Tanks:	1

A4
ESE
1/8-1/4
0.133 mi.
700 ft.

CECIL J HANNAN
2433-7TH ST
OLIVENHAIN, CA 92024

HIST UST **S118408492**
N/A

Site 3 of 3 in cluster A

Relative:
Lower

Actual:
110 ft.

HIST UST:

File Number:	0002ADA2
URL:	http://geotracker.waterboards.ca.gov/ustpdfs/pdf/0002ADA2.pdf
Region:	Not reported
Facility ID:	Not reported
Facility Type:	Not reported
Other Type:	Not reported
Contact Name:	Not reported
Telephone:	Not reported
Owner Name:	Not reported
Owner Address:	Not reported
Owner City,St,Zip:	Not reported
Total Tanks:	Not reported
Tank Num:	Not reported
Container Num:	Not reported
Year Installed:	Not reported
Tank Capacity:	Not reported
Tank Used for:	Not reported
Type of Fuel:	Not reported
Container Construction Thickness:	Not reported
Leak Detection:	Not reported

Click here for Geo Tracker PDF:

B5 **MAXSON STREET LANDFILL** **SWF/LF** **S103341995**
SSW **MAXSON ST** **WMUDS/SWAT** **N/A**
1/4-1/2 **OCEANSIDE CA, CA 92054**
0.360 mi.
1902 ft. **Site 1 of 2 in cluster B**

Relative:
Lower

Actual:
130 ft.

SAN DIEGO CO. LF:

Facility Status:	CLOSED SITES
Operational Status:	CLOSED
Region:	SAN DIEGO
SWIS Number:	37-AA-0016
Owner Name:	COUNTY OF SAN DIEGO
Operator:	COUNTY OF SAN DIEGO-DEPARTMENT OF PUBLIC WORKS
Facility Type:	CLOSED LANDFILLS INSPECTED QUARTERLY
Facility Type2:	LANDFILL
PERMTIER:	POST-CLOSURE LANDUSE CHANGE
Inspection Frequency:	QUARTERLY

WMUDS/SWAT:

Edit Date:	Not reported
Complexity:	Category B - Any facility having a physical, chemical, or biological waste treatment system (except for septic systems with subsurface disposal), or any Class II or III disposal site, or facilities without treatment systems that are complex, such as marinas with petroleum products, solid wastes, and sewage pump out facilities.
Primary Waste:	SLDWST
Primary Waste Type:	Nonhazardous Solid Wastes/Influent or Solid Wastes that contain nonhazardous putrescible and non putrescible solid, semisolid, and liquid wastes (E.G., garbage, trash, refuse, paper, demolition and construction wastes, manure, vegetable or animal solid and semisolid waste).
Secondary Waste:	Not reported
Secondary Waste Type:	Not reported
Base Meridian:	Not reported
NPID:	Not reported
Tonnage:	0
Regional Board ID:	Not reported
Municipal Solid Waste:	False
Superorder:	False
Open To Public:	False
Waste List:	False
Agency Type:	County
Agency Name:	SAN DIEGO CO, DPW IWSM
Agency Department:	Not reported
Agency Address:	5555 OVERLAND AVE, BLDG 2
Agency City,St,Zip:	SAN DIEGO CA 921231295
Agency Contact:	JON ROLLIN
Agency Telephone:	6196942231
Land Owner Name:	Not reported
Land Owner Address:	Not reported
Land Owner City,St,Zip:	Not reported
Land Owner Contact:	Not reported
Land Owner Phone:	Not reported
Region:	9
Facility Type:	Solid Waste Site-Class III - Landfills for non hazardous solid wastes.
Facility Description:	Not reported
Facility Telephone:	Not reported
SWAT Facility Name:	Not reported
Primary SIC:	4953

MAXSON STREET LANDFILL (Continued) **S103341995**

Secondary SIC:	Not reported
Comments:	Not reported
Last Facility Editors:	Not reported
Waste Discharge System:	True
Solid Waste Assessment Test Program:	True
Toxic Pits Cleanup Act Program:	False
Resource Conservation Recovery Act:	False
Department of Defence:	False
Solid Waste Assessment Test Program:	Not reported
Threat to Water Quality:	Major Threat to Water Quality. A violation could render unusable a ground water or surface water resource used as a significant drink water supply, require closure of an area used for contact recreation, result in long-term deleterious effects on shell fish spawning or growth areas of aquatic resources, or directly expose the public to toxic substances.
Sub Chapter 15:	False
Regional Board Project Officer:	DFH
Number of WMUDS at Facility:	1
Section Range:	Not reported
RCRA Facility:	No
Waste Discharge Requirements:	A
Self-Monitoring Rept. Frequency:	Semiannual Submittal
Waste Discharge System ID:	9 000000814
Solid Waste Information ID:	Not reported

Edit Date:	Not reported
Complexity:	Not reported
Primary Waste:	SLDWST
Primary Waste Type:	Nonhazardous Solid Wastes/Influent or Solid Wastes that contain nonhazardous putrescible and non putrescible solid, semisolid, and liquid wastes (E.G., garbage, trash, refuse, paper, demolition and construction wastes, manure, vegetable or animal solid and semisolid waste).
Secondary Waste:	Not reported
Secondary Waste Type:	Not reported
Base Meridian:	SB
NPID:	Not reported
Tonnage:	0
Regional Board ID:	Not reported
Municipal Solid Waste:	False
Superorder:	False
Open To Public:	False
Waste List:	False
Agency Type:	County
Agency Name:	SAN DIEGO CO, SLD WASTE
Agency Department:	DEPARTMENT OF PUBLIC WORKS
Agency Address:	5555 OVERLAND AVE
Agency City,St,Zip:	SAN DIEGO CA 92123
Agency Contact:	MR ERIC SWANSON
Agency Telephone:	6196943961
Land Owner Name:	SAN DIEGO, COUNTY OF
Land Owner Address:	5454 RUFFIN ROAD
Land Owner City,St,Zip:	SAN DIEGO, CA 92123
Land Owner Contact:	Not reported
Land Owner Phone:	6196942160
Region:	9
Facility Type:	Solid Waste Site-Class III - Landfills for non hazardous solid wastes.

MAXSON STREET LANDFILL (Continued) **S103341995**

Facility Description:	Not reported
Facility Telephone:	Not reported
SWAT Facility Name:	ENCINITAS LANDFILL
Primary SIC:	9511
Secondary SIC:	Not reported
Comments:	Not reported
Last Facility Editors:	Not reported
Waste Discharge System:	True
Solid Waste Assessment Test Program:	True
Toxic Pits Cleanup Act Program:	False
Resource Conservation Recovery Act:	False
Department of Defence:	False
Solid Waste Assessment Test Program:	SAN DIEGO COUNTY
Threat to Water Quality:	Not reported
Sub Chapter 15:	True
Regional Board Project Officer:	KDN
Number of WMUDS at Facility:	1
Section Range:	13S4W 15
RCRA Facility:	Not reported
Waste Discharge Requirements:	A
Self-Monitoring Rept. Frequency:	Not reported
Waste Discharge System ID:	9 000026N90
Solid Waste Information ID:	37-AA-0016

Edit Date:	Not reported
Complexity:	Category B - Any facility having a physical, chemical, or biological waste treatment system (except for septic systems with subsurface disposal), or any Class II or III disposal site, or facilities without treatment systems that are complex, such as marinas with petroleum products, solid wastes, and sewage pump out facilities.
Primary Waste:	SLDWST
Primary Waste Type:	Nonhazardous Solid Wastes/Influent or Solid Wastes that contain nonhazardous putrescible and non putrescible solid, semisolid, and liquid wastes (E.G., garbage, trash, refuse, paper, demolition and construction wastes, manure, vegetable or animal solid and semisolid waste).
Secondary Waste:	Not reported
Secondary Waste Type:	Not reported
Base Meridian:	Not reported
NPID:	Not reported
Tonnage:	0
Regional Board ID:	Not reported
Municipal Solid Waste:	False
Superorder:	False
Open To Public:	False
Waste List:	False
Agency Type:	City
Agency Name:	OCEANSIDE, CITY OF
Agency Department:	Not reported
Agency Address:	300 N COAST HWY
Agency City,St,Zip:	OCEANSIDE CA 92054
Agency Contact:	JAMES STILLMAN
Agency Telephone:	6199664500
Land Owner Name:	Not reported
Land Owner Address:	Not reported
Land Owner City,St,Zip:	Not reported
Land Owner Contact:	Not reported

MAXSON STREET LANDFILL (Continued) **S103341995**

Land Owner Phone:	Not reported
Region:	9
Facility Type:	Solid Waste Site-Class III - Landfills for non hazardous solid wastes.
Facility Description:	Not reported
Facility Telephone:	Not reported
SWAT Facility Name:	Not reported
Primary SIC:	4953
Secondary SIC:	Not reported
Comments:	Not reported
Last Facility Editors:	Not reported
Waste Discharge System:	True
Solid Waste Assessment Test Program:	False
Toxic Pits Cleanup Act Program:	False
Resource Conservation Recovery Act:	False
Department of Defence:	False
Solid Waste Assessment Test Program:	Not reported
Threat to Water Quality:	Major Threat to Water Quality. A violation could render unusable a ground water or surface water resource used as a significant drink water supply, require closure of an area used for contact recreation, result in long-term deleterious effects on shell fish spawning or growth areas of aquatic resources, or directly expose the public to toxic substances.
Sub Chapter 15:	True
Regional Board Project Officer:	BKM
Number of WMUDS at Facility:	1
Section Range:	Not reported
RCRA Facility:	No
Waste Discharge Requirements:	A
Self-Monitoring Rept. Frequency:	Semiannual Submittal
Waste Discharge System ID:	9 000000810
Solid Waste Information ID:	Not reported

Edit Date:	Not reported
Complexity:	Category B - Any facility having a physical, chemical, or biological waste treatment system (except for septic systems with subsurface disposal), or any Class II or III disposal site, or facilities without treatment systems that are complex, such as marinas with petroleum products, solid wastes, and sewage pump out facilities.
Primary Waste:	SLDWST
Primary Waste Type:	Nonhazardous Solid Wastes/Influent or Solid Wastes that contain nonhazardous putrescible and non putrescible solid, semisolid, and liquid wastes (E.G., garbage, trash, refuse, paper, demolition and construction wastes, manure, vegetable or animal solid and semisolid waste).
Secondary Waste:	Not reported
Secondary Waste Type:	Not reported
Base Meridian:	Not reported
NPID:	Not reported
Tonnage:	0
Regional Board ID:	Not reported
Municipal Solid Waste:	False
Superorder:	False
Open To Public:	False
Waste List:	False
Agency Type:	County
Agency Name:	SAN DIEGO CO, DPW IWSM
Agency Department:	Not reported

MAXSON STREET LANDFILL (Continued) **S103341995**

Agency Address:	5555 OVERLAND AVE (MS0383)
Agency City,St,Zip:	SAN DIEGO CA 921231295
Agency Contact:	JON ROLLIN
Agency Telephone:	8588744004
Land Owner Name:	Not reported
Land Owner Address:	Not reported
Land Owner City,St,Zip:	Not reported
Land Owner Contact:	Not reported
Land Owner Phone:	Not reported
Region:	9
Facility Type:	Solid Waste Site-Class III - Landfills for non hazardous solid wastes.
Facility Description:	Not reported
Facility Telephone:	Not reported
SWAT Facility Name:	Not reported
Primary SIC:	4953
Secondary SIC:	Not reported
Comments:	Not reported
Last Facility Editors:	Not reported
Waste Discharge System:	True
Solid Waste Assessment Test Program:	False
Toxic Pits Cleanup Act Program:	False
Resource Conservation Recovery Act:	False
Department of Defence:	False
Solid Waste Assessment Test Program:	Not reported
Threat to Water Quality:	Major Threat to Water Quality. A violation could render unusable a ground water or surface water resource used as a significant drink water supply, require closure of an area used for contact recreation, result in long-term deleterious effects on shell fish spawning or growth areas of aquatic resources, or directly expose the public to toxic substances.
Sub Chapter 15:	True
Regional Board Project Officer:	DFH
Number of WMUDS at Facility:	1
Section Range:	Not reported
RCRA Facility:	No
Waste Discharge Requirements:	A
Self-Monitoring Rept. Frequency:	Semiannual Submittal
Waste Discharge System ID:	9 000000811
Solid Waste Information ID:	Not reported

Edit Date:	Not reported
Complexity:	Category B - Any facility having a physical, chemical, or biological waste treatment system (except for septic systems with subsurface disposal), or any Class II or III disposal site, or facilities without treatment systems that are complex, such as marinas with petroleum products, solid wastes, and sewage pump out facilities.
Primary Waste:	SLDWST
Primary Waste Type:	Nonhazardous Solid Wastes/Influent or Solid Wastes that contain nonhazardous putrescible and non putrescible solid, semisolid, and liquid wastes (E.G., garbage, trash, refuse, paper, demolition and construction wastes, manure, vegetable or animal solid and semisolid waste).
Secondary Waste:	Not reported
Secondary Waste Type:	Not reported
Base Meridian:	Not reported
NPID:	Not reported
Tonnage:	0

MAXSON STREET LANDFILL (Continued) **S103341995**

Regional Board ID:	Not reported
Municipal Solid Waste:	False
Superorder:	False
Open To Public:	False
Waste List:	False
Agency Type:	County
Agency Name:	SAN DIEGO CO, DPW IWSM
Agency Department:	Not reported
Agency Address:	5555 OVERLAND AVE, BLDG 2
Agency City,St,Zip:	SAN DIEGO CA 921231295
Agency Contact:	JON ROLLIN
Agency Telephone:	6196942231
Land Owner Name:	Not reported
Land Owner Address:	Not reported
Land Owner City,St,Zip:	Not reported
Land Owner Contact:	Not reported
Land Owner Phone:	Not reported
Region:	9
Facility Type:	Solid Waste Site-Class III - Landfills for non hazardous solid wastes.
Facility Description:	Not reported
Facility Telephone:	Not reported
SWAT Facility Name:	Not reported
Primary SIC:	4953
Secondary SIC:	Not reported
Comments:	Not reported
Last Facility Editors:	Not reported
Waste Discharge System:	True
Solid Waste Assessment Test Program:	False
Toxic Pits Cleanup Act Program:	False
Resource Conservation Recovery Act:	False
Department of Defence:	False
Solid Waste Assessment Test Program:	Not reported
Threat to Water Quality:	Major Threat to Water Quality. A violation could render unusable a ground water or surface water resource used as a significant drink water supply, require closure of an area used for contact recreation, result in long-term deleterious effects on shell fish spawning or growth areas of aquatic resources, or directly expose the public to toxic substances.
Sub Chapter 15:	True
Regional Board Project Officer:	DFH
Number of WMUDS at Facility:	1
Section Range:	Not reported
RCRA Facility:	No
Waste Discharge Requirements:	A
Self-Monitoring Rept. Frequency:	Monthly Submittal
Waste Discharge System ID:	9 000000812
Solid Waste Information ID:	Not reported

Edit Date:	Not reported
Complexity:	Category B - Any facility having a physical, chemical, or biological waste treatment system (except for septic systems with subsurface disposal), or any Class II or III disposal site, or facilities without treatment systems that are complex, such as marinas with petroleum products, solid wastes, and sewage pump out facilities.
Primary Waste:	SLDWST
Primary Waste Type:	Nonhazardous Solid Wastes/Influent or Solid Wastes that contain nonhazardous putrescible and non putrescible solid, semisolid, and

MAXSON STREET LANDFILL (Continued) **S103341995**

	liquid wastes (E.G., garbage, trash, refuse, paper, demolition and construction wastes, manure, vegetable or animal solid and semisolid waste).
Secondary Waste:	Not reported
Secondary Waste Type:	Not reported
Base Meridian:	Not reported
NPID:	Not reported
Tonnage:	0
Regional Board ID:	Not reported
Municipal Solid Waste:	False
Superorder:	False
Open To Public:	False
Waste List:	False
Agency Type:	County
Agency Name:	SAN DIEGO CO, DPW IWSM
Agency Department:	Not reported
Agency Address:	5555 OVERLAND AVE (MS0383)
Agency City,St,Zip:	SAN DIEGO CA 921231295
Agency Contact:	JON ROLLIN
Agency Telephone:	8588744004
Land Owner Name:	Not reported
Land Owner Address:	Not reported
Land Owner City,St,Zip:	Not reported
Land Owner Contact:	Not reported
Land Owner Phone:	Not reported
Region:	9
Facility Type:	Solid Waste Site-Class III - Landfills for non hazardous solid wastes.
Facility Description:	Not reported
Facility Telephone:	Not reported
SWAT Facility Name:	Not reported
Primary SIC:	4953
Secondary SIC:	Not reported
Comments:	Not reported
Last Facility Editors:	Not reported
Waste Discharge System:	True
Solid Waste Assessment Test Program:	False
Toxic Pits Cleanup Act Program:	False
Resource Conservation Recovery Act:	False
Department of Defence:	False
Solid Waste Assessment Test Program:	Not reported
Threat to Water Quality:	Major Threat to Water Quality. A violation could render unusable a ground water or surface water resource used as a significant drink water supply, require closure of an area used for contact recreation, result in long-term deleterious effects on shell fish spawning or growth areas of aquatic resources, or directly expose the public to toxic substances.
Sub Chapter 15:	True
Regional Board Project Officer:	CAT
Number of WMUDS at Facility:	1
Section Range:	Not reported
RCRA Facility:	No
Waste Discharge Requirements:	A
Self-Monitoring Rept. Frequency:	Semiannual Submittal
Waste Discharge System ID:	9 000000813
Solid Waste Information ID:	Not reported
Edit Date:	Not reported

MAXSON STREET LANDFILL (Continued) **S103341995**

Complexity:	Category B - Any facility having a physical, chemical, or biological waste treatment system (except for septic systems with subsurface disposal), or any Class II or III disposal site, or facilities without treatment systems that are complex, such as marinas with petroleum products, solid wastes, and sewage pump out facilities.
Primary Waste:	SLDWST
Primary Waste Type:	Nonhazardous Solid Wastes/Influent or Solid Wastes that contain nonhazardous putrescible and non putrescible solid, semisolid, and liquid wastes (E.G., garbage, trash, refuse, paper, demolition and construction wastes, manure, vegetable or animal solid and semisolid waste).
Secondary Waste:	Not reported
Secondary Waste Type:	Not reported
Base Meridian:	Not reported
NPID:	Not reported
Tonnage:	0
Regional Board ID:	Not reported
Municipal Solid Waste:	False
Superorder:	False
Open To Public:	False
Waste List:	False
Agency Type:	Federal
Agency Name:	US NAVY
Agency Department:	Not reported
Agency Address:	3395 STURTEVANT ST, STE G
Agency City,St,Zip:	SAN DIEGO CA 92136
Agency Contact:	THERESA MORELY
Agency Telephone:	Not reported
Land Owner Name:	Not reported
Land Owner Address:	Not reported
Land Owner City,St,Zip:	Not reported
Land Owner Contact:	Not reported
Land Owner Phone:	Not reported
Region:	9
Facility Type:	Solid Waste Site-Class III - Landfills for non hazardous solid wastes.
Facility Description:	Not reported
Facility Telephone:	Not reported
SWAT Facility Name:	Not reported
Primary SIC:	4953
Secondary SIC:	Not reported
Comments:	Not reported
Last Facility Editors:	Not reported
Waste Discharge System:	True
Solid Waste Assessment Test Program:	False
Toxic Pits Cleanup Act Program:	False
Resource Conservation Recovery Act:	False
Department of Defence:	False
Solid Waste Assessment Test Program:	Not reported
Threat to Water Quality:	Major Threat to Water Quality. A violation could render unusable a ground water or surface water resource used as a significant drink water supply, require closure of an area used for contact recreation, result in long-term deleterious effects on shell fish spawning or growth areas of aquatic resources, or directly expose the public to toxic substances.
Sub Chapter 15:	True
Regional Board Project Officer:	DFH
Number of WMUDS at Facility:	1

MAXSON STREET LANDFILL (Continued) **S103341995**

Section Range:	Not reported
RCRA Facility:	No
Waste Discharge Requirements:	A
Self-Monitoring Rept. Frequency:	Semiannual Submittal
Waste Discharge System ID:	9 000000815
Solid Waste Information ID:	Not reported

B6 **SD CO OF PUB WKS ENCINITAS II LANDFILL** **SWF/LF** **S108433162**
SSW **2099 ENCINITAS BL** **EMI** **N/A**
1/4-1/2 **ENCINITAS, CA 92024** **CIWQS**
0.360 mi.
1902 ft. **Site 2 of 2 in cluster B**

Relative:
Lower

Actual:
130 ft.

SWF/LF (SWIS):

Facility ID:	37-AA-0016
Lat/Long:	33.03819 / -117.24939
Owner Name:	County Of San Diego Solid Waste Division
Owner Telephone:	6194494053
Owner Address:	Not reported
Owner Address2:	5510 Overland Ave, Suite 210
Owner City,St,Zip:	San Diego, CA 92123
Operational Status:	Closed
Operator:	Not reported
Operator Phone:	Not reported
Operator Address:	Not reported
Operator Address2:	Not reported
Operator City,St,Zip:	Not reported
Permit Date:	Not reported
Permit Status:	Not reported
Permitted Acreage:	$0.00
Activity:	Solid Waste Disposal Site
Regulation Status:	Unpermitted
Landuse Name:	Not reported
GIS Source:	GPS
Category:	Disposal
Unit Number:	01
Inspection Frequency:	Quarterly
Accepted Waste:	Not reported
Closure Date:	12/31/1977
Closure Type:	Estimated
Disposal Acreage:	$0.00
SWIS Num:	37-AA-0016
Waste Discharge Requirement Num:	Not reported
Program Type:	2136
Permitted Throughput with Units:	0
Actual Throughput with Units:	Not reported
Permitted Capacity with Units:	0
Remaining Capacity:	0
Remaining Capacity with Units:	Not reported
Lat/Long:	33.03819 / -117.24939

EMI:

Year:	2005
County Code:	37
Air Basin:	SD
Facility ID:	8722
Air District Name:	SD

SD CO OF PUB WKS ENCINITAS II LANDFILL (Continued) **S108433162**

SIC Code:	4953
Air District Name:	SAN DIEGO COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	41.23
Reactive Organic Gases Tons/Yr:	.38
Carbon Monoxide Emissions Tons/Yr:	.05
NOX - Oxides of Nitrogen Tons/Yr:	1.02
SOX - Oxides of Sulphur Tons/Yr:	.18
Particulate Matter Tons/Yr:	.25
Part. Matter 10 Micrometers and Smllr Tons/Yr:	.25

Year:	2006
County Code:	37
Air Basin:	SD
Facility ID:	8722
Air District Name:	SD
SIC Code:	4953
Air District Name:	SAN DIEGO COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	137.04
Reactive Organic Gases Tons/Yr:	1.13
Carbon Monoxide Emissions Tons/Yr:	.1
NOX - Oxides of Nitrogen Tons/Yr:	.66
SOX - Oxides of Sulphur Tons/Yr:	.12
Particulate Matter Tons/Yr:	.16
Part. Matter 10 Micrometers and Smllr Tons/Yr:	.16

Year:	2007
County Code:	37
Air Basin:	SD
Facility ID:	8722
Air District Name:	SD
SIC Code:	4953
Air District Name:	SAN DIEGO COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	137.04
Reactive Organic Gases Tons/Yr:	1.13
Carbon Monoxide Emissions Tons/Yr:	.1
NOX - Oxides of Nitrogen Tons/Yr:	.66
SOX - Oxides of Sulphur Tons/Yr:	.12
Particulate Matter Tons/Yr:	.16
Part. Matter 10 Micrometers and Smllr Tons/Yr:	.16

Year:	2008
County Code:	37
Air Basin:	SD
Facility ID:	8722
Air District Name:	SD
SIC Code:	4953
Air District Name:	SAN DIEGO COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	137.04
Reactive Organic Gases Tons/Yr:	1.13

SD CO OF PUB WKS ENCINITAS II LANDFILL (Continued) **S108433162**

Carbon Monoxide Emissions Tons/Yr:	.1
NOX - Oxides of Nitrogen Tons/Yr:	.66
SOX - Oxides of Sulphur Tons/Yr:	.12
Particulate Matter Tons/Yr:	.16
Part. Matter 10 Micrometers and Smllr Tons/Yr:	.16

Year:	2009
County Code:	37
Air Basin:	SD
Facility ID:	8722
Air District Name:	SD
SIC Code:	4953
Air District Name:	SAN DIEGO COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	128.88
Reactive Organic Gases Tons/Yr:	1.0700000000000001
Carbon Monoxide Emissions Tons/Yr:	0.10000000000000001
NOX - Oxides of Nitrogen Tons/Yr:	0.60999999999999999
SOX - Oxides of Sulphur Tons/Yr:	0.11
Particulate Matter Tons/Yr:	0.14999999999999999
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0.14999999999999999

Year:	2010
County Code:	37
Air Basin:	SD
Facility ID:	8722
Air District Name:	SD
SIC Code:	4953
Air District Name:	SAN DIEGO COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	128.88
Reactive Organic Gases Tons/Yr:	1.0700000000000001
Carbon Monoxide Emissions Tons/Yr:	8.9999999999999997E-2
NOX - Oxides of Nitrogen Tons/Yr:	0.59999999999999998
SOX - Oxides of Sulphur Tons/Yr:	0.11
Particulate Matter Tons/Yr:	0.14999999999999999
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0.14999999999999999

Year:	2011
County Code:	37
Air Basin:	SD
Facility ID:	8722
Air District Name:	SD
SIC Code:	4953
Air District Name:	SAN DIEGO COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	128.88
Reactive Organic Gases Tons/Yr:	1.07
Carbon Monoxide Emissions Tons/Yr:	0.1
NOX - Oxides of Nitrogen Tons/Yr:	0.61
SOX - Oxides of Sulphur Tons/Yr:	0.11
Particulate Matter Tons/Yr:	0.15
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0.15

SD CO OF PUB WKS ENCINITAS II LANDFILL (Continued) **S108433162**

Year:	2012
County Code:	37
Air Basin:	SD
Facility ID:	8722
Air District Name:	SD
SIC Code:	4953
Air District Name:	SAN DIEGO COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	128.88
Reactive Organic Gases Tons/Yr:	1.07
Carbon Monoxide Emissions Tons/Yr:	0.1
NOX - Oxides of Nitrogen Tons/Yr:	0.61
SOX - Oxides of Sulphur Tons/Yr:	0.11
Particulate Matter Tons/Yr:	0.15
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0.15

Year:	2013
County Code:	37
Air Basin:	SD
Facility ID:	8722
Air District Name:	SD
SIC Code:	4953
Air District Name:	SAN DIEGO COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	128.88
Reactive Organic Gases Tons/Yr:	1.07
Carbon Monoxide Emissions Tons/Yr:	0.1
NOX - Oxides of Nitrogen Tons/Yr:	0.61
SOX - Oxides of Sulphur Tons/Yr:	0.11
Particulate Matter Tons/Yr:	0.15
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0.15

Year:	2014
County Code:	37
Air Basin:	SD
Facility ID:	8722
Air District Name:	SD
SIC Code:	4953
Air District Name:	SAN DIEGO COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	146.89
Reactive Organic Gases Tons/Yr:	1.2
Carbon Monoxide Emissions Tons/Yr:	0.1
NOX - Oxides of Nitrogen Tons/Yr:	0.48
SOX - Oxides of Sulphur Tons/Yr:	0.08
Particulate Matter Tons/Yr:	0.12
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0.12

Year:	2015
County Code:	37
Air Basin:	SD
Facility ID:	8722
Air District Name:	SD
SIC Code:	4953

SD CO OF PUB WKS ENCINITAS II LANDFILL (Continued) **S108433162**

Air District Name:	SAN DIEGO COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	146.89
Reactive Organic Gases Tons/Yr:	1.2
Carbon Monoxide Emissions Tons/Yr:	0.1
NOX - Oxides of Nitrogen Tons/Yr:	0.48
SOX - Oxides of Sulphur Tons/Yr:	0.08
Particulate Matter Tons/Yr:	0.12
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0.12

Year:	2016
County Code:	37
Air Basin:	SD
Facility ID:	8722
Air District Name:	SD
SIC Code:	4953
Air District Name:	SAN DIEGO COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	146.89
Reactive Organic Gases Tons/Yr:	1.2
Carbon Monoxide Emissions Tons/Yr:	0.1
NOX - Oxides of Nitrogen Tons/Yr:	0.48
SOX - Oxides of Sulphur Tons/Yr:	0.08
Particulate Matter Tons/Yr:	0.12
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0.12

CIWQS:

Agency:	County of San Diego
Agency Address:	5510 Overland Avenue Suite 210 Mail Stop O350, San Diego, CA 92123
Place/Project Type:	Industrial - Refuse Systems
SIC/NAICS:	4953
Region:	9
Program:	INDSTW
Regulatory Measure Status:	Terminated
Regulatory Measure Type:	Storm water industrial
Order Number:	2014-0057-DWQ
WDID:	9 37I004562
NPDES Number:	CAS000001
Adoption Date:	Not reported
Effective Date:	04/08/1992
Termination Date:	09/06/2012
Expiration/Review Date:	Not reported
Design Flow:	Not reported
Major/Minor:	Not reported
Complexity:	Not reported
TTWQ:	Not reported
Enforcement Actions within 5 years:	0
Violations within 5 years:	0
Latitude:	33.03857
Longitude:	-117.24161

7
South
1/4-1/2
0.367 mi.
1937 ft.

MAY BE ENCINITAS LANDFILL
SAN ELIJO LAGOON
ENCINITAS, CA

WMUDS/SWAT **S103320876**
N/A

Relative:
Lower

Actual:
75 ft.

WMUDS/SWAT:

Edit Date:	Not reported
Complexity:	Not reported
Primary Waste:	Not reported
Primary Waste Type:	Not reported
Secondary Waste:	Not reported
Secondary Waste Type:	Not reported
Base Meridian:	Not reported
NPID:	Not reported
Tonnage:	0
Regional Board ID:	Not reported
Municipal Solid Waste:	False
Superorder:	False
Open To Public:	False
Waste List:	False
Agency Type:	Not reported
Agency Name:	SAN DIEGO, COUNTY OF
Agency Department:	Not reported
Agency Address:	Not reported
Agency City,St,Zip:	Not reported
Agency Contact:	Not reported
Agency Telephone:	Not reported
Land Owner Name:	SAN DIEGO, COUNTY OF
Land Owner Address:	Not reported
Land Owner City,St,Zip:	CA
Land Owner Contact:	Not reported
Land Owner Phone:	Not reported
Region:	9
Facility Type:	Not reported
Facility Description:	Not reported
Facility Telephone:	Not reported
SWAT Facility Name:	MAY BE ENCINITAS LANDFILL
Primary SIC:	Not reported
Secondary SIC:	Not reported
Comments:	Not reported
Last Facility Editors:	Not reported
Waste Discharge System:	False
Solid Waste Assessment Test Program:	True
Toxic Pits Cleanup Act Program:	False
Resource Conservation Recovery Act:	False
Department of Defence:	False
Solid Waste Assessment Test Program:	SAN DIEGO, COUNTY OF
Threat to Water Quality:	Not reported
Sub Chapter 15:	False
Regional Board Project Officer:	MA
Number of WMUDS at Facility:	1
Section Range:	13S 4W24
RCRA Facility:	Not reported
Waste Discharge Requirements:	Not reported
Self-Monitoring Rept. Frequency:	Not reported
Waste Discharge System ID:	9 370090NUR
Solid Waste Information ID:	Not reported

8
SSW
1/4-1/2
0.374 mi.
1974 ft.

ENCINITAS II (BURN SITE)
ENCINITAS BLVD, 1/4 ML W OF MA
ENCINITAS, CA

WMUDS/SWAT **S101613469**
N/A

Relative:
Lower

Actual:
106 ft.

WMUDS/SWAT:

Edit Date:	Not reported
Complexity:	Not reported
Primary Waste:	Not reported
Primary Waste Type:	Not reported
Secondary Waste:	Not reported
Secondary Waste Type:	Not reported
Base Meridian:	Not reported
NPID:	Not reported
Tonnage:	0
Regional Board ID:	Not reported
Municipal Solid Waste:	False
Superorder:	False
Open To Public:	False
Waste List:	False
Agency Type:	Not reported
Agency Name:	SAN DIEGO, COUNTY OF
Agency Department:	Not reported
Agency Address:	Not reported
Agency City,St,Zip:	Not reported
Agency Contact:	Not reported
Agency Telephone:	Not reported
Land Owner Name:	SAN DIEGO,COUNTY OF
Land Owner Address:	Not reported
Land Owner City,St,Zip:	CA
Land Owner Contact:	Not reported
Land Owner Phone:	Not reported
Region:	9
Facility Type:	Not reported
Facility Description:	Not reported
Facility Telephone:	Not reported
SWAT Facility Name:	Not reported
Primary SIC:	Not reported
Secondary SIC:	Not reported
Comments:	Not reported
Last Facility Editors:	Not reported
Waste Discharge System:	False
Solid Waste Assessment Test Program:	True
Toxic Pits Cleanup Act Program:	False
Resource Conservation Recovery Act:	False
Department of Defence:	False
Solid Waste Assessment Test Program:	SAN DIEGO, COUNTY OF
Threat to Water Quality:	Not reported
Sub Chapter 15:	False
Regional Board Project Officer:	MA
Number of WMUDS at Facility:	1
Section Range:	Not reported
RCRA Facility:	Not reported
Waste Discharge Requirements:	Not reported
Self-Monitoring Rept. Frequency:	Not reported
Waste Discharge System ID:	9 370069NUR
Solid Waste Information ID:	Not reported

Count: 0 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
		NO SITES FOUND			

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: 12/12/2018
Date Data Arrived at EDR: 12/28/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 14

Source: EPA
Telephone: N/A
Last EDR Contact: 12/28/2018
Next Scheduled EDR Contact: 04/15/2019
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 3
Telephone 215-814-5418

EPA Region 4
Telephone 404-562-8033

EPA Region 5
Telephone 312-886-6686

EPA Region 10
Telephone 206-553-8665

EPA Region 6
Telephone: 214-655-6659

EPA Region 7
Telephone: 913-551-7247

EPA Region 8
Telephone: 303-312-6774

EPA Region 9
Telephone: 415-947-4246

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: 12/12/2018
Date Data Arrived at EDR: 12/28/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 14

Source: EPA
Telephone: N/A
Last EDR Contact: 12/28/2018
Next Scheduled EDR Contact: 04/15/2019
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

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: 12/12/2018
Date Data Arrived at EDR: 12/28/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 14

Source: EPA
Telephone: N/A
Last EDR Contact: 12/28/2018
Next Scheduled EDR Contact: 04/15/2019
Data Release Frequency: Quarterly

Federal CERCLIS list

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 11/07/2016
Date Data Arrived at EDR: 01/05/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 92

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 01/04/2019
Next Scheduled EDR Contact: 04/15/2019
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 12/12/2018
Date Data Arrived at EDR: 12/28/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 14

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 12/28/2018
Next Scheduled EDR Contact: 04/29/2019
Data Release Frequency: Quarterly

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 12/13/2018
Date Data Arrived at EDR: 12/28/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 14

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 12/28/2018
Next Scheduled EDR Contact: 04/29/2019
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: 03/01/2018
Date Data Arrived at EDR: 03/28/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 86

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 12/03/2018
Next Scheduled EDR Contact: 04/08/2019
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: 03/01/2018
Date Data Arrived at EDR: 03/28/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 86

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/03/2018
Next Scheduled EDR Contact: 04/08/2019
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: 03/01/2018
Date Data Arrived at EDR: 03/28/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 86

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/03/2018
Next Scheduled EDR Contact: 04/08/2019
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: 03/01/2018
Date Data Arrived at EDR: 03/28/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 86

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/03/2018
Next Scheduled EDR Contact: 04/08/2019
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: 03/01/2018
Date Data Arrived at EDR: 03/28/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 86

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/03/2018
Next Scheduled EDR Contact: 04/08/2019
Data Release Frequency: Quarterly

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 10/17/2018
Date Data Arrived at EDR: 10/25/2018
Date Made Active in Reports: 12/07/2018
Number of Days to Update: 43

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 10/15/2018
Next Scheduled EDR Contact: 02/25/2019
Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 07/31/2018
Date Data Arrived at EDR: 08/28/2018
Date Made Active in Reports: 09/14/2018
Number of Days to Update: 17

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 11/28/2018
Next Scheduled EDR Contact: 03/11/2019
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: 07/31/2018
Date Data Arrived at EDR: 08/28/2018
Date Made Active in Reports: 09/14/2018
Number of Days to Update: 17

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 11/28/2018
Next Scheduled EDR Contact: 03/11/2019
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: 09/24/2018
Date Data Arrived at EDR: 09/25/2018
Date Made Active in Reports: 11/09/2018
Number of Days to Update: 45

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 01/29/2019
Next Scheduled EDR Contact: 04/08/2019
Data Release Frequency: Quarterly

State- and tribal - equivalent NPL

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 10/29/2018
Date Data Arrived at EDR: 10/30/2018
Date Made Active in Reports: 12/13/2018
Number of Days to Update: 44

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/29/2019
Next Scheduled EDR Contact: 05/11/2019
Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 10/29/2018
Date Data Arrived at EDR: 10/30/2018
Date Made Active in Reports: 12/13/2018
Number of Days to Update: 44

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/29/2019
Next Scheduled EDR Contact: 05/11/2019
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: 11/12/2018
Date Data Arrived at EDR: 11/14/2018
Date Made Active in Reports: 12/13/2018
Number of Days to Update: 29

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 11/14/2018
Next Scheduled EDR Contact: 02/25/2019
Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

LUST REG 9: Leaking Underground Storage Tank Report
Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-637-5595
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: No Update Planned

LUST REG 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 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 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: Leaking Underground Fuel Tank Report (GEOTRACKER)
Leaking Underground Storage Tank (LUST) Sites included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 12/11/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Quarterly

LUST REG 1: Active Toxic Site Investigation
Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-570-3769
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 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 3: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

LUST REG 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 8: Leaking Underground Storage Tanks
California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 03/28/2005
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-4496
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Varies

LUST REG 6L: Leaking Underground Storage Tank Case Listing
For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 530-542-5572
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 04/12/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 01/25/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 04/10/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 01/25/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 04/25/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 01/25/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 04/24/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 01/25/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 04/13/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 01/25/2019
Next Scheduled EDR Contact: 05/06/2019
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: 05/08/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 01/25/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 04/01/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 01/25/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 04/12/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 01/25/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

CPS-SLIC: Statewide SLIC Cases (GEOTRACKER)
Cleanup Program Sites (CPS; also known as Site Cleanups [SC] and formerly known as Spills, Leaks, Investigations, and Cleanups [SLIC] sites) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18
Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30
Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28
Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: Semi-Annually

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47
Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Varies

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16
Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Semi-Annually

SLIC REG 6L: SLIC Sites
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36

Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11

Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: Annually

State and tribal registered storage tank lists

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 05/15/2017
Date Data Arrived at EDR: 05/30/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 136

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 01/08/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: Varies

MILITARY UST SITES: Military UST Sites (GEOTRACKER)
Military ust sites

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Varies

UST CLOSURE: Proposed Closure of Underground Storage Tank (UST) Cases
UST cases that are being considered for closure by either the State Water Resources Control Board or the Executive Director have been posted for a 60-day public comment period. UST Case Closures being proposed for consideration by the State Water Resources Control Board. These are primarily UST cases that meet closure criteria under the decisional framework in State Water Board Resolution No. 92-49 and other Board orders. UST Case Closures proposed for consideration by the Executive Director pursuant to State Water Board Resolution No. 2012-0061. These are cases that meet the criteria of the Low-Threat UST Case Closure Policy. UST Case Closure Review Denials and Approved Orders.

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/12/2018
Date Made Active in Reports: 01/16/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 916-327-7844
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Varies

UST: Active UST Facilities
Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 12/11/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Semi-Annually

AST: Aboveground Petroleum Storage Tank Facilities
A listing of aboveground storage tank petroleum storage tank locations.

Date of Government Version: 07/06/2016
Date Data Arrived at EDR: 07/12/2016
Date Made Active in Reports: 09/19/2016
Number of Days to Update: 69

Source: California Environmental Protection Agency
Telephone: 916-327-5092
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 04/01/2019
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: 04/25/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 01/25/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

INDIAN UST R1: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 04/13/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 01/25/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 04/10/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 01/25/2019
Next Scheduled EDR Contact: 05/06/2019
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: 04/24/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 01/25/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 04/12/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 01/25/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 04/12/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 01/25/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 05/08/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 01/25/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 04/01/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 01/25/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

State and tribal voluntary cleanup sites

VCP: Voluntary Cleanup Program Properties

Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 10/29/2018
Date Data Arrived at EDR: 10/30/2018
Date Made Active in Reports: 12/13/2018
Number of Days to Update: 44

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/29/2019
Next Scheduled EDR Contact: 05/11/2019
Data Release Frequency: Quarterly

INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015
Date Data Arrived at EDR: 09/29/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 142

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 12/19/2018
Next Scheduled EDR Contact: 04/08/2019
Data Release Frequency: Varies

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

State and tribal Brownfields sites

BROWNFIELDS: Considered Brownfieds Sites Listing

A listing of sites the SWRCB considers to be Brownfields since these are sites have come to them through the MOA Process.

Date of Government Version: 09/24/2018
Date Data Arrived at EDR: 09/25/2018
Date Made Active in Reports: 10/15/2018
Number of Days to Update: 20

Source: State Water Resources Control Board
Telephone: 916-323-7905
Last EDR Contact: 12/21/2018
Next Scheduled EDR Contact: 04/08/2019
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: 12/17/2018
Date Data Arrived at EDR: 12/18/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 24

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 12/18/2018
Next Scheduled EDR Contact: 04/01/2019
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT: Waste Management Unit Database

Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30

Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 01/28/2019
Next Scheduled EDR Contact: 05/11/2019
Data Release Frequency: No Update Planned

SWRCY: Recycler Database

A listing of recycling facilities in California.

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/12/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 34

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing

A listing of registered waste tire haulers.

Date of Government Version: 09/26/2018
Date Data Arrived at EDR: 09/28/2018
Date Made Active in Reports: 11/01/2018
Number of Days to Update: 34

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 08/07/2018
Next Scheduled EDR Contact: 02/25/2019
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: 01/29/2019
Next Scheduled EDR Contact: 05/11/2019
Data Release Frequency: Varies

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 01/17/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: No Update Planned

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land
A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 176

Source: Department of Health & Human Serivces, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 11/02/2018
Next Scheduled EDR Contact: 02/11/2019
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register
A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 09/21/2018
Date Data Arrived at EDR: 09/21/2018
Date Made Active in Reports: 11/09/2018
Number of Days to Update: 49

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 11/26/2018
Next Scheduled EDR Contact: 03/11/2019
Data Release Frequency: No Update Planned

HIST CAL-SITES: Calsites Database
The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21

Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program
This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 10/29/2018
Date Data Arrived at EDR: 10/30/2018
Date Made Active in Reports: 12/13/2018
Number of Days to Update: 44

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/29/2019
Next Scheduled EDR Contact: 05/11/2019
Data Release Frequency: Quarterly

CDL: Clandestine Drug Labs
A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 06/12/2018
Date Made Active in Reports: 08/06/2018
Number of Days to Update: 55

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 01/25/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: Varies

TOXIC PITS: Toxic Pits Cleanup Act Sites
Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: No Update Planned

CERS HAZ WASTE: CERS HAZ WASTE
List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, and RCRA LQ HW Generator programs.

Date of Government Version: 10/22/2018
Date Data Arrived at EDR: 10/23/2018
Date Made Active in Reports: 11/30/2018
Number of Days to Update: 38
Source: CalEPA
Telephone: 916-323-2514
Last EDR Contact: 01/24/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Quarterly

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: 09/21/2018
Date Data Arrived at EDR: 09/21/2018
Date Made Active in Reports: 11/09/2018
Number of Days to Update: 49
Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 11/26/2018
Next Scheduled EDR Contact: 03/11/2019
Data Release Frequency: Quarterly

Local Lists of Registered Storage Tanks

SWEEPS UST: SWEEPS UST Listing
Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35
Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

UST MENDOCINO: Mendocino County UST Database
A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 12/04/2018
Date Data Arrived at EDR: 12/06/2018
Date Made Active in Reports: 12/14/2018
Number of Days to Update: 8
Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 11/26/2018
Next Scheduled EDR Contact: 03/11/2019
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

SAN FRANCISCO AST: Aboveground Storage Tank Site Listing
Aboveground storage tank sites

Date of Government Version: 09/11/2018
Date Data Arrived at EDR: 09/12/2018
Date Made Active in Reports: 10/11/2018
Number of Days to Update: 29

Source: San Francisco County Department of Public Health
Telephone: 415-252-3896
Last EDR Contact: 11/01/2018
Next Scheduled EDR Contact: 02/18/2019
Data Release Frequency: Varies

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

CERS TANKS: California Environmental Reporting System (CERS) Tanks

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Aboveground Petroleum Storage and Underground Storage Tank regulatory programs.

Date of Government Version: 10/22/2018
Date Data Arrived at EDR: 10/23/2018
Date Made Active in Reports: 11/30/2018
Number of Days to Update: 38

Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 01/24/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Quarterly

Local Land Records

LIENS: Environmental Liens Listing

A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 11/29/2018
Date Data Arrived at EDR: 12/04/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 38

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 11/29/2018
Next Scheduled EDR Contact: 03/18/2019
Data Release Frequency: Varies

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 12/12/2018
Date Data Arrived at EDR: 12/28/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 14

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 12/28/2018
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Semi-Annually

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 12/03/2018
Date Data Arrived at EDR: 12/05/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 37

Source: DTSC and SWRCB
Telephone: 916-323-3400
Last EDR Contact: 12/05/2018
Next Scheduled EDR Contact: 03/18/2019
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: 03/26/2018
Date Data Arrived at EDR: 03/27/2018
Date Made Active in Reports: 06/08/2018
Number of Days to Update: 73

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 01/08/2019
Next Scheduled EDR Contact: 04/08/2019
Data Release Frequency: Quarterly

CHMIRS: California Hazardous Material Incident Report System

California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 04/06/2018
Date Data Arrived at EDR: 04/24/2018
Date Made Active in Reports: 06/14/2018
Number of Days to Update: 51

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 01/24/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Semi-Annually

LDS: Land Disposal Sites Listing (GEOTRACKER)

Land Disposal sites (Landfills) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Qualilty Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing (GEOTRACKER)

Military sites (consisting of: Military UST sites; Military Privatized sites; and Military Cleanup sites [formerly known as DoD non UST]) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Quarterly

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/22/2013
Number of Days to Update: 50

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 03/01/2018
Date Data Arrived at EDR: 03/28/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 86

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/03/2018
Next Scheduled EDR Contact: 04/08/2019
Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 01/31/2015
Date Data Arrived at EDR: 07/08/2015
Date Made Active in Reports: 10/13/2015
Number of Days to Update: 97

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 11/19/2018
Next Scheduled EDR Contact: 03/04/2019
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: 01/11/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: Semi-Annually

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 02/06/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 339

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 01/11/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 01/01/2017
Date Data Arrived at EDR: 02/03/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 63

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 11/16/2018
Next Scheduled EDR Contact: 02/25/2019
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 08/31/2018
Date Data Arrived at EDR: 09/25/2018
Date Made Active in Reports: 11/09/2018
Number of Days to Update: 45

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 12/21/2018
Next Scheduled EDR Contact: 04/08/2019
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 11/05/2018
Next Scheduled EDR Contact: 02/18/2019
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: 09/30/2017
Date Data Arrived at EDR: 05/08/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 73

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 11/09/2018
Next Scheduled EDR Contact: 02/18/2019
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 06/21/2017
Date Made Active in Reports: 01/05/2018
Number of Days to Update: 198

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 12/21/2018
Next Scheduled EDR Contact: 04/01/2019
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 01/10/2018
Date Made Active in Reports: 01/12/2018
Number of Days to Update: 2

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 11/16/2018
Next Scheduled EDR Contact: 03/04/2019
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 12/10/2010
Date Made Active in Reports: 02/25/2011
Number of Days to Update: 77

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 01/25/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 12/12/2018
Date Data Arrived at EDR: 12/28/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 14

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 12/28/2018
Next Scheduled EDR Contact: 03/18/2019
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 10/26/2018
Date Data Arrived at EDR: 11/06/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 66

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 01/22/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties
A listing of verified Potentially Responsible Parties

Date of Government Version: 08/13/2018
Date Data Arrived at EDR: 10/04/2018
Date Made Active in Reports: 11/09/2018
Number of Days to Update: 36

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 12/28/2018
Next Scheduled EDR Contact: 02/18/2019
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: 09/14/2018
Date Data Arrived at EDR: 10/11/2018
Date Made Active in Reports: 12/07/2018
Number of Days to Update: 57

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 01/11/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System
The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016
Date Data Arrived at EDR: 11/23/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 01/07/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Quarterly

MLTS: Material Licensing Tracking System
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 08/30/2016
Date Data Arrived at EDR: 09/08/2016
Date Made Active in Reports: 10/21/2016
Number of Days to Update: 43

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 01/22/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 08/07/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 76
Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 12/05/2018
Next Scheduled EDR Contact: 03/18/2019
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: 12/03/2018
Next Scheduled EDR Contact: 03/18/2019
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 05/24/2017
Date Data Arrived at EDR: 11/30/2017
Date Made Active in Reports: 12/15/2017
Number of Days to Update: 15
Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 01/25/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

RADINFO: Radiation Information Database
The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 10/02/2018
Date Data Arrived at EDR: 10/03/2018
Date Made Active in Reports: 11/09/2018
Number of Days to Update: 37
Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 01/03/2019
Next Scheduled EDR Contact: 04/15/2019
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing
A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing
A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 10/01/2018
Date Data Arrived at EDR: 10/30/2018
Date Made Active in Reports: 01/18/2019
Number of Days to Update: 80

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 01/29/2019
Next Scheduled EDR Contact: 05/11/2019
Data Release Frequency: Quarterly

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: 09/30/2018
Date Data Arrived at EDR: 10/12/2018
Date Made Active in Reports: 12/07/2018
Number of Days to Update: 56

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 01/07/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 09/28/2017
Number of Days to Update: 218

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 11/21/2018
Next Scheduled EDR Contact: 03/04/2019
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 546

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 01/07/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 08/08/2017
Date Data Arrived at EDR: 09/11/2018
Date Made Active in Reports: 09/14/2018
Number of Days to Update: 3

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 11/01/2018
Next Scheduled EDR Contact: 02/18/2019
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 06/23/2017
Date Data Arrived at EDR: 10/11/2017
Date Made Active in Reports: 11/03/2017
Number of Days to Update: 23

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 12/14/2018
Next Scheduled EDR Contact: 03/04/2019
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 12/12/2018
Date Data Arrived at EDR: 12/28/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 14

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 12/28/2018
Next Scheduled EDR Contact: 04/15/2019
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 08/01/2018
Date Data Arrived at EDR: 08/29/2018
Date Made Active in Reports: 10/05/2018
Number of Days to Update: 37

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 11/30/2018
Next Scheduled EDR Contact: 03/11/2019
Data Release Frequency: Semi-Annually

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 12/05/2005
Date Data Arrived at EDR: 02/29/2008
Date Made Active in Reports: 04/18/2008
Number of Days to Update: 49

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 11/30/2018
Next Scheduled EDR Contact: 03/11/2019
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 11/30/2018
Next Scheduled EDR Contact: 03/11/2019
Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 09/10/2018
Date Data Arrived at EDR: 09/11/2018
Date Made Active in Reports: 09/14/2018
Number of Days to Update: 3

Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 12/19/2018
Next Scheduled EDR Contact: 03/25/2019
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: 11/15/2018
Date Data Arrived at EDR: 12/05/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 37

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 01/08/2019
Next Scheduled EDR Contact: 03/18/2019
Data Release Frequency: Quarterly

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 09/02/2018
Date Data Arrived at EDR: 09/05/2018
Date Made Active in Reports: 09/14/2018
Number of Days to Update: 9

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 01/07/2019
Next Scheduled EDR Contact: 03/18/2019
Data Release Frequency: Quarterly

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 05/31/2018
Date Data Arrived at EDR: 07/26/2018
Date Made Active in Reports: 10/05/2018
Number of Days to Update: 71

Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 11/30/2018
Next Scheduled EDR Contact: 03/11/2019
Data Release Frequency: Varies

UXO: Unexploded Ordnance Sites
A listing of unexploded ordnance site locations

Date of Government Version: 09/30/2017
Date Data Arrived at EDR: 06/19/2018
Date Made Active in Reports: 09/14/2018
Number of Days to Update: 87

Source: Department of Defense
Telephone: 703-704-1564
Last EDR Contact: 01/14/2019
Next Scheduled EDR Contact: 04/29/2019
Data Release Frequency: Varies

FUELS PROGRAM: EPA Fuels Program Registered Listing
This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 08/22/2018
Date Data Arrived at EDR: 08/22/2018
Date Made Active in Reports: 10/05/2018
Number of Days to Update: 44

Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 11/19/2018
Next Scheduled EDR Contact: 03/04/2019
Data Release Frequency: Quarterly

CA BOND EXP. PLAN: Bond Expenditure Plan
Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989
Date Data Arrived at EDR: 07/27/1994
Date Made Active in Reports: 08/02/1994
Number of Days to Update: 6

Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CORTESE: "Cortese" Hazardous Waste & Substances Sites List
The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

Date of Government Version: 09/24/2018
Date Data Arrived at EDR: 09/25/2018
Date Made Active in Reports: 10/16/2018
Number of Days to Update: 21

Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 12/21/2018
Next Scheduled EDR Contact: 04/08/2019
Data Release Frequency: Quarterly

CUPA LIVERMORE-PLEASANTON: CUPA Facility Listing
list of facilities associated with the various CUPA programs in Livermore-Pleasanton

Date of Government Version: 08/28/2018
Date Data Arrived at EDR: 08/30/2018
Date Made Active in Reports: 11/01/2018
Number of Days to Update: 63

Source: Livermore-Pleasanton Fire Department
Telephone: 925-454-2361
Last EDR Contact: 01/07/2019
Next Scheduled EDR Contact: 02/25/2019
Data Release Frequency: Varies

CUPA SAN FRANCISCO CO: CUPA Facility Listing
Cupa facilities

Date of Government Version: 09/11/2018
Date Data Arrived at EDR: 09/12/2018
Date Made Active in Reports: 09/19/2018
Number of Days to Update: 7

Source: San Francisco County Department of Environmental Health
Telephone: 415-252-3896
Last EDR Contact: 11/01/2018
Next Scheduled EDR Contact: 02/18/2019
Data Release Frequency: Varies

DRYCLEAN AVAQMD: Antelope Valley Air Quality Management District Drycleaner Listing
A listing of dry cleaners in the Antelope Valley Air Quality Management District.

Date of Government Version: 11/13/2018
Date Data Arrived at EDR: 12/04/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 42

Source: Antelope Valley Air Quality Management District
Telephone: 661-723-8070
Last EDR Contact: 11/29/2018
Next Scheduled EDR Contact: 03/18/2019
Data Release Frequency: Varies

DRYCLEAN SOUTH COAST: South Coast Air Quality Management District Drycleaner Listing
A listing of dry cleaners in the South Coast Air Quality Management District

Date of Government Version: 10/04/2018
Date Data Arrived at EDR: 10/05/2018
Date Made Active in Reports: 11/01/2018
Number of Days to Update: 27

Source: South Coast Air Quality Management District
Telephone: 909-396-3211
Last EDR Contact: 11/26/2018
Next Scheduled EDR Contact: 03/11/2019
Data Release Frequency: Varies

DRYCLEANERS: Cleaner Facilities
A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 08/30/2018
Date Data Arrived at EDR: 09/27/2018
Date Made Active in Reports: 11/01/2018
Number of Days to Update: 35

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 11/29/2018
Next Scheduled EDR Contact: 03/18/2019
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: 12/31/2017
Date Data Arrived at EDR: 06/20/2018
Date Made Active in Reports: 08/06/2018
Number of Days to Update: 47

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 12/21/2018
Next Scheduled EDR Contact: 04/01/2019
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: 11/01/2018
Date Data Arrived at EDR: 11/02/2018
Date Made Active in Reports: 12/13/2018
Number of Days to Update: 41

Source: State Water Resoruces Control Board
Telephone: 916-445-9379
Last EDR Contact: 01/17/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing
Financial Assurance information

Date of Government Version: 10/19/2018
Date Data Arrived at EDR: 10/23/2018
Date Made Active in Reports: 11/30/2018
Number of Days to Update: 38

Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 01/17/2019
Next Scheduled EDR Contact: 05/06/2019
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: 11/18/2018
Date Data Arrived at EDR: 11/19/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 53

Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 11/07/2018
Next Scheduled EDR Contact: 02/25/2019
Data Release Frequency: Varies

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method. This database begins with calendar year 1993.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 10/10/2018
Date Made Active in Reports: 11/16/2018
Number of Days to Update: 37

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 01/07/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: Annually

ICE: ICE

Contains data pertaining to the Permitted Facilities with Inspections / Enforcements sites tracked in Envirostor.

Date of Government Version: 11/19/2018
Date Data Arrived at EDR: 11/19/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 53

Source: Department of Toxic Subsances Control
Telephone: 877-786-9427
Last EDR Contact: 11/19/2018
Next Scheduled EDR Contact: 03/04/2019
Data Release Frequency: Quarterly

HIST CORTESE: Hazardous Waste & Substance Site List

The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001
Date Data Arrived at EDR: 01/22/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/22/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

HWP: EnviroStor Permitted Facilities Listing

Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 11/19/2018
Date Data Arrived at EDR: 11/19/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 53

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 11/19/2018
Next Scheduled EDR Contact: 03/04/2019
Data Release Frequency: Quarterly

HWT: Registered Hazardous Waste Transporter Database

A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 10/09/2018
Date Data Arrived at EDR: 10/10/2018
Date Made Active in Reports: 11/16/2018
Number of Days to Update: 37

Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 01/08/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: Quarterly

MINES: Mines Site Location Listing
A listing of mine site locations from the Office of Mine Reclamation.

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/12/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 34

Source: Department of Conservation
Telephone: 916-322-1080
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Quarterly

MWMP: Medical Waste Management Program Listing
The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 11/09/2018
Date Data Arrived at EDR: 12/05/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 37

Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 12/05/2018
Next Scheduled EDR Contact: 03/18/2019
Data Release Frequency: Varies

NPDES: NPDES Permits Listing
A listing of NPDES permits, including stormwater.

Date of Government Version: 11/12/2018
Date Data Arrived at EDR: 11/14/2018
Date Made Active in Reports: 12/13/2018
Number of Days to Update: 29

Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 11/14/2018
Next Scheduled EDR Contact: 02/25/2019
Data Release Frequency: Quarterly

PEST LIC: Pesticide Regulation Licenses Listing
A listing of licenses and certificates issued by the Department of Pesticide Regulation. The DPR issues licenses and/or certificates to: Persons and businesses that apply or sell pesticides; Pest control dealers and brokers; Persons who advise on agricultural pesticide applications.

Date of Government Version: 12/03/2018
Date Data Arrived at EDR: 12/05/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 37

Source: Department of Pesticide Regulation
Telephone: 916-445-4038
Last EDR Contact: 12/05/2018
Next Scheduled EDR Contact: 03/18/2019
Data Release Frequency: Quarterly

PROC: Certified Processors Database
A listing of certified processors.

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/12/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 34

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Quarterly

NOTIFY 65: Proposition 65 Records
Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 09/19/2018
Date Data Arrived at EDR: 09/20/2018
Date Made Active in Reports: 10/19/2018
Number of Days to Update: 29

Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 04/01/2019
Data Release Frequency: No Update Planned

UIC: UIC Listing
A listing of wells identified as underground injection wells, in the California Oil and Gas Wells database.

Date of Government Version: 04/27/2018
Date Data Arrived at EDR: 06/13/2018
Date Made Active in Reports: 07/17/2018
Number of Days to Update: 34
Source: Deaprtment of Conservation
Telephone: 916-445-2408
Last EDR Contact: 01/25/2019
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Varies

UIC GEO: Underground Injection Control Sites (GEOTRACKER)
Underground control injection sites

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35
Source: State Water Resource Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Varies

WASTEWATER PITS: Oil Wastewater Pits Listing
Water officials discovered that oil producers have been dumping chemical-laden wastewater into hundreds of unlined pits that are operating without proper permits. Inspections completed by the Central Valley Regional Water Quality Control Board revealed the existence of previously unidentified waste sites. The water boards review found that more than one-third of the region's active disposal pits are operating without permission.

Date of Government Version: 05/08/2018
Date Data Arrived at EDR: 07/11/2018
Date Made Active in Reports: 09/13/2018
Number of Days to Update: 64
Source: RWQCB, Central Valley Region
Telephone: 559-445-5577
Last EDR Contact: 01/11/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: Varies

WDS: Waste Discharge System
Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 9
Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 11/14/2018
Next Scheduled EDR Contact: 03/04/2019
Data Release Frequency: Quarterly

MILITARY PRIV SITES: Military Privatized Sites (GEOTRACKER)
Military privatized sites

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Varies

PROJECT: Project Sites (GEOTRACKER)
Projects sites

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Varies

WDR: Waste Discharge Requirements Listing
In general, the Waste Discharge Requirements (WDRs) Program (sometimes also referred to as the "Non Chapter 15 (Non 15) Program") regulates point discharges that are exempt pursuant to Subsection 20090 of Title 27 and not subject to the Federal Water Pollution Control Act. Exemptions from Title 27 may be granted for nine categories of discharges (e.g., sewage, wastewater, etc.) that meet, and continue to meet, the preconditions listed for each specific exemption. The scope of the WDRs Program also includes the discharge of wastes classified as inert, pursuant to section 20230 of Title 27.

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/12/2018
Date Made Active in Reports: 01/18/2019
Number of Days to Update: 37

Source: State Water Resources Control Board
Telephone: 916-341-5810
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Quarterly

CIWQS: California Integrated Water Quality System

The California Integrated Water Quality System (CIWQS) is a computer system used by the State and Regional Water Quality Control Boards to track information about places of environmental interest, manage permits and other orders, track inspections, and manage violations and enforcement activities.

Date of Government Version: 12/03/2018
Date Data Arrived at EDR: 12/04/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 38

Source: State Water Resources Control Board
Telephone: 866-794-4977
Last EDR Contact: 12/04/2018
Next Scheduled EDR Contact: 03/18/2019
Data Release Frequency: Varies

CERS: CalEPA Regulated Site Portal Data

The CalEPA Regulated Site Portal database combines data about environmentally regulated sites and facilities in California into a single database. It combines data from a variety of state and federal databases, and provides an overview of regulated activities across the spectrum of environmental programs for any given location in California. These activities include hazardous materials and waste, state and federal cleanups, impacted ground and surface waters, and toxic materials

Date of Government Version: 10/22/2018
Date Data Arrived at EDR: 10/23/2018
Date Made Active in Reports: 11/30/2018
Number of Days to Update: 38

Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 01/24/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

WIP: Well Investigation Program Case List

Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009
Date Data Arrived at EDR: 07/21/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 13

Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 12/19/2018
Next Scheduled EDR Contact: 04/08/2019
Data Release Frequency: Varies

NON-CASE INFO: Non-Case Information Sites (GEOTRACKER)

Non-Case Information sites

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Varies

OTHER OIL GAS: Other Oil & Gas Projects Sites (GEOTRACKER)

Other Oil & Gas Projects sites

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Varies

PROD WATER PONDS: Produced Water Ponds Sites (GEOTRACKER)

Produced water ponds sites

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Varies

SAMPLING POINT: Sampling Point ? Public Sites (GEOTRACKER)
Sampling point - public sites

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Varies

WELL STIM PROJ: Well Stimulation Project (GEOTRACKER)
Includes areas of groundwater monitoring plans, a depiction of the monitoring network, and the facilities, boundaries, and subsurface characteristics of the oilfield and the features (oil and gas wells, produced water ponds, UIC wells, water supply wells, etc?) being monitored

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Varies

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants
The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historical Auto Stations
EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Resources Recycling and Recovery in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196

Source: Department of Resources Recycling and Recovery
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the State Water Resources Control Board in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/30/2013
Number of Days to Update: 182

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

COUNTY RECORDS

ALAMEDA COUNTY:

CS ALAMEDA: 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: 10/05/2018
Date Data Arrived at EDR: 10/10/2018
Date Made Active in Reports: 11/01/2018
Number of Days to Update: 22

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 01/07/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: Semi-Annually

UST ALAMEDA: Underground Tanks

Underground storage tank sites located in Alameda county.

Date of Government Version: 10/05/2018
Date Data Arrived at EDR: 10/10/2018
Date Made Active in Reports: 11/02/2018
Number of Days to Update: 23

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 01/07/2019
Next Scheduled EDR Contact: 04/24/2047
Data Release Frequency: Semi-Annually

AMADOR COUNTY:

CUPA AMADOR: CUPA Facility List
Cupa Facility List

Date of Government Version: 07/01/2018
Date Data Arrived at EDR: 07/24/2018
Date Made Active in Reports: 08/20/2018
Number of Days to Update: 27

Source: Amador County Environmental Health
Telephone: 209-223-6439
Last EDR Contact: 01/04/2019
Next Scheduled EDR Contact: 03/18/2019
Data Release Frequency: Varies

BUTTE COUNTY:

CUPA BUTTE: CUPA Facility Listing
Cupa facility list.

Date of Government Version: 04/21/2017
Date Data Arrived at EDR: 04/25/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 106

Source: Public Health Department
Telephone: 530-538-7149
Last EDR Contact: 01/07/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA CALVERAS: CUPA Facility Listing
Cupa Facility Listing

Date of Government Version: 10/31/2018
Date Data Arrived at EDR: 12/04/2018
Date Made Active in Reports: 12/12/2018
Number of Days to Update: 8

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 12/21/2018
Next Scheduled EDR Contact: 04/08/2019
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA COLUSA: CUPA Facility List
Cupa facility list.

Date of Government Version: 05/23/2018
Date Data Arrived at EDR: 05/24/2018
Date Made Active in Reports: 07/13/2018
Number of Days to Update: 50

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 11/14/2018
Next Scheduled EDR Contact: 02/18/2019
Data Release Frequency: Semi-Annually

CONTRA COSTA COUNTY:

SL CONTRA COSTA: Site List
List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 11/26/2018
Date Data Arrived at EDR: 11/30/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 46

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 01/28/2019
Next Scheduled EDR Contact: 05/11/2019
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA DEL NORTE: CUPA Facility List
Cupa Facility list

Date of Government Version: 08/16/2018
Date Data Arrived at EDR: 11/06/2018
Date Made Active in Reports: 11/14/2018
Number of Days to Update: 8

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 01/28/2019
Next Scheduled EDR Contact: 05/11/2019
Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA EL DORADO: CUPA Facility List
CUPA facility list.

Date of Government Version: 12/13/2018
Date Data Arrived at EDR: 12/18/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 28

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 01/28/2019
Next Scheduled EDR Contact: 05/11/2019
Data Release Frequency: Varies

FRESNO COUNTY:

CUPA FRESNO: CUPA Resources List
Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 10/16/2018
Date Data Arrived at EDR: 10/18/2018
Date Made Active in Reports: 11/14/2018
Number of Days to Update: 27

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 12/26/2018
Next Scheduled EDR Contact: 04/15/2019
Data Release Frequency: Semi-Annually

GLENN COUNTY:

CUPA GLENN: CUPA Facility List
Cupa facility list

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/24/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 49

Source: Glenn County Air Pollution Control District
Telephone: 830-934-6500
Last EDR Contact: 01/17/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

HUMBOLDT COUNTY:

CUPA HUMBOLDT: CUPA Facility List
CUPA facility list.

Date of Government Version: 12/11/2018
Date Data Arrived at EDR: 12/13/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 33

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 11/19/2018
Next Scheduled EDR Contact: 03/04/2019
Data Release Frequency: Semi-Annually

IMPERIAL COUNTY:

CUPA IMPERIAL: CUPA Facility List
Cupa facility list.

Date of Government Version: 10/22/2018
Date Data Arrived at EDR: 10/25/2018
Date Made Active in Reports: 11/14/2018
Number of Days to Update: 20

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 01/17/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

INYO COUNTY:

CUPA INYO: CUPA Facility List
Cupa facility list.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/03/2018
Date Made Active in Reports: 06/14/2018
Number of Days to Update: 72

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 11/14/2018
Next Scheduled EDR Contact: 03/04/2019
Data Release Frequency: Varies

KERN COUNTY:

UST KERN: Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 11/02/2018
Date Data Arrived at EDR: 11/07/2018
Date Made Active in Reports: 12/14/2018
Number of Days to Update: 37

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 11/01/2018
Next Scheduled EDR Contact: 02/18/2019
Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA KINGS: 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: 11/21/2018
Date Data Arrived at EDR: 11/27/2018
Date Made Active in Reports: 12/12/2018
Number of Days to Update: 15

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 11/14/2018
Next Scheduled EDR Contact: 03/04/2019
Data Release Frequency: Varies

LAKE COUNTY:

CUPA LAKE: CUPA Facility List
Cupa facility list

Date of Government Version: 11/07/2018
Date Data Arrived at EDR: 11/08/2018
Date Made Active in Reports: 11/14/2018
Number of Days to Update: 6

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 01/14/2019
Next Scheduled EDR Contact: 04/29/2019
Data Release Frequency: Varies

LASSEN COUNTY:

CUPA LASSEN: CUPA Facility List
Cupa facility list

Date of Government Version: 10/15/2018
Date Data Arrived at EDR: 10/23/2018
Date Made Active in Reports: 11/14/2018
Number of Days to Update: 22

Source: Lassen County Environmental Health
Telephone: 530-251-8528
Last EDR Contact: 01/17/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

LOS ANGELES COUNTY:

AOCONCERN: Key Areas of Concerns in Los Angeles County
San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office. Date of Government Version: 3/30/2009 Exide Site area is a cleanup plan of lead-impacted soil surrounding the former Exide Facility as designated by the DTSC. Date of Government Version: 7/17/2017

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: N/A
Telephone: N/A
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 04/01/2019
Data Release Frequency: No Update Planned

HMS LOS ANGELES: HMS: Street Number List
Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 09/20/2018
Date Data Arrived at EDR: 10/12/2018
Date Made Active in Reports: 11/16/2018
Number of Days to Update: 35

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 01/07/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: Semi-Annually

LF LOS ANGELES: List of Solid Waste Facilities
Solid Waste Facilities in Los Angeles County.

Date of Government Version: 10/15/2018
Date Data Arrived at EDR: 10/16/2018
Date Made Active in Reports: 11/16/2018
Number of Days to Update: 31

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 01/15/2019
Next Scheduled EDR Contact: 04/29/2019
Data Release Frequency: Varies

LF LOS ANGELES CITY: City of Los Angeles Landfills
Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 01/01/2018
Date Data Arrived at EDR: 05/01/2018
Date Made Active in Reports: 05/14/2018
Number of Days to Update: 13

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 01/15/2019
Next Scheduled EDR Contact: 04/29/2019
Data Release Frequency: Varies

SITE MIT LOS ANGELES: Site Mitigation List
Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 07/01/2018
Date Data Arrived at EDR: 10/16/2018
Date Made Active in Reports: 11/16/2018
Number of Days to Update: 31

Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 01/14/2019
Next Scheduled EDR Contact: 04/29/2019
Data Release Frequency: Annually

UST EL SEGUNDO: City of El Segundo Underground Storage Tank
Underground storage tank sites located in El Segundo city.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 04/19/2017
Date Made Active in Reports: 05/10/2017
Number of Days to Update: 21

Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 01/14/2019
Next Scheduled EDR Contact: 04/29/2019
Data Release Frequency: Semi-Annually

UST LONG BEACH: City of Long Beach Underground Storage Tank
Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 03/09/2017
Date Data Arrived at EDR: 03/10/2017
Date Made Active in Reports: 05/03/2017
Number of Days to Update: 54

Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 01/17/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Annually

UST TORRANCE: City of Torrance Underground Storage Tank
Underground storage tank sites located in the city of Torrance.

Date of Government Version: 10/02/2018
Date Data Arrived at EDR: 10/05/2018
Date Made Active in Reports: 11/02/2018
Number of Days to Update: 28

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 01/17/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA MADERA: 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: 11/26/2018
Date Data Arrived at EDR: 11/27/2018
Date Made Active in Reports: 12/12/2018
Number of Days to Update: 15

Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 11/14/2018
Next Scheduled EDR Contact: 03/04/2019
Data Release Frequency: Varies

MARIN COUNTY:

UST MARIN: Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 09/26/2018
Date Data Arrived at EDR: 10/04/2018
Date Made Active in Reports: 11/02/2018
Number of Days to Update: 29

Source: Public Works Department Waste Management
Telephone: 415-473-6647
Last EDR Contact: 01/14/2019
Next Scheduled EDR Contact: 04/15/2019
Data Release Frequency: Semi-Annually

MERCED COUNTY:

CUPA MERCED: CUPA Facility List
CUPA facility list.

Date of Government Version: 08/29/2018
Date Data Arrived at EDR: 08/31/2018
Date Made Active in Reports: 09/19/2018
Number of Days to Update: 19

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 01/09/2019
Next Scheduled EDR Contact: 03/04/2019
Data Release Frequency: Varies

MONO COUNTY:

CUPA MONO: CUPA Facility List
CUPA Facility List

Date of Government Version: 12/07/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/24/2019
Number of Days to Update: 44

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 12/06/2018
Next Scheduled EDR Contact: 03/11/2019
Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA MONTEREY: CUPA Facility Listing
CUPA Program listing from the Environmental Health Division.

Date of Government Version: 10/29/2018
Date Data Arrived at EDR: 11/01/2018
Date Made Active in Reports: 11/16/2018
Number of Days to Update: 15

Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 12/27/2018
Next Scheduled EDR Contact: 04/15/2019
Data Release Frequency: Varies

NAPA COUNTY:

LUST NAPA: Sites With Reported Contamination
A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 01/09/2017
Date Data Arrived at EDR: 01/11/2017
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 50

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 11/21/2018
Next Scheduled EDR Contact: 03/11/2019
Data Release Frequency: No Update Planned

UST NAPA: Closed and Operating Underground Storage Tank Sites
Underground storage tank sites located in Napa county.

Date of Government Version: 11/28/2018
Date Data Arrived at EDR: 11/30/2018
Date Made Active in Reports: 12/14/2018
Number of Days to Update: 14

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 11/26/2018
Next Scheduled EDR Contact: 03/11/2019
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA NEVADA: CUPA Facility List
CUPA facility list.

Date of Government Version: 11/06/2018
Date Data Arrived at EDR: 11/08/2018
Date Made Active in Reports: 11/14/2018
Number of Days to Update: 6

Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 01/28/2019
Next Scheduled EDR Contact: 05/11/2019
Data Release Frequency: Varies

ORANGE COUNTY:

IND_SITE ORANGE: List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 10/04/2018
Date Data Arrived at EDR: 11/14/2018
Date Made Active in Reports: 12/13/2018
Number of Days to Update: 29

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 11/05/2018
Next Scheduled EDR Contact: 02/18/2019
Data Release Frequency: Annually

LUST ORANGE: List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 10/04/2018
Date Data Arrived at EDR: 11/14/2018
Date Made Active in Reports: 12/13/2018
Number of Days to Update: 29

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 11/05/2018
Next Scheduled EDR Contact: 02/18/2019
Data Release Frequency: Quarterly

UST ORANGE: List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 10/04/2018
Date Data Arrived at EDR: 11/06/2018
Date Made Active in Reports: 12/14/2018
Number of Days to Update: 38

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 11/06/2018
Next Scheduled EDR Contact: 02/18/2019
Data Release Frequency: Quarterly

PLACER COUNTY:

MS PLACER: Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 11/29/2018
Date Data Arrived at EDR: 12/04/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 38

Source: Placer County Health and Human Services
Telephone: 530-745-2363
Last EDR Contact: 11/29/2018
Next Scheduled EDR Contact: 03/18/2019
Data Release Frequency: Semi-Annually

PLUMAS COUNTY:

CUPA PLUMAS: CUPA Facility List
Plumas County CUPA Program facilities.

Date of Government Version: 07/19/2018
Date Data Arrived at EDR: 07/25/2018
Date Made Active in Reports: 09/05/2018
Number of Days to Update: 42

Source: Plumas County Environmental Health
Telephone: 530-283-6355
Last EDR Contact: 01/17/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

RIVERSIDE COUNTY:

LUST RIVERSIDE: Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 10/10/2018
Date Data Arrived at EDR: 10/12/2018
Date Made Active in Reports: 10/16/2018
Number of Days to Update: 4

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 12/17/2018
Next Scheduled EDR Contact: 04/01/2019
Data Release Frequency: Quarterly

UST RIVERSIDE: Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 10/10/2018
Date Data Arrived at EDR: 10/12/2018
Date Made Active in Reports: 11/05/2018
Number of Days to Update: 24

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 12/17/2018
Next Scheduled EDR Contact: 04/01/2019
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

CS SACRAMENTO: Toxic Site Clean-Up List
List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 08/03/2018
Date Data Arrived at EDR: 10/02/2018
Date Made Active in Reports: 11/01/2018
Number of Days to Update: 30

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 01/04/2019
Next Scheduled EDR Contact: 04/15/2019
Data Release Frequency: Quarterly

ML SACRAMENTO: Master Hazardous Materials Facility List
Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 08/23/2018
Date Data Arrived at EDR: 10/02/2018
Date Made Active in Reports: 11/02/2018
Number of Days to Update: 31

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 12/28/2018
Next Scheduled EDR Contact: 04/15/2019
Data Release Frequency: Quarterly

SAN BENITO COUNTY:

CUPA SAN BENITO: CUPA Facility List
Cupa facility list

Date of Government Version: 11/15/2018
Date Data Arrived at EDR: 11/16/2018
Date Made Active in Reports: 12/13/2018
Number of Days to Update: 27

Source: San Benito County Environmental Health
Telephone: N/A
Last EDR Contact: 11/14/2018
Next Scheduled EDR Contact: 02/18/2019
Data Release Frequency: Varies

SAN BERNARDINO COUNTY:

PERMITS SAN BERNARDINO: 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: 11/28/2018
Date Data Arrived at EDR: 11/30/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 42

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 11/05/2018
Next Scheduled EDR Contact: 02/18/2019
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

HMMD SAN DIEGO: 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: 12/03/2018
Date Data Arrived at EDR: 12/05/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 37

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 12/05/2018
Next Scheduled EDR Contact: 03/18/2019
Data Release Frequency: Quarterly

LF SAN DIEGO: Solid Waste Facilities

San Diego County Solid Waste Facilities.

Date of Government Version: 04/18/2018
Date Data Arrived at EDR: 04/24/2018
Date Made Active in Reports: 06/19/2018
Number of Days to Update: 56

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 01/17/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

SAN DIEGO CO LOP: Local Oversight Program Listing

A listing of all LOP release sites that are or were under the County of San Diego's jurisdiction. Included are closed or transferred cases, open cases, and cases that did not have a case type indicated. The cases without a case type are mostly complaints; however, some of them could be LOP cases.

Date of Government Version: 10/22/2018
Date Data Arrived at EDR: 10/23/2018
Date Made Active in Reports: 11/30/2018
Number of Days to Update: 38

Source: Department of Environmental Health
Telephone: 858-505-6874
Last EDR Contact: 01/17/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

SAN DIEGO CO. SAM: Environmental Case Listing

The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010
Date Data Arrived at EDR: 06/15/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 24

Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 11/29/2018
Next Scheduled EDR Contact: 03/18/2019
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

LUST SAN FRANCISCO: Local Oversite Facilities

A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10

Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 11/01/2018
Next Scheduled EDR Contact: 02/18/2019
Data Release Frequency: Quarterly

UST SAN FRANCISCO: Underground Storage Tank Information

Underground storage tank sites located in San Francisco county.

Date of Government Version: 11/05/2018
Date Data Arrived at EDR: 11/06/2018
Date Made Active in Reports: 12/14/2018
Number of Days to Update: 38

Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 11/01/2018
Next Scheduled EDR Contact: 02/18/2019
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

UST SAN JOAQUIN: San Joaquin Co. UST
A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 06/22/2018
Date Data Arrived at EDR: 06/26/2018
Date Made Active in Reports: 07/11/2018
Number of Days to Update: 15

Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 04/01/2019
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA SAN LUIS OBISPO: CUPA Facility List
Cupa Facility List.

Date of Government Version: 11/14/2018
Date Data Arrived at EDR: 11/15/2018
Date Made Active in Reports: 12/13/2018
Number of Days to Update: 28

Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 11/14/2018
Next Scheduled EDR Contact: 03/04/2019
Data Release Frequency: Varies

SAN MATEO COUNTY:

BI SAN MATEO: Business Inventory
List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 12/03/2018
Date Data Arrived at EDR: 12/12/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 34

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Annually

LUST SAN MATEO: Fuel Leak List
A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 12/13/2018
Date Data Arrived at EDR: 12/18/2018
Date Made Active in Reports: 01/23/2019
Number of Days to Update: 36

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 09/10/2018
Next Scheduled EDR Contact: 12/24/2018
Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA SANTA BARBARA: 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: 11/14/2018
Next Scheduled EDR Contact: 03/04/2019
Data Release Frequency: Varies

SANTA CLARA COUNTY:

CUPA SANTA CLARA: Cupa Facility List
Cupa facility list

Date of Government Version: 11/16/2018
Date Data Arrived at EDR: 11/16/2018
Date Made Active in Reports: 12/13/2018
Number of Days to Update: 27

Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 11/14/2018
Next Scheduled EDR Contact: 03/04/2019
Data Release Frequency: Varies

HIST LUST SANTA CLARA: 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

LUST SANTA CLARA: LOP Listing
A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 03/03/2014
Date Data Arrived at EDR: 03/05/2014
Date Made Active in Reports: 03/18/2014
Number of Days to Update: 13

Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 11/21/2018
Next Scheduled EDR Contact: 03/11/2019
Data Release Frequency: Annually

SAN JOSE HAZMAT: Hazardous Material Facilities
Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 11/01/2018
Date Data Arrived at EDR: 11/06/2018
Date Made Active in Reports: 12/14/2018
Number of Days to Update: 38

Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 11/01/2018
Next Scheduled EDR Contact: 02/18/2019
Data Release Frequency: Annually

SANTA CRUZ COUNTY:

CUPA SANTA CRUZ: CUPA Facility List
CUPA facility listing.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 05/23/2017
Number of Days to Update: 90

Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 11/14/2018
Next Scheduled EDR Contact: 03/04/2019
Data Release Frequency: Varies

SHASTA COUNTY:

CUPA SHASTA: CUPA Facility List
Cupa Facility List.

Date of Government Version: 06/15/2017
Date Data Arrived at EDR: 06/19/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 51

Source: Shasta County Department of Resource Management
Telephone: 530-225-5789
Last EDR Contact: 11/14/2018
Next Scheduled EDR Contact: 03/04/2019
Data Release Frequency: Varies

SOLANO COUNTY:

LUST SOLANO: Leaking Underground Storage Tanks
A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 11/29/2018
Date Data Arrived at EDR: 12/04/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 38

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 11/29/2018
Next Scheduled EDR Contact: 03/18/2019
Data Release Frequency: Quarterly

UST SOLANO: Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 11/29/2018
Date Data Arrived at EDR: 12/04/2018
Date Made Active in Reports: 12/14/2018
Number of Days to Update: 10

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 11/29/2018
Next Scheduled EDR Contact: 03/18/2019
Data Release Frequency: Quarterly

SONOMA COUNTY:

CUPA SONOMA: Cupa Facility List
Cupa Facility list

Date of Government Version: 12/21/2018
Date Data Arrived at EDR: 12/27/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 19

Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 12/19/2018
Next Scheduled EDR Contact: 04/08/2019
Data Release Frequency: Varies

LUST SONOMA: Leaking Underground Storage Tank Sites
A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 10/02/2018
Date Data Arrived at EDR: 10/04/2018
Date Made Active in Reports: 10/25/2018
Number of Days to Update: 21

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 01/07/2019
Next Scheduled EDR Contact: 04/08/2019
Data Release Frequency: Quarterly

STANISLAUS COUNTY:

CUPA STANISLAUS: CUPA Facility List
Cupa facility list

Date of Government Version: 12/11/2018
Date Data Arrived at EDR: 12/13/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 33

Source: Stanislaus County Department of Ennvironmental Protection
Telephone: 209-525-6751
Last EDR Contact: 12/13/2018
Next Scheduled EDR Contact: 04/29/2019
Data Release Frequency: Varies

SUTTER COUNTY:

UST SUTTER: Underground Storage Tanks
Underground storage tank sites located in Sutter county.

Date of Government Version: 09/18/2018
Date Data Arrived at EDR: 09/20/2018
Date Made Active in Reports: 10/25/2018
Number of Days to Update: 35

Source: Sutter County Department of Agriculture
Telephone: 530-822-7500
Last EDR Contact: 11/29/2018
Next Scheduled EDR Contact: 03/18/2019
Data Release Frequency: Semi-Annually

TEHAMA COUNTY:

CUPA TEHAMA: CUPA Facility List
Cupa facilities

Date of Government Version: 12/13/2018
Date Data Arrived at EDR: 12/18/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 28

Source: Tehama County Department of Environmental Health
Telephone: 530-527-8020
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 02/18/2019
Data Release Frequency: Varies

TRINITY COUNTY:

CUPA TRINITY: CUPA Facility List
Cupa facility list

Date of Government Version: 10/22/2018
Date Data Arrived at EDR: 10/25/2018
Date Made Active in Reports: 11/14/2018
Number of Days to Update: 20

Source: Department of Toxic Substances Control
Telephone: 760-352-0381
Last EDR Contact: 01/17/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

TULARE COUNTY:

CUPA TULARE: CUPA Facility List
Cupa program facilities

Date of Government Version: 12/26/2018
Date Data Arrived at EDR: 12/27/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 19

Source: Tulare County Environmental Health Services Division
Telephone: 559-624-7400
Last EDR Contact: 11/29/2018
Next Scheduled EDR Contact: 02/18/2019
Data Release Frequency: Varies

TUOLUMNE COUNTY:

CUPA TUOLUMNE: CUPA Facility List
Cupa facility list

Date of Government Version: 04/23/2018
Date Data Arrived at EDR: 04/25/2018
Date Made Active in Reports: 06/25/2018
Number of Days to Update: 61

Source: Divison of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 01/17/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

VENTURA COUNTY:

BWT VENTURA: Business Plan, Hazardous Waste Producers, and Operating Underground Tanks
The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 09/26/2018
Date Data Arrived at EDR: 10/25/2018
Date Made Active in Reports: 11/30/2018
Number of Days to Update: 36

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 01/22/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Quarterly

LF VENTURA: Inventory of Illegal Abandoned and Inactive Sites
Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 12/01/2011
Date Data Arrived at EDR: 12/01/2011
Date Made Active in Reports: 01/19/2012
Number of Days to Update: 49
Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 12/26/2018
Next Scheduled EDR Contact: 04/15/2019
Data Release Frequency: Annually

LUST VENTURA: 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: 11/07/2018
Next Scheduled EDR Contact: 02/25/2019
Data Release Frequency: Quarterly

MED WASTE VENTURA: 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: 09/25/2018
Date Data Arrived at EDR: 10/25/2018
Date Made Active in Reports: 11/30/2018
Number of Days to Update: 36
Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 01/22/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Quarterly

UST VENTURA: Underground Tank Closed Sites List
Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 11/26/2018
Date Data Arrived at EDR: 12/12/2018
Date Made Active in Reports: 01/16/2019
Number of Days to Update: 35
Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Quarterly

YOLO COUNTY:

UST YOLO: Underground Storage Tank Comprehensive Facility Report
Underground storage tank sites located in Yolo county.

Date of Government Version: 12/26/2018
Date Data Arrived at EDR: 01/03/2019
Date Made Active in Reports: 01/16/2019
Number of Days to Update: 13
Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 12/26/2018
Next Scheduled EDR Contact: 04/15/2019
Data Release Frequency: Annually

YUBA COUNTY:

CUPA YUBA: CUPA Facility List
CUPA facility listing for Yuba County.

Date of Government Version: 11/05/2018
Date Data Arrived at EDR: 11/07/2018
Date Made Active in Reports: 11/14/2018
Number of Days to Update: 7
Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 01/28/2019
Next Scheduled EDR Contact: 05/11/2019
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 11/12/2018
Date Data Arrived at EDR: 11/14/2018
Date Made Active in Reports: 12/04/2018
Number of Days to Update: 20

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 11/14/2018
Next Scheduled EDR Contact: 02/25/2019
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 07/13/2018
Date Made Active in Reports: 08/01/2018
Number of Days to Update: 19

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 01/07/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 10/01/2018
Date Data Arrived at EDR: 10/31/2018
Date Made Active in Reports: 12/20/2018
Number of Days to Update: 50

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 01/30/2019
Next Scheduled EDR Contact: 05/11/2019
Data Release Frequency: Quarterly

PA MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 10/23/2018
Date Made Active in Reports: 11/27/2018
Number of Days to Update: 35

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 01/11/2019
Next Scheduled EDR Contact: 04/29/2019
Data Release Frequency: Annually

RI MANIFEST: Manifest information

Hazardous waste manifest information

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 02/23/2018
Date Made Active in Reports: 04/09/2018
Number of Days to Update: 45

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 11/16/2018
Next Scheduled EDR Contact: 03/04/2019
Data Release Frequency: Annually

WI MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 06/15/2018
Date Made Active in Reports: 07/09/2018
Number of Days to Update: 24

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 12/07/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Annually

Oil/Gas Pipelines
Source: PennWell Corporation
Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Electric Power Transmission Line Data
Source: PennWell Corporation
This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

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 was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish and Wildlife
Telephone: 916-445-0411

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

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GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

RANCH VIEW TERRACE
2200-2430 7TH ST
ENCINITAS, CA 92024

TARGET PROPERTY COORDINATES

Latitude (North):	33.043785 - 33° 2' 37.63''
Longitude (West):	117.238333 - 117° 14' 18.00''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	477746.4
UTM Y (Meters):	3655975.0
Elevation:	181 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	5641310 RANCHO SANTA FE, CA
Version Date:	2012
West Map:	5641296 ENCINITAS, CA
Version Date:	2012

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

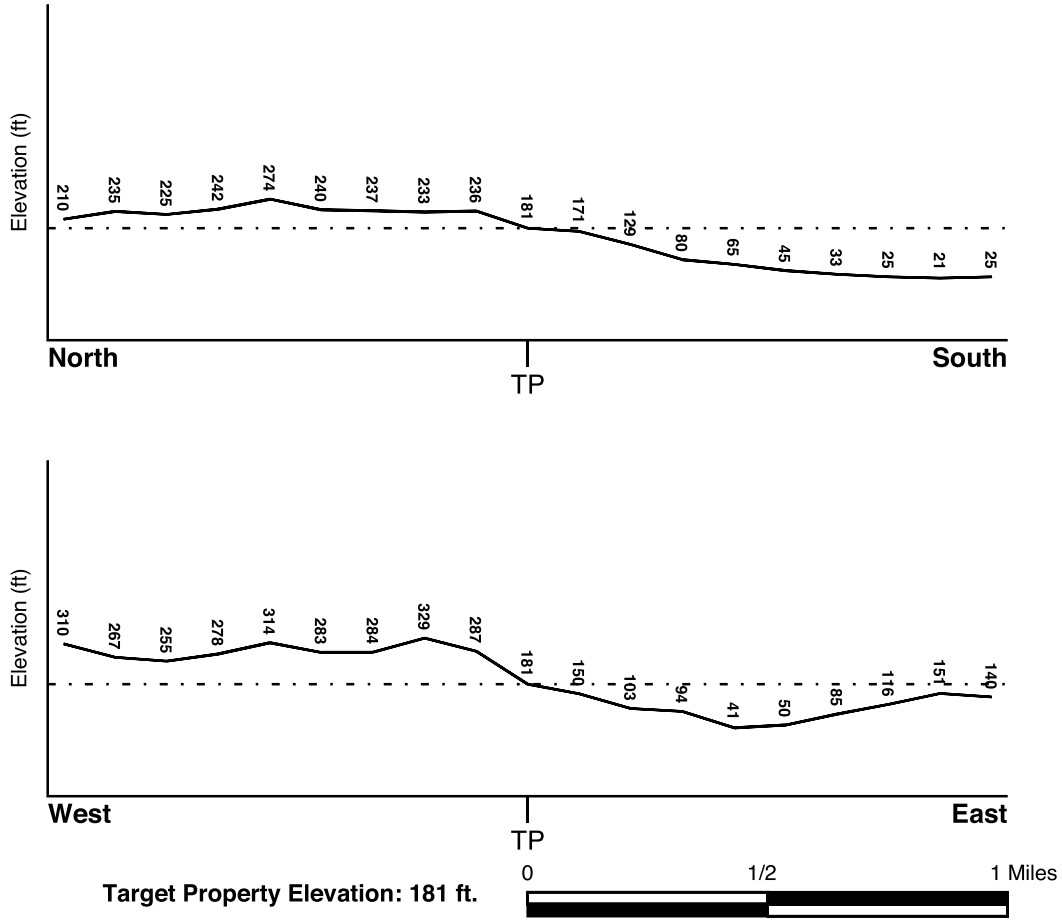
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General ESE

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Flood Plain Panel at Target Property	FEMA Source Type
06073C1061G	FEMA FIRM Flood data

Additional Panels in search area:	FEMA Source Type
06073C1045G	FEMA FIRM Flood data
06073C1063G	FEMA FIRM Flood data

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
RANCHO SANTA FE	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

* ©1996 Site–specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

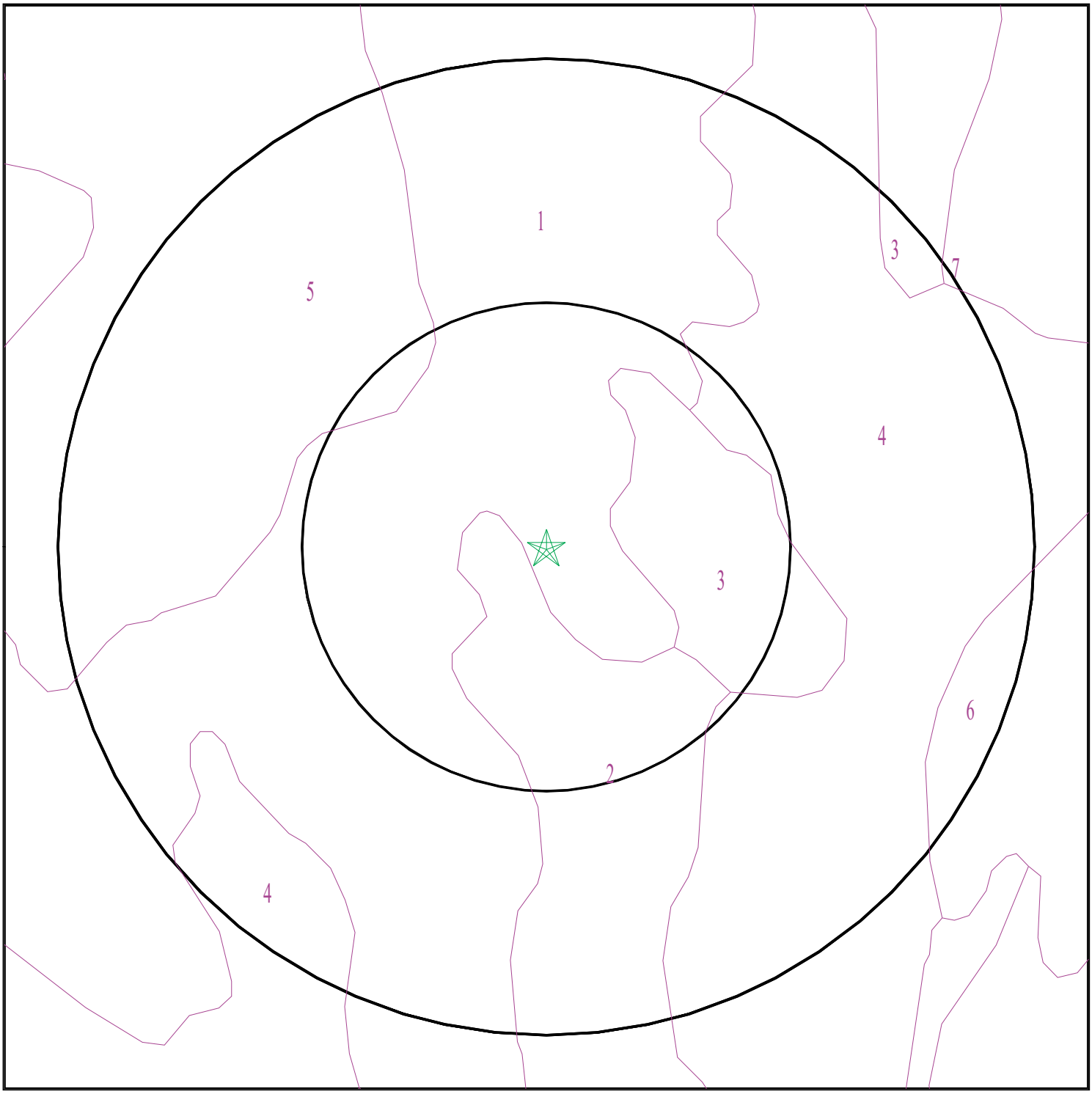
Era:	Mesozoic
System:	Lower Jurassic and Upper Triassic
Series:	Lower Mesozoic
Code:	lMze *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Eugeosynclinal Deposits

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 - 5550368.2s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME:	Ranch View Terrace	CLIENT:	Construction Testing & Eng.
ADDRESS:	2200-2430 7th St Encinitas CA 92024	CONTACT:	Brandon Alderson
		INQUIRY #:	5550368.2s
LAT/LONG:	33.043785 / 117.238333	DATE:	January 31, 2019 5:28 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: ROUGH BROKEN LAND

Soil Surface Texture: unweathered bedrock

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:
Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Not Reported

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	1 inches	unweathered bedrock	Not reported	Not reported	Max: Min:	Max: Min:

Soil Map ID: 2

Soil Component Name: ALTAMONT

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: > 0 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	20 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	Not reported	Max: Min:	Max: Min:
2	20 inches	25 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	Not reported	Max: Min:	Max: Min:
3	25 inches	29 inches	weathered bedrock	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	Not reported	Max: Min:	Max: Min:

Soil Map ID: 3

Soil Component Name: ALTAMONT

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: > 0 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	20 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	Not reported	Max: Min:	Max: Min:
2	20 inches	29 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	Not reported	Max: Min:	Max: Min:
3	29 inches	33 inches	weathered bedrock	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	Not reported	Max: Min:	Max: Min:

Soil Map ID: 4

Soil Component Name: CORRALITOS

Soil Surface Texture: loamy sand

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.

Soil Drainage Class: Somewhat excessively drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 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	9 inches	loamy sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.3 Min: 6.6
2	9 inches	42 inches	loamy fine sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.3 Min: 6.6
3	42 inches	72 inches	sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.3 Min: 6.6

Soil Map ID: 5

Soil Component Name: CHESTERTON

Soil Surface Texture: fine sandy 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: Moderately well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 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	18 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 0 Min: 0	Max: Min:
2	18 inches	33 inches	sandy clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 0 Min: 0	Max: Min:
3	33 inches	59 inches	indurated	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 0 Min: 0	Max: Min:

Soil Map ID: 6

Soil Component Name: HUERHUERO

Soil Surface Texture: 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: Moderately well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 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	11 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 4 Min: 1.4	Max: 8.4 Min: 7.4
2	11 inches	55 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 4 Min: 1.4	Max: 8.4 Min: 7.4
3	55 inches	72 inches	stratified sand to sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 4 Min: 1.4	Max: 8.4 Min: 7.4

Soil Map ID: 7

Soil Component Name: CORRALITOS

Soil Surface Texture: loamy sand

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.

Soil Drainage Class: Somewhat excessively drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 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	9 inches	loamy sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.3 Min: 6.6
2	9 inches	42 inches	loamy fine sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.3 Min: 6.6
3	42 inches	72 inches	sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.3 Min: 6.6

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 0.001 miles
State Database	1.000

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

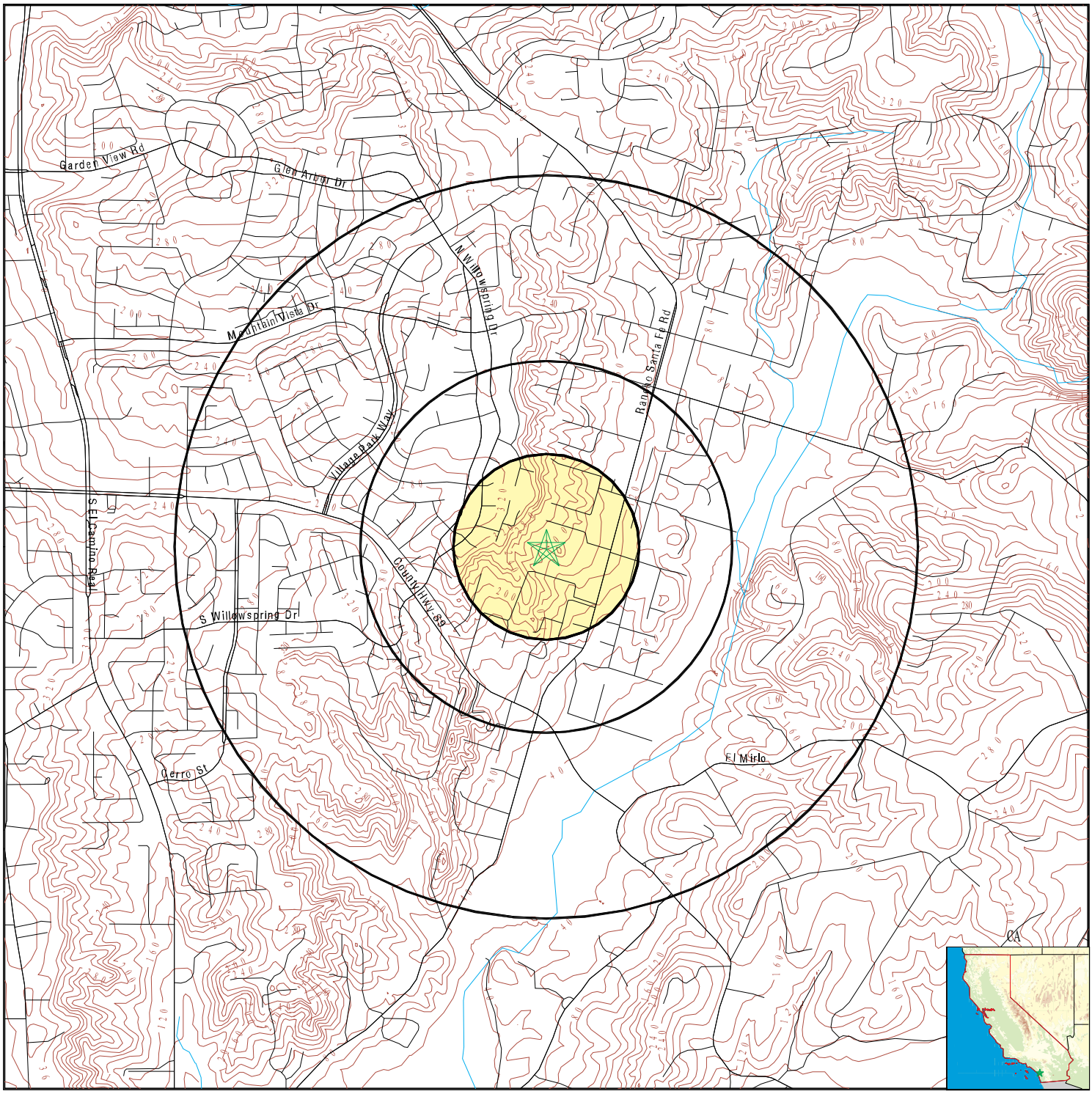
MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

PHYSICAL SETTING SOURCE MAP - 5550368.2s



- 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

N

SITE NAME:	Ranch View Terrace	CLIENT:	Construction Testing & Eng.
ADDRESS:	2200-2430 7th St Encinitas CA 92024	CONTACT:	Brandon Alderson
		INQUIRY #:	5550368.2s
LAT/LONG:	33.043785 / 117.238333	DATE:	January 31, 2019 5:27 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: CA Radon

Radon Test Results

Zipcode	Num Tests	> 4 pCi/L
92024	42	5

Federal EPA Radon Zone for SAN DIEGO 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: 92024

Number of sites tested: 1

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.700 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.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish and Wildlife
Telephone: 916-445-0411

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Water Well Database
Source: Department of Water Resources
Telephone: 916-651-9648

California Drinking Water Quality Database
Source: Department of Public Health
Telephone: 916-324-2319
The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

OTHER STATE DATABASE INFORMATION

California Oil and Gas Well Locations
Source: Department of Conservation
Telephone: 916-323-1779
Oil and Gas well locations in the state.

California Earthquake Fault Lines
Source: California Division of Mines and Geology
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.

RADON

State Database: CA Radon
Source: Department of Public Health
Telephone: 916-210-8558
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.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

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.

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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APPENDIX C

SANBORN MAPS

Ranch View Terrace
2200-2430 7th St
Encinitas, CA 92024

Inquiry Number: 5550368.3
January 31, 2019

Certified Sanborn® Map Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

01/31/19

Site Name:

Ranch View Terrace
2200-2430 7th St
Encinitas, CA 92024
EDR Inquiry # 5550368.3

Client Name:

Construction Testing & Eng.
1441 Montiel Rd
Escondido, CA 92026
Contact: Brandon Alderson

The Sanborn Library has been searched by EDR and maps covering the target property location as provided by Construction Testing & Eng. were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Certification # 0285-4DA8-8F44

PO # 10-14212E

Project Ranch View Terrace

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.

Sanborn® Library search results

Certification #: 0285-4DA8-8F44

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ☑ Library of Congress
- ☑ University Publications of America
- ☑ EDR Private Collection

The Sanborn Library LLC Since 1866™

Limited Permission To Make Copies

Construction Testing & Eng. (the client) is permitted to make up to FIVE photocopies of this Sanborn Map transmittal and each fire insurance map accompanying this report solely for the limited use of its customer. No one other than the client is authorized to make copies. Upon request made directly to an EDR Account Executive, the client may be permitted to make a limited number of additional photocopies. This permission is conditioned upon compliance by the client, its customer and their agents with EDR's copyright policy; a copy of which is available upon request.

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APPENDIX D

HISTORICAL CITY DIRECTORIES

Ranch View Terrace
2200-2430 7th St
Encinitas, CA 92024

Inquiry Number: 5550368.5
February 08, 2019

The EDR-City Directory Image Report

Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

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Executive Summary

Findings

City Directory Images

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. **NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OR DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT.** Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction orforecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

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EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Report is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Report includes a search of available city directory data at 5 year intervals.

RECORD SOURCES

EDR's Digital Archive combines historical directory listings from sources such as Cole Information and Dun & Bradstreet. These standard sources of property information complement and enhance each other to provide a more comprehensive report.

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Data by
infoUSA®
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RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. A check mark indicates where information was identified in the source and provided in this report.

Year	Target Street	Cross Street	Source
2014	☑	☐	EDR Digital Archive
2010	☑	☐	EDR Digital Archive
2005	☑	☐	EDR Digital Archive
2000	☑	☐	EDR Digital Archive
1995	☑	☐	EDR Digital Archive
1992	☑	☐	EDR Digital Archive
1985	☑	☐	Haines Criss-Cross Directory
1980	☑	☐	Haines Criss-Cross Directory
1976	☑	☐	Haines Criss-Cross Directory
1970	☑	☐	Haines Criss-Cross Directory

FINDINGS

TARGET PROPERTY STREET

2200-2430 7th St
Encinitas, CA 92024

Year	*CD Image*	*Source*
7TH ST		
2014	pg A1	EDR Digital Archive
2010	pg A2	EDR Digital Archive
2005	pg A3	EDR Digital Archive
2000	pg A4	EDR Digital Archive
1995	pg A5	EDR Digital Archive
1992	pg A6	EDR Digital Archive
1985	pg A7	Haines Criss-Cross Directory
1980	pg A8	Haines Criss-Cross Directory
1980	pg A9	Haines Criss-Cross Directory
1976	pg A10	Haines Criss-Cross Directory
1970	pg A11	Haines Criss-Cross Directory

FINDINGS

CROSS STREETS

No Cross Streets Identified

City Directory Images

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

7TH ST 2014

2209	OCCUPANT UNKNOWN,
2345	OCCUPANT UNKNOWN,
2365	BOGORAD, MATTHEW J
2433	BRENNECKE, STEVEN E
2443	STALEY, JOE A

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

7TH ST 2010

2345	STEPHEN, KAREN J
2365	OCCUPANT UNKNOWN,
2433	OCCUPANT UNKNOWN,
2443	KILGALLON GERARD JAMES
	THOMAS JAMIE
	THOMAS, JAMES M

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

7TH ST 2005

2365	GRANT, MICHELE F
	MARILYN GRANT
2433	MACCONNELL, WILLIAM P
2443	KILGALLON GERARD JAMES
	RODRIGUEZ, JAIME

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

7TH ST 2000

2209 STORBECK, L
2227 MANSON JOHN
OCCUPANT UNKNOWN,
2365 OCCUPANT UNKNOWN,
2433 CMM CONSULTANTS
HANNAN, CECIL J

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

7TH ST 1995

2209 STORBECK, L
2227 MANSON JOHN
MANSON, JOHN
2365 ABRAHAMS, RICK A
2433 HANNAN, CECIL J
2437 OCCUPANT UNKNOWNN

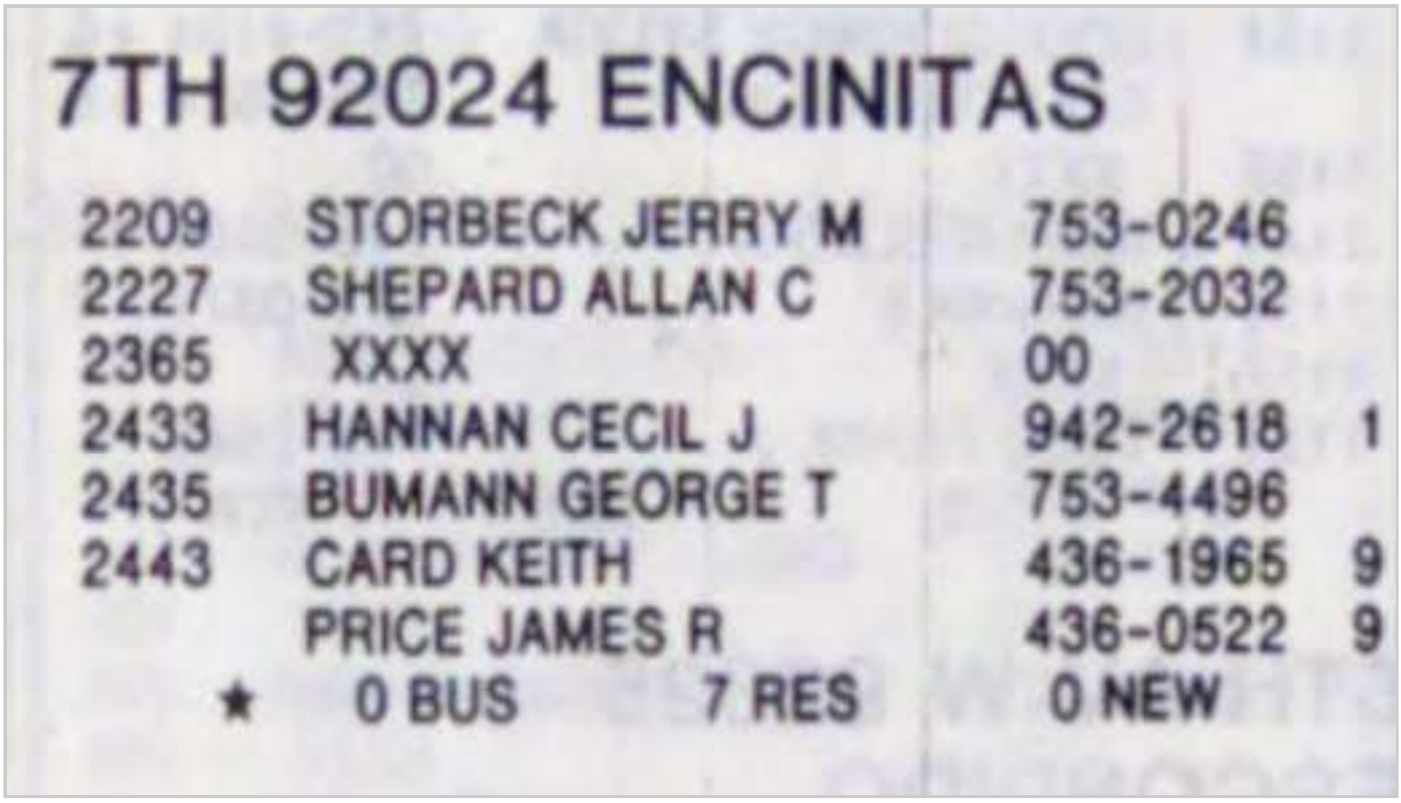
Target Street	Cross Street	Source
✓	-	EDR Digital Archive

7TH ST 1992

2209 STORBECK, L
2433 HANNAN, CECIL J
2435 BUMANN, GEORGE T

Target Street	Cross Street	Source
✓	-	Haines Criss-Cross Directory

7TH ST 1985

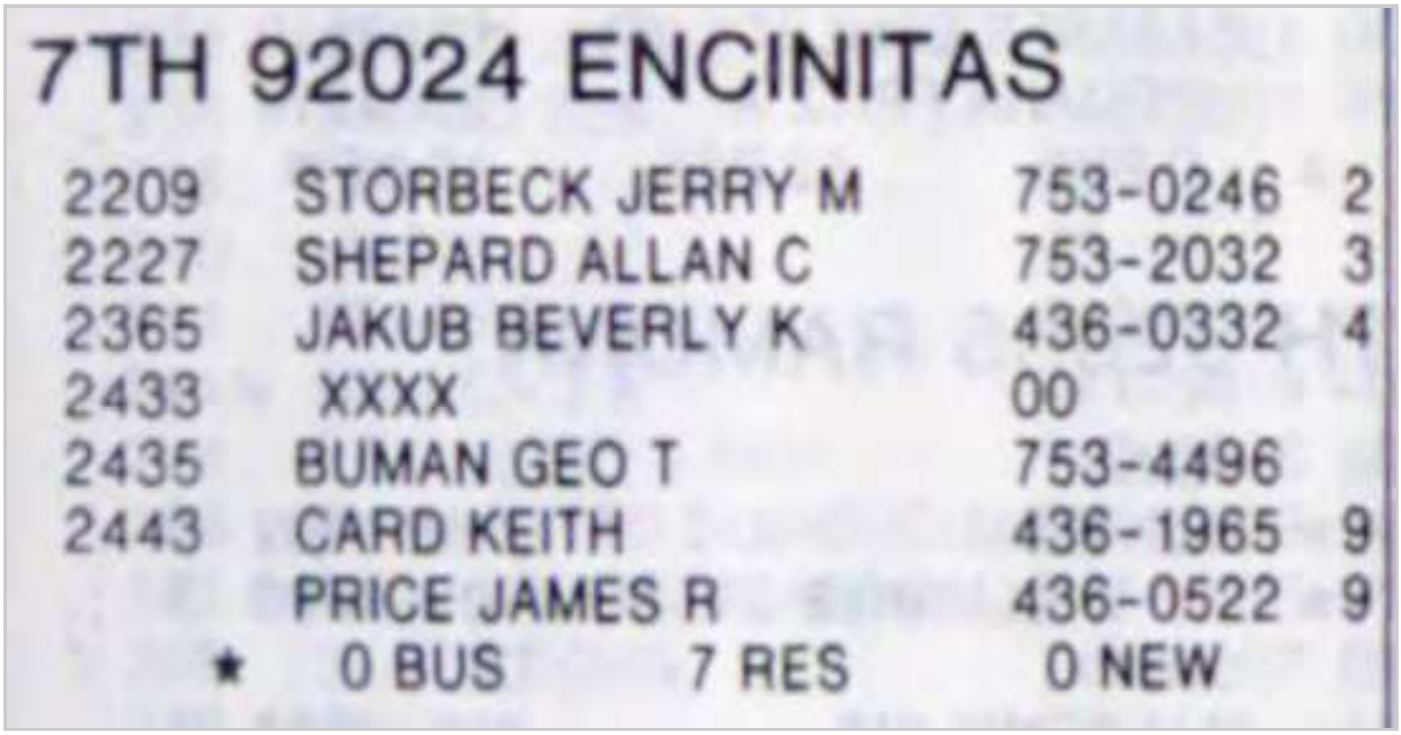


7TH 92024 ENCINITAS

2209	STORBECK JERRY M	753-0246	
2227	SHEPARD ALLAN C	753-2032	
2365	XXXX	00	
2433	HANNAN CECIL J	942-2618	1
2435	BUMANN GEORGE T	753-4496	
2443	CARD KEITH	436-1965	9
	PRICE JAMES R	436-0522	9
★	0 BUS 7 RES	0 NEW	

Target Street	Cross Street	Source
✓	-	Haines Criss-Cross Directory

7TH ST 1980

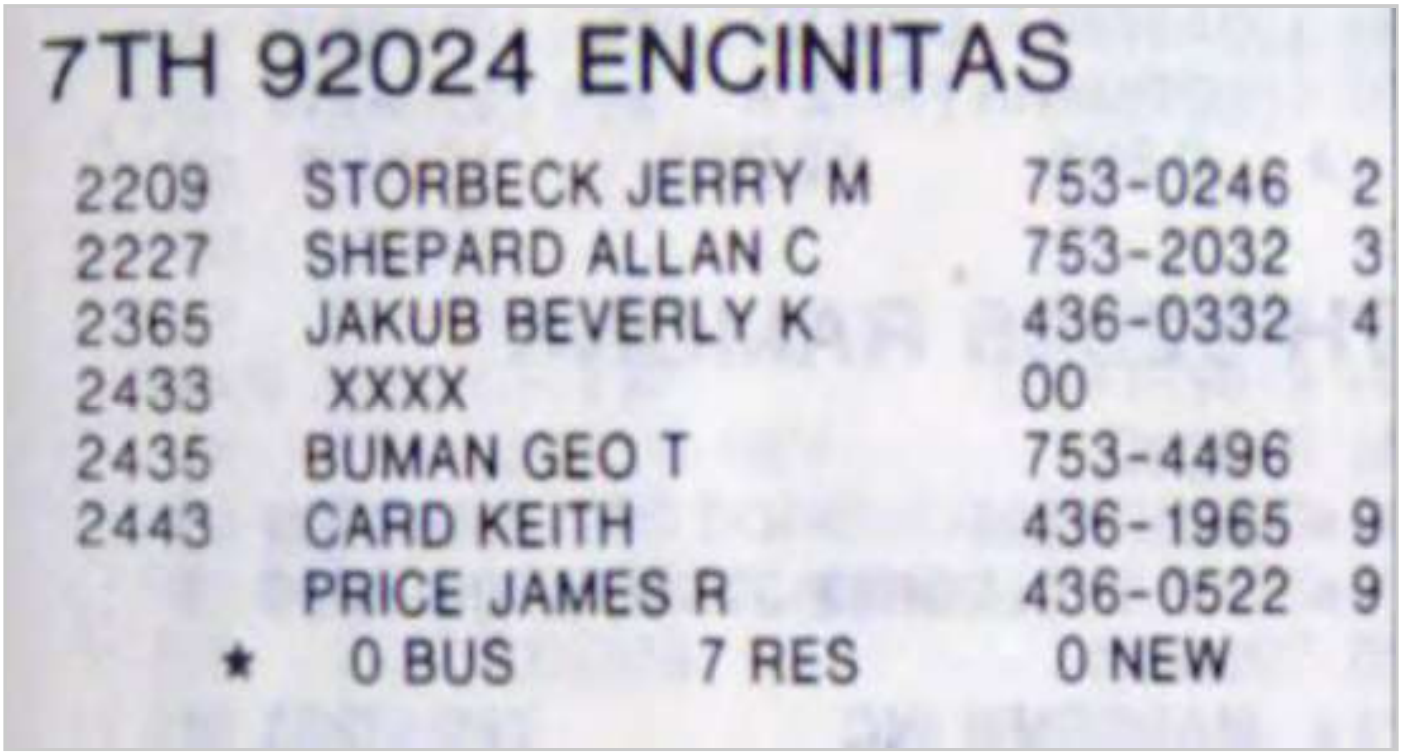


7TH 92024 ENCINITAS

2209	STORBECK JERRY M	753-0246	2
2227	SHEPARD ALLAN C	753-2032	3
2365	JAKUB BEVERLY K	436-0332	4
2433	XXXX	00	
2435	BUMAN GEO T	753-4496	
2443	CARD KEITH	436-1965	9
	PRICE JAMES R	436-0522	9
*	0 BUS 7 RES	0 NEW	

Target Street	Cross Street	Source
✓	-	Haines Criss-Cross Directory

7TH ST 1980



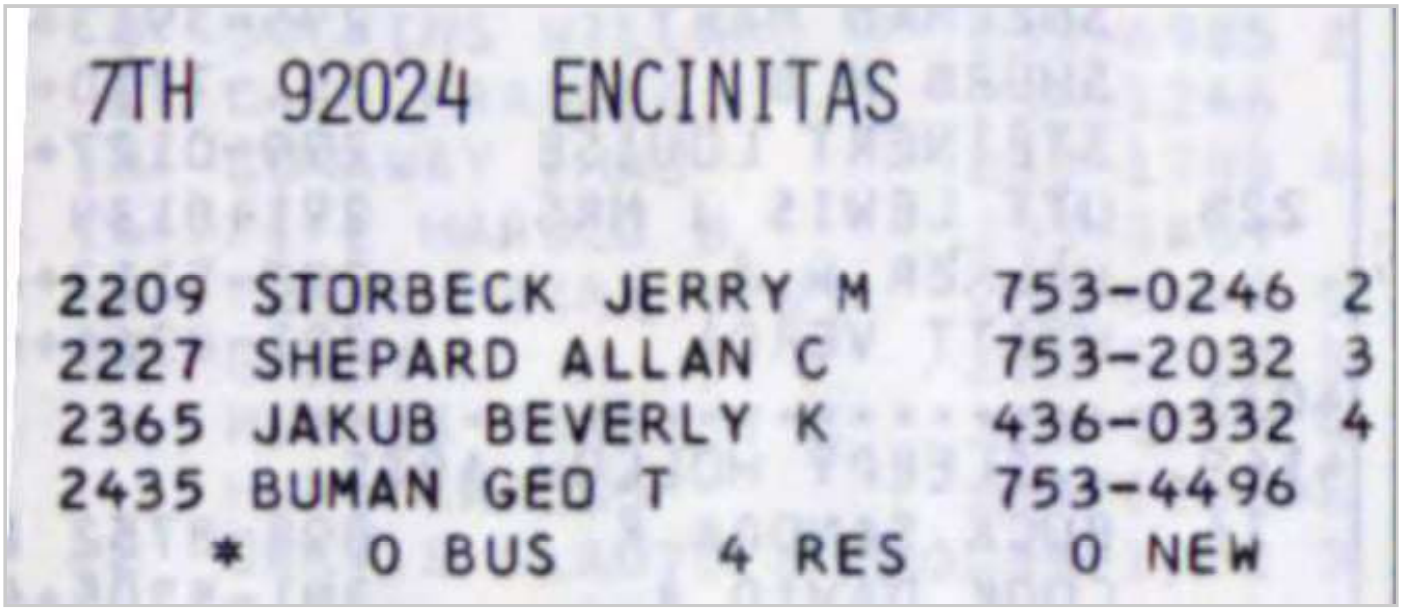
7TH 92024 ENCINITAS

2209	STORBECK JERRY M	753-0246	2
2227	SHEPARD ALLAN C	753-2032	3
2365	JAKUB BEVERLY K	436-0332	4
2433	XXXX	00	
2435	BUMAN GEO T	753-4496	
2443	CARD KEITH	436-1965	9
	PRICE JAMES R	436-0522	9

★ 0 BUS 7 RES 0 NEW

Target Street	Cross Street	Source
✓	-	Haines Criss-Cross Directory

7TH ST 1976

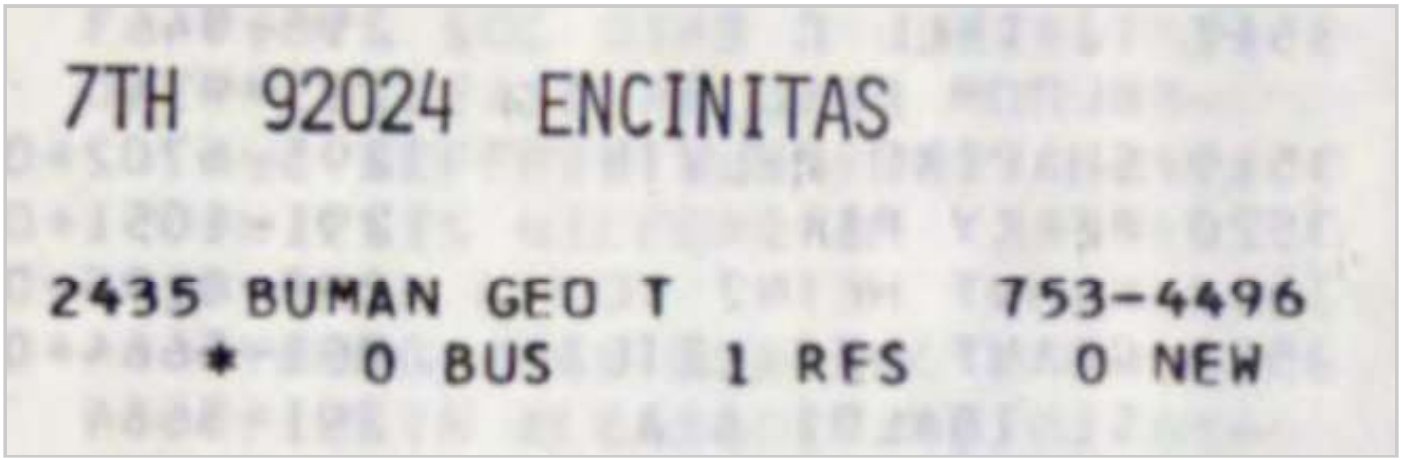


7TH 92024 ENCINITAS

2209 STORBECK JERRY M 753-0246 2
2227 SHEPARD ALLAN C 753-2032 3
2365 JAKUB BEVERLY K 436-0332 4
2435 BUMAN GEO T 753-4496
* 0 BUS 4 RES 0 NEW

Target Street	Cross Street	Source
✓	-	Haines Criss-Cross Directory

7TH ST 1970



APPENDIX E

HISTORICAL AERIAL PHOTOGRAPHS

Aerial Photograph 2016

Aerial Photograph 2012

Aerial Photograph 2009

Aerial Photograph 2005

Aerial Photograph 1996

Aerial Photograph 1994

Aerial Photograph 1990

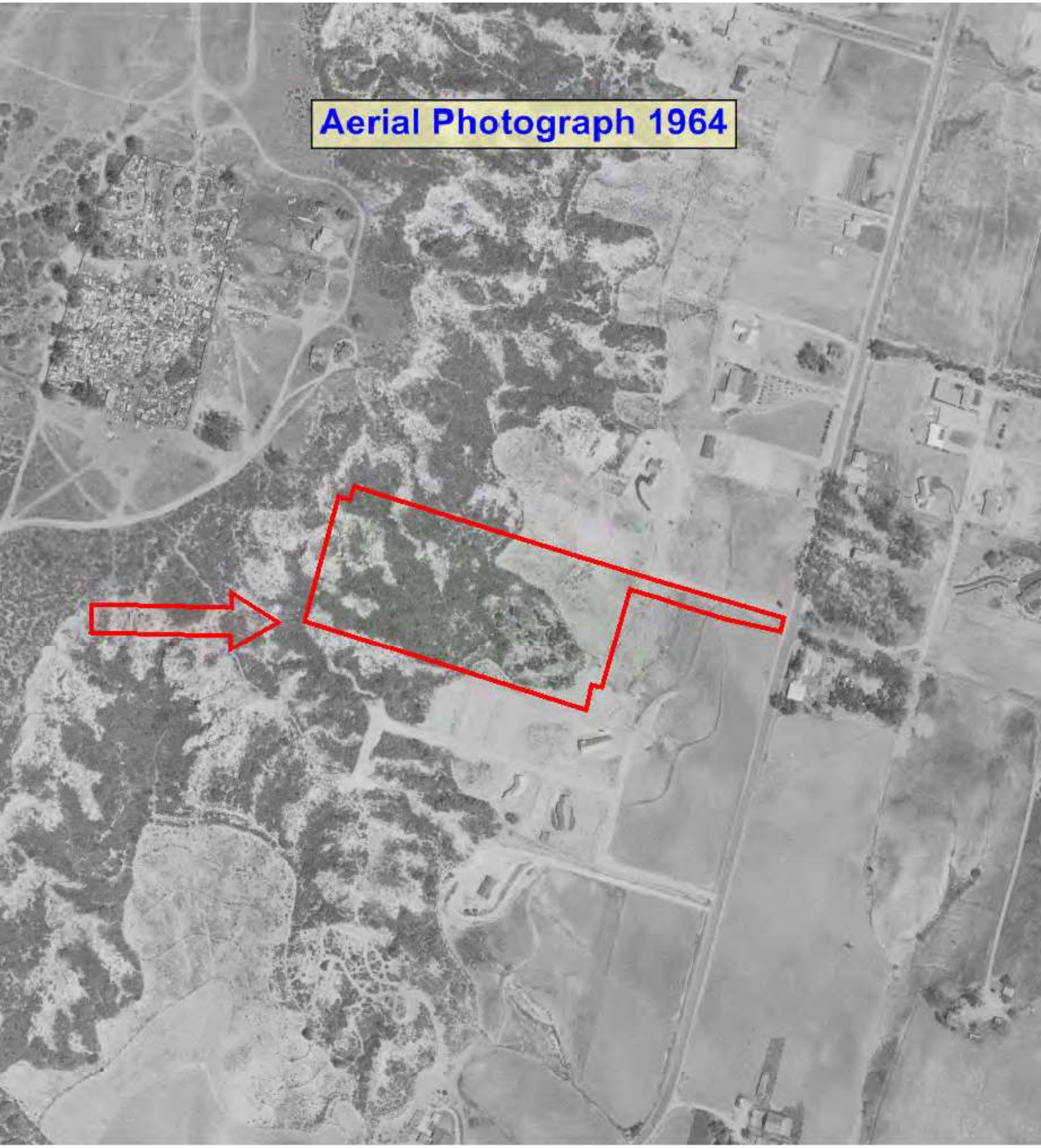
Aerial Photograph 1989

Aerial Photograph 1985

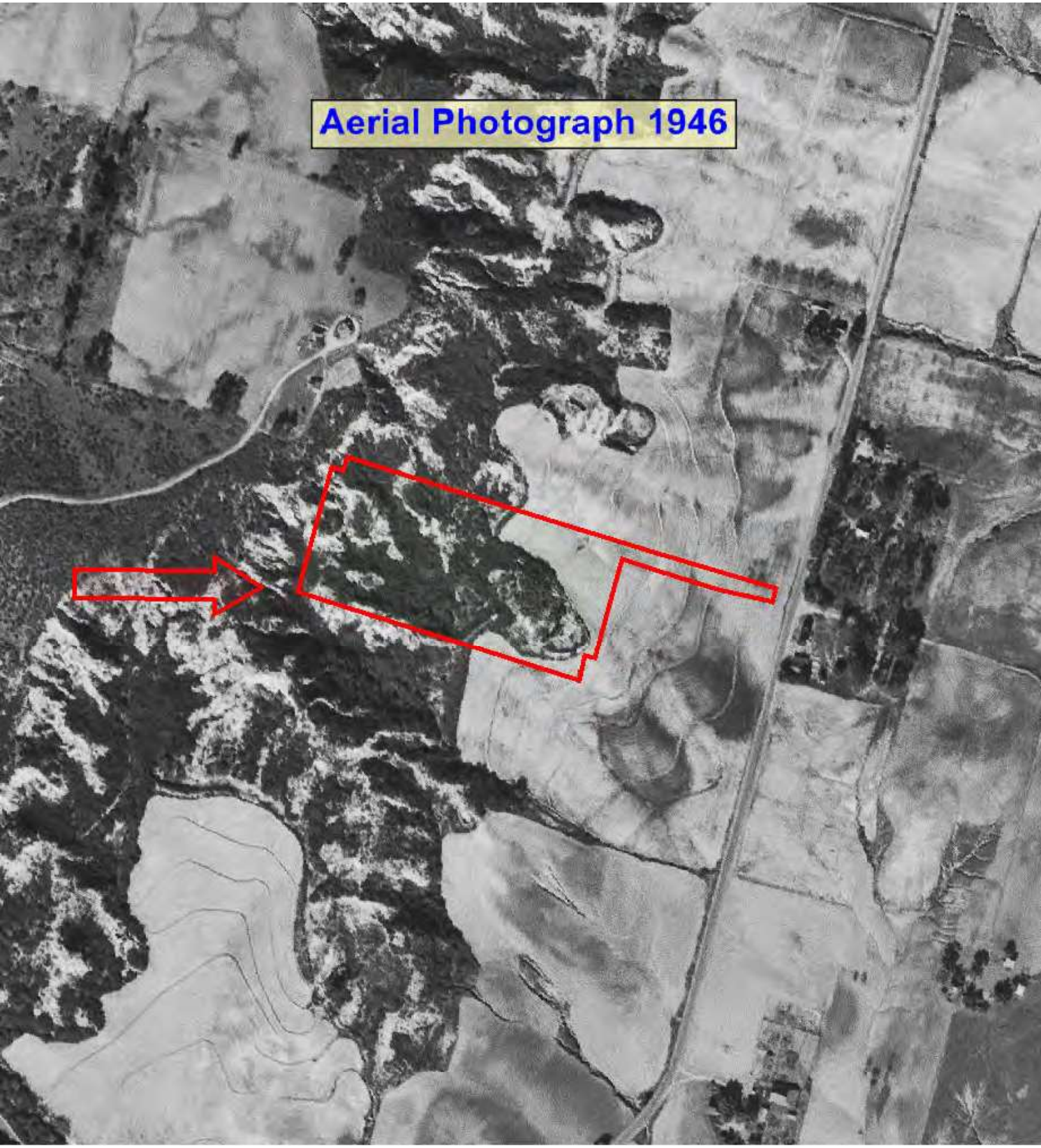
Aerial Photograph 1979

Aerial Photograph 1970

Aerial Photograph 1966


Aerial Photograph 1964

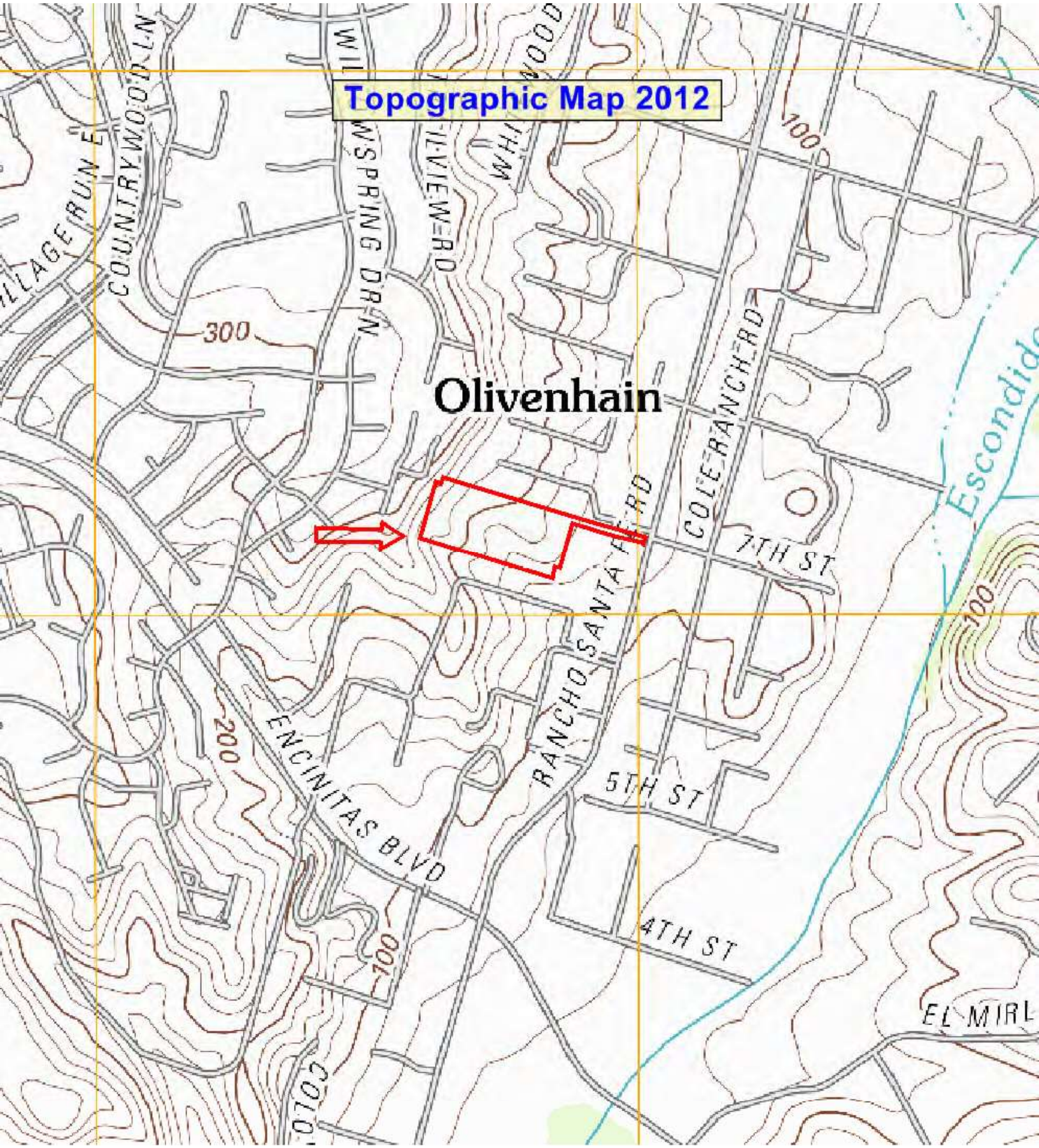
Aerial Photograph 1953

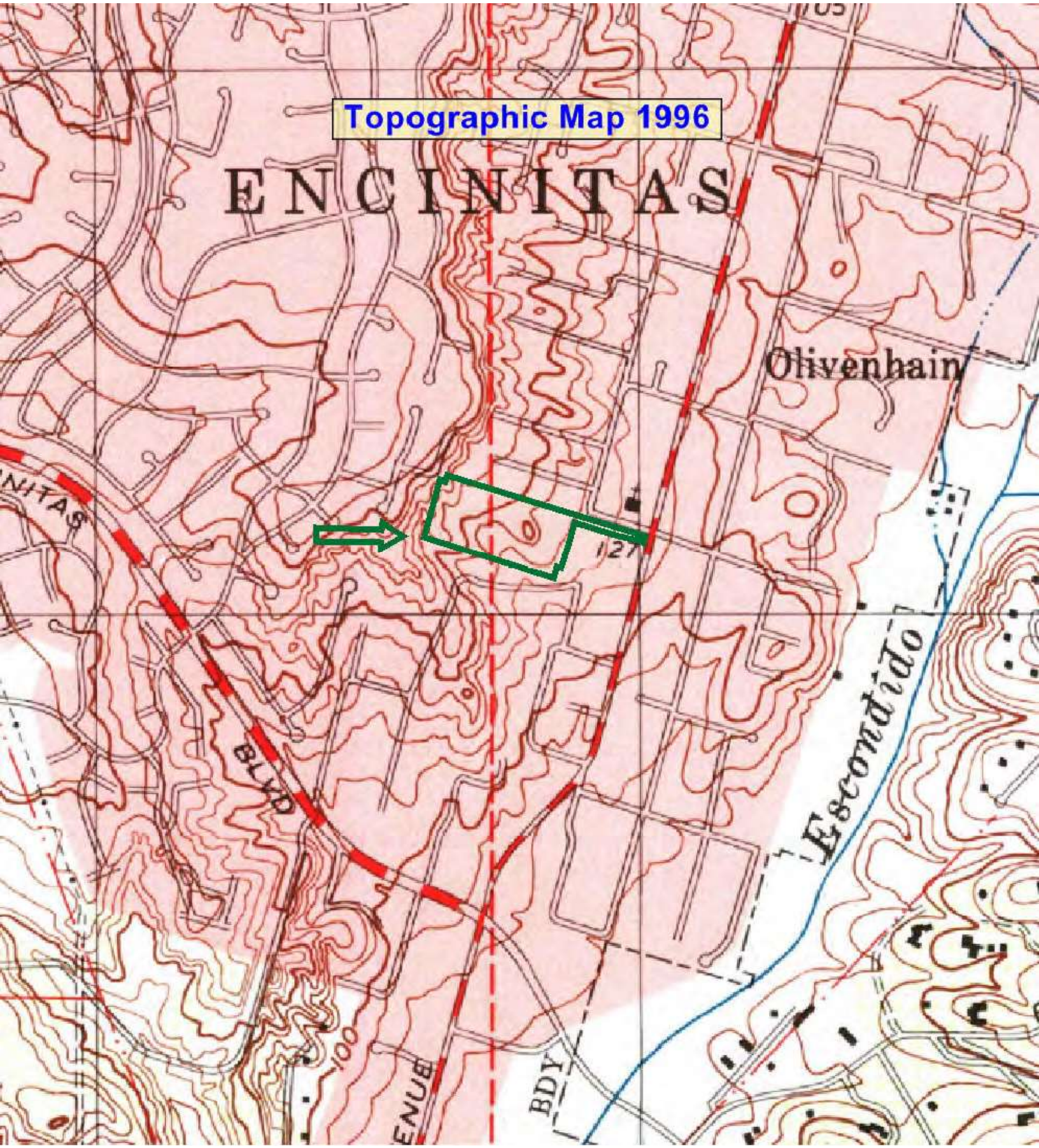

Aerial Photograph 1946

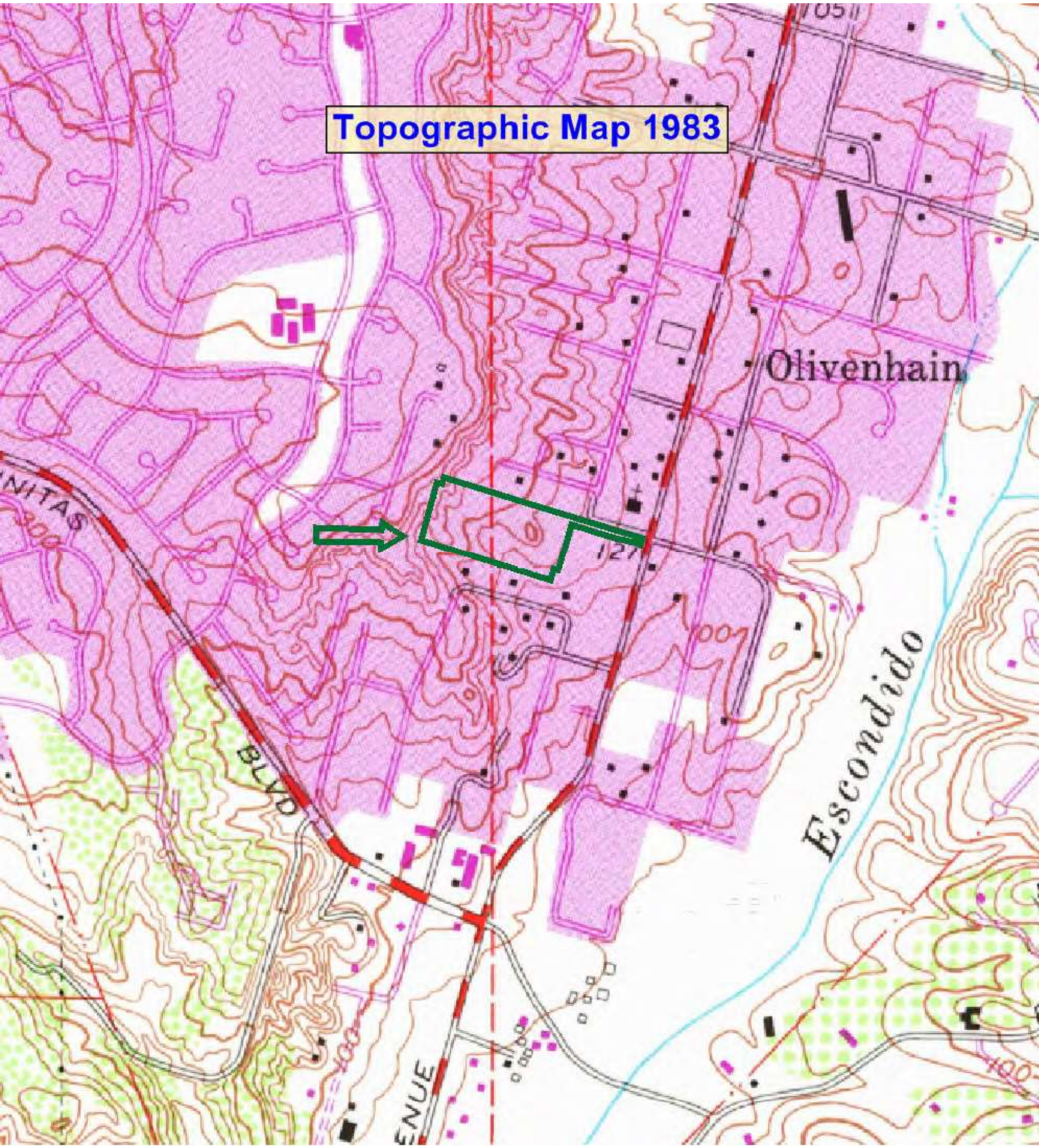
Aerial Photograph 1939

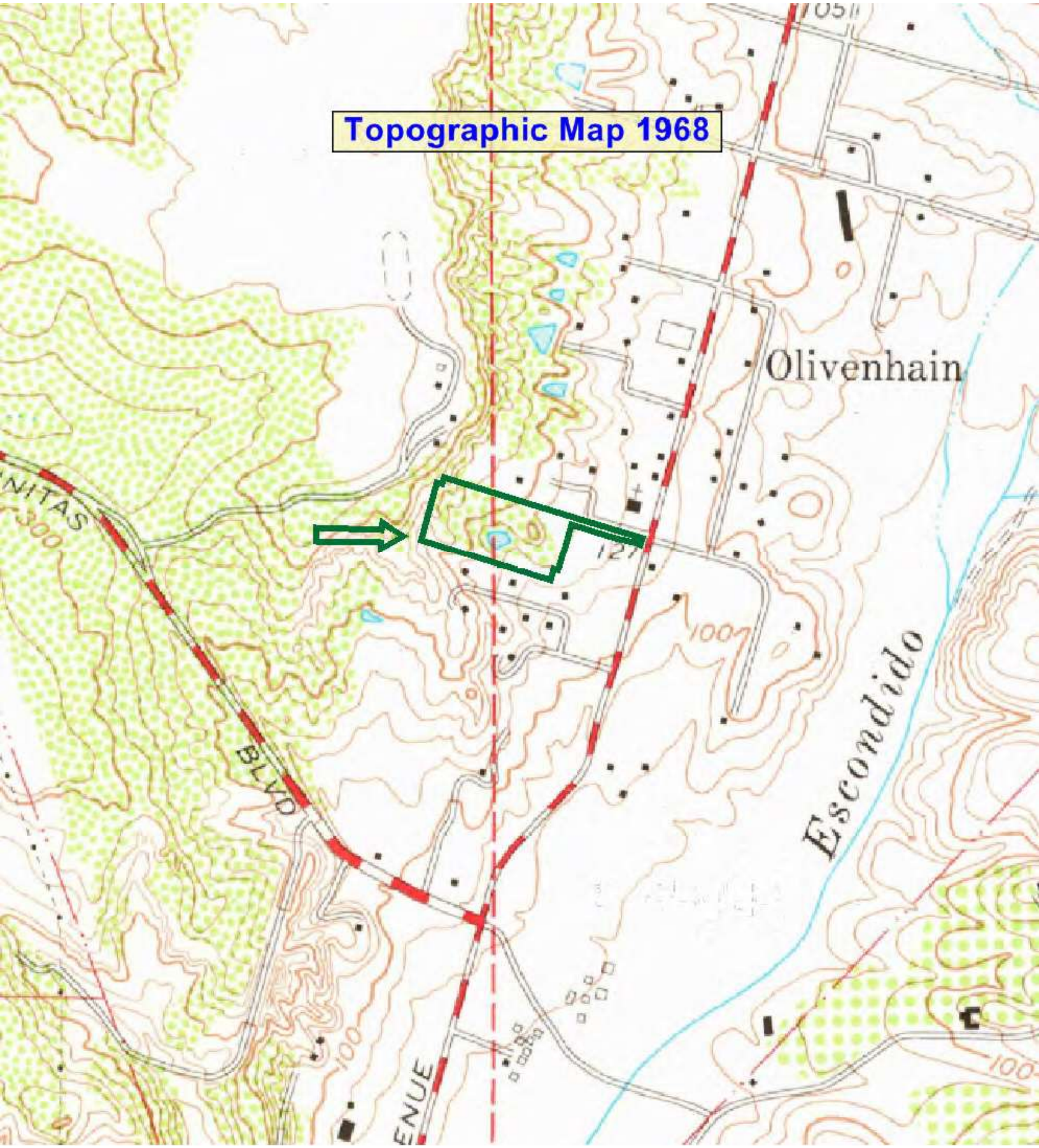
APPENDIX F

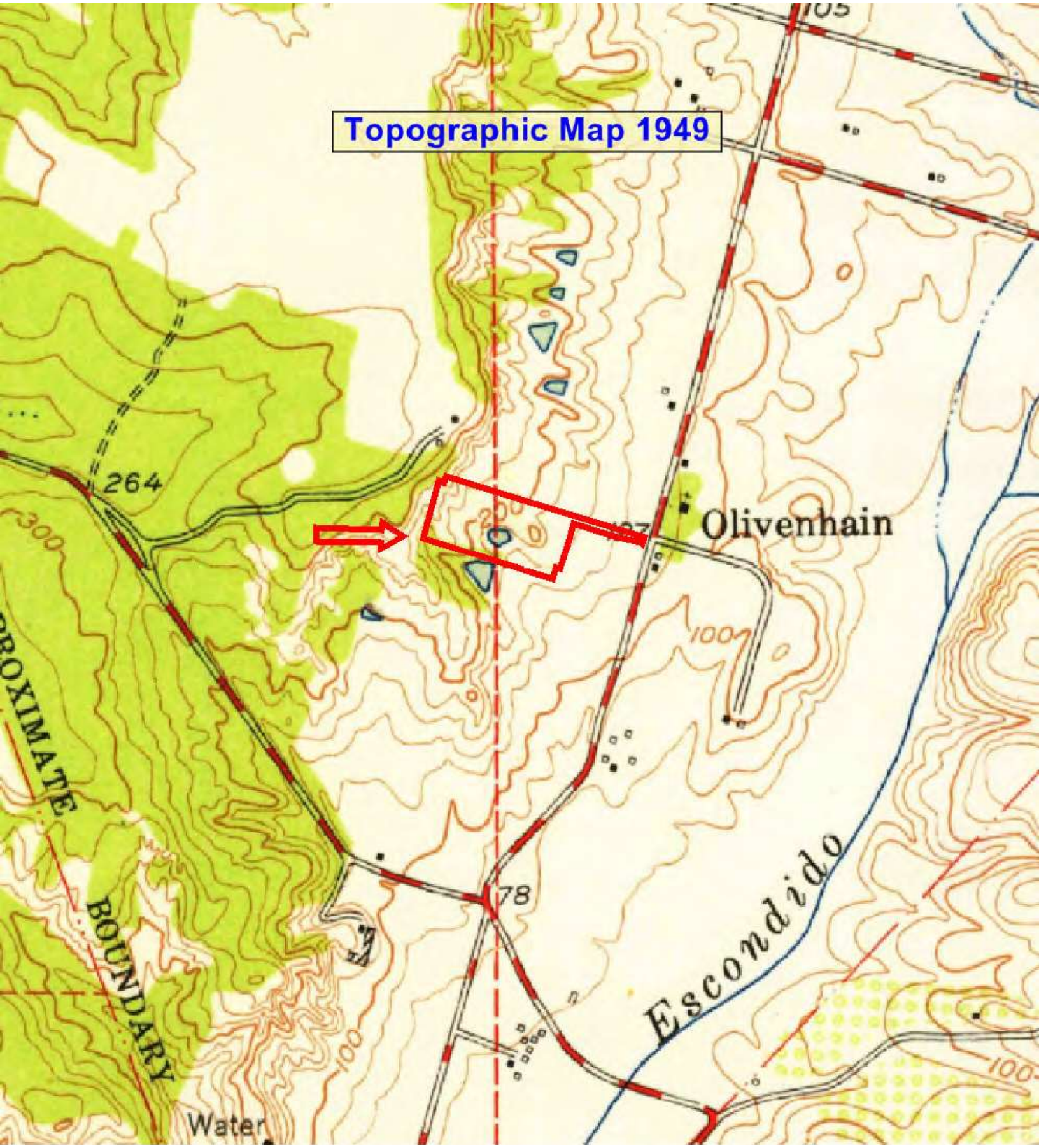
HISTORICAL TOPOGRAPHIC MAPS

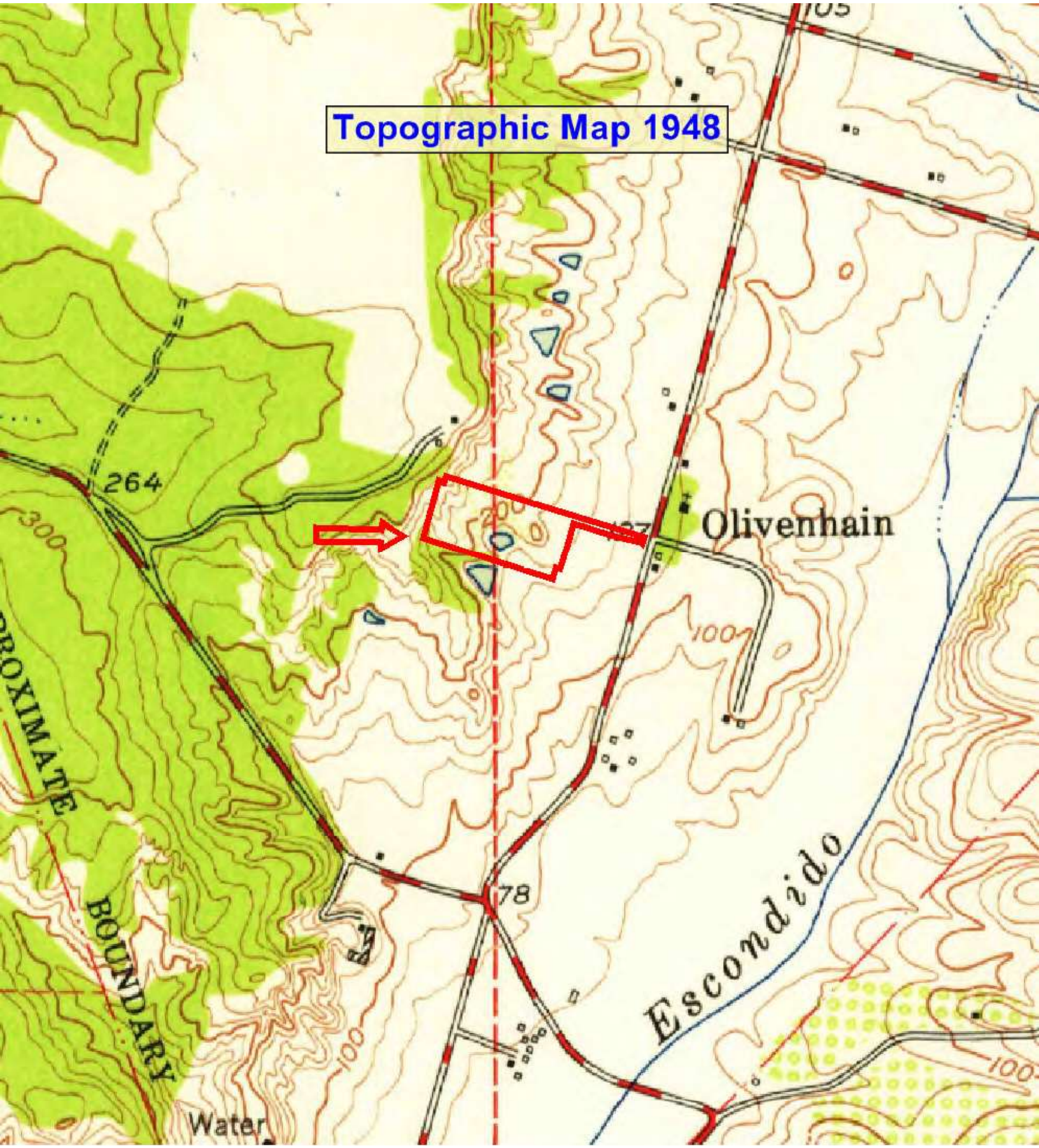

Topographic Map 2012
Olivenhain
COUNTRYWOOD LN
WILLOWSPRING DR N
HILLVIEW RD
COLE RANCH RD
RANCHO SANTA FE RD
7TH ST
5TH ST
4TH ST
ENCINITAS BLVD
EL MIRL
Escondido
300
200
100

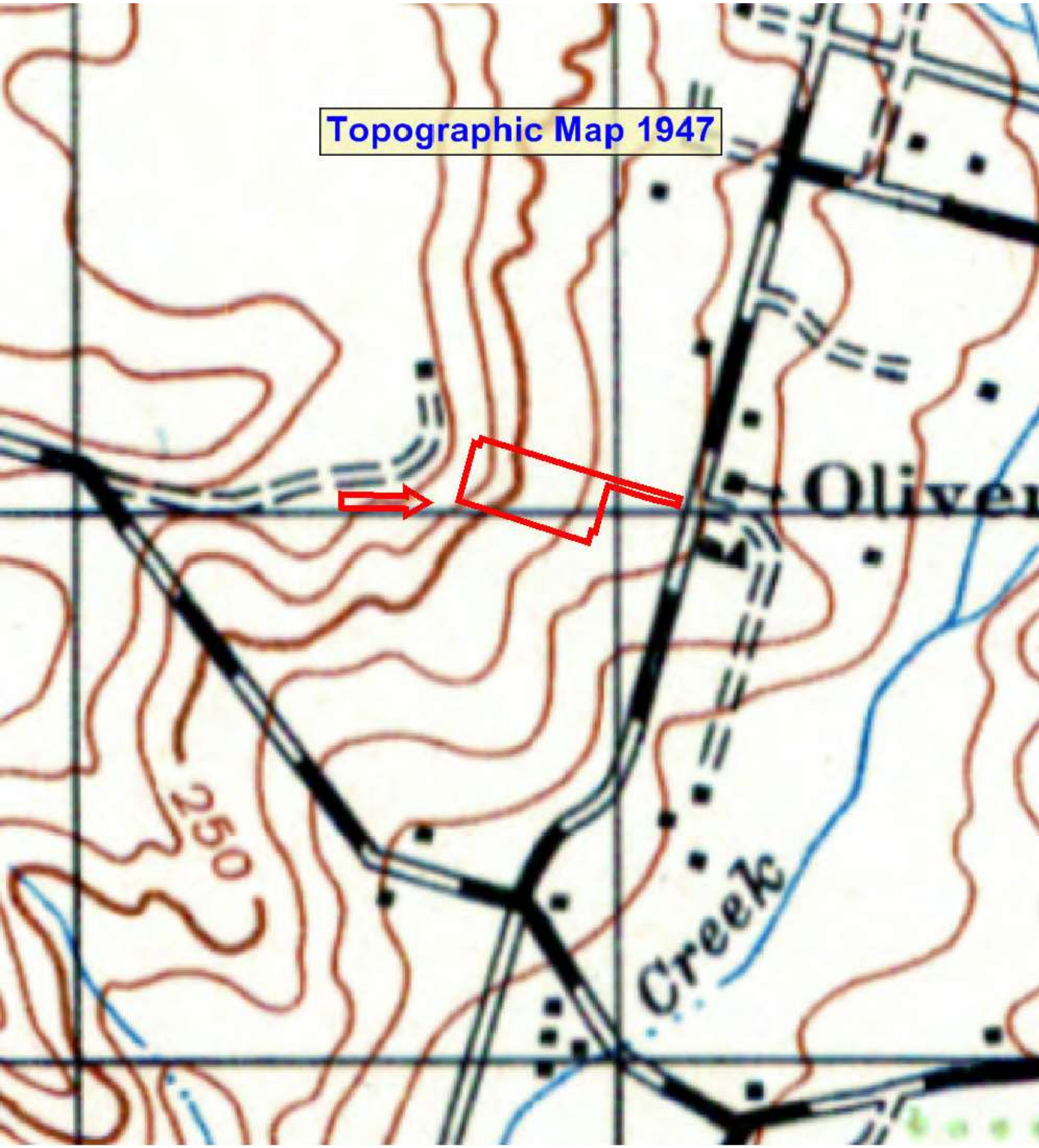

Topographic Map 1996
ENCINITAS
Olivenhain
Escondido
BLVD
BDY
127


Topographic Map 1983
Olivenhain
Escondido
BLVD
127

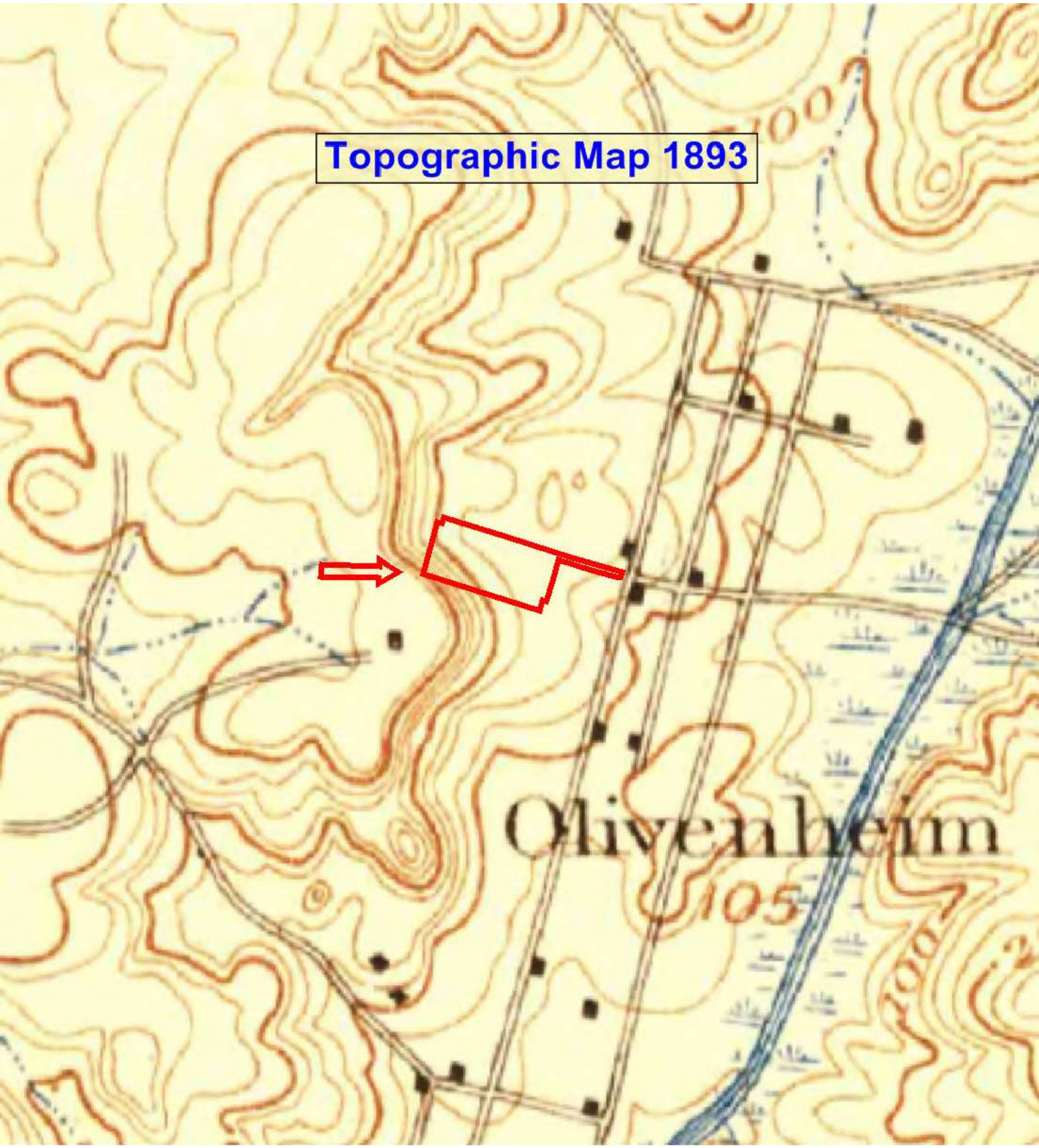

Topographic Map 1968
Olivenhain
Escondido
BLVD
100


Topographic Map 1949
Olivenhain
264
300
100
78
Escondido
BOUNDARY
Water


Topographic Map 1948
Olivenhain
Escondido
264
300
100
78
BOUNDARY
Water


Topographic Map 1947
250
Creek

Topographic Map 1901
100
105


Topographic Map 1893
Olivenheim
105

APPENDIX G

SITE RECONNAISSANCE PHOTOGRAPHS

Photo #1: View from middle of the subject looking towards northwest corner.

Photo #2: View from middle of the subject site looking towards the southwest corner.

CTE INC. Construction Testing & Engineering, Inc.
1441 Montiel Rd Ste 115, Escondido, CA 92026 Ph (760) 746-4955

SITE PHOTOS
RANCH VIEW TERRACE EIGHT LOT SUBDIVISION
RANCH VIEW TERRACE
ENCINITAS, CALIFORNIA

SCALE:	DATE:
NONE	02/19
CTE JOB NO.: 10-14212E	PAGE 1

Photo #3: View from the western subject site boundary looking towards northeast.

Photo #4: View from the western property boundary looking towards the southeast.

Photo #5: View from middle of the subject site looking towards the northeast corner. Graded area covered with ice plants and surrounding properties can be seen.

Photo #6: View from the northeast corner of the subject site looking west.

Photo #7: View of southern boundary of the subject site looking east.

Photo #8: View of western boundary of the subject site looking south. Surrounding residential houses can be seen above subject site elevation.

Photo #9: View of western boundary of the subject site looking north. Surrounding residential houses can be seen above subject site elevation.

Photo #10: View of narrow strip of subject site area to the east of the larger portion of the subject site. Photo is looking west and surrounding properties can be seen.

Photo #11: Another view of the narrow strip of land on the subject site looking east. Surrounding properties can be seen.

Photo #12: Example photo of naturally cut drainage conveyances observed throughout the subject site.

Photo #13: Another example photo of naturally cut drainage conveyances observed throughout the subject site.

Photo #14: Homeless/squatter debris observed on the subject site.

Photo #15: Photo of typical residential development surrounding the subject site.

APPENDIX H

RESUMES

DAN T. MATH, RCE, GE

TITLE: **Principal Engineer**

EDUCATION:

Bachelor of Science,
San Diego State University
Civil & Environmental Engineering Major

CERTIFICATIONS:

Registered Civil Engineer, State of California, #61013
Registered Civil Engineer, Guam, #1616
Registered Geotechnical Engineer, State of California, #2665
U.S.A.C.E. Construction Quality Management for Contractors Certificate

EXPERIENCE:

6/97 to Present **CONSTRUCTION TESTING & ENGINEERING, INC.**

Responsibilities include overseeing operations of the entire environmental consulting group. Responsible for overall technical supervision of professional, technical, and field staff for Oxnard, Riverside, and (Corporate) San Diego Offices. Provides principal review and supervised for all environmental engineering activities. Extensive experience in proposal and technical report preparation, client development, and contract review. Diverse background includes working with public and private clients, municipalities, federal government, and school districts. Frequently communicates with oversight agencies including the Division of the State Architect, California Geologic Society, and State of California agencies such as the Department of Toxic Substances Control. Also coordinates with local municipal agencies such as the City San Diego Department of Planning and Land Use and the County of San Diego.

Provides technical supervision of environmental investigations, assessments, and remediation projects. Specifically, supervise staff in the performance of Phase I and II Environmental Site Assessments, as well as remediation projects or sites. Projects typically include soil and groundwater monitoring and remediation, documentation and regulatory closure.

9/95 to 6/97 **CITY of SAN DIEGO**

Engineering & Capital Projects Division. Duties included, but not limited to, deep foundations design and construction, designing and rehabilitating city infrastructure systems and property. Reviewed and approved inspection reports. Supervised, reviewed and regulated non-city personnel during installations of shall and deep foundations for public and private improvements.

6/93 to 8/96 **LAW PLUMBING COMPANY**

Equipment operator-pipe layer. Duties included, but were not limited to, removal and remediation of Underground Storage Tanks and associated dispensary facilities, and disposal of non-hazardous and hazardous wastes.

GREGORY F. RZONCA, P.G., C.E.G

TITLE: Senior Certified Engineering Geologist

EDUCATION: Bachelor of Science - Geology
California State University Los Angeles

CERTIFICATIONS: Professional Geologist, California PG #3836
Certified Engineering Geologist, California CEG #1191
Registered Geologist, Arizona RG #26468
Professional Engineer (Geological), Arizona #28058
Certified Environmental Manager, Nevada #EM 1591
40 Hour HAZWOPER Trained
Eight Hour Health and Safety Supervisors Trained
Eight Hour Health and Safety Refresher Trained

BACKGROUND: Over thirty eight years of progressively responsible professional geotechnical and environmental service experience. Responsible for implementation and direction of work teams performing detailed geotechnical and environmental work in southwestern United States. Successfully scopes projects, prepares proposals, implements projects and provides follow up services. Geotechnical projects he performs are mass graded tract development, commercial structures, public facilities including water works reservoirs and pipelines, lead geotechnical consultant for multiple municipalities and dams. The work included evaluation of earth material properties, landslides and fault hazards. Environmental work includes performance and direction of work teams performing 100s of Phase I and Phase 2 Environmental Site Assessments, environmental interface with regulatory agencies including City and County regulators, and remedial activities conducted for private and federal institutions. Typical environmental projects he performs are fuel dispensing facilities, dry cleaner operations, landfills, ranches and farms where past practices may lead to environmentally impacted soil and groundwater media. Currently an on-call expert certified engineering geologist consultant to the State of California Board for Engineers, Land Surveyors and Geologists.

EXPERIENCE:

2006 to Present **CONSTRUCTION TESTING & ENGINEERING, INC, San Diego, CA**

Senior Certified Engineering Geologist

Performs geotechnical and environmental work for private entities. Geotechnical work includes evaluation of earth material properties, landslide potential and fault hazard for private developments. Scope of work includes proposal preparation, work implementation and report preparation for mass graded and site specific residential and commercial developments. Environmental work includes Phase 1 and Phase 2 environmental site assessments for commercial and private facilities. These facilities include, dry cleaners, uncontrolled grading sites, public facilities, and commercial developments. Soil and groundwater media were evaluated for environmental impacts and risk assessment or remedial activities were performed as required by regulatory agencies. Site characterization of military facilities identified Installation and Restoration (IR) sites

2003 to 2006 **GEOCON, INC., San Diego, CA**

Senior Certified Engineering Geologist

Senior certified engineering geologist and project manager for large mass graded properties in San Diego area. Work included field investigations, in grading observations and mapping, direction of technician staff, client interface, meeting with public agency staff, and budget preparation and management. Performed preliminary geotechnical investigations, update geotechnical investigations and as built reports for grading and improvements. Terrain where projects were located included locations of hard non rippable rock and soft saturated alluvium which required special handling.

1997 to 2003 **MACTEC ENGINEERING AND CONSULTING (FORMERLY LAW/CRANDALL), San Diego, CA and Phoenix, AZ**

Principal Certified Engineering Geologist

Started in the Phoenix office responsible for office environmental activities, and transferred to the San Diego office in 1999. Advanced from senior engineering geologist to principal engineering geologist by verbal interview with a corporate review board. Project manager responsible for profit and loss of various projects conducted for public and private entities. Responsible for technical review and company policy QA/QC procedures implementation on multiple projects and proposals. Reviewed contracts for compliance with company requirements. Geotechnical work included evaluation of damaged and failed surface water conveyance systems and for development of public facilities. Directed work teams and directly performed work. Environmental work included evaluation of potential impacts to surface water, soil and groundwater media for public and private facilities

1995 to 1997 **TERRACON CONSULTANTS, Phoenix**

Senior Environmental Engineer

Geotechnical performed work included the Kitty Joe Bridge north of Sunflower, Arizona, a high pressure natural gas pipeline crossing beneath Sycamore Creek near Sedona, Arizona, and a forensic evaluation of a distressed road way crossing a filled canyon on the Ute Indian Nation, Colorado. Performed and directed work teams on implementation of Phase I and Phase II environmental assessments throughout the southwestern United States. Prepared documentation for clean closure of facilities.

1992 to 1995 **DAMES & MOORE, Phoenix, AZ**

Environmental Engineer/Business Unit Leader

Managed and directed a group performing Phase I and Phase 2 Environmental Site Assessments. Provided staff direction and resources to implement work. Performed and directed work teams on preparation of Phase I and Phase II Environmental Site Assessments throughout the southwestern United States. Projects included private and public facilities including a new baseball park for Phoenix. Responsible for profit and loss of the group and significantly increased profitability.

1986 to 1992 **CONVERSE CONSULTANTS, Pasadena, CA**

Principal Certified Engineering Geologist

Progressed from project to principal certified engineering geologist working on a variety of geotechnical projects. Directed work teams performing detailed geotechnical investigations. Supervised preparation of geologic interpretations and graphics. Prepared and reviewed reports. Performed geotechnical review tasks for the City of Palmdale and the City of Santa Clarita. Environmental work included direction of work teams performing Phase I Environmental Site Assessments, and Phase 2 characterization of leaking underground storage tank incidents.

1978 to 1986 **MOORE & TABER, Anaheim, CA**

Project Engineering Geologist

Progressed from staff engineering geologist to project engineering geologist. Performed a variety of tasks including forensic evaluations, fault hazard evaluations, landslide investigations, forensic investigations of distressed properties, and mass grading observations. Directed field investigations by various drill rigs, backhoes and hand excavations. Prepared cross sections and geologic maps providing interpretations of geologic conditions, and prepared written reports. Responsible for project implementation and report preparation. Became a professional geologist and certified engineering geologist in 1984.

Appendix G –
Limited Phase 2 Environmental Site Assessment –
Proposed 9 Lot Subdivision (The Sanctuary)

November 25, 2020 CTE Job No. 10-14212E

Olivenhain Hills LLC
Attention: Mr. Udi Melamed
745 Cole Ranch Road
Encinitas, California 92024
Telephone: (760) 299-3344 Via Email: udi@ermdevelopment.com

Subject: Limited Phase 2 Environmental Site Assessment
Proposed 9 Lot Subdivision (The Sanctuary)
Ranch View Terrace
Encinitas, California

Mr. Melamed:

Construction Testing and Engineering, Inc. (CTE) is pleased to present this Limited Phase 2 Environmental Site Assessment pertinent to the subject proposed subdivision. Location of the site is shown on attached Figure 1, Site Index Map. This Limited Phase 2 (Phase 2) follows the Phase One Environmental Site Assessment (ESA) for the subject site dated February, 18, 2019 as prepared by CTE for Olivenhain Hills, LLC. This Phase 2 was authorized by Mr Udi Melamed on November 5, 2020 through CTE proposal E-0628 dated November 3, 2020. The ESA did not find the presence of a Recognized Environmental Condition on the subject site. However, the ESA noted that a portion of the property was likely utilized for agriculture in the past during a time when organochlorine pesticides (OCPs) were commonly utilized. Such OCP residuals such as DDT were banned in the late 1970s, but may remain in near surface soils to the present day. Furthermore, past agriculture practices could have used metals and metalloids such as copper, lead and arsenic to control insects and unwanted plant growth. The purpose of this Phase 2 is to collect soil samples for laboratory analyses to evaluate the potential presence of OCP and metal/metalloid residuals. This Phase 2 assessment is limited to an evaluation of environmental conditions associated with historic agriculture activities on the site where development is planned.

1.0 TECHNICAL SCOPE

A total of eight near surface soil (approximately six inches to one foot in depth) samples were collected at the site on November 13, 2020. The samples were collected at locations to cover the site in an approximate uniform manner. Sample locations are shown on attached Figure 2. The samples were obtained from hand excavated pits, and were placed in laboratory supplied unused glass containers. Sampling was in general accordance with the current edition of the San Diego County Department of Environmental Health *Site Assessment and Mitigation (SAM)* Manual. The samples were individually packaged and placed on ice in a sealed contained for transport to Orange Coast Analytical, a California Department of Health certified laboratory. The laboratory analyzed the samples to quantify, if at reporting levels, organochlorine pesticides by EPA 8081

and California Title 22 metals by EPA Method 6010A/7471B. The spatial location of sampling, number of samples and selected laboratory analyses follow the referenced California Department of Toxic Substance Control documents per CTE's discretion.

2.0 LABORATORY RESULTS AND DISCUSSION

The laboratory quantified the presence of OCP residuals in two of the eight samples, and an elevated concentration of the metal lead in one of the eight samples. Concentrations of the metalloid arsenic was present in all eight of the samples. However, these chemicals and metal/metalloids are below regulatory values or in the case of arsenic less than typical background values. Laboratory results are attached in Appendix A. The following provides additional discussion of the laboratory results.

The laboratory quantified the presence of OCP residuals in samples L9 and L7. The laboratory did not quantify the presence above reporting levels in the remaining six samples. The quantified OCP residuals are presented in following Table 2.1

Table 2.1 Quantified Laboratory Results

Sample Number	Organochlorine Pesticide Residuals (micrograms per kilogram)				
	Chlordane	4,4'DDD	4,4'DDE	4,4' DDT	Dieldrin
L7	38	<10	<5.0	<10	<2.0
L9	40	16	15	11	2.6

Notes:
Micrograms per kilogram is ug/kg
A less than value (<) indicates less than laboratory reporting level.

The following Table 2.2 provides regulatory screening levels for residential properties according to the California Department of Toxic Substance Control HERO Note 3 (June 2020).

Table 2.2
Regulatory Screening Levels
(micrograms/kilogram)

Chlordane		4,4'-DDD		4,4'-DDE		4,4'DDT		Dieldrin	
cancer	non cancer	cancer	non cancer	cancer	non cancer	cancer	non cancer	cancer	non cancer
1,700	35,000	2,300	1,900	2,000	23,000	1,900	37,000	34	3,200

The laboratory analytical results shown on Table 2.1 are well below those of the regulatory values presented on Table 2.2. Consequently, environmental remedial activities for OCP residuals would not appear to be warranted.

Lead was quantified to range between 3.7 milligrams/kilogram (mg/kg) and 6.3 mg/kg in samples L3 and PK, respectively. However, lead was quantified at a concentration of 37 mg/kg in sample L9. The L9 quantified 37 mg/kg value is well below the residential screening level for lead (non carcinogenic) of 80 mg/kg per DTSC HERO Note 3 (June 2020). Sample L9 was collected in an apparent location of a former stock pond, and may be the result of organic activities that are not related to inorganic lead concentrations of the regulatory screening values. Grading of the site should reduce the lead concentrations as the soils are mixed for developmental activities. Consequently, environmental remedial activities for lead concentrations at the former stock pond location would not appear warranted.

Arsenic was quantified at concentrations between 3.7 mg/kg and 8.8 mg/kg in samples L7 and L9, respectively. DTSC HERO Note 3 (June 2020) presents arsenic carcinogenic risk and non carcinogenic risk values of 0.11 mg/kg and 0.41 mg/kg, respectively. However, that document notes that it is not uncommon for naturally occurring arsenic values to be well above regulatory values, and site specific background should be considered. It is not unusual for arsenic to be at concentrations greater than these values in the southwestern United States. As an example, the Kearney Foundation (1996) evaluated background concentrations of trace elements in soils in California. Three of their samples were in the San Diego area with location and results as:

- Location -117*13’ longitude; 32°54’latititude=11.0 mg/kg
- Location -116* 47’ longitude; 32°49’latitude=0.6 mg/kg
- Location -116* 54’ longitude; 32°43’latitude=10.4 mg/kg

The document entitled “Determination of a Southern California Regional Arsenic Concentration in Soil” (undated) by Chernoff et. al. of the California Department of Toxic Substance Control (DTSC) evaluated background concentrations of arsenic in southern California. Their statistical analyses were based upon arsenic concentrations from samples collected at 19 school sites in Los Angeles County that was further validated by 52 (total) school sites in southern California including three in San Diego. The results indicated arsenic concentrations ranging between 0.15 and 19.63 mg/kg and an upper bound limit for naturally occurring arsenic as 12 mg/kg. Chernoff et. al. suggest an upper bound value of 12 mg/kg as a presumptive screening level for arsenic. Based upon the relative consistency of arsenic concentrations at the site it appears the laboratory values indicate typical background levels for the area. The quantified values are below two of three values found by the Kearny Foundation and below the typical screening values presented by Chernoff et. al. Consequently, arsenic does not appear to present an environmental concern greater than the general area of the San Diego region.

3.0 FINDINGS AND CONCLUSIONS

The laboratory results indicate environmental remedial activities are not necessary for this project. As such, the laboratory results should not preclude development of the site from an environmental perspective.

4.0 LIMITATIONS AND ASSUMPTIONS

The field evaluation, laboratory testing, and results presented in this report have been conducted according to current environmental practice and the standard of care exercised by reputable consultants performing similar tasks in this area. No other warranty, expressed or implied, is made regarding this report. Variations may exist and conditions not observed or described in this report may be present. CTE should be notified of possible variations so that CTE may re-evaluate the findings of this report.

CTE appreciates this opportunity to be of service on this project. If there are any questions regarding this report, please do not hesitate to contact the undersigned.

Respectfully submitted,

CONSTRUCTION TESTING & ENGINEERING, INC.

Dan T. Math, RCE #61013
Principal Engineer

Gregory F. Rzonca, CEG #1191
Senior Engineering Geologist

GFR/DTM:ach

Attachments
Figure 1 Site Index Map
Figure 2 Sample Location Map

Appendix A Laboratory Analytical Results

REFERENCES

1) Construction Testing and Engineering, *Phase One Environmental Site Assessment, Ranch View Terrace, Undeveloped Property at Proposed Nine Lot Subdivision, Encinitas*, California, dated February 18, 2019, prepared for Olivenhain Hills, LLC, CTE project 10.14212E.

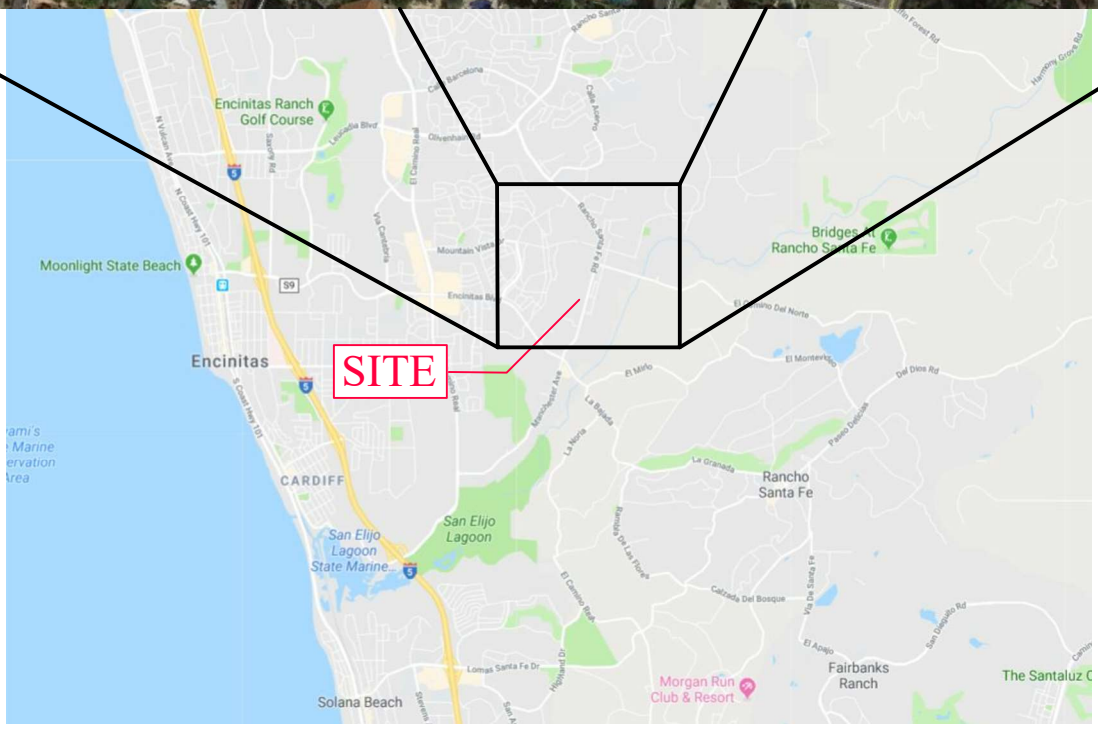
2) California Department of Toxic Substance Control *Interim Guidance for Sampling Agriculture Fields for School Sites (Second Revision),* dated August 26, 2002.

3) California Department of Toxic Substance Control *Interim Guidance for Sampling Agriculture Properties, (Third Revison),* dated August 7, 2008.

4) California Department of Toxic Substance Control (DTSC), Human and Ecological Risk Office (HERO) *Human Health Risk Assessment (HHRA) Note Number 3, DTSC-modified Screening Levels (DTSC-SLs).* Dated June 2020.

5) Chernoff et.al. *Determination of a Southern California Regional Arsenic Concentration in Soil,* undated.

6) Kearny Foundation, *Background Concentrations of Trace Elements in California Soils,* 1996.

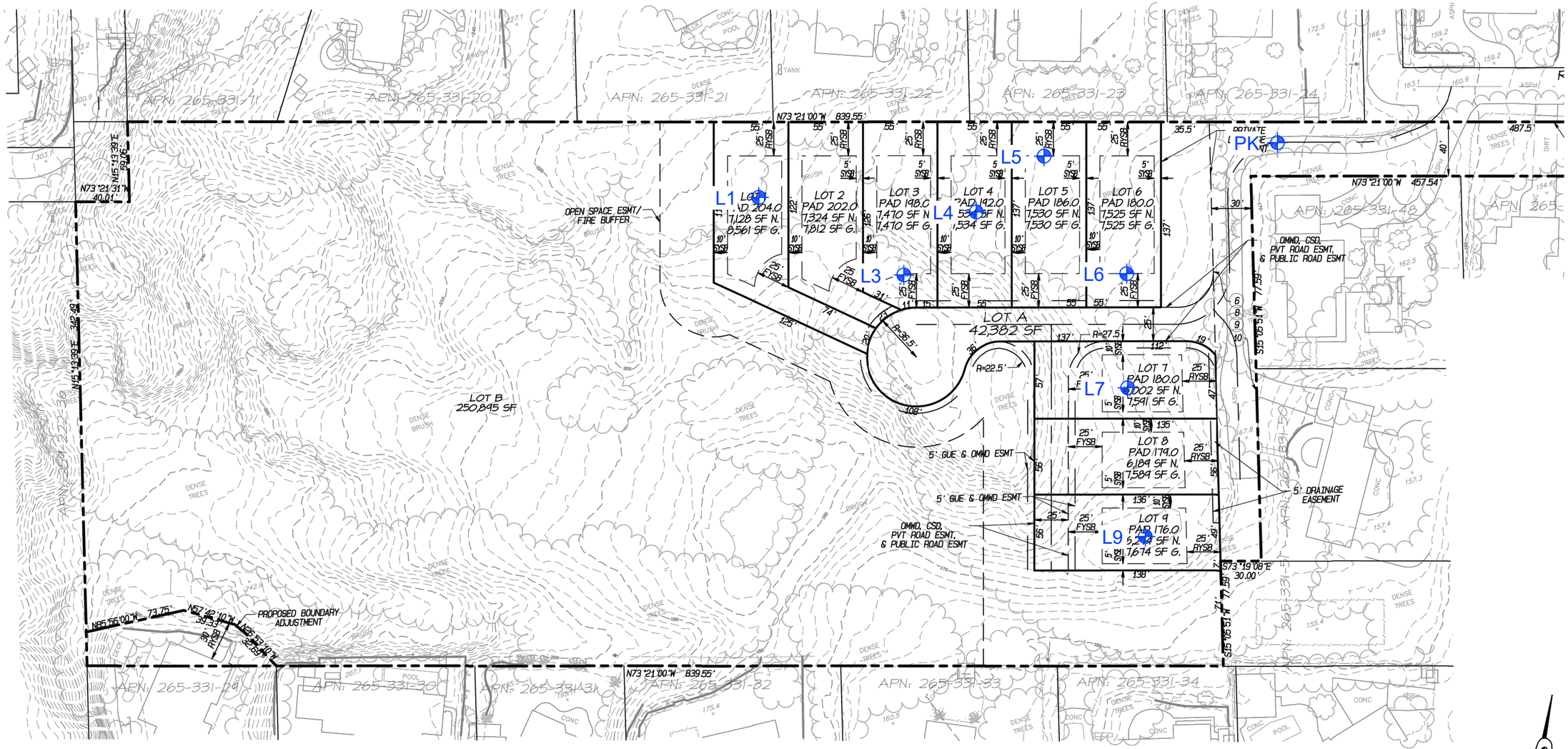


Approximate property boundary location

CTE INC. Construction Testing & Engineering, Inc.
1441 Montiel Rd Ste 115, Escondido, CA 92026 Ph (760) 746-4955

SITE INDEX MAP
PROPOSED NINE LOT SUBDIVISION
RANCH VIEW TERRACE
ENCINITAS, CALIFORNIA

SCALE:	DATE:
NONE	11/20
CTE JOB NO.:	FIGURE:
10-14212E	1



GRAPHIC SCALE

100' 0 50' 100'

1 inch = 100 ft.

LEGEND

L1 ⊕ Approximate Sample Location

CTE INC. Construction Testing & Engineering, Inc.
1441 Montiel Rd Ste 115, Escondido, CA 92026 Ph (760) 746-4955

SAMPLE LOCATION MAP
PROPOSED NINE LOT SUBDIVISION
THE SANCTUARY
ENCINITAS, CALIFORNIA

CTE JOB NO:	10-14212E
SCALE:	1" = 100'
DATE: 11/20	FIGURE: 2

APPENDIX A

LABORATORY ANALYTICAL RESULTS

Orange Coast Analytical, Inc.
3002 Dow, Suite 532, Tustin, CA 92780 (714) 832-0064 Fax (714) 832-0067
4620 E. Elwood, Suite 4, Phoenix, AZ 85040 (480) 736-0960 Fax (480) 736-0970

LABORATORY REPORT FORM

ORANGE COAST ANALYTICAL, INC.

3002 Dow Suite 532 Tustin, CA 92780

(714) 832-0064

Laboratory Certification (ELAP) No.:2576
Expiration Date: 2021
Los Angeles County Sanitation District Lab ID# 10206

Laboratory Director's Name:
Mark Noorani

Client:	Construction Testing & Engineering, Inc.
Laboratory Reference:	CTE 25528
Project Name:	The Sanctuary
Project Number:	10.14212E
Date Received:	11/17/2020
Date Reported:	11/19/2020
Chain of Custody Received:	☑
Analytical Method:	8081A, 6010B, 7471A,

Mark Noorani, Laboratory Director

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Mr. Greg Rzonca
Construction Testing & Engineering, Inc.
1441 Montiel Rd Ste 115
Escondido, CA, 92026

Lab Reference #: CTE 25528
Project Name: The Sanctuary
Project #: 10.14212E

Case Narrative

Sample Receipt:

All samples on the Chain of Custody were received by OCA at 17ºC.

Holding Times:

All samples were analyzed within required holding times unless otherwise noted in the data qualifier section of the report.

Analytical Methods:

Sample analysis was performed following the analytical methods listed on the cover page.

Data Qualifiers:

Within this report, data qualifiers may have been assigned to clarify deviations in common laboratory procedures or any divergence from laboratory QA/QC criteria. If a data qualifier has been used, it will appear in the back of the report along with its description. All method QA/QC criteria have been met unless otherwise noted in the data qualifier section.

Definition of Terms:

The definitions of common terms and acronyms used in the report have been placed at the back of the report to assist data users.

Comments:

None

Mr. Greg Rzonca
Construction Testing & Engineering, Inc.
1441 Montiel Rd Ste 115
Escondido, CA, 92026

Lab Reference #: CTE 25528
Project Name: The Sanctuary
Project #: 10.14212E

Client Sample Summary

Client Sample ID	Lab Sample Number	Date Received	Date Sampled	Matrix
L9	25528-001	11/17/2020	11/13/2020	Soil
L1	25528-002	11/17/2020	11/13/2020	Soil
L3	25528-003	11/17/2020	11/13/2020	Soil
L4	25528-004	11/17/2020	11/13/2020	Soil
L5	25528-005	11/17/2020	11/13/2020	Soil
L6	25528-006	11/17/2020	11/13/2020	Soil
PK	25528-007	11/17/2020	11/13/2020	Soil
L7	25528-008	11/17/2020	11/13/2020	Soil

Mr. Greg Rzonca
Construction Testing & Engineering, Inc.
1441 Montiel Rd Ste 115
Escondido, CA, 92026

Lab Reference #: CTE 25528
Project Name: The Sanctuary
Project #: 10.14212E

Organochlorine Pesticides (EPA 8081A)

Client Sample ID	Lab Sample Number	Date Received	Date Sampled	Date Extracted	Date Analyzed	Matrix
L9	25528-001	11/17/2020 8:30	11/13/2020 10:05	11/17/2020 9:00	11/17/2020 14:52	Soil

ANALYTE	CAS #	µg/kg
Aldrin	309-00-2	<2.0
alpha-BHC	319-84-6	<5.0
beta-BHC	319-85-7	<5.0
gamma-BHC (Lindane)	58-89-9	<5.0
delta-BHC	319-86-8	<10
Chlordane	57-74-9	40
4,4'-DDD	72-54-8	16
4,4'-DDE	72-55-9	15
4,4'-DDT	50-29-3	11
Dieldrin	60-57-1	2.6
Endosulfan I	959-98-8	<10
Endosulfan II	33213-65-9	<5.0
Endosulfan sulfate	1031-07-8	<10
Endrin	72-20-8	<10
Endrin aldehyde	7421-93-4	<10
Endrin ketone	53494-70-5	<5.0
Heptachlor	76-44-8	<2.0
Heptachlor epoxide	1024-57-3	<5.0
Methoxychlor	72-43-5	<10
Toxaphene	8001-35-2	<40

Surrogate:	% RC*
Decachlorobiphenyl	91

* Acceptable Recovery: 53-135 %

Dilution Factor: 1

Data Qualifiers: C8,

Mr. Greg Rzonca
Construction Testing & Engineering, Inc.
1441 Montiel Rd Ste 115
Escondido, CA, 92026

Lab Reference #: CTE 25528
Project Name: The Sanctuary
Project #: 10.14212E

Organochlorine Pesticides (EPA 8081A)

Client Sample ID	Lab Sample Number	Date Received	Date Sampled	Date Extracted	Date Analyzed	Matrix
L1	25528-002	11/17/2020 8:30	11/13/2020 10:15	11/17/2020 9:00	11/17/2020 15:08	Soil

ANALYTE	CAS #	µg/kg
Aldrin	309-00-2	<2.0
alpha-BHC	319-84-6	<5.0
beta-BHC	319-85-7	<5.0
gamma-BHC (Lindane)	58-89-9	<5.0
delta-BHC	319-86-8	<10
Chlordane	57-74-9	<30
4,4'-DDD	72-54-8	<10
4,4'-DDE	72-55-9	<5.0
4,4'-DDT	50-29-3	<10
Dieldrin	60-57-1	<2.0
Endosulfan I	959-98-8	<10
Endosulfan II	33213-65-9	<5.0
Endosulfan sulfate	1031-07-8	<10
Endrin	72-20-8	<10
Endrin aldehyde	7421-93-4	<10
Endrin ketone	53494-70-5	<5.0
Heptachlor	76-44-8	<2.0
Heptachlor epoxide	1024-57-3	<5.0
Methoxychlor	72-43-5	<10
Toxaphene	8001-35-2	<40

Surrogate:	% RC*
Decachlorobiphenyl	84

* Acceptable Recovery: 53-135 %

Dilution Factor: 1

Data Qualifiers: None

Mr. Greg Rzonca
Construction Testing & Engineering, Inc.
1441 Montiel Rd Ste 115
Escondido, CA, 92026

Lab Reference #: CTE 25528
Project Name: The Sanctuary
Project #: 10.14212E

Organochlorine Pesticides (EPA 8081A)

Client Sample ID	Lab Sample Number	Date Received	Date Sampled	Date Extracted	Date Analyzed	Matrix
L3	25528-003	11/17/2020 8:30	11/13/2020 10:27	11/17/2020 9:00	11/17/2020 15:23	Soil

ANALYTE	CAS #	µg/kg
Aldrin	309-00-2	<2.0
alpha-BHC	319-84-6	<5.0
beta-BHC	319-85-7	<5.0
gamma-BHC (Lindane)	58-89-9	<5.0
delta-BHC	319-86-8	<10
Chlordane	57-74-9	<30
4,4'-DDD	72-54-8	<10
4,4'-DDE	72-55-9	<5.0
4,4'-DDT	50-29-3	<10
Dieldrin	60-57-1	<2.0
Endosulfan I	959-98-8	<10
Endosulfan II	33213-65-9	<5.0
Endosulfan sulfate	1031-07-8	<10
Endrin	72-20-8	<10
Endrin aldehyde	7421-93-4	<10
Endrin ketone	53494-70-5	<5.0
Heptachlor	76-44-8	<2.0
Heptachlor epoxide	1024-57-3	<5.0
Methoxychlor	72-43-5	<10
Toxaphene	8001-35-2	<40

Surrogate:	% RC*
Decachlorobiphenyl	88

* Acceptable Recovery: 53-135 %

Dilution Factor: 1

Data Qualifiers: None

Mr. Greg Rzonca
Construction Testing & Engineering, Inc.
1441 Montiel Rd Ste 115
Escondido, CA, 92026

Lab Reference #: CTE 25528
Project Name: The Sanctuary
Project #: 10.14212E

Organochlorine Pesticides (EPA 8081A)

Client Sample ID	Lab Sample Number	Date Received	Date Sampled	Date Extracted	Date Analyzed	Matrix
L4	25528-004	11/17/2020 8:30	11/13/2020 10:32	11/17/2020 9:00	11/17/2020 15:58	Soil

ANALYTE	CAS #	µg/kg
Aldrin	309-00-2	<2.0
alpha-BHC	319-84-6	<5.0
beta-BHC	319-85-7	<5.0
gamma-BHC (Lindane)	58-89-9	<5.0
delta-BHC	319-86-8	<10
Chlordane	57-74-9	<30
4,4'-DDD	72-54-8	<10
4,4'-DDE	72-55-9	<5.0
4,4'-DDT	50-29-3	<10
Dieldrin	60-57-1	<2.0
Endosulfan I	959-98-8	<10
Endosulfan II	33213-65-9	<5.0
Endosulfan sulfate	1031-07-8	<10
Endrin	72-20-8	<10
Endrin aldehyde	7421-93-4	<10
Endrin ketone	53494-70-5	<5.0
Heptachlor	76-44-8	<2.0
Heptachlor epoxide	1024-57-3	<5.0
Methoxychlor	72-43-5	<10
Toxaphene	8001-35-2	<40

Surrogate:	% RC*
Decachlorobiphenyl	87

* Acceptable Recovery: 53-135 %

Dilution Factor: 1

Data Qualifiers: None

Mr. Greg Rzonca
Construction Testing & Engineering, Inc.
1441 Montiel Rd Ste 115
Escondido, CA, 92026

Lab Reference #: CTE 25528
Project Name: The Sanctuary
Project #: 10.14212E

Organochlorine Pesticides (EPA 8081A)

Client Sample ID	Lab Sample Number	Date Received	Date Sampled	Date Extracted	Date Analyzed	Matrix
L5	25528-005	11/17/2020 8:30	11/13/2020 10:37	11/17/2020 9:00	11/17/2020 16:09	Soil

ANALYTE	CAS #	µg/kg
Aldrin	309-00-2	<2.0
alpha-BHC	319-84-6	<5.0
beta-BHC	319-85-7	<5.0
gamma-BHC (Lindane)	58-89-9	<5.0
delta-BHC	319-86-8	<10
Chlordane	57-74-9	<30
4,4'-DDD	72-54-8	<10
4,4'-DDE	72-55-9	<5.0
4,4'-DDT	50-29-3	<10
Dieldrin	60-57-1	<2.0
Endosulfan I	959-98-8	<10
Endosulfan II	33213-65-9	<5.0
Endosulfan sulfate	1031-07-8	<10
Endrin	72-20-8	<10
Endrin aldehyde	7421-93-4	<10
Endrin ketone	53494-70-5	<5.0
Heptachlor	76-44-8	<2.0
Heptachlor epoxide	1024-57-3	<5.0
Methoxychlor	72-43-5	<10
Toxaphene	8001-35-2	<40

Surrogate:	% RC*
Decachlorobiphenyl	83

* Acceptable Recovery: 53-135 %

Dilution Factor: 1

Data Qualifiers: None

Mr. Greg Rzonca
Construction Testing & Engineering, Inc.
1441 Montiel Rd Ste 115
Escondido, CA, 92026

Lab Reference #: CTE 25528
Project Name: The Sanctuary
Project #: 10.14212E

Organochlorine Pesticides (EPA 8081A)

Client Sample ID	Lab Sample Number	Date Received	Date Sampled	Date Extracted	Date Analyzed	Matrix
L6	25528-006	11/17/2020 8:30	11/13/2020 10:43	11/17/2020 9:00	11/18/2020 10:41	Soil

ANALYTE	CAS #	µg/kg
Aldrin	309-00-2	<2.0
alpha-BHC	319-84-6	<5.0
beta-BHC	319-85-7	<5.0
gamma-BHC (Lindane)	58-89-9	<5.0
delta-BHC	319-86-8	<10
Chlordane	57-74-9	<30
4,4'-DDD	72-54-8	<10
4,4'-DDE	72-55-9	<5.0
4,4'-DDT	50-29-3	<10
Dieldrin	60-57-1	<2.0
Endosulfan I	959-98-8	<10
Endosulfan II	33213-65-9	<5.0
Endosulfan sulfate	1031-07-8	<10
Endrin	72-20-8	<10
Endrin aldehyde	7421-93-4	<10
Endrin ketone	53494-70-5	<5.0
Heptachlor	76-44-8	<2.0
Heptachlor epoxide	1024-57-3	<5.0
Methoxychlor	72-43-5	<10
Toxaphene	8001-35-2	<40

Surrogate:	% RC*
Decachlorobiphenyl	88

* Acceptable Recovery: 53-135 %

Dilution Factor: 1

Data Qualifiers: None

Mr. Greg Rzonca
Construction Testing & Engineering, Inc.
1441 Montiel Rd Ste 115
Escondido, CA, 92026

Lab Reference #: CTE 25528
Project Name: The Sanctuary
Project #: 10.14212E

Organochlorine Pesticides (EPA 8081A)

Client Sample ID	Lab Sample Number	Date Received	Date Sampled	Date Extracted	Date Analyzed	Matrix
PK	25528-007	11/17/2020 8:30	11/13/2020 10:50	11/17/2020 9:00	11/18/2020 10:56	Soil

ANALYTE	CAS #	µg/kg
Aldrin	309-00-2	<2.0
alpha-BHC	319-84-6	<5.0
beta-BHC	319-85-7	<5.0
gamma-BHC (Lindane)	58-89-9	<5.0
delta-BHC	319-86-8	<10
Chlordane	57-74-9	<30
4,4'-DDD	72-54-8	<10
4,4'-DDE	72-55-9	<5.0
4,4'-DDT	50-29-3	<10
Dieldrin	60-57-1	<2.0
Endosulfan I	959-98-8	<10
Endosulfan II	33213-65-9	<5.0
Endosulfan sulfate	1031-07-8	<10
Endrin	72-20-8	<10
Endrin aldehyde	7421-93-4	<10
Endrin ketone	53494-70-5	<5.0
Heptachlor	76-44-8	<2.0
Heptachlor epoxide	1024-57-3	<5.0
Methoxychlor	72-43-5	<10
Toxaphene	8001-35-2	<40

Surrogate:	% RC*
Decachlorobiphenyl	83

* Acceptable Recovery: 53-135 %

Dilution Factor: 1

Data Qualifiers: None

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1441 Montiel Rd Ste 115
Escondido, CA, 92026

Lab Reference #: CTE 25528
Project Name: The Sanctuary
Project #: 10.14212E

Organochlorine Pesticides (EPA 8081A)

Client Sample ID	Lab Sample Number	Date Received	Date Sampled	Date Extracted	Date Analyzed	Matrix
L7	25528-008	11/17/2020 8:30	11/13/2020 10:54	11/17/2020 9:00	11/18/2020 11:11	Soil

ANALYTE	CAS #	µg/kg
Aldrin	309-00-2	<2.0
alpha-BHC	319-84-6	<5.0
beta-BHC	319-85-7	<5.0
gamma-BHC (Lindane)	58-89-9	<5.0
delta-BHC	319-86-8	<10
Chlordane	57-74-9	38
4,4'-DDD	72-54-8	<10
4,4'-DDE	72-55-9	<5.0
4,4'-DDT	50-29-3	<10
Dieldrin	60-57-1	<2.0
Endosulfan I	959-98-8	<10
Endosulfan II	33213-65-9	<5.0
Endosulfan sulfate	1031-07-8	<10
Endrin	72-20-8	<10
Endrin aldehyde	7421-93-4	<10
Endrin ketone	53494-70-5	<5.0
Heptachlor	76-44-8	<2.0
Heptachlor epoxide	1024-57-3	<5.0
Methoxychlor	72-43-5	<10
Toxaphene	8001-35-2	<40

Surrogate:	% RC*
Decachlorobiphenyl	86

* Acceptable Recovery: 53-135 %

Dilution Factor: 1

Data Qualifiers: C8,

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Lab Reference #: CTE 25528
Project Name: The Sanctuary
Project #: 10.14212E

Organochlorine Pesticides (EPA 8081A)

Client Sample ID	Lab Sample Number	Date Received	Date Sampled	Date Extracted	Date Analyzed	Matrix
Method Blank	MBAV1117201			11/17/2020 9:00	11/17/2020 14:07	Soil

ANALYTE	CAS #	µg/kg
Aldrin	309-00-2	<2.0
alpha-BHC	319-84-6	<5.0
beta-BHC	319-85-7	<5.0
gamma-BHC (Lindane)	58-89-9	<5.0
delta-BHC	319-86-8	<10
Chlordane	57-74-9	<30
4,4'-DDD	72-54-8	<10
4,4'-DDE	72-55-9	<5.0
4,4'-DDT	50-29-3	<10
Dieldrin	60-57-1	<2.0
Endosulfan I	959-98-8	<10
Endosulfan II	33213-65-9	<5.0
Endosulfan sulfate	1031-07-8	<10
Endrin	72-20-8	<10
Endrin aldehyde	7421-93-4	<10
Endrin ketone	53494-70-5	<5.0
Heptachlor	76-44-8	<2.0
Heptachlor epoxide	1024-57-3	<5.0
Methoxychlor	72-43-5	<10
Toxaphene	8001-35-2	<40

Surrogate:	% RC*
Decachlorobiphenyl	84

* Acceptable Recovery: 53-135 %

Dilution Factor: 1

Data Qualifiers: None

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Escondido, CA, 92026

Lab Reference #: CTE 25528
Project Name: The Sanctuary
Project #: 10.14212E

Metals

Client Sample ID	Lab Sample Number	Date Received	Date Sampled	Matrix
L9	25528-001	11/17/2020 8:30	11/13/2020 10:05	Soil

ANALYTE	EPA Method	Result	Units	Date Extracted	Date Analyzed	Qual	DF
Antimony	6010B	<2.0	mg/kg	11/17/20 11:00	11/17/20 16:08	--	1
Arsenic	6010B	8.8	mg/kg	11/17/20 11:00	11/17/20 16:08	--	1
Barium	6010B	69	mg/kg	11/17/20 11:00	11/17/20 16:08	--	1
Beryllium	6010B	0.64	mg/kg	11/17/20 11:00	11/17/20 16:08	--	1
Cadmium	6010B	<0.50	mg/kg	11/17/20 11:00	11/17/20 16:08	--	1
Chromium	6010B	16	mg/kg	11/17/20 11:00	11/17/20 16:08	--	1
Cobalt	6010B	6.2	mg/kg	11/17/20 11:00	11/17/20 16:08	--	1
Copper	6010B	8.6	mg/kg	11/17/20 11:00	11/17/20 16:08	--	1
Lead	6010B	37	mg/kg	11/17/20 11:00	11/17/20 16:08	--	1
Mercury	7471A	<0.10	mg/kg	11/18/20 11:30	11/18/20 15:21	--	1
Molybdenum	6010B	<1.0	mg/kg	11/17/20 11:00	11/17/20 16:08	--	1
Nickel	6010B	6.5	mg/kg	11/17/20 11:00	11/17/20 16:08	--	1
Selenium	6010B	<4.8	mg/kg	11/17/20 11:00	11/17/20 16:08	--	1
Silver	6010B	<0.50	mg/kg	11/17/20 11:00	11/17/20 16:08	--	1
Thallium	6010B	<2.0	mg/kg	11/17/20 11:00	11/17/20 16:08	--	1
Vanadium	6010B	37	mg/kg	11/17/20 11:00	11/17/20 16:08	--	1
Zinc	6010B	47	mg/kg	11/17/20 11:00	11/17/20 16:08	--	1

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Lab Reference #: CTE 25528
Project Name: The Sanctuary
Project #: 10.14212E

Metals

Client Sample ID	Lab Sample Number	Date Received	Date Sampled	Matrix
L1	25528-002	11/17/2020 8:30	11/13/2020 10:15	Soil

ANALYTE	EPA Method	Result	Units	Date Extracted	Date Analyzed	Qual	DF
Antimony	6010B	<2.0	mg/kg	11/17/20 11:00	11/17/20 16:17	--	1
Arsenic	6010B	4.9	mg/kg	11/17/20 11:00	11/17/20 16:17	--	1
Barium	6010B	22	mg/kg	11/17/20 11:00	11/17/20 16:17	--	1
Beryllium	6010B	<0.50	mg/kg	11/17/20 11:00	11/17/20 16:17	--	1
Cadmium	6010B	<0.50	mg/kg	11/17/20 11:00	11/17/20 16:17	--	1
Chromium	6010B	5.0	mg/kg	11/17/20 11:00	11/17/20 16:17	--	1
Cobalt	6010B	2.4	mg/kg	11/17/20 11:00	11/17/20 16:17	--	1
Copper	6010B	<5.0	mg/kg	11/17/20 11:00	11/17/20 16:17	--	1
Lead	6010B	3.8	mg/kg	11/17/20 11:00	11/17/20 16:17	--	1
Mercury	7471A	<0.10	mg/kg	11/18/20 11:30	11/18/20 15:26	--	1
Molybdenum	6010B	<1.0	mg/kg	11/17/20 11:00	11/17/20 16:17	--	1
Nickel	6010B	1.8	mg/kg	11/17/20 11:00	11/17/20 16:17	--	1
Selenium	6010B	<4.8	mg/kg	11/17/20 11:00	11/17/20 16:17	--	1
Silver	6010B	<0.50	mg/kg	11/17/20 11:00	11/17/20 16:17	--	1
Thallium	6010B	<2.0	mg/kg	11/17/20 11:00	11/17/20 16:17	--	1
Vanadium	6010B	13	mg/kg	11/17/20 11:00	11/17/20 16:17	--	1
Zinc	6010B	15	mg/kg	11/17/20 11:00	11/17/20 16:17	--	1

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Lab Reference #: CTE 25528
Project Name: The Sanctuary
Project #: 10.14212E

Metals

Client Sample ID	Lab Sample Number	Date Received	Date Sampled	Matrix
L3	25528-003	11/17/2020 8:30	11/13/2020 10:27	Soil

ANALYTE	EPA Method	Result	Units	Date Extracted	Date Analyzed	Qual	DF
Antimony	6010B	<2.0	mg/kg	11/17/20 11:00	11/17/20 16:20	--	1
Arsenic	6010B	4.7	mg/kg	11/17/20 11:00	11/17/20 16:20	--	1
Barium	6010B	22	mg/kg	11/17/20 11:00	11/17/20 16:20	--	1
Beryllium	6010B	<0.50	mg/kg	11/17/20 11:00	11/17/20 16:20	--	1
Cadmium	6010B	<0.50	mg/kg	11/17/20 11:00	11/17/20 16:20	--	1
Chromium	6010B	5.0	mg/kg	11/17/20 11:00	11/17/20 16:20	--	1
Cobalt	6010B	2.5	mg/kg	11/17/20 11:00	11/17/20 16:20	--	1
Copper	6010B	<5.0	mg/kg	11/17/20 11:00	11/17/20 16:20	--	1
Lead	6010B	3.7	mg/kg	11/17/20 11:00	11/17/20 16:20	--	1
Mercury	7471A	<0.10	mg/kg	11/18/20 11:30	11/18/20 15:28	--	1
Molybdenum	6010B	<1.0	mg/kg	11/17/20 11:00	11/17/20 16:20	--	1
Nickel	6010B	1.8	mg/kg	11/17/20 11:00	11/17/20 16:20	--	1
Selenium	6010B	<4.8	mg/kg	11/17/20 11:00	11/17/20 16:20	--	1
Silver	6010B	<0.50	mg/kg	11/17/20 11:00	11/17/20 16:20	--	1
Thallium	6010B	<2.0	mg/kg	11/17/20 11:00	11/17/20 16:20	--	1
Vanadium	6010B	13	mg/kg	11/17/20 11:00	11/17/20 16:20	--	1
Zinc	6010B	15	mg/kg	11/17/20 11:00	11/17/20 16:20	--	1

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Lab Reference #: CTE 25528
Project Name: The Sanctuary
Project #: 10.14212E

Metals

Client Sample ID	Lab Sample Number	Date Received	Date Sampled	Matrix
L4	25528-004	11/17/2020 8:30	11/13/2020 10:32	Soil

ANALYTE	EPA Method	Result	Units	Date Extracted	Date Analyzed	Qual	DF
Antimony	6010B	<2.0	mg/kg	11/17/20 11:00	11/17/20 16:23	--	1
Arsenic	6010B	5.6	mg/kg	11/17/20 11:00	11/17/20 16:23	--	1
Barium	6010B	24	mg/kg	11/17/20 11:00	11/17/20 16:23	--	1
Beryllium	6010B	<0.50	mg/kg	11/17/20 11:00	11/17/20 16:23	--	1
Cadmium	6010B	<0.50	mg/kg	11/17/20 11:00	11/17/20 16:23	--	1
Chromium	6010B	5.0	mg/kg	11/17/20 11:00	11/17/20 16:23	--	1
Cobalt	6010B	2.6	mg/kg	11/17/20 11:00	11/17/20 16:23	--	1
Copper	6010B	<5.0	mg/kg	11/17/20 11:00	11/17/20 16:23	--	1
Lead	6010B	5.1	mg/kg	11/17/20 11:00	11/17/20 16:23	--	1
Mercury	7471A	<0.10	mg/kg	11/18/20 11:30	11/18/20 15:30	--	1
Molybdenum	6010B	<1.0	mg/kg	11/17/20 11:00	11/17/20 16:23	--	1
Nickel	6010B	1.9	mg/kg	11/17/20 11:00	11/17/20 16:23	--	1
Selenium	6010B	<4.8	mg/kg	11/17/20 11:00	11/17/20 16:23	--	1
Silver	6010B	<0.50	mg/kg	11/17/20 11:00	11/17/20 16:23	--	1
Thallium	6010B	<2.0	mg/kg	11/17/20 11:00	11/17/20 16:23	--	1
Vanadium	6010B	14	mg/kg	11/17/20 11:00	11/17/20 16:23	--	1
Zinc	6010B	17	mg/kg	11/17/20 11:00	11/17/20 16:23	--	1

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Lab Reference #: CTE 25528
Project Name: The Sanctuary
Project #: 10.14212E

Metals

Client Sample ID	Lab Sample Number	Date Received	Date Sampled	Matrix
L5	25528-005	11/17/2020 8:30	11/13/2020 10:37	Soil

ANALYTE	EPA Method	Result	Units	Date Extracted	Date Analyzed	Qual	DF
Antimony	6010B	<2.0	mg/kg	11/17/20 11:00	11/17/20 16:32	--	1
Arsenic	6010B	6.1	mg/kg	11/17/20 11:00	11/17/20 16:32	--	1
Barium	6010B	37	mg/kg	11/17/20 11:00	11/17/20 16:32	--	1
Beryllium	6010B	0.54	mg/kg	11/17/20 11:00	11/17/20 16:32	--	1
Cadmium	6010B	<0.50	mg/kg	11/17/20 11:00	11/17/20 16:32	--	1
Chromium	6010B	7.0	mg/kg	11/17/20 11:00	11/17/20 16:32	--	1
Cobalt	6010B	4.9	mg/kg	11/17/20 11:00	11/17/20 16:32	--	1
Copper	6010B	<5.0	mg/kg	11/17/20 11:00	11/17/20 16:32	--	1
Lead	6010B	5.5	mg/kg	11/17/20 11:00	11/17/20 16:32	--	1
Mercury	7471A	<0.10	mg/kg	11/18/20 11:30	11/18/20 15:32	--	1
Molybdenum	6010B	<1.0	mg/kg	11/17/20 11:00	11/17/20 16:32	--	1
Nickel	6010B	3.9	mg/kg	11/17/20 11:00	11/17/20 16:32	--	1
Selenium	6010B	<4.8	mg/kg	11/17/20 11:00	11/17/20 16:32	--	1
Silver	6010B	<0.50	mg/kg	11/17/20 11:00	11/17/20 16:32	--	1
Thallium	6010B	<2.0	mg/kg	11/17/20 11:00	11/17/20 16:32	--	1
Vanadium	6010B	17	mg/kg	11/17/20 11:00	11/17/20 16:32	--	1
Zinc	6010B	28	mg/kg	11/17/20 11:00	11/17/20 16:32	--	1

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Lab Reference #: CTE 25528
Project Name: The Sanctuary
Project #: 10.14212E

Metals

Client Sample ID	Lab Sample Number	Date Received	Date Sampled	Matrix
L6	25528-006	11/17/2020 8:30	11/13/2020 10:43	Soil

ANALYTE	EPA Method	Result	Units	Date Extracted	Date Analyzed	Qual	DF
Antimony	6010B	<2.0	mg/kg	11/17/20 11:00	11/17/20 16:35	--	1
Arsenic	6010B	5.2	mg/kg	11/17/20 11:00	11/17/20 16:35	--	1
Barium	6010B	25	mg/kg	11/17/20 11:00	11/17/20 16:35	--	1
Beryllium	6010B	<0.50	mg/kg	11/17/20 11:00	11/17/20 16:35	--	1
Cadmium	6010B	<0.50	mg/kg	11/17/20 11:00	11/17/20 16:35	--	1
Chromium	6010B	4.9	mg/kg	11/17/20 11:00	11/17/20 16:35	--	1
Cobalt	6010B	2.6	mg/kg	11/17/20 11:00	11/17/20 16:35	--	1
Copper	6010B	<5.0	mg/kg	11/17/20 11:00	11/17/20 16:35	--	1
Lead	6010B	4.8	mg/kg	11/17/20 11:00	11/17/20 16:35	--	1
Mercury	7471A	<0.10	mg/kg	11/18/20 11:30	11/18/20 15:39	--	1
Molybdenum	6010B	<1.0	mg/kg	11/17/20 11:00	11/17/20 16:35	--	1
Nickel	6010B	1.9	mg/kg	11/17/20 11:00	11/17/20 16:35	--	1
Selenium	6010B	<4.8	mg/kg	11/17/20 11:00	11/17/20 16:35	--	1
Silver	6010B	<0.50	mg/kg	11/17/20 11:00	11/17/20 16:35	--	1
Thallium	6010B	<2.0	mg/kg	11/17/20 11:00	11/17/20 16:35	--	1
Vanadium	6010B	13	mg/kg	11/17/20 11:00	11/17/20 16:35	--	1
Zinc	6010B	18	mg/kg	11/17/20 11:00	11/17/20 16:35	--	1

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Escondido, CA, 92026

Lab Reference #: CTE 25528
Project Name: The Sanctuary
Project #: 10.14212E

Metals

Client Sample ID	Lab Sample Number	Date Received	Date Sampled	Matrix
PK	25528-007	11/17/2020 8:30	11/13/2020 10:50	Soil

ANALYTE	EPA Method	Result	Units	Date Extracted	Date Analyzed	Qual	DF
Antimony	6010B	<2.0	mg/kg	11/17/20 11:00	11/17/20 16:38	--	1
Arsenic	6010B	7.8	mg/kg	11/17/20 11:00	11/17/20 16:38	--	1
Barium	6010B	28	mg/kg	11/17/20 11:00	11/17/20 16:38	--	1
Beryllium	6010B	<0.50	mg/kg	11/17/20 11:00	11/17/20 16:38	--	1
Cadmium	6010B	<0.50	mg/kg	11/17/20 11:00	11/17/20 16:38	--	1
Chromium	6010B	5.9	mg/kg	11/17/20 11:00	11/17/20 16:38	--	1
Cobalt	6010B	3.4	mg/kg	11/17/20 11:00	11/17/20 16:38	--	1
Copper	6010B	<5.0	mg/kg	11/17/20 11:00	11/17/20 16:38	--	1
Lead	6010B	6.3	mg/kg	11/17/20 11:00	11/17/20 16:38	--	1
Mercury	7471A	<0.10	mg/kg	11/18/20 11:30	11/18/20 15:41	--	1
Molybdenum	6010B	<1.0	mg/kg	11/17/20 11:00	11/17/20 16:38	--	1
Nickel	6010B	2.6	mg/kg	11/17/20 11:00	11/17/20 16:38	--	1
Selenium	6010B	<4.8	mg/kg	11/17/20 11:00	11/17/20 16:38	--	1
Silver	6010B	<0.50	mg/kg	11/17/20 11:00	11/17/20 16:38	--	1
Thallium	6010B	<2.0	mg/kg	11/17/20 11:00	11/17/20 16:38	--	1
Vanadium	6010B	17	mg/kg	11/17/20 11:00	11/17/20 16:38	--	1
Zinc	6010B	36	mg/kg	11/17/20 11:00	11/17/20 16:38	--	1

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Lab Reference #: CTE 25528
Project Name: The Sanctuary
Project #: 10.14212E

Metals

Client Sample ID	Lab Sample Number	Date Received	Date Sampled	Matrix
L7	25528-008	11/17/2020 8:30	11/13/2020 10:54	Soil

ANALYTE	EPA Method	Result	Units	Date Extracted	Date Analyzed	Qual	DF
Antimony	6010B	<2.0	mg/kg	11/17/20 11:00	11/17/20 16:41	--	1
Arsenic	6010B	3.3	mg/kg	11/17/20 11:00	11/17/20 16:41	--	1
Barium	6010B	15	mg/kg	11/17/20 11:00	11/17/20 16:41	--	1
Beryllium	6010B	<0.50	mg/kg	11/17/20 11:00	11/17/20 16:41	--	1
Cadmium	6010B	<0.50	mg/kg	11/17/20 11:00	11/17/20 16:41	--	1
Chromium	6010B	4.4	mg/kg	11/17/20 11:00	11/17/20 16:41	--	1
Cobalt	6010B	1.7	mg/kg	11/17/20 11:00	11/17/20 16:41	--	1
Copper	6010B	<5.0	mg/kg	11/17/20 11:00	11/17/20 16:41	--	1
Lead	6010B	6.1	mg/kg	11/17/20 11:00	11/17/20 16:41	--	1
Mercury	7471A	<0.10	mg/kg	11/18/20 11:30	11/18/20 15:43	--	1
Molybdenum	6010B	<1.0	mg/kg	11/17/20 11:00	11/17/20 16:41	--	1
Nickel	6010B	1.5	mg/kg	11/17/20 11:00	11/17/20 16:41	--	1
Selenium	6010B	<4.8	mg/kg	11/17/20 11:00	11/17/20 16:41	--	1
Silver	6010B	<0.50	mg/kg	11/17/20 11:00	11/17/20 16:41	--	1
Thallium	6010B	<2.0	mg/kg	11/17/20 11:00	11/17/20 16:41	--	1
Vanadium	6010B	10	mg/kg	11/17/20 11:00	11/17/20 16:41	--	1
Zinc	6010B	11	mg/kg	11/17/20 11:00	11/17/20 16:41	--	1

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Lab Reference #: CTE 25528
Project Name: The Sanctuary
Project #: 10.14212E

Metals

Client Sample ID	Lab Sample Number	Date Received	Date Sampled	Matrix
Method Blank				Soil

MB ID	ANALYTE	EPA Method	Result	Units	Date Extracted	Date Analyzed	Qual	DF
MBIR1117201	Antimony	6010B	<2.0	mg/kg	11/17/20 11:00	11/17/20 15:59	--	1
MBIR1117201	Arsenic	6010B	<2.0	mg/kg	11/17/20 11:00	11/17/20 15:59	--	1
MBIR1117201	Barium	6010B	<1.0	mg/kg	11/17/20 11:00	11/17/20 15:59	--	1
MBIR1117201	Beryllium	6010B	<0.50	mg/kg	11/17/20 11:00	11/17/20 15:59	--	1
MBIR1117201	Cadmium	6010B	<0.50	mg/kg	11/17/20 11:00	11/17/20 15:59	--	1
MBIR1117201	Chromium	6010B	<0.50	mg/kg	11/17/20 11:00	11/17/20 15:59	--	1
MBIR1117201	Cobalt	6010B	<0.50	mg/kg	11/17/20 11:00	11/17/20 15:59	--	1
MBIR1117201	Copper	6010B	<5.0	mg/kg	11/17/20 11:00	11/17/20 15:59	--	1
MBIR1117201	Lead	6010B	<0.80	mg/kg	11/17/20 11:00	11/17/20 15:59	--	1
MBIR1118203	Mercury	7471A	<0.10	mg/kg	11/18/20 11:30	11/18/20 15:44	--	1
MBIR1117201	Molybdenum	6010B	<1.0	mg/kg	11/17/20 11:00	11/17/20 15:59	--	1
MBIR1117201	Nickel	6010B	<1.0	mg/kg	11/17/20 11:00	11/17/20 15:59	--	1
MBIR1117201	Selenium	6010B	<4.8	mg/kg	11/17/20 11:00	11/17/20 15:59	--	1
MBIR1117201	Silver	6010B	<0.50	mg/kg	11/17/20 11:00	11/17/20 15:59	--	1
MBIR1117201	Thallium	6010B	<2.0	mg/kg	11/17/20 11:00	11/17/20 15:59	--	1
MBIR1117201	Vanadium	6010B	<0.50	mg/kg	11/17/20 11:00	11/17/20 15:59	--	1
MBIR1117201	Zinc	6010B	<5.0	mg/kg	11/17/20 11:00	11/17/20 15:59	--	1

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QA/QC Report
for
Organochlorine Pesticides (EPA 8081A)
Reporting units: ppb

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Date of Extraction: 11/17/2020 9:00
Date of Analysis: 11/18/2020 11:27
Dup Date of Analysis: 11/18/2020 11:42
Laboratory Sample #: 25528-005
MS/MSD Qualifiers: None
Reference #: CTE 25528

Analyte	R1	SPC CONC	MS	MSD	%MS	%MSD	RPD	ACP %MS	ACP RPD	Qual
Gamma-BHC	0.00	20.0	16.2	18.0	81	90	11	45-130	24	☐
Heptachlor	0.00	20.0	15.2	17.2	76	86	12	41-130	25	☐
Aldrin	0.00	20.0	14.5	17.1	73	86	16	44-130	26	☐
Dieldrin	0.00	40.0	37.7	41.5	94	104	10	41-139	21	☐
Endrin	0.00	40.0	36.5	41.9	91	105	14	45-145	21	☐
DDT	0.00	40.0	40.7	44.5	102	111	9	48-151	20	☐

Surrogate Recoveries for Spike Samples

Surrogate (%RC)	MS	MSD	Qual
Decachlorobiphenyl	81	85	☐

LCS	LCSD	Qual
95	92	☐

ACP % RC
53-135

Laboratory Control Sample

Date of Extraction: 11/17/2020 9:00
Date of Analysis: 11/17/2020 14:22
Dup Date of Analysis: 11/17/2020 14:37
Laboratory Sample #: AV1117201
LCS Qualifiers: None

Analyte	SPC CONC	LCS	LCSD	%LCS	%LCSD	RPD	ACP %LCS	ACP RPD	Qual
Gamma-BHC	20.0	13.7	13.8	69	69	1	42-130	26	☐
Heptachlor	20.0	11.9	11.1	59	56	7	35-130	28	☐
Aldrin	20.0	13.1	11.8	66	59	10	43-130	28	☐
Dieldrin	40.0	33.6	35.3	84	88	5	41-134	20	☐
Endrin	40.0	33.4	35.3	84	88	6	48-136	20	☐
DDT	40.0	37.4	39.9	94	100	6	47-152	20	☐

QA/QC Report
for
Metals

Reference #: CTE 25528 Reporting units: ppm

Matrix Spike (MS) / Matrix Spike Duplicate (MSD) **6010B/7471A**

Laboratory Sample #: 25528-001 **Date of Extraction:** 11/17/20 11:00

Analyte	MS Date of Analysis	MSD Date of Analysis	R1	SPC CONC	MS	MSD	% MS	% MSD	RPD	ACP %MS	ACP RPD	Qualifiers
Antimony	11/17/20 16:11	11/17/20 16:14	0.00	20.0	1.43	1.85	7	9	26	75-125	20	M2, R2,
Arsenic	11/17/20 16:11	11/17/20 16:14	8.80	20.0	26.1	25.8	87	85	1	75-125	20	--
Barium	11/17/20 16:11	11/17/20 16:14	69.0	20.0	85.3	87.1	82	90	2	75-125	20	--
Beryllium	11/17/20 16:11	11/17/20 16:14	0.64	20.0	19.1	19.1	92	92	0	75-125	20	--
Cadmium	11/17/20 16:11	11/17/20 16:14	0.00	20.0	17.7	17.6	89	88	1	75-125	20	--
Chromium	11/17/20 16:11	11/17/20 16:14	16.0	20.0	34.5	35.0	93	95	1	75-125	20	--
Cobalt	11/17/20 16:11	11/17/20 16:14	6.20	20.0	24.9	25.5	93	97	2	75-125	20	--
Copper	11/17/20 16:11	11/17/20 16:14	8.60	20.0	28.2	28.3	98	98	0	75-125	20	--
Lead	11/17/20 16:11	11/17/20 16:14	37.0	20.0	54.1	53.8	85	84	1	75-125	20	--
Molybdenum	11/17/20 16:11	11/17/20 16:14	0.00	20.0	10.3	11.5	52	57	11	75-125	20	M2,
Nickel	11/17/20 16:11	11/17/20 16:14	6.50	20.0	25.2	25.3	94	94	0	75-125	20	--
Selenium	11/17/20 16:11	11/17/20 16:14	0.00	20.0	18.9	17.2	94	86	9	75-125	20	--
Silver	11/17/20 16:11	11/17/20 16:14	0.00	20.0	17.0	16.9	85	84	1	75-125	20	--
Thallium	11/17/20 16:11	11/17/20 16:14	0.00	20.0	16.9	16.4	84	82	3	75-125	20	--
Vanadium	11/17/20 16:11	11/17/20 16:14	37.0	20.0	53.8	54.0	84	85	0	75-125	20	--
Zinc	11/17/20 16:11	11/17/20 16:14	47.0	20.0	65.1	65.5	90	93	1	75-125	20	--

Laboratory Control Spike (LCS) / Laboratory Control Spike Duplicate (LCSD) **6010B/7471A**

Laboratory Sample #: IR1117201 **Date of Extraction:** 11/17/20 11:00

Analyte	LCS Date of Analysis	LCSD Date of Analysis		SPC CONC	LCS	LCSD	% LCS	% LCSD	RPD	ACP %LCS	ACP RPD	Qualifiers
Antimony	11/17/20 16:02	11/17/20 16:05	--	20.0	18.5	18.5	93	93	0	80-120	20	--
Arsenic	11/17/20 16:02	11/17/20 16:05	--	20.0	19.2	19.0	96	95	1	80-120	20	--
Barium	11/17/20 16:02	11/17/20 16:05	--	20.0	20.0	19.9	100	99	1	80-120	20	--
Beryllium	11/17/20 16:02	11/17/20 16:05	--	20.0	19.7	19.4	99	97	2	80-120	20	--
Cadmium	11/17/20 16:02	11/17/20 16:05	--	20.0	18.4	18.2	92	91	1	80-120	20	--
Chromium	11/17/20 16:02	11/17/20 16:05	--	20.0	20.9	20.8	104	104	0	80-120	20	--
Cobalt	11/17/20 16:02	11/17/20 16:05	--	20.0	21.2	21.2	106	106	0	80-120	20	--
Copper	11/17/20 16:02	11/17/20 16:05	--	20.0	20.0	19.8	100	99	1	80-120	20	--
Lead	11/17/20 16:02	11/17/20 16:05	--	20.0	21.2	21.1	106	106	0	80-120	20	--
Molybdenum	11/17/20 16:02	11/17/20 16:05	--	20.0	18.4	18.3	92	91	1	80-120	20	--
Nickel	11/17/20 16:02	11/17/20 16:05	--	20.0	21.7	21.4	109	107	1	80-120	20	--
Selenium	11/17/20 16:02	11/17/20 16:05	--	20.0	19.6	18.2	98	91	7	80-120	20	--
Silver	11/17/20 16:02	11/17/20 16:05	--	20.0	19.6	19.4	98	97	1	80-120	20	--
Thallium	11/17/20 16:02	11/17/20 16:05	--	20.0	20.0	19.9	100	99	1	80-120	20	--
Vanadium	11/17/20 16:02	11/17/20 16:05	--	20.0	19.4	19.2	97	96	1	80-120	20	--
Zinc	11/17/20 16:02	11/17/20 16:05	--	20.0	21.2	21.0	106	105	1	80-120	20	--

Matrix Spike (MS) / Matrix Spike Duplicate (MSD) **6010B/7471A**

Laboratory Sample #: 25528-001 **Date of Extraction:** 11/18/20 11:30

Analyte	MS Date of Analysis	MSD Date of Analysis	R1	SPC CONC	MS	MSD	% MS	% MSD	RPD	ACP %MS	ACP RPD	Qualifiers
Mercury	11/18/20 15:23	11/18/20 15:25	0.00	1.00	1.40	1.40	140	140	0	80-120	20	M1,

QA/QC Report
for
Metals

Reference #: CTE 25528 Reporting units: ppm

Laboratory Control Spike (LCS) / Laboratory Control Spike Duplicate (LCSD) **6010B/7471A**

Laboratory Sample #: IR1118203 **Date of Extraction:** 11/18/20 11:30

Analyte	LCS Date of Analysis	LCSD Date of Analysis		SPC CONC	LCS	LCSD	% LCS	% LCSD	RPD	ACP %LCS	ACP RPD	Qualifiers
Mercury	11/18/20 16:36	11/18/20 15:19	--	1.00	1.12	1.09	112	109	3	80-120	20	--

Data Qualifier Definitions

Qualifier

C8 = Sample RPD between the primary and confirmatory analysis exceeded 40%. Per EPA Method 8000C, the lower value was reported as there was no evidence of chromatographic problems.

25528-001	8081A			4,4' -DDT
25528-008	8081A			Chlordane (technical)

M1 = Matrix spike recovery was high, the associated blank spike recovery was acceptable.

25528-001	6010B	Mercury	MS/MSD

M2 = Matrix spike recovery was low, the associated blank spike recovery was acceptable.

25528-001	6010B	Antimony	MS/MSD
25528-001	6010B	Molybdenum	MS/MSD

R2 = RPD/RSD exceeded the laboratory acceptance limit.

25528-001	6010B	Antimony	MS/MSD

Definition of terms:

R1	Result of unspiked laboratory sample used for matrix spike determination.
SP CONC (or Spike Conc.)	Spike concentration added to sample or blank
MS	Matrix Spike sample result
MSD	Matrix Spike Duplicate sample result
%MS	Percent recovery of MS: {(MS-R1) / SP CONC} x100
%MSD	Percent recovery of MSD: {(MSD-R1) / SP CONC} x 100
RPD (for MS/MSD)	Relative Percent Difference: {(MS-MSD) / (MS+MSD)} x 100 x 2
LCS	Laboratory Control Sample result
LCSD	Laboratory Control Sample Duplicate result
%LCS	Percent recovery of LCS: {(LCS) / SP CONC} x100
%LCSD	Percent recovery of LCSD: {(LCSD) / SP CONC} x 100
RPD (for LCS/LCSD)	Relative Percent Difference: {(LCS-LCSD) / (LCS+LCSD)} x 100 x 2
ACP %LCS	Acceptable percent recovery range for Laboratory Control Samples.
ACP %MS	Acceptable percent recovery range for Matrix Spike samples
ACP RPD	Acceptable Relative Percent Difference
D	Detectable, result must be greater than zero
Qual	A checked box indicates a data qualifier was utilized and/or required for this analyte see attached explanation.
ND	Analyte Not Detected

Analysis Request and Chain of Custody Record

ORANGE COAST ANALYTICAL, INC. www.ocalab.com

3002 Dow, Suite 532
Tustin, CA 92780
(714) 832-0064 Fax (714) 832-0067

4620 E. Elwood, Suite 4
Phoenix, AZ 85040
(480) 736-0960 Fax (480) 736-0970

Lab Job No: 25528
Page 1 of 1

REQUIRED TAT: Standard

CUSTOMER INFORMATION	PROJECT INFORMATION
COMPANY: Construction Testing & Engineering	PROJECT NAME: The Sanctuary
SEND REPORT TO: Greg Rzonca	NUMBER: 10.14212E
ADDRESS: 1441 Montiel Rd, ste 115	ADDRESS:
Escondido, CA92026	
EMAIL: greg@cte-inc.net	P.O. #: 10.14212E
PHONE: 7607464955 FAX:	SAMPLED BY: G Rzonca

ANALYSIS / CONTAINER / PRESERVATIVE: EPA 8081 Organochlorine Pesticides; CAM Metals 6010A/7470A

SAMPLE ID	NO. OF CONTAINERS	SAMPLE DATE	SAMPLE TIME	SAMPLE MATRIX	EPA 8081 Organochlorine Pesticides	CAM Metals 6010A/7470A								REMARKS / PRECAUTIONS
L9	1	11/13/20	10:05	SS	↓	↓								
L1	1	↓	10:15	↓	↓	↓								
L3	1	↓	10:27	↓	↓	↓								
L4	1	↓	10:32	↓	↓	↓								
L5	1	↓	10:37	↓	↓	↓								
L6	1	↓	1043	↓	↓	↓								
PK	1	↓	1050	↓	↓	↓								
L7	1	↓	1054	↓	↓	↓								

Total No. of Samples: 8

Method of Shipment:

Preservative: 1 = Ice 2 = HCl 3 = HNO_3 4 = H_2SO_4 5 = NaOH 6 = Other

Relinquished By:	Date/Time:	Received By:	Date/Time:
Greg Rzonca	11/13/20 @ 1200P		
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received For Lab By: Mark [illegible] OCA, CA	Date/Time: 11-17-20 0830

Sample Matrix: DW - Drinkingwater; GW - Groundwater; WW - Wastewater; SS - Soil/Solid; OT- Other

Sample Integrity: Intact _____ On Ice NO °C 17+0=1700°C IRH 3

All samples remain the property of the client who is responsible for disposal. A disposal fee may be imposed if client fails to pickup samples.

Sample Receipt Report

Laboratory Reference: CTE 25528 Logged in by: AR

Received:	11/17/20 08:30	Company Name:	Construction Testing & Engineering, In
Method of Shipment:	OnTrac	Project Manager:	Mr. Greg Rzonca
Shipping Container:	Cooler	Project Name:	The Sanctuary
# Shipping Containers:	1	Project #:	10.14212E

Sample Quantity

Chain of Custody		Complete ☑	Incomplete ☐	None ☐
Samples On Ice		Yes, Wet ☐	Yes, Blue ☐	No ☑
Observed Temp. (°C):	17	Thermometer ID: IR#3	Adjusted Temp.:	17+(-0)=17
Shipping Intact		Yes ☑	N/A ☐	No ☐
Shipping Custody Seals Intact		Yes ☐	N/A ☑	No ☐
Samples Intact		Yes ☑		No ☐
Sample Custody Seals Intact		Yes ☐	N/A ☑	No ☐
Custody Seals Signed & Dated		Yes ☐	N/A ☑	No ☐
Proper Test Containers		Yes ☑		No ☐
Proper Test Preservations		Yes ☐		No ☑
Samples Within Hold Times		Yes ☑		No ☐
VOAs Have Zero Headspace		Yes ☐	N/A ☑	No ☐
Sample Labels		Complete ☑	Incomplete ☐	None ☐
Sample Information Matches COC		Yes ☑	N/A ☐	No ☐

Notes

Client Notified _____ By _____ On _____

Appendix H –
County of San Diego Department of Environmental Health's Site Assessment & Mitigation Program Consultation Letter for the Sanctuary Project

County of San Diego

AMY HARBERT
DIRECTOR

DEPARTMENT OF ENVIRONMENTAL HEALTH AND QUALITY
LAND AND WATER QUALITY DIVISION
P.O. BOX 129261, SAN DIEGO, CA 92112-9261
Phone: (858) 505-6700 or (800) 253-9933 | Fax: (858) 514-6583 | www.sdcdehq.org

HEATHER BUONOMO, REHS
DIRECTOR OF ENVIRONMENTAL HEALTH

January 26, 2023

Sanctuary At Olivenhain LLC
Udi Melamed
745 Cole Ranch Road
Encinitas, CA 92024

TECHNICAL CONSULTATION
0 Ranch View Terrace, Encinitas 92024
APN 265-331-49: DEH2023-LCSLT-001496

Dear Mr. Melamed,

At your request, a Department of Environmental Health & Quality, Site Assessment & Mitigation Program (SAM) consultation record was opened on January 19, 2023. The purpose of the consultation is to obtain SAM concurrence that the previous soil assessment was adequate and the laboratory data supports the property to be redeveloped for residential use.

SAM reviewed Phase I and Phase II Environmental Site Assessment Reports, prepared by Construction Testing & Engineering, Inc. (CTE), dated February 18, 2019, and November 25, 2020, respectively.

According to the CTE Phase II Report, the Phase I Report did not find the presence of a recognized environmental condition on the property. However, the Phase I noted that a portion of the property was likely used for agriculture in the past during a time when organochlorine pesticides (OCPs) were commonly utilized. CTE collected eight shallow soil samples (approximately 0.5 to 1.0 foot below ground surface) in the eastern portion of the property where the proposed nine-lot residential subdivision is located. Based on the laboratory soil sample results, CTE concluded that remedial activities are not necessary for the proposed subdivision project and that the laboratory results should not preclude development of the site from an environmental perspective.

Please note that residential screening levels for chlordane in soil have been revised from 1,700 micrograms/kilogram (µg/kg) to 480 µg/kg. Based on SAM's review, CTE's soil sampling coverage appears to be adequate. The laboratory results of the eight shallow soil samples have been reported below the residential screening levels for all OCP analytes. With the provision that the information provided to this agency is accurate and representative of existing conditions, SAM concurs with CTE's Phase II Report conclusions.

No further action regarding OCP-impacted soil is required for the Site. Please note that the "Site" refers only to the eastern portion of the property where the proposed nine-lot subdivision is located (see attached Site Map). SAM's consultation does not include the western portion of the property. If in the

future, the western portion of the property will be redeveloped, soil evaluation in that area will be required.

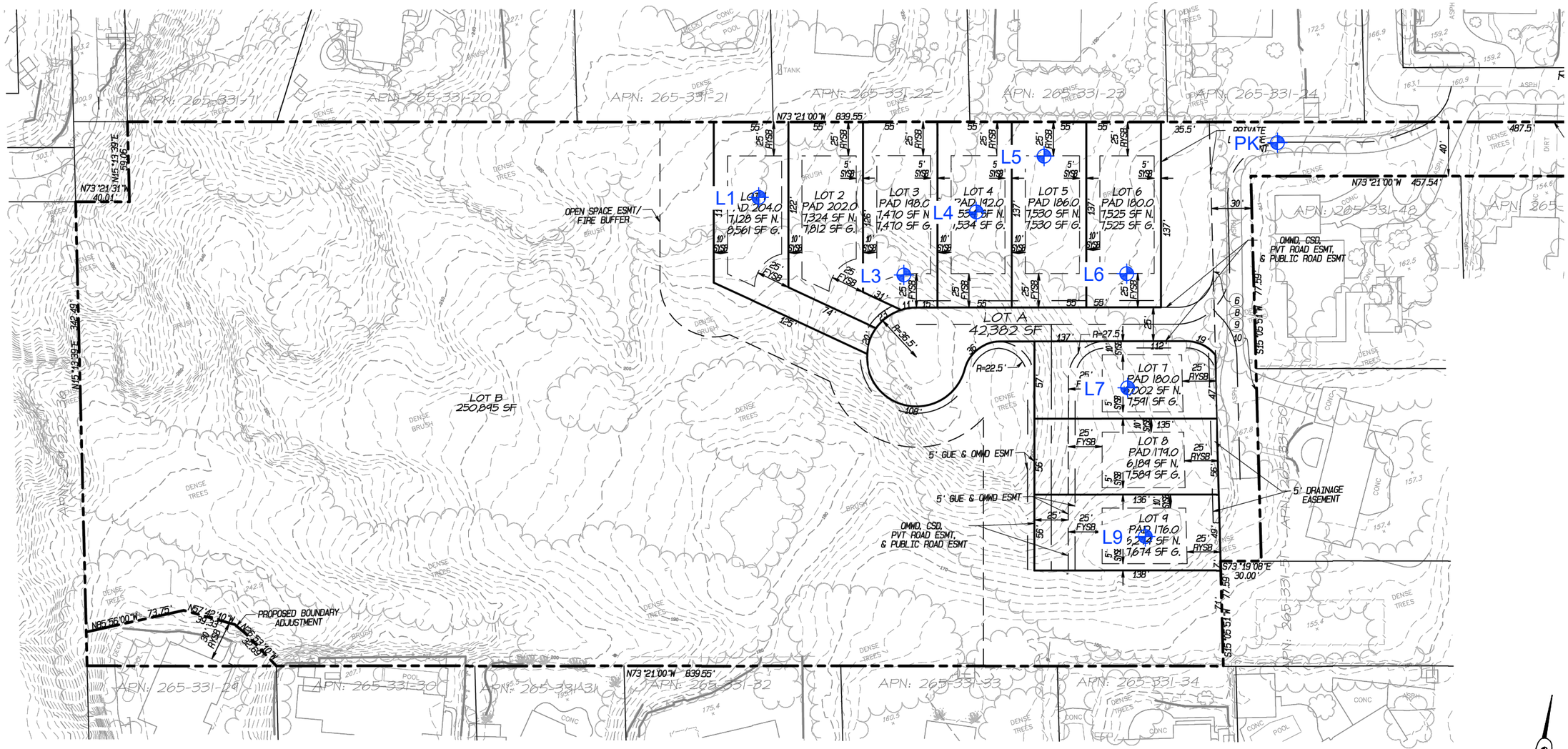
If you have any questions, please contact Jon Senaha, at (858) 505-6798 or via email at jon.senaha@sdcounty.ca.gov.

Sincerely,

Jon Senaha

JON SENAHA, Environmental Health Specialist
Department of Environmental Health and Quality
Land and Water Quality Division

Attachment: Site Map



GRAPHIC SCALE

100' 0 50' 100'

1 inch = 100 ft.

LEGEND

L1 ⊕ Approximate Sample Location

CTE INC. Construction Testing & Engineering, Inc.
1441 Montiel Rd Ste 115, Escondido, CA 92026 Ph (760) 746-4955

SAMPLE LOCATION MAP
PROPOSED NINE LOT SUBDIVISION
THE SANCTUARY
ENCINITAS, CALIFORNIA

CTE JOB NO:	10-14212E
SCALE:	1" = 100'
DATE: 11/20	FIGURE: 2

Appendix I –
Fire Protection Plan – Sanctuary Project

FIRE PROTECTION PLAN

Sanctuary

City of Encinitas

Project # MULTI-002610-2018, DR-002611-2018, SUB-002612-2018, ITRP-004018-2020, USE-003068-2019

January 21, 2020

Prepared for the City of Encinitas on behalf of the Owner,
Nuevo-Real Estate

Prepared by: _____

Sid Morel, President
Santa Margarita Consulting, LLC.

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EXECUTIVE SUMMARY

This Fire Protection Plan is for The Sanctuary development in the City of Encinitas. The Sanctuary proposes to subdivide one existing lot totaling 8.32 acres into 9 lots, one private street lot, and one open space lot, as well as associated site grading, construction of a new cul-de-sac street, drainage, utility, and landscaping improvements. The applicant proposes to build nine single family homes. The property is located just northwest of Rancho Santa Fe Road in the City of Encinitas.

The project is infill with typical Southern California vegetation, consisting of a mix of Chaparral, Coastal Sage, Non-native vegetation and Eucalyptus Woodland. A large portion of the existing parcel will remain protected open space and this Fire Protection Plan will incorporate wildfire resistant landscaping and building techniques that meet or exceed current codes.

CHAPTER 1 INTRODUCTION

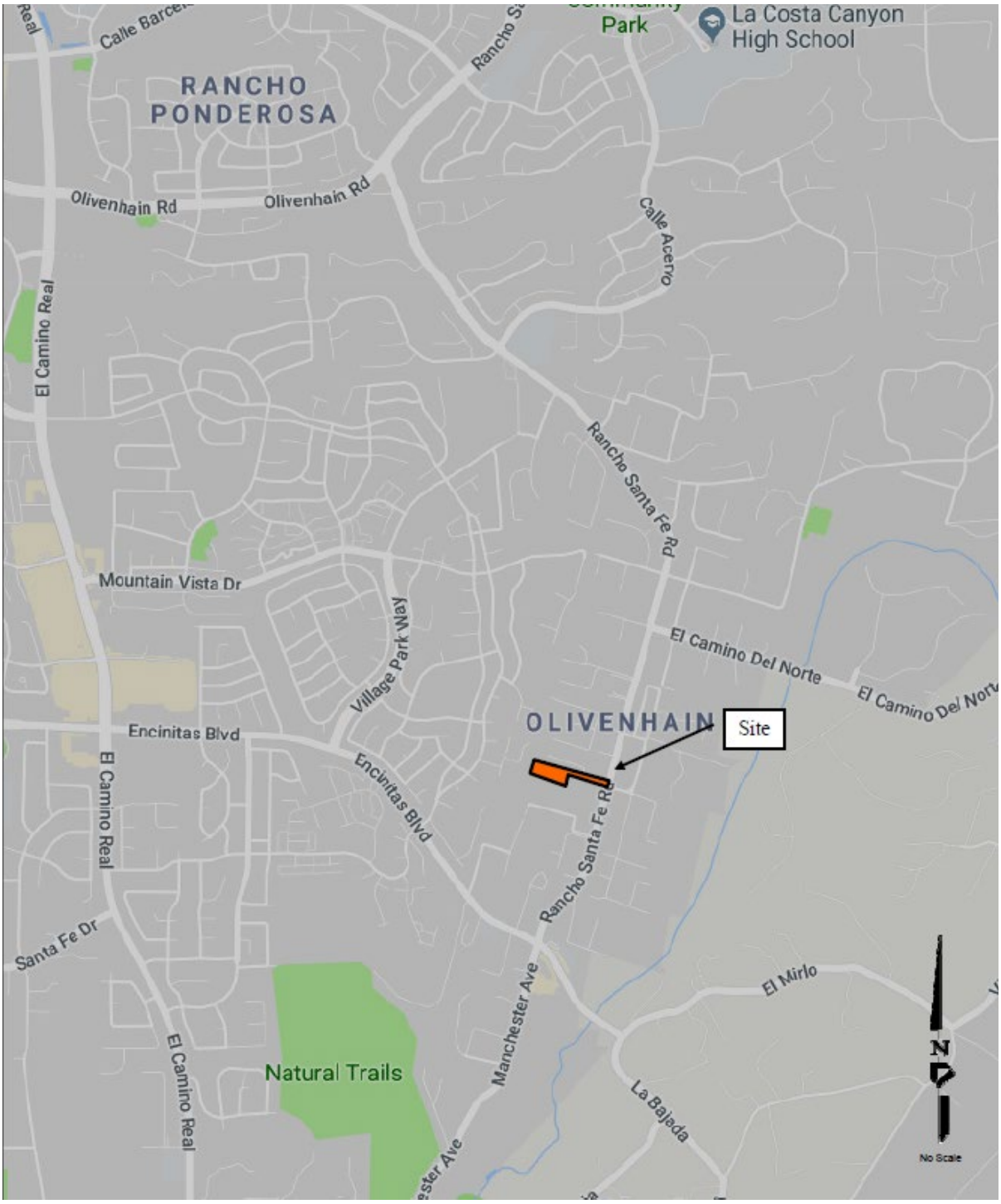
This Fire Protection Plan has been prepared for the Sanctuary project, APN 256-331-49. The purpose of the FPP is to assess the potential impacts resulting from wildland fire hazards and identify the measures necessary to adequately mitigate those impacts. As part of the assessment, the plan has considered the property location, topography, geology, combustible vegetation (fuel types), climatic conditions, and fire history. The plan addresses water supply, access, structural ignitability and fire resistive building features, fire protection systems and equipment. The plan identifies and prioritizes areas for hazardous fuel reduction treatments and recommends the types and methods of treatment that will protect one or more at risk communities and essential infrastructures. The plan recommends measures that property owners will take to reduce the probability of ignition of structures throughout the area addressed by the plan.

1.1 Project Location, Description and Environmental Setting

1.1.1 Project Location

The project is in the eastern-central part of the City of Encinitas. (See figure 1)

Figure 1


La Costa Canyon High School
Park
RANCHO PONDEROSA
Olivenhain Rd
Olivenhain Rd
Calle Acervo
El Camino Real
Rancho Santa Fe Rd
Mountain Vista Dr
Village Park Way
El Camino Del Norte
OLIVENHAIN
Site
Encinitas Blvd
Encinitas Blvd
El Camino Real
Rancho Santa Fe Rd
Santa Fe Dr
El Mirlo
Manchester Ave
Natural Trails
El Camino Real
La Bajada
No Scale

1.1.2 Project Description

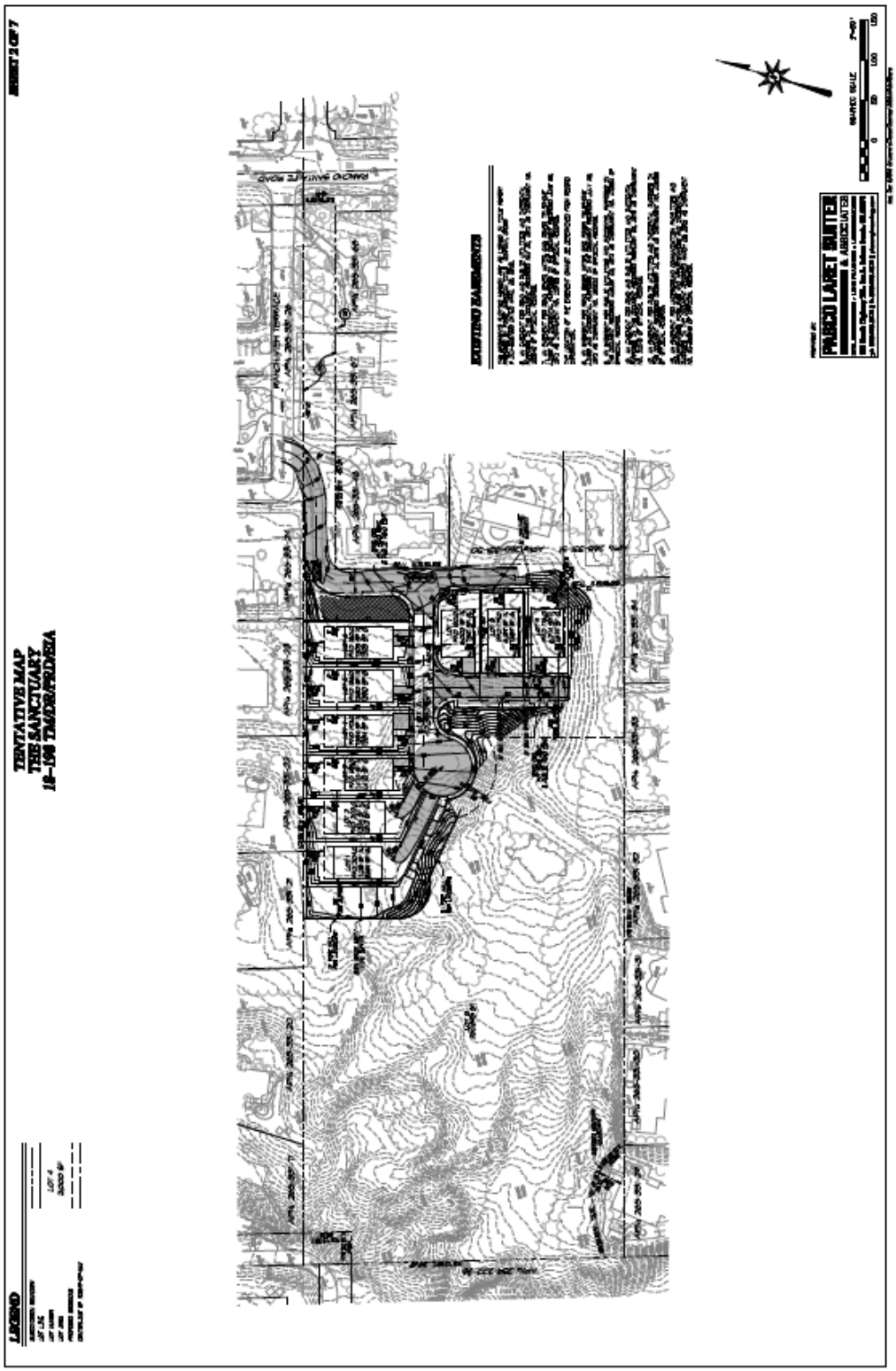
The Sanctuary proposes to subdivide one existing lot totaling 8.32 acres into 9 lots, one private street lot, and one open space lot, as well as associated site grading, construction of a new cul-de-sac street, drainage, utility, and landscaping improvements. Nine single family homes are proposed.

- 4.99 acres of the existing lot will remain as Open Space and the developed area will encompass 3.33 acres.
- Due to the heavy truck traffic, Sanctuary shall repair any damaged areas of the road and provide a full A/C width overlay along the existing portions of Ranch View Terrace, from the project's entry to Rancho Santa Fe Road.
- The project is zoned Rural Residential 2 (RR2)
- The Sanctuary shall be responsible for the construction of public improvements along the property frontage of Rancho Santa Fe Road, extension of a public sewer main to service the site and undergrounding of existing overhead utility power lines and appurtenances.
- The Sanctuary development shall improve the intersection of Rancho Santa Fe Road, Ranch View Terrace and 7th Street at all four corners shall be improved with ADA compliant pedestrian ramps and new cross walk striping.
- The Sanctuary development shall underground all overhead public utility lines, including electric, cable, telephone, fiber optic, and any other similar wire, and remove all existing utility poles and appurtenances along Rancho Santa Fe Road, Ranch View Terrace, the sideline of the property, as well as any utility lines running through the site or in an adjacent easement.

1.1.3 Environmental Setting

- January 22, 2020, site inspection.
- January 25, 2020, site inspection and pictures taken.
- Topography
- Fuel loads consist of an open space area with chaparral, coastal sage and Eucalyptus trees.
- The City of Encinitas has a relatively low wildland fire risk; however, this property is constrained by open space vegetation that must remain. This pocket of vegetation will always be a threat to burn. The building of The Sanctuary development, the grading of the pads and the fire-resistant homes, along with over 3 acres of Eucalyptus eliminated, creates a safer environment for the surrounding area.
- Weather: The weather is consistent Coastal San Diego County with highs typically reaching mid 80's in the summer and mild winters.
- The site is infill and surrounded by single family homes and large estate custom homes.

Figure 2: Site map with topo



Chapter 2. GUIDELINES FOR THE DETERMINATION OF SIGNIFICANCE.

A Fire Protection Plan evaluates the potential adverse environmental effects that the Sanctuary homes may have from wildland fire and proposes appropriate mitigation for any adverse impacts to ensure that this development does not unnecessarily expose people or structures to a significant risk of loss, injury or death in regard to wildland fire. The following guidelines for the determination of significance are used:

Does the project meet all applicable fire codes? No, Due to the open space requirements, the project cannot meet the 100 feet defensible space requirement. Mitigation is offered in the form of a masonry wall and fire-resistant landscaping.

Chapter 3. ANTICIPATED FIRE BEHAVIOR IN THE VICINITY

Development of the Sanctuary property will result in certain unavoidable impacts due to grading, construction, landscaping, and other associated changes in land-use. The removal of the Eucalyptus stand of trees will greatly reduce the threat of a wildland fire spreading embers. The existing open space / native chaparral will continue to be a threat to burn. The Behave Fire Modeling under worst case weather scenario results in a 28-foot flame length. The 50 feet of clearing and the masonry wall will provide defensible space like the 100-foot requirement. The additional access and fire hydrants will assist the fire department in attacking a fire. The building of the Sanctuary development will improve the overall safety of the immediate area around the site.

3.1 Fire History

May of 2014, San Diego County experienced severe Santa Ana wind conditions and numerous wildland fires broke out, testing firefighters and law enforcement. The closest fire to Encinitas was the Poinsettia Fire located in Carlsbad. In total the fire burned 400 acres, more than 240 structures and caused 12 million dollars in damage. (Peturske, 2019).

The October 2007, Witch Fire burned approximately 2,000,000 acres of land and destroyed 1,125 homes. The Fire occurred under Santa Ana wind conditions and burned a large portion of Rancho Santa Fe, nearly reaching Encinitas.

Chapter 4. ANALYSIS OF PROJECT EFFECTS

4.1 Adequate Emergency Services

The Encinitas Fire & Marine Safety Department provides a wide array of public safety services. These services include fire protection, emergency response, medical aid, fire prevention, disaster preparedness, search and rescue, lifeguard services and community education programs. (City of Encinitas, 2020)
The Department has 70 full-time employees and five divisions: Fire Operations and Support Services, Fire Administration, Loss Prevention and Planning (Fire Prevention), Disaster Preparedness and Marine Safety Services. The Department

operates six fire stations and is responsible for responding to a variety of emergencies in a 20 square mile area. In 2018, the Department's average response time for the city as a whole was 4 minutes and 49 seconds. The Insurance Services Organization (which rates fire departments based on the effectiveness of their response capabilities) gave the Department a rating of 2, which has resulted in lower homeowner's insurance premiums for Encinitas residents. (City of Encinitas, 2020)

Using Google Maps the travel time from Fire Station number 6 at 770 Rancho Santa Fe Road is approximately 2 minutes. The distance is .7 of a mile.

4.2 Fire Access

The access for The Sanctuary is from Rancho Santa Fe Road to Ranch View Terrace. The Sanctuary project has an easement to use Ranch View Terrace. The to be named access road shall be 24 feet wide and meet the 75,000-psi requirement. The 24-foot-wide sections will be marked "Fire Lane, No Parking" All radius's meet the 28 foot inside turning radius and a cul-de-sac with a 36-foot-wide radius will be installed. The to be named access road serving lots 6 – 9 has a fire department approved hammerhead incorporated in the intersection. Additional parking areas are provided along both access roads. (See figure 2)

4.3 Water

4.3.1 Water Supply

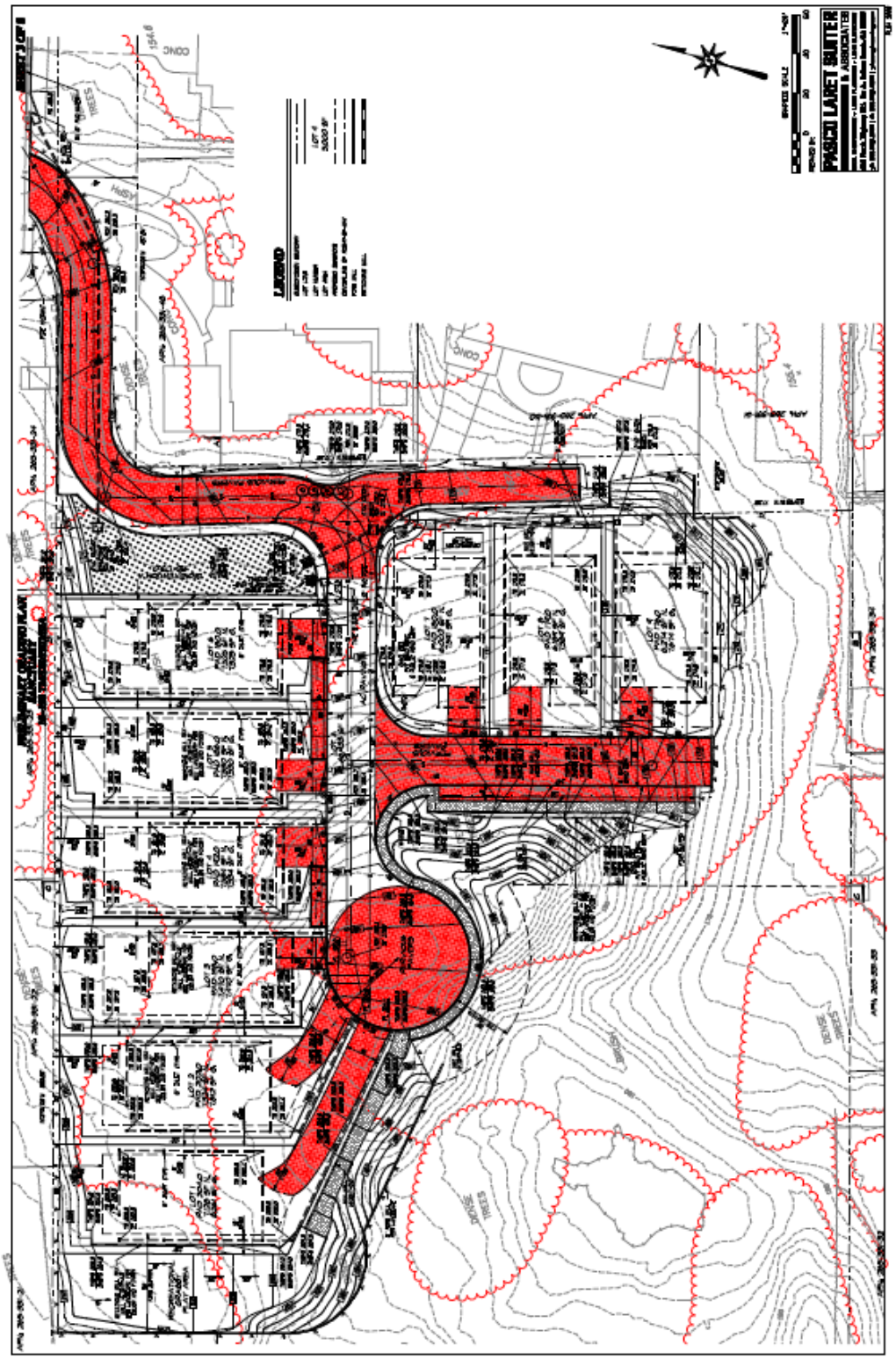
Water shall be provided by the Olivenhain Municipal Water District and shall meet the 2500 GPM in the main requirement. Two hydrants will be installed. One at the entrance to the development on the right side of the access road, as you would be driving into the development. This hydrant not only benefits the Sanctuary project but the residents off Ranch View Terrace as well. The other hydrant is located just prior to lot 5. This location allows the hydrant to serve all of the proposed homes in the Sanctuary development. (See figure 3)

4.4 Ignition-Resistant Construction and Fire Protection Systems

"All new structures shall comply with the ignition-resistive construction requirements: Wildland-Urban Interface areas of sections 701A-712A of the County Building Code. " (San Diego County Fire Marshals, 2017)

All new structures shall comply with NFPA 13 and have residential fire sprinklers installed. Plans shall be submitted to the City of Encinitas, Loss Prevention and Planning services.

Figure 3: Site Plan with Hydrants



4.5 Fire Fuel Assessment

The open-space lot contains unmanaged native and non-native fuels. Most of the native vegetation is Chaparral. Chaparral is the term that commonly describes a mix of native vegetation. There is a large stand of Eucalyptus trees and non-native grasses on the lot that will be removed to create the homes. This property is infill and is surrounded by existing homes. The homes have typical Southern California landscaping with Palms, ornamental vegetation and a few fruit trees. Development of the Sanctuary property will result in certain unavoidable impacts due to grading, construction, landscaping, and other associated changes in land-use. The removal of the Eucalyptus stand of trees will greatly reduce the threat of a wildland fire spreading embers throughout the neighborhood.

The Biological report states: Most of the site contains Southern Maritime Chaparral along with Coast White Ceanothus (Ceanothus verrucous), Chamise (Adenostoma fasciculatur), Del Mar Manzanita (Arctostaphylos glandulosa), and Mission Manzanita (Xylococcus bicolor), Spice Bush (Cneoridium dumosum), other native soft-woody and hard-woody shrubs. (Scheidt, 2019).

4.6 Fire Behavior Modeling

Wildland fire behavior calculations have been projected for the hazardous native vegetative fuels on the open space lot. These fire behavior models are based on worst case weather scenarios and accurately simulate what would happen during a wildfire. The worst-case Santa Ana fire would push the fire away from the Sanctuary development. A fire starting in the open space will produce flame lengths of 28 feet, with a spread rate of 228 chains per hour. (See Behave Appendix D)

4.7 Defensible Space and Vegetation Management

The 2017 County of San Diego Consolidated Fire Code, Section 4907.2 Fuel Modification:

Sec. 4907.2 Fuel modification. A fuel modification zone shall be required around every building that is designed primarily for human habitation or use or a building designed specifically to house farm animals. Decks, sheds, gazebos, freestanding open sided shade covers and similar accessory structures less than 250 square feet and 30 feet or more from a dwelling, and fences more than 5 feet from a dwelling, are not considered structures for the establishment of a fuel modification zone. A fuel modification zone shall comply with the following:

(a) When a building or structure in a hazardous fire area is located 100 feet or more from the property line, the person owning or occupying the building or structure shall maintain a fuel modification zone within 100 feet of the building or structure. The area within 50 feet of a building or structure shall be cleared of vegetation that is not fire resistant and re-planted with fire resistant plants. In the area 50 to 100 feet from a

building, all dead and dying shall be removed. Native vegetation may remain in this area provided that the vegetation is modified so that combustible vegetation does not occupy more than 50% of the square footage of this area. Weeds and annual grasses shall be maintained at a height not to exceed 6 inches. The chips from chipping of vegetation that is done on-site may remain if the chips are dispersed so they do not exceed 6 inches in depth. Trees may remain in both areas provided that the horizontal distance between crowns of adjacent trees and crowns of trees and structures is not less than 10 feet.

Sec. 4907.1.3 Structure setback from slope. Single-story structures shall be setback a minimum 15 feet horizontally from top of slope to the farthest projection from a roof. A single-story structure shall be less than 12 feet above grade. A two story structure shall be setback a minimum of 30 feet horizontally from top of slope to the farthest projection from a roof. Structures greater than two stories may require a greater setback when the slope is greater than 2 to 1.

(b) When a building or structure in a hazardous fire area is setback less than 100 feet from the property line, the person owning or occupying the building or structure shall meet the requirements in subsection (a) above, to the extent possible, in the area between the building or structure and the property line.
(c) The building official and the FAHJ may provide lists of prohibited and recommended plants.
(d) The fuel modification zone shall be located entirely on the subject property unless approved by the FAHJ. This required fuel modification zone may be reduced as allowed in subsection (b) above or increased as required by a fire protection plan.
(e) When the subject property contains an area designated to protect biological or other sensitive habitat or resource, no building or other structure requiring a fuel modification zone shall be located so as to extend the fuel modification zone into a protected area. (San Diego County Fire Marshals, 2017)

4.7.1 Defensible Space and Vegetation Management

- The fuel modification zone, (fire buffer) varies. (Figure 4 Fire Buffer) Lot 1 has 50 feet from the home to the edge of the open space. The property line / fence will be built out of Masonry or an approved fire-resistant product. Any gate connected to the house shall be ignition resistant. Wood fencing and gates will not be allowed. The Sanctuary will completely clear the 50-foot fire buffer and re-plant with ignition resistant landscaping. The landscaping plan shall meet the City of Encinitas Water Efficient landscaping requirements and will plant with plants from their ignition resistant landscaping list. (See appendix A)
- The fire buffer extends beyond the cul-de-sac providing 100 feet of fire buffer until lot 9. The fire buffer area will be common area to the HOA and landscaped to meet the City's Water Efficient landscaping, using ignition resistant plants.
- To ensure the fire buffer, common areas and front yards are kept in a healthy fire-resistant manner, the HOA will have a landscaping company maintain these areas.

4.8 Cumulative Impact Analysis

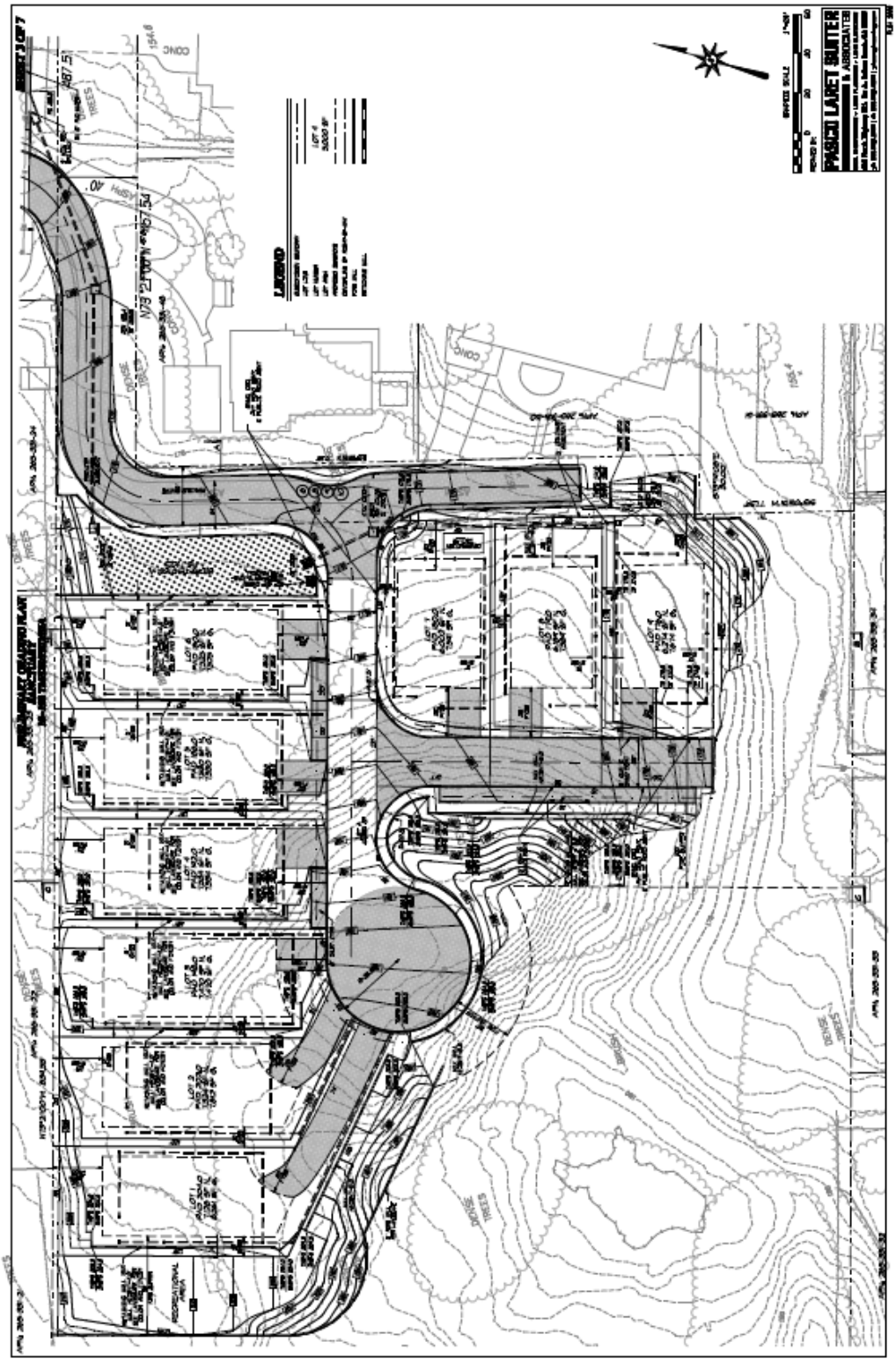
The Sanctuary development has significant off-site improvements that will enhance the surrounding area. These improvements include construction of public improvements along the property frontage of Rancho Santa Fe road, extension of a public sewer main to service the site and undergrounding of existing overhead utility power lines and appurtenances. The intersection of Rancho Santa Road, Ranch View Terrace and 7th street shall be improved with ADA compliant pedestrian ramps and new cross walk striping. The Sanctuary development shall underground all overhead public utility lines, including electric, cable, telephone, fiber optic, and any other similar wire, and remove all existing utility poles and appurtenances along Rancho Santa Fe Road, Ranch View Terrace, the sideline of the property, as well as any utility lines running through the site or in an adjacent easement.

The nine homes will not significantly impact the fire departments call volumes nor does the location create a response time issue. The off-site public improvements along with the removal of nearly 4 acres of flammable vegetation create a much safer environment for the surrounding area.

Chapter 5. MITIGATION MEASURES AND DESIGN CONSIDERATIONS

Throughout Southern California there are numerous pockets of Open Space / native vegetation that will always be a fire problem. The Sanctuary development is an example of a development that is built with the threat of wildfire as a guide. The Sanctuary development proposes masonry walls, fences and restrictive landscaping as mitigation for the portion of the project that does not meet the 100-foot defensible space. The developed area is infill and the open space resides to the west of the homes. This western alignment of the open space to the homes, eliminates the development from being threatened from a Santa Ana wind driven fire starting in the open space. The Sanctuary development will also provide fire hydrants and access that will assist the fire department in putting out a fire in the open space. The building of the Sanctuary project is a great example of how to meet the existing codes and improve the overall safety of the surrounding community.

Figure 4: Fire Buffer



Chapter 6. CONCLUSION

This fire protection plan demonstrates compliance with the applicable regulations. It will ensure adequate compliance with codes/regulations and significance standards, including required fuel modifications and construction methods using fire resistive materials. In addition, it can be incorporated by reference into the project's Final Conditions of Approval and enforced through each proposed structure's Certificate of Occupancy Conditions. The amount of defensible space on-site, the ignition resistant buildings, ignition resistant landscaping and the masonry walls will provide improved safety to the community.

Chapter 7. LIST OF PREPARERS AND PERSONS AND ORGANIZATIONS CONTACTED

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Bob Eiesely, Fire Behavior Analyst

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PREPARED BY:	PROPERTY OWNER:
Santa Margarita Consulting, LLC	Nuevo Real Estate
Sid Morel	Udi Melamed
Signature	Signature
President	President
Title	Title

References

Andrews, Patricia L. et al. (2013). Behave Fire Modeling System.

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Peturske, S. (2019, May 9). Five Years Later, Carlsbad Officials recall Poinsettia Fire . Carlsbad , CA, United States .

San Diego County Fire Marshals. (2017). *County of San Diego 2017 Consolidated Fire Code .* San Diego: San Diego County Planning and Development Services .

Scheidt, V. N. (2019). *Biology Field Study .* San Diego: Vincent N. Scheidt.

APPENDIX A
INVASIVE SPECIES

BOTANICAL NAME	COMMON NAME
Acacia baileyana	Bailey Acacia
Acacia cyclops	Coastal Wattle
Acacia dealbata	Silver Wattle
Acacia longifolia (A. latifolia)	Golden Wattle
Ailanthus altissima	Tree of Heaven
Anthemis cotula	Mayweed
Aptenia cordifolia	Red Apple Iceplant
Arctotheca calendula	Cape Weed
Arundo donax	Giant Cane
Asparagas asparagoides	Bridal Creeper
Asparagus densiflorus & all varieties	Asparagus Fern
Asparagus setaceus	Fern Asparagus
Asphodelus fistulosa	Onionweed
Atriplex semibaccata	Australian Saltbush
Brassica nigra	Black Mustard
Brassica rapa	Field Mustard
Brassica tournefortii	Asian Mustard, Sahara Mustard

BOTANICAL NAME	COMMON NAME
Callistemon viminalis	Weeping Bottlebrush
Carpobrotus chilensis	Sea Fig, Highway Ice Plant
Carpobrotus edulis	Ice Plant
Centaurea solstitialis	Yellow Starthistle
Centranthus ruber	Red Valerian, Jupiter's Beard
Chrysanthemum coronarium	Garland or Crown Daisy
*Cirsium vulgare**	Wild Artichoke
Conium maculatum	Poison Hemlock
Cortaderia jubata & all varieties	Jubata Grass & all varieties
Cortaderia selloana & all varieties	Pampas Grass & all varieties
Cotoneaster lacteus	Cotoneaster
Cotoneaster pannosus	Silverleaf Cotoneaster
Crassula ovata (C. argentea)	Jade Plant
Cupaniopsis anacardioides	Carrot Wood
*Cynara cardunculus**	Artichoke Thistle
Cyperus involucratus (C. alternifolius)	African Umbrella Plant
Echium candicans (E. fastuosum)	Pride of Madeira

APPENDIX A
INVASIVE SPECIES

BOTANICAL NAME	COMMON NAME
Ehrharta longiflora	Long-flowered/Annual Veldt Grass
Eucalyptus camaldulensis (E. rostrata)	Red Gum, River Red Gum
Eucalyptus globulus	Eucalyptus Blue Gum
Ficus carica	Edible Fig
Foeniculum vulgare	Sweet Fennel, Wild Fennel
Fraxinus uhdei	Evergreen/Shamel/ Mexican/Tropical Ash
Gazania linearis (Gazania longiscapa)	Gazania, Gazania Daisy, Colorado Gold
Genista monspessulana	French Broom
Hedera canariensis	Algerian Ivy
Hedera helix	English Ivy
Hypericum canariense	Canary Island Hypericum
Hypericum perforatum	St. John's Wort
Ipomoea purpurea	Common Morning Glory
Iris pseudacorus	Yellow Iris

BOTANICAL NAME	COMMON NAME
Koelreuteria paniculata	Goldenrain Tree
*Lactuca serriola**	Prickly Lettuce
Lepidium latifolium	Perennial Pepperweed
Limonium perezii	Perez's Marsh-rosemary, Sea Lavender
Limonium ramosissimum	Algerian Sea Lavender
Limonium sinuatum	Wavy Leaf Sea Lavender, Statice
Lobularia maritima	Sweet Allyssum
Lonicera japonica & all varieties	Japanese Honeysuckle & all varieties
Lotus corniculatus	Birdfoot Trefoil
Ludwigia hexapetala (L. uruguayensis)	Uruguay Marsh-Purslane, Water Primrose
Lythrum salicaria	Purple Loosestrife
Malephora crocea	Red-flowered Ice Plant, Croceum Ice Plant
Melinus repens (Rhynchelytrum repens)	Natal Grass, Natal Ruby Grass, Red Top
Mentha pulegium	Pennyroyal

APPENDIX A
INVASIVE SPECIES

BOTANICAL NAME	COMMON NAME
Ehrharta calycina	Perennial Veldt Grass
Ehrharta erecta	Panic Veldt Grass
Mentha spicata	Spearmint
Mesembryanthemum crystallinum	Crystalline Ice Plant
Mesembryanthemum nodiflorum	Slender-leaved Ice Plant
Mirabilis jalapa (M. lindheimeri)	Four O-Clock, Marvel of Peru
Myoporum laetum	Ngaio Tree, Myoporum
Myriophyllum aquaticum	Parrotfeather
Myriophyllum spicatum	Eurasian Watermilfoil
Nassella tenuissima	Finestem Needlegrass, Mexican Feather Grass
Nerium oleanader	Oleander
Nicotiana glauca	Tree Tobacco
Oenothera speciosa	Mexican Evening Primose
Olea europaea (fruiting varieties)	Olive Tree

BOTANICAL NAME	COMMON NAME
Opuntia ficus-indica	Mission Prickly-Pear, Indian Fig, Tuna Cactus
Osteospermum fruticosum (Dimorphotheca fruticosa)	Trailing African Daisy, Freeway Daisy
Parkinsonia aculeata	Mexican Palo Verde, Jerusalem Thorn
Pennisetum villosum (Cenchrus villosus)	Feathertop Fountain Grass
Pennisetum ciliare (Cenchrus ciliare)	Buffelgrass
Pennisetum clandestinum (Cenchrus clandestinum)	Kikuyu Grass
Pennisetum setaceum (Cenchrus setaceum) & all varieties except 'Rubrum'/'Cupreum'	Fountain Grass
Phoenix canariensis	Canary Island Date Palm
Pittosporum undulatum	Victorian Box
Platanus x acerifolia	London Plane Tree
Prunus lyonii (Prunus ilicifolia ssp. lyonii*)*	Catalina Cherry
Retama monosperma (Genista monosperma)	Bridal Veil Broom
Ricinus communis	Castor Bean
Robinia pseudoacacia	Black Locust

APPENDIX A
INVASIVE SPECIES

BOTANICAL NAME	COMMON NAME
Salsola tragus	Russian Thistle
Schinus molle	California Pepper
Schinus terebinthifolius	Brazilian Pepper
Senna didymobotrya (Cassia didymobotrya)	Popcorn Senna, Popcorn Cassia, African Senna
Silybum marianum	Milk Thistle
Spartium junceum	Spanish Broom

BOTANICAL NAME	COMMON NAME
Tamarix species	Tamarisk
Tropaeolum majus	Garden Nasturtium
Ulmus parvifolia	Chinese Elm Tree
Vinca major	Periwinkle
Washington robusta	Mexican Fan Palm
Zantedeschia aethiopica (Calla aethiopica)	Calla-lily

The following references were used:

Los Angeles Regional Guide to Invasive Plants http://weedwatch.lasgrwc.org/Matrix_Master_20071022.pdf.

California Invasive Plant Council Inventory of California Invasive Plants http://www.cal-ipc.org/ip/inventory/index.php.

American Society of Landscape Architects, San Diego Chapter: Invasive Ornamental Plant Guide http://www.asla-sandiego.org/Download/PG_08_mod.pdf.

APPENDIX B
LOW WATER USE, IGNITION RESISTIVE PLANTS

Courtesy of Dixie Switzer

The intent of this list is to provide examples of plants that are less prone to ignite or spread flames to other vegetation during a fire and that can naturalize or survive without irrigation after growth has been established. This list indicates those plants that are considered native to California. It also excludes non-native invasive species that easily spread into natural, non-irrigated areas.

No plant is totally fire resistant. The plants listed have been chosen because they contain minimal amounts of flammable resins and have a low fuel volume. All plants on this list are considered to be drought-tolerant.

When first planting drought-tolerant plants, it is necessary to water deeply to encourage the plant roots to seek natural moisture in the soil. During this establishment period, many plants will require more water in summer than in winter but be careful not to overwater. Even in summer some natives will die if watered too much. Over a three year establishment period, these plants should be weaned off supplemental irrigation. Once established, these plants can grow and reproduce with only natural moisture such as rainfall. Occasional irrigation is necessary only in extreme drought conditions.

APPENDIX B
LOW WATER USE, IGNITION RESISTIVE PLANTS

LEGEND

* Native plant as identified in the Native Plant list published by the San Diego Chapter of the California Native Plant Society or the California Native Plant Link Exchange for San Diego County www.cnplx.info.

TYPE: A = Annual
C = Succulent
G = Groundcover
P = Perennial
S = Shrub
T = Tree

The following references were used to avoid any listing of invasive plants:

Los Angeles Regional Guide to Invasive Plants http://weedwatch.lasgrwc.org/Matrix_Master_20071022.pdf.

California Invasive Plant Council Inventory of California Invasive Plants http://www.cal-ipc.org/ip/inventory/index.php.

American Society of Landscape Architects, San Diego Chapter: Invasive Ornamental Plant Guide http://www.asla-sandiego.org/Download/PG_08_mod.pdf.

APPENDIX B
LOW WATER USE, IGNITION RESISTIVE PLANTS

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Yarrow

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California Buckeye

Used with permission of www.lasplitas.com

Desert Century

Used with permission of www.lasplitas.com

Shaw's Century

BOTANICAL NAME	COMMON NAME	TYPE
Achillea Tomentosa*	Wooly Yarrow	G
Aesculus californica*	California Buckeye	T/S
Agave		
americana	Century Plant	C
deserti*	Desert Century Plant	C
shawii*	Shaw's Century Plant	C
Aloe arborescens	Tree Aloe	C
Alyogyne huegelii	Blue Hibiscus	S
Antigonon leptopus*	San Miguel Coral Vine	V
Arbutus unedo	Strawberry Tree	T
Baccharis glutinosa*	Mule Fat	S
Brachychiton populneus	Bottle Tree	T
Caesalpinia gilliesii	Bird of Paradise Bush	S
Calliandra californica*	Baja Fairy Duster	S
Cassia artemisioides	Feathey Senna	S
Ceanothus spp.*	California Lilac	S/G
Ceratonia siliqua	Carob	T
Cercidium floridum	Blue Palo Verde	T
Cercis occidentalis*	Western Redbud	T/S

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Mule Fat

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California Mountain Lilac (Ceanothus)

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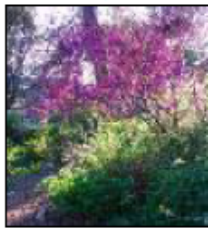

Western Redbud

APPENDIX B
LOW WATER USE, IGNITION RESISTIVE PLANTS

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Summer Holly

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Coast Sunflower

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Giant Coreopsis

BOTANICAL NAME	COMMON NAME	TYPE
Comarostaphylis diversifolia*	Summer Holly	S
Convolvulus cneorum	Bush Morning Glory	S
Coreopsis		
gigantea*	Giant Coreopsis	P
maritima*	Sea Dahlia	P
verticillata	Coreopsis	P
Dalea		
orcuttii	Orcutt's Delea	S
spinosa	Smoke Tree	S
Delosperma alba	White Trailing Ice Plant	G
Dudleya		
brittonii*	Britton's Chalk Dudleya	G
pulverulenta*	Chalk Dudleya	G
virens*	Island Live-Forever	G
Elaeagnus pungens	Silverberry	S
Encelia		
californica*	Coast Sunflower	P
farinosa*	White Brittlebush	P
Eriophyllum confertiflorum*	Golden Yarrow	S
Erythrina caffra	Kaffirboom Coral Tree	T

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Sea Dahlia

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Chalk Dudleya

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White Brittlebush

APPENDIX B
LOW WATER USE, IGNITION RESISTIVE PLANTS

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Golden Yarrow

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California Poppy

Used with permission of www.laspilitas.com

Island Bush-Snapdragon

BOTANICAL NAME	COMMON NAME	TYPE
Eschscholzia californica*	California Poppy	G/A
Ferocactus viridescens*	Coast Barrel Cactus	C
Fouquieria splendens*	Ocotillo	C
Galvezia		
Juncea*	Baja Bush-Snapdragon	S
speciosa*	Island Bush-Snapdragon	S
Garrya flavescens*	Ashy Silktassel	S
Grevillea spp.	Grevillea	T/S/G
Helianthemum spp.*	Sunrose	G
Hesperaloe parviflora	Red Yucca	C
Heteromeles arbutifolia*	Toyon	S
Iva hayesiana*	Poverty Weed	P
Juglans		
californica*	California Walnut	T
hindsii	California Black Walnut	T
Keckiella cordifolia*	Heart-Leaved Penstemon	V
Kniphofia uvaria	Red-Hot Poker	P
Lampranthus aurantiacus	Ice Plant	G
Lantana spp.	Lantana	S/G

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Ashy Silktassel

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Sunrose

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Toyon

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Poverty Weed

APPENDIX B
LOW WATER USE, IGNITION RESISTIVE PLANTS

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California Walnut

Used with permission of www.lasplitas.com

Heart-Leaved Penstemon

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Chaparral Honeysuckle

BOTANICAL NAME	COMMON NAME	TYPE
Lasthenia californica*	Common Goldfields	G
Laurus nobilis	Sweet Bay	T/S
Lavandula spp.	Lavender	P
Leucophyllum frutescens	Texas Ranger	S
Lonicera subspicata*	Chaparral Honeysuckle	V
Lotus scoparius*	Deerweed	S
Lupinus spp.	Lupine	G/A
Lyonothamnus floribundus spp.		
asplenifolius*	Fernleaf Catalina Ironwood	T
Malacothamnus fasciculatus*	Mesa Bushmallow	S
Nolina		
parryi*	Parry's Nolina	C
parryi spp. Wolfii*	Wolf's Bear Grass	C
Penstemon spp. (wild)*	Penstemon wild	P
Pittosporum phillyraeoides	Willow Pittosporum	T
Portulacaria afra	Elephant's Food	T/S
Prunus		
ilicifolia*	Hollyleaf Cherry	T/S
lyonii	Catalina Cherry	T/S

Used with permission of www.lasplitas.com

Deerweed

Used with permission of www.lasplitas.com

Fernleaf Catalina

Used with permission of www.lasplitas.com

Mesa Bushmallow

APPENDIX B
LOW WATER USE, IGNITION RESISTIVE PLANTS

Used with permission of www.laspilitas.com

Wild Penstemon

Used with permission of www.laspilitas.com

Hollyleaf Cherry

Courtesy of Dixie Switzer

Coast Live Oak

BOTANICAL NAME	COMMON NAME	TYPE
Quercus		
agrifolia*	Coast Live Oak	T
dumosa*	Scrub Oak	S
engelmannii*	Engelmann Oak	T
suber	Cork Oak	T
Rhamnus californica*	Coffeeberry	S
Robinia Ambigua 'Purple Robe'	Purple Robe Locust	T
Romneya coulteri*	Matilija Poppy	S
Rosa		
californica*	California Wild Rose	S
minutifolia*	Baja California Wild Rose	S
Sambucus spp.	Elderberry	S
Santolina		
chamaecyparissus	Lavender Cotton	P
virens	Santolina	P
Sedum spp.	Stonecrops	C
Senecio cineraria	Dusty Miller	P
Sisyrinchium bellum*	Blue-Eyed Grass	P
Symphoricarpos mollis*	Creeping Snowberry	S

Used with permission of www.laspilitas.com

Engelmann Oak

Used with permission of www.laspilitas.com

Coffeeberry

Used with permission of www.laspilitas.com

Matilija Poppy

APPENDIX B
LOW WATER USE, IGNITION RESISTIVE PLANTS

Used with permission of www.lasplitas.com

California Wild

Used with permission of www.lasplitas.com

Blue-Eyed Grass

Used with permission of www.lasplitas.com

Creeping Snowberry

BOTANICAL NAME	COMMON NAME	TYPE
Tagetes lemmonii	Copper Canyon Daisy	P
Teucrium fruticans	Bush Germander	S
Ulmus pumila	Siberian Elm	T
Verbena lilacina*	Lilac Verbena	P
Viguiera laciniata*	San Diego Sunflower	G
Westringia fruticosa	Coast Rosemary	S
Yucca		
schidigera*	Mojave Yucca	C
whipplei*	Foothill Yucca	C
Zauschneria		
californica	California Fuschia	P
cana	Hoary California Fuschia	P
'Catalina'	Catalina Fuschia	P

Used with permission of www.lasplitas.com

San Diego Sunflower

Used with permission of www.lasplitas.com

Mojave Yucca

Used with permission of www.lasplitas.com

Foothill Yucca

Please note: The above list is not intended as a comprehensive compilation of all plants that meets the criteria of lov water use, ignition resistive, and non-invasive. It only suggests some plants that meet the criteria.

APPENDIX C
UNDESIRABLE PLANTS

The following vegetation is more susceptible to burning due to rough or peeling bark, production of large amounts of litter, vegetation that contains oils, resin, wax or pitch, large amounts of dead material in the plant, or plantings with a high dead to live fuel ratio. To reduce the possibility of fire spreading to structures, these plants should be avoided within the first 50 feet adjacent to a structure.

- ⇒ Eucalyptus
- ⇒ Pines
- ⇒ Rosemary
- ⇒ Larger California sagebrush
- ⇒ Chamise
- ⇒ Tea trees
- ⇒ Pepper trees
- ⇒ Acacias
- ⇒ Junipers
- ⇒ Pampas grass
- ⇒ Palms

If the owner wishes to retain these plants, they must be adequately maintained (pruning, thinning, irrigation, litter removal and weeding) to reduce the potential for spreading a fire.

EXHIBIT D

BehavePlus 6.00 (Build 626 Beta 5)
Sanctuary
Head Fire
Wed, Feb 12, 2020 at 11:49:50

Input Worksheet

Inputs: SURFACE

Input Variables		Units	Input Value(s)
Fuel/Vegetation, Surface/Understory			
	Fuel Model		4,sh5,sh7
Fuel Moisture			
	1-h Fuel Moisture	%	3
	10-h Fuel Moisture	%	4
	100-h Fuel Moisture	%	5
	Live Herbaceous Fuel Moisture	%	30
	Live Woody Fuel Moisture	%	60
Weather			
	Midflame Wind Speed (upslope)	mi/h	11
Terrain			
	Slope Steepness	%	10
Notes			
	Due to the amount of dead in the chamise, I considered using FM4 but Shrub 5 (SH5) is probably the best fit.		
	Slope is essentially flat.		
	1-hour fuel moisture calculated from temp of 100°F and RH of 12% Sept 15, 1400 hours.		
	South west wind at 19 mph		

Run Option Notes

Maximum effective wind speed limit IS imposed [SURFACE].
Fire spread is in the HEADING direction only [SURFACE].
Wind is blowing upslope [SURFACE].
Wind and spread directions are degrees clockwise from upslope [SURFACE].
Direction of the wind vector is the direction the wind is pushing the fire [SURFACE].

Head Fire

Results

Fuel Model	Surface Fire Rate of Spread ch/h	Surface Flame Length ft
4	374.9	44.6
sh5	228	27.9
sh7	147.2	26.2

Appendix J –
Preliminary Hydrology Study for the Sanctuary

PRELIMINARY HYDROLOGY STUDY

FOR

THE SANCTUARY

9 LOT RESIDENTIAL DEVELOPMENT
18-198 TM/ DR/ PRD/ EIA

RANCH VIEW TERRACE
ENCINITAS, CA 92024

PREPARED FOR:

OLIVENHAIN HILLS, LLC
745 COLE RANCH ROAD
ENCINITAS, CA 92024
760-299-3344

PREPARED BY:

PASCO LARET SUITER & ASSOCIATES, INC.
535 N. HIGHWAY 101, SUITE A
SOLANA BEACH, CA 92075
(858) 259-8212

PREPARED: APRIL 17, 2019
REVISED: DECEMBER 15, 2020

12/15/20

BRIAN M. ARDOLINO, RCE 71651 DATE

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Appendices

Appendix A: Hydrology Support Material

Appendix B: Detention Support Material

Appendix C: Existing and Proposed Hydrology Maps

1.0 EXECUTIVE SUMMARY

1.1 Introduction

This Hydrology Study for the proposed Sanctuary development has been prepared to analyze the hydrologic characteristics of the existing and proposed project site. This report presents both the methodology and the calculations used for determining the storm water runoff from the project site in the pre-developed (existing) conditions, the post-developed unmitigated conditions, and the post-developed mitigated conditions produced by the 100-year, 6-hour storm event.

1.2 Existing Conditions

The 8.32-acre property is located at Ranch View Terrace, Olivenhain, and is bound by residential homes to the north, south, east, and west.

The existing property consists of undisturbed natural terrain. The drainage characteristics of the site consist generally of overland flow from northwest to east/ southeast, discharging to a small channel along Rancho Santa Fe Road, which flows southerly eventually discharging to Escondido Creek which flows southwesterly to San Elijo Lagoon and ultimately discharges to the Pacific Ocean.

The portion of the property being developed is approximately 3.42 acres in the eastern part of the property. Offsite stormwater runs onto the project site along the western project site boundary.

Per the Web Soil Survey application available through the United States Department of Agriculture, the site is categorized to have hydrologic group D soils. Refer to Appendix A for soil information.

Using the Rational Method Procedure outlined in the San Diego County Hydrology Manual dated June 2003 (SDCHM), the 100-year, 6-hour storm event peak flow rate was calculated for the project site in the existing condition. The table below summarizes the existing condition hydrologic analysis.

Summary of Existing Condition 100-Yr Storm Event Hydrologic Analysis

Drainage Basin	Area (ac)	Q100 (cfs)
A	9.7	22.44

Refer to the existing condition hydrologic calculations included in section 3.1 of this report for detailed analysis.

1.3 Proposed Project

The intent of the proposed project is to develop the existing project site into 9 residential lots, private streets, curb and pervious parking stalls, associated underground utilities, and two biofiltration basins to meet the requirements for hydromodification management flow control, storm water pollutant control and to mitigate for the 100-year 6-hour storm event.

In the proposed condition, there one onsite drainage basins, Drainage Basin A.

Drainage Basin A consists of the majority of the site including the northern and eastern portions of the project site. Stormwater flows overland and in proposed storm drain easterly and northerly to a proposed Hydromodification Management (HMP) Biofiltration with Partial Retention basin located in the northeastern corner of the site. The basin will discharge through a proposed PVC pipe to Ranch View Terrace.

In the existing condition, the westerly portion of the site currently drains into the man-made pond approximately 100 feet due north of APN 265-331-32. The overflow of said pond then flows southeasterly overland discharging in between APN's 265-331-33 and 34. The natural conveyance of water is via sheet flow making its way south onto Woodwind Drive into an existing concrete brow ditch. The existing brow ditch meanders south and east conveying the flow into an existing culvert on Rancho Santa Fe Road. The runoff generated by the easterly portion of the project site flows through the residential lots to the east and a smaller easterly portion of the site discharges onto Ranch View Terrace. The easterly flows travel east onto Rancho Santa Fe Road, then south, ultimately into the culvert located at the intersection of Woodwind Drive and Rancho Santa Fe Road.

In the proposed condition, stormwater discharging from the site will maintain similar patterns. The flows generated by the northerly and easterly portion of the site including runoff from BMP Basin A will discharge onto Ranch View Terrace via a stormdrain pipe, travel easterly along Ranch View Terrace via a new curb and gutter to Rancho Santa Fe Road. The flows then will travel southerly along a new rolled G-4 Type curb and gutter until it reaches the culvert located at the intersection of Woodwind Drive and Rancho Santa Fe Road.

Areas that lie within the property but outside the project site will continue to flow as in the existing condition.

The HMP Biofiltration basins will provide hydromodification management flow control and storm water pollutant control to meet the requirements the California Regional Water Quality Control Board San Diego Region municipal storm water permit (Order No. R9-2013-0001, referred to as MS4 Permit). The HMP Biofiltration basins will also provide mitigation for the 100-year storm event peak discharge. Refer to the Storm Water Quality Management Plan (SWQMP) for the project titled "Storm Water Quality

Management Plan for The Sanctuary Development" dated December 2020 prepared by Pasco Laret Suiter & Associates for the detailed HMP and storm water pollutant control analyses.

The table below summarizes the existing and proposed condition hydrologic analyses.

Summary of 100-yr Storm Event Hydrologic Analyses

Condition	Drainage Basin	Area (ac)	Q100 (cfs)
Existing	A	9.5	22.44
Proposed	A	9.7	26.23
Proposed Detained	A	9.7	21.71

Refer to the proposed condition hydrologic calculations and detailed detention analysis included in Section 3.2, 3.3, 3.4 and Appendix B.

1.4 Hydrologic Unit Contribution

As identified by the San Diego Basin Plan, the proposed project site drains within Carlsbad Hydrologic Unit, specifically the Escondido Creek Hydrologic Area and San Elijo Sub Area (904.61).

1.5 Conclusions

Based upon the analyses included in this report, the proposed HMP Biofiltration basins are sized to accommodate the increase in peak runoff in the proposed condition and are designed to meet the requirements of the MS4 Permit for both pollutant control and hydromodification management.

1.6 References

"San Diego County Hydrology Manual", revised June 2003, County of San Diego, Department of Public Works, Flood Control Section.

"City of Encinitas Engineering Design Manual", October 28, 2009, City of Encinitas, Engineering Department

Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. Available online at http://websoilsurvey.nrcs.usda.gov.

2.0 METHODOLOGY

Pursuant to the San Diego County Hydrology Manual dated June 2003 (SDCHM), the Rational Method is recommended for analyzing the runoff response from drainage areas up to approximately 1 square mile in size. The proposed project and associated watershed basins are less than 1 square mile, therefore the Rational Method was used to analyze the project's hydrologic characteristics in the existing and proposed conditions.

2.1 Rational Method

The Rational Method (RM) formula estimates the peak rate of runoff based on the variables of area, runoff coefficient, and rainfall intensity. The rainfall intensity (I) is equal to:

$$I = 7.44 \times P_6 \times D^{-0.645}$$

Where:

I = Intensity (in/hr)
P_6 = 6-hour precipitation (in)
D = duration (min – use Tc)

Using the Time of Concentration (Tc) which is the time required for a given element of water that originates at the most remote point of the basin being analyzed to reach the point at which the runoff from the basin is being analyzed, the RM equation determines the storm water runoff rate (Q) for a given basin in terms of flow (typically in cubic feet per second (cfs). The RM equation is as follows:

$$Q = CIA$$

Where:

Q= flow (cfs)
C = runoff coefficient, ratio of rainfall that produces storm water runoff (runoff vs. infiltration/evaporation/absorption/etc)
I = average rainfall intensity for a duration equal to the Tc for the Area (in/hr)
A = drainage area contributing to the basin (ac)

The RM equation assumes that the storm event being analyzed delivers precipitation to the entire basin uniformly, and therefore the peak discharge rate will occur when a raindrop that falls at the most remote portion of the basin arrives at the point of analysis. The RM also assumes that the fraction of rainfall that becomes runoff or the runoff coefficient (C) is not affected by the storm intensity (I), or the precipitation zone number.

2.2 County of San Diego Criteria

The County of San Diego has developed tables, nomographs, and methodologies for analyzing storm water runoff for areas within the County. The County has also developed precipitation isopluvial contour maps that show even lines of rainfall anticipated from a given storm event (i.e. 100-year, 6-hour storm). The 100-year 6-hour storm event rainfall isopluvial map is included in Appendix A.

One of the variables of the RM equation is the runoff coefficient (C) which is dependent upon land use and soil type. Table 3-1 Runoff Coefficients for Urban Areas in the SDCHM categorizes the land use, the associated development density (dwelling units per acre) and the percentage of impervious area. Each of the categories listed has an associated runoff coefficient for each soil type class. A composite runoff coefficient can also be calculated for an area based on soil type and impervious percentage using the following equation from Section 3.1.2 of the SDCHM:

$$C = 0.90 \times (\% \text{ Impervious}) + Cp \times (1 - \% \text{ Impervious})$$

Where: Cp = Pervious Coefficient Runoff Value for the soil type (shown in Table 3-1 as Undisturbed Natural Terrain/Permanent Open Space, 0% Impervious)

The calculations contained herein figure a composite runoff coefficient for the onsite project areas based on the percentage of impervious area and the percentage of pervious or landscape area. Refer to Appendix A for the composite runoff coefficient calculations.

2.3 AES Rational Method Computer Model

The Rational Method computer program developed by Advanced Engineering Software (AES) satisfies the County of San Diego design criteria, therefore it is the computer model used for this study. The AES hydrologic model is capable of creating independent node-link models of each interior drainage basin and linking these sub-models together at confluence points to determine peak flow rates. The program utilizes base information input by the user to perform calculations for up to 15 hydrologic processes. The required base information includes drainage basin area, storm water facility locations and sizes, land uses, flow patterns, and topographic elevations. The hydrologic conditions were analyzed in accordance with the SDCHM criteria as follows:

Design Storm	100-year, 6-hour
100-year, 6-hour Precipitation	2.7 inches
Rainfall Intensity	Based on the 2003 County of San Diego Hydrology Manual criteria
Runoff Coefficient*	D soil C = 0.35 Impervious C = 0.90

Soil Type D

*Composite runoff coefficients were calculated where appropriate. Refer to Appendix A.

3.0 HYDROLOGIC ANALYSIS

The table below summarizes the hydrologic calculations provided in Sections 3.1, 3.2 and 3.4.

Summary of 100-yr Storm Event Hydrologic Analyses

Condition	Drainage Basin	Area (ac)	Q100 (cfs)
Existing	A	9.5	22.44
Proposed	A	9.7	26.23
Proposed Detained	A	9.7	21.71

3.1 Existing Condition Hydrologic Model Output (100-Year Event)

```
****************************************************************************

            RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM PACKAGE
            Reference: SAN DIEGO COUNTY FLOOD CONTROL DISTRICT
                         2003,1985,1981 HYDROLOGY MANUAL
          (c) Copyright 1982-2016 Advanced Engineering Software (aes)
              Ver. 23.0 Release Date: 07/01/2016  License ID 1452

                              Analysis prepared by:

                        PASCO LARET SUITER & ASSOCIATES
                          535 NORTH HIGHWAY 101, STE A
                             SOLANA BEACH, CA 92075
                                  858-259-8212

 ************************** DESCRIPTION OF STUDY ************************
* PREDEVELOPED HYDROLOGIC ANALYSIS FOR OLIVENHAIN HILLS                    *
* 100 YEAR STORM EVENT                                                     *
* PLSA 3009 - 3/13/2019                                                    *
 ****************************************************************************

  FILE NAME: 3009PRE.DAT
  TIME/DATE OF STUDY: 09:57 01/23/2020
----------------------------------------------------------------------------
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
----------------------------------------------------------------------------
  2003 SAN DIEGO MANUAL CRITERIA

  USER SPECIFIED STORM EVENT(YEAR) = 100.00
  6-HOUR DURATION PRECIPITATION (INCHES) =   2.700
  SPECIFIED MINIMUM PIPE SIZE(INCH) =   4.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
  SAN DIEGO HYDROLOGY MANUAL "C"-VALUES USED FOR RATIONAL METHOD
  NOTE: USE MODIFIED RATIONAL METHOD PROCEDURES FOR CONFLUENCE ANALYSIS
  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  =========  =================  ======  ===== ====== ===== =======
  1   30.0     20.0    0.018/0.018/0.020   0.67    2.00 0.0313 0.167 0.0150

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.00 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*

****************************************************************************
  FLOW PROCESS FROM NODE     10.00 TO NODE     10.05 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
  *USER SPECIFIED(SUBAREA):
  USER-SPECIFIED RUNOFF COEFFICIENT = .6000
  S.C.S. CURVE NUMBER (AMC II) =   0
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   250.00
  UPSTREAM ELEVATION(FEET) =    324.00
  DOWNSTREAM ELEVATION(FEET) =    300.60
  ELEVATION DIFFERENCE(FEET) =     23.40
```

```
  SUBAREA OVERLAND TIME OF FLOW(MIN.) =    4.271
  WARNING: INITIAL SUBAREA FLOW PATH LENGTH IS GREATER THAN
           THE MAXIMUM OVERLAND FLOW LENGTH =   100.00
           (Reference: Table 3-1B of Hydrology Manual)
           THE MAXIMUM OVERLAND FLOW LENGTH IS USED IN Tc CALCULATION!
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  7.114
  NOTE: RAINFALL INTENSITY IS BASED ON Tc = 5-MINUTE.
  SUBAREA RUNOFF(CFS) =      3.63
  TOTAL AREA(ACRES) =      0.85   TOTAL RUNOFF(CFS) =      3.63

****************************************************************************
  FLOW PROCESS FROM NODE     10.05 TO NODE     10.10 IS CODE =  52
----------------------------------------------------------------------------
  >>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =    300.60  DOWNSTREAM(FEET) =    156.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =   915.00   CHANNEL SLOPE =  0.1580
  NOTE: CHANNEL SLOPE OF .1 WAS ASSUMED IN VELOCITY ESTIMATION
  CHANNEL FLOW THRU SUBAREA(CFS) =       3.63
  FLOW VELOCITY(FEET/SEC) =   6.20 (PER LACFCD/RCFC&WCD HYDROLOGY MANUAL)
  TRAVEL TIME(MIN.) =   2.46   Tc(MIN.) =    6.73
  LONGEST FLOWPATH FROM NODE     10.00 TO NODE     10.10 =    1165.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     10.10 TO NODE     10.10 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  5.872
  *USER SPECIFIED(SUBAREA):
  USER-SPECIFIED RUNOFF COEFFICIENT = .3500
  S.C.S. CURVE NUMBER (AMC II) =   0
  AREA-AVERAGE RUNOFF COEFFICIENT = 0.3804
  SUBAREA AREA(ACRES) =    6.13   SUBAREA RUNOFF(CFS) =   12.60
  TOTAL AREA(ACRES) =       7.0   TOTAL RUNOFF(CFS) =      15.59
  TC(MIN.) =    6.73

****************************************************************************
  FLOW PROCESS FROM NODE     20.00 TO NODE     20.05 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
  *USER SPECIFIED(SUBAREA):
  USER-SPECIFIED RUNOFF COEFFICIENT = .4600
  S.C.S. CURVE NUMBER (AMC II) =   0
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   280.00
  UPSTREAM ELEVATION(FEET) =    244.00
  DOWNSTREAM ELEVATION(FEET) =    212.00
  ELEVATION DIFFERENCE(FEET) =     32.00
  SUBAREA OVERLAND TIME OF FLOW(MIN.) =    5.348
  WARNING: INITIAL SUBAREA FLOW PATH LENGTH IS GREATER THAN
           THE MAXIMUM OVERLAND FLOW LENGTH =   100.00
           (Reference: Table 3-1B of Hydrology Manual)
           THE MAXIMUM OVERLAND FLOW LENGTH IS USED IN Tc CALCULATION!
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  6.812
  SUBAREA RUNOFF(CFS) =      0.88
  TOTAL AREA(ACRES) =      0.28   TOTAL RUNOFF(CFS) =      0.88

****************************************************************************
  FLOW PROCESS FROM NODE     20.05 TO NODE     20.10 IS CODE =  52
```

```
------------------------------------------------------------------------
  >>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA<<<<<
========================================================================
  ELEVATION DATA: UPSTREAM(FEET) =    212.00  DOWNSTREAM(FEET) =    169.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =   440.00   CHANNEL SLOPE =  0.0977
  NOTE: CHANNEL FLOW OF 1. CFS WAS ASSUMED IN VELOCITY ESTIMATION
  CHANNEL FLOW THRU SUBAREA(CFS) =       0.88
  FLOW VELOCITY(FEET/SEC) =   4.69 (PER LACFCD/RCFC&WCD HYDROLOGY MANUAL)
  TRAVEL TIME(MIN.) =   1.56   Tc(MIN.) =    6.91
  LONGEST FLOWPATH FROM NODE     20.00 TO NODE     20.10 =     720.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     20.10 TO NODE     20.10 IS CODE =  81
------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
========================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  5.773
  *USER SPECIFIED(SUBAREA):
  USER-SPECIFIED RUNOFF COEFFICIENT = .3800
  S.C.S. CURVE NUMBER (AMC II) =   0
  AREA-AVERAGE RUNOFF COEFFICIENT = 0.3881
  SUBAREA AREA(ACRES) =    2.50   SUBAREA RUNOFF(CFS) =    5.48
  TOTAL AREA(ACRES) =        2.8   TOTAL RUNOFF(CFS) =       6.23
  TC(MIN.) =    6.91

****************************************************************************
  FLOW PROCESS FROM NODE     20.10 TO NODE     20.10 IS CODE =   1
------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
========================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
  TIME OF CONCENTRATION(MIN.) =    6.91
  RAINFALL INTENSITY(INCH/HR) =   5.77
  TOTAL STREAM AREA(ACRES) =     2.78
  PEAK FLOW RATE(CFS) AT CONFLUENCE =      6.23

****************************************************************************
  FLOW PROCESS FROM NODE     30.00 TO NODE     30.05 IS CODE =  21
------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
========================================================================
  *USER SPECIFIED(SUBAREA):
  USER-SPECIFIED RUNOFF COEFFICIENT = .6000
  S.C.S. CURVE NUMBER (AMC II) =   0
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   300.00
  UPSTREAM ELEVATION(FEET) =    324.00
  DOWNSTREAM ELEVATION(FEET) =    299.00
  ELEVATION DIFFERENCE(FEET) =     25.00
  SUBAREA OVERLAND TIME OF FLOW(MIN.) =    4.439
  WARNING: INITIAL SUBAREA FLOW PATH LENGTH IS GREATER THAN
           THE MAXIMUM OVERLAND FLOW LENGTH =   100.00
           (Reference: Table 3-1B of Hydrology Manual)
           THE MAXIMUM OVERLAND FLOW LENGTH IS USED IN Tc CALCULATION!
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  7.114
  NOTE: RAINFALL INTENSITY IS BASED ON Tc = 5-MINUTE.
  SUBAREA RUNOFF(CFS) =      4.44
  TOTAL AREA(ACRES) =      1.04   TOTAL RUNOFF(CFS) =      4.44

****************************************************************************
```

```
 FLOW PROCESS FROM NODE     30.05 TO NODE     30.10 IS CODE =  52
----------------------------------------------------------------------------
 >>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =    299.00  DOWNSTREAM(FEET) =    247.00
 CHANNEL LENGTH THRU SUBAREA(FEET) =   160.00   CHANNEL SLOPE =  0.3250
 NOTE: CHANNEL SLOPE OF .1 WAS ASSUMED IN VELOCITY ESTIMATION
 CHANNEL FLOW THRU SUBAREA(CFS) =       4.44
 FLOW VELOCITY(FEET/SEC) =   6.49 (PER LACFCD/RCFC&WCD HYDROLOGY MANUAL)
 TRAVEL TIME(MIN.) =   0.41   Tc(MIN.) =    4.85
 LONGEST FLOWPATH FROM NODE     30.00 TO NODE     30.10 =     460.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE     30.10 TO NODE     30.10 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  7.114
 NOTE: RAINFALL INTENSITY IS BASED ON Tc = 5-MINUTE.
 *USER SPECIFIED(SUBAREA):
 USER-SPECIFIED RUNOFF COEFFICIENT = .3500
 S.C.S. CURVE NUMBER (AMC II) =   0
 AREA-AVERAGE RUNOFF COEFFICIENT = 0.4756
 SUBAREA AREA(ACRES) =    1.03   SUBAREA RUNOFF(CFS) =    2.56
 TOTAL AREA(ACRES) =        2.1   TOTAL RUNOFF(CFS) =       7.00
 TC(MIN.) =    4.85

****************************************************************************
 FLOW PROCESS FROM NODE     30.10 TO NODE     30.15 IS CODE =  52
----------------------------------------------------------------------------
 >>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =    247.00  DOWNSTREAM(FEET) =    138.00
 CHANNEL LENGTH THRU SUBAREA(FEET) =  1210.00   CHANNEL SLOPE =  0.0901
 CHANNEL FLOW THRU SUBAREA(CFS) =       7.00
 FLOW VELOCITY(FEET/SEC) =   6.86 (PER LACFCD/RCFC&WCD HYDROLOGY MANUAL)
 TRAVEL TIME(MIN.) =   2.94   Tc(MIN.) =    7.79
 LONGEST FLOWPATH FROM NODE     30.00 TO NODE     30.15 =    1670.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE     30.15 TO NODE     30.15 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  5.345
 *USER SPECIFIED(SUBAREA):
 USER-SPECIFIED RUNOFF COEFFICIENT = .4600
 S.C.S. CURVE NUMBER (AMC II) =   0
 AREA-AVERAGE RUNOFF COEFFICIENT = 0.4648
 SUBAREA AREA(ACRES) =    4.64   SUBAREA RUNOFF(CFS) =   11.41
 TOTAL AREA(ACRES) =        6.7   TOTAL RUNOFF(CFS) =      16.67
 TC(MIN.) =    7.79

****************************************************************************
 FLOW PROCESS FROM NODE     20.10 TO NODE     30.15 IS CODE =   1
----------------------------------------------------------------------------
 >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
 >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
```

```
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
  TIME OF CONCENTRATION(MIN.) =    7.79
  RAINFALL INTENSITY(INCH/HR) =   5.35
  TOTAL STREAM AREA(ACRES) =     6.71
  PEAK FLOW RATE(CFS) AT CONFLUENCE =     16.67

  ** CONFLUENCE DATA **
  STREAM     RUNOFF       Tc      INTENSITY      AREA
  NUMBER      (CFS)     (MIN.)   (INCH/HOUR)    (ACRE)
      1        6.23     6.91        5.773          2.78
      2       16.67     7.79        5.345          6.71

  RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
  CONFLUENCE FORMULA USED FOR  2 STREAMS.

  ** PEAK FLOW RATE TABLE **
  STREAM     RUNOFF      Tc      INTENSITY
  NUMBER      (CFS)    (MIN.)   (INCH/HOUR)
      1       21.02     6.91       5.773
      2       22.44     7.79       5.345

  COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
  PEAK FLOW RATE(CFS) =      22.44   Tc(MIN.) =    7.79
  TOTAL AREA(ACRES) =        9.5
  LONGEST FLOWPATH FROM NODE     30.00 TO NODE     30.15 =    1670.00 FEET.
================================================================================
  END OF STUDY SUMMARY:
  TOTAL AREA(ACRES)     =        9.5  TC(MIN.) =      7.79
  PEAK FLOW RATE(CFS)   =      22.44
================================================================================
================================================================================
  END OF RATIONAL METHOD ANALYSIS
```

3.2 Proposed Undetained Condition Hydrologic Model Output (100-Year Event)

```
**************************************************************************

            RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM PACKAGE
            Reference: SAN DIEGO COUNTY FLOOD CONTROL DISTRICT
                         2003,1985,1981 HYDROLOGY MANUAL
          (c) Copyright 1982-2016 Advanced Engineering Software (aes)
              Ver. 23.0 Release Date: 07/01/2016  License ID 1452

                              Analysis prepared by:

                          PASCO LARET SUITER & ASSOCIATES
                            535 NORTH HIGHWAY 101, STE A
                               SOLANA BEACH, CA 92075
                                    858-259-8212

 ************************** DESCRIPTION OF STUDY **************************
* POSTEDEVELOPED HYDROLOGIC ANALYSIS FOR OLIVENHAIN HILLS                 *
* 100 YEAR STORM EVENT                                                    *
*                                                                         *
 *************************************************************************

  FILE NAME: 3009POST.DAT
  TIME/DATE OF STUDY: 12:39 12/09/2020
--------------------------------------------------------------------------
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
--------------------------------------------------------------------------
  2003 SAN DIEGO MANUAL CRITERIA

  USER SPECIFIED STORM EVENT(YEAR) = 100.00
  6-HOUR DURATION PRECIPITATION (INCHES) =   2.700
  SPECIFIED MINIMUM PIPE SIZE(INCH) =   4.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
  SAN DIEGO HYDROLOGY MANUAL "C"-VALUES USED FOR RATIONAL METHOD
  NOTE: USE MODIFIED RATIONAL METHOD PROCEDURES FOR CONFLUENCE ANALYSIS
  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  =========  =================  ======  ===== ====== ===== =======
  1   30.0     20.0    0.018/0.018/0.020   0.67    2.00 0.0313 0.167 0.0150
  2   12.0      7.0    0.020/0.020/0.020   0.50    1.50 0.0100 0.125 0.0180

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.00 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*

**************************************************************************
  FLOW PROCESS FROM NODE     10.00 TO NODE     10.05 IS CODE =  21
--------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
==========================================================================
  *USER SPECIFIED(SUBAREA):
  USER-SPECIFIED RUNOFF COEFFICIENT = .6000
```

```
  S.C.S. CURVE NUMBER (AMC II) =   0
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   250.00
  UPSTREAM ELEVATION(FEET) =    324.00
  DOWNSTREAM ELEVATION(FEET) =    300.60
  ELEVATION DIFFERENCE(FEET) =     23.40
  SUBAREA OVERLAND TIME OF FLOW(MIN.) =    4.271
  WARNING: INITIAL SUBAREA FLOW PATH LENGTH IS GREATER THAN
           THE MAXIMUM OVERLAND FLOW LENGTH =   100.00
           (Reference: Table 3-1B of Hydrology Manual)
           THE MAXIMUM OVERLAND FLOW LENGTH IS USED IN Tc CALCULATION!
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  7.114
  NOTE: RAINFALL INTENSITY IS BASED ON Tc = 5-MINUTE.
  SUBAREA RUNOFF(CFS) =      3.63
  TOTAL AREA(ACRES) =      0.85   TOTAL RUNOFF(CFS) =      3.63

****************************************************************************
  FLOW PROCESS FROM NODE     10.05 TO NODE     10.10 IS CODE =  52
----------------------------------------------------------------------------
  >>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =    300.60  DOWNSTREAM(FEET) =    156.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =   915.00   CHANNEL SLOPE =  0.1580
  NOTE: CHANNEL SLOPE OF .1 WAS ASSUMED IN VELOCITY ESTIMATION
  CHANNEL FLOW THRU SUBAREA(CFS) =       3.63
  FLOW VELOCITY(FEET/SEC) =   6.20 (PER LACFCD/RCFC&WCD HYDROLOGY MANUAL)
  TRAVEL TIME(MIN.) =   2.46   Tc(MIN.) =    6.73
  LONGEST FLOWPATH FROM NODE     10.00 TO NODE     10.10 =    1165.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     10.10 TO NODE     10.10 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  5.872
  *USER SPECIFIED(SUBAREA):
  USER-SPECIFIED RUNOFF COEFFICIENT = .3500
  S.C.S. CURVE NUMBER (AMC II) =   0
  AREA-AVERAGE RUNOFF COEFFICIENT = 0.3841
  SUBAREA AREA(ACRES) =    5.39   SUBAREA RUNOFF(CFS) =   11.08
  TOTAL AREA(ACRES) =        6.2   TOTAL RUNOFF(CFS) =      14.07
  TC(MIN.) =    6.73

****************************************************************************
  FLOW PROCESS FROM NODE     10.10 TO NODE     10.10 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
  TIME OF CONCENTRATION(MIN.) =    6.73
  RAINFALL INTENSITY(INCH/HR) =   5.87
  TOTAL STREAM AREA(ACRES) =     6.24
  PEAK FLOW RATE(CFS) AT CONFLUENCE =     14.07

****************************************************************************
  FLOW PROCESS FROM NODE     50.00 TO NODE     50.05 IS CODE =  21
```

```
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
  *USER SPECIFIED(SUBAREA):
  USER-SPECIFIED RUNOFF COEFFICIENT = .3500
  S.C.S. CURVE NUMBER (AMC II) =   0
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   170.00
  UPSTREAM ELEVATION(FEET) =    188.00
  DOWNSTREAM ELEVATION(FEET) =    173.50
  ELEVATION DIFFERENCE(FEET) =     14.50
  SUBAREA OVERLAND TIME OF FLOW(MIN.) =    6.608
  WARNING: INITIAL SUBAREA FLOW PATH LENGTH IS GREATER THAN
           THE MAXIMUM OVERLAND FLOW LENGTH =   100.00
           (Reference: Table 3-1B of Hydrology Manual)
           THE MAXIMUM OVERLAND FLOW LENGTH IS USED IN Tc CALCULATION!
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  5.943
  SUBAREA RUNOFF(CFS) =      0.27
  TOTAL AREA(ACRES) =      0.13   TOTAL RUNOFF(CFS) =      0.27

****************************************************************************
  FLOW PROCESS FROM NODE     50.05 TO NODE     50.05 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  5.943
  *USER SPECIFIED(SUBAREA):
  USER-SPECIFIED RUNOFF COEFFICIENT = .3500
  S.C.S. CURVE NUMBER (AMC II) =   0
  AREA-AVERAGE RUNOFF COEFFICIENT = 0.3500
  SUBAREA AREA(ACRES) =    0.11   SUBAREA RUNOFF(CFS) =    0.23
  TOTAL AREA(ACRES) =        0.2   TOTAL RUNOFF(CFS) =       0.50
  TC(MIN.) =    6.61

****************************************************************************
  FLOW PROCESS FROM NODE     50.05 TO NODE     50.05 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  5.943
  *USER SPECIFIED(SUBAREA):
  USER-SPECIFIED RUNOFF COEFFICIENT = .3500
  S.C.S. CURVE NUMBER (AMC II) =   0
  AREA-AVERAGE RUNOFF COEFFICIENT = 0.3500
  SUBAREA AREA(ACRES) =    0.08   SUBAREA RUNOFF(CFS) =    0.17
  TOTAL AREA(ACRES) =        0.3   TOTAL RUNOFF(CFS) =       0.67
  TC(MIN.) =    6.61

****************************************************************************
  FLOW PROCESS FROM NODE     50.05 TO NODE     50.05 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  5.943
  *USER SPECIFIED(SUBAREA):
  USER-SPECIFIED RUNOFF COEFFICIENT = .3500
  S.C.S. CURVE NUMBER (AMC II) =   0
  AREA-AVERAGE RUNOFF COEFFICIENT = 0.3500
```

```
  SUBAREA AREA(ACRES) =    0.22   SUBAREA RUNOFF(CFS) =    0.46
  TOTAL AREA(ACRES) =        0.5   TOTAL RUNOFF(CFS) =       1.12
  TC(MIN.) =    6.61

****************************************************************************
  FLOW PROCESS FROM NODE     50.05 TO NODE     10.10 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
  >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
  TIME OF CONCENTRATION(MIN.) =    6.61
  RAINFALL INTENSITY(INCH/HR) =   5.94
  TOTAL STREAM AREA(ACRES) =     0.54
  PEAK FLOW RATE(CFS) AT CONFLUENCE =      1.12

  ** CONFLUENCE DATA **
  STREAM     RUNOFF       Tc      INTENSITY      AREA
  NUMBER      (CFS)     (MIN.)   (INCH/HOUR)    (ACRE)
      1       14.07     6.73        5.872          6.24
      2        1.12     6.61        5.943          0.54

  RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
  CONFLUENCE FORMULA USED FOR  2 STREAMS.

  ** PEAK FLOW RATE TABLE **
  STREAM     RUNOFF      Tc      INTENSITY
  NUMBER      (CFS)    (MIN.)   (INCH/HOUR)
      1       14.93     6.61       5.943
      2       15.18     6.73       5.872

  COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
  PEAK FLOW RATE(CFS) =      15.18   Tc(MIN.) =    6.73
  TOTAL AREA(ACRES) =        6.8
  LONGEST FLOWPATH FROM NODE     10.00 TO NODE     10.10 =    1165.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     20.00 TO NODE     20.05 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
  *USER SPECIFIED(SUBAREA):
  USER-SPECIFIED RUNOFF COEFFICIENT = .4600
  S.C.S. CURVE NUMBER (AMC II) =   0
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   280.00
  UPSTREAM ELEVATION(FEET) =    244.00
  DOWNSTREAM ELEVATION(FEET) =    212.00
  ELEVATION DIFFERENCE(FEET) =     32.00
  SUBAREA OVERLAND TIME OF FLOW(MIN.) =    5.348
  WARNING: INITIAL SUBAREA FLOW PATH LENGTH IS GREATER THAN
           THE MAXIMUM OVERLAND FLOW LENGTH =   100.00
           (Reference: Table 3-1B of Hydrology Manual)
           THE MAXIMUM OVERLAND FLOW LENGTH IS USED IN Tc CALCULATION!
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  6.812
  SUBAREA RUNOFF(CFS) =      0.91
  TOTAL AREA(ACRES) =      0.29   TOTAL RUNOFF(CFS) =      0.91
```

```
****************************************************************************
  FLOW PROCESS FROM NODE     20.05 TO NODE     20.10 IS CODE =  52
----------------------------------------------------------------------------
  >>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =    212.00  DOWNSTREAM(FEET) =    180.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =   330.00   CHANNEL SLOPE =  0.0970
  NOTE: CHANNEL FLOW OF 1. CFS WAS ASSUMED IN VELOCITY ESTIMATION
  CHANNEL FLOW THRU SUBAREA(CFS) =       0.91
  FLOW VELOCITY(FEET/SEC) =   4.67 (PER LACFCD/RCFC&WCD HYDROLOGY MANUAL)
  TRAVEL TIME(MIN.) =   1.18   Tc(MIN.) =    6.53
  LONGEST FLOWPATH FROM NODE     20.00 TO NODE     20.10 =     610.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     20.10 TO NODE     20.10 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  5.991
  *USER SPECIFIED(SUBAREA):
  USER-SPECIFIED RUNOFF COEFFICIENT = .4600
  S.C.S. CURVE NUMBER (AMC II) =   0
  AREA-AVERAGE RUNOFF COEFFICIENT = 0.4600
  SUBAREA AREA(ACRES) =    0.70   SUBAREA RUNOFF(CFS) =    1.93
  TOTAL AREA(ACRES) =        1.0   TOTAL RUNOFF(CFS) =       2.73
  TC(MIN.) =    6.53

****************************************************************************
  FLOW PROCESS FROM NODE     20.10 TO NODE     20.15 IS CODE =  52
----------------------------------------------------------------------------
  >>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =    180.00  DOWNSTREAM(FEET) =    162.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =   210.00   CHANNEL SLOPE =  0.0857
  CHANNEL FLOW THRU SUBAREA(CFS) =       2.73
  FLOW VELOCITY(FEET/SEC) =   5.38 (PER LACFCD/RCFC&WCD HYDROLOGY MANUAL)
  TRAVEL TIME(MIN.) =   0.65   Tc(MIN.) =    7.18
  LONGEST FLOWPATH FROM NODE     20.00 TO NODE     20.15 =     820.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     20.15 TO NODE     20.15 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
  TIME OF CONCENTRATION(MIN.) =    7.18
  RAINFALL INTENSITY(INCH/HR) =   5.64
  TOTAL STREAM AREA(ACRES) =     0.99
  PEAK FLOW RATE(CFS) AT CONFLUENCE =      2.73

****************************************************************************
  FLOW PROCESS FROM NODE     30.00 TO NODE     30.05 IS CODE =  21
----------------------------------------------------------------------------
```

```
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
==============================================================================
  *USER SPECIFIED(SUBAREA):
  USER-SPECIFIED RUNOFF COEFFICIENT = .6000
  S.C.S. CURVE NUMBER (AMC II) =   0
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   300.00
  UPSTREAM ELEVATION(FEET) =    324.00
  DOWNSTREAM ELEVATION(FEET) =    299.00
  ELEVATION DIFFERENCE(FEET) =     25.00
  SUBAREA OVERLAND TIME OF FLOW(MIN.) =    4.439
  WARNING: INITIAL SUBAREA FLOW PATH LENGTH IS GREATER THAN
           THE MAXIMUM OVERLAND FLOW LENGTH =   100.00
           (Reference: Table 3-1B of Hydrology Manual)
           THE MAXIMUM OVERLAND FLOW LENGTH IS USED IN Tc CALCULATION!
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  7.114
  NOTE: RAINFALL INTENSITY IS BASED ON Tc = 5-MINUTE.
  SUBAREA RUNOFF(CFS) =      4.44
  TOTAL AREA(ACRES) =      1.04   TOTAL RUNOFF(CFS) =      4.44

****************************************************************************
  FLOW PROCESS FROM NODE     30.05 TO NODE     30.10 IS CODE =  52
----------------------------------------------------------------------------
  >>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA<<<<<
==============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =    299.00  DOWNSTREAM(FEET) =    247.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =   160.00   CHANNEL SLOPE =  0.3250
  NOTE: CHANNEL SLOPE OF .1 WAS ASSUMED IN VELOCITY ESTIMATION
  CHANNEL FLOW THRU SUBAREA(CFS) =       4.44
  FLOW VELOCITY(FEET/SEC) =   6.49 (PER LACFCD/RCFC&WCD HYDROLOGY MANUAL)
  TRAVEL TIME(MIN.) =   0.41   Tc(MIN.) =    4.85
  LONGEST FLOWPATH FROM NODE     30.00 TO NODE     30.10 =     460.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     30.10 TO NODE     30.10 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
==============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  7.114
  NOTE: RAINFALL INTENSITY IS BASED ON Tc = 5-MINUTE.
  *USER SPECIFIED(SUBAREA):
  USER-SPECIFIED RUNOFF COEFFICIENT = .3500
  S.C.S. CURVE NUMBER (AMC II) =   0
  AREA-AVERAGE RUNOFF COEFFICIENT = 0.4756
  SUBAREA AREA(ACRES) =    1.03   SUBAREA RUNOFF(CFS) =    2.56
  TOTAL AREA(ACRES) =       2.1   TOTAL RUNOFF(CFS) =       7.00
  TC(MIN.) =    4.85

****************************************************************************
  FLOW PROCESS FROM NODE     30.10 TO NODE     20.15 IS CODE =  52
----------------------------------------------------------------------------
  >>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA<<<<<
==============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =    247.00  DOWNSTREAM(FEET) =    162.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =   895.00   CHANNEL SLOPE =  0.0950
  CHANNEL FLOW THRU SUBAREA(CFS) =       7.00
```

```
  FLOW VELOCITY(FEET/SEC) =   7.05 (PER LACFCD/RCFC&WCD HYDROLOGY MANUAL)
  TRAVEL TIME(MIN.) =   2.12   Tc(MIN.) =    6.97
  LONGEST FLOWPATH FROM NODE     30.00 TO NODE     20.15 =    1355.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     20.15 TO NODE     20.15 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  5.744
  *USER SPECIFIED(SUBAREA):
  USER-SPECIFIED RUNOFF COEFFICIENT = .4600
  S.C.S. CURVE NUMBER (AMC II) =   0
  AREA-AVERAGE RUNOFF COEFFICIENT = 0.4648
  SUBAREA AREA(ACRES) =    4.68   SUBAREA RUNOFF(CFS) =   12.36
  TOTAL AREA(ACRES) =        6.8   TOTAL RUNOFF(CFS) =      18.02
  TC(MIN.) =    6.97

****************************************************************************
  FLOW PROCESS FROM NODE     20.15 TO NODE     20.15 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
  >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
  TIME OF CONCENTRATION(MIN.) =    6.97
  RAINFALL INTENSITY(INCH/HR) =   5.74
  TOTAL STREAM AREA(ACRES) =     6.75
  PEAK FLOW RATE(CFS) AT CONFLUENCE =     18.02

  ** CONFLUENCE DATA **
  STREAM     RUNOFF       Tc      INTENSITY      AREA
  NUMBER      (CFS)     (MIN.)   (INCH/HOUR)    (ACRE)
      1        2.73     7.18        5.635          0.99
      2       18.02     6.97        5.744          6.75

  RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
  CONFLUENCE FORMULA USED FOR  2 STREAMS.

  ** PEAK FLOW RATE TABLE **
  STREAM     RUNOFF      Tc      INTENSITY
  NUMBER      (CFS)    (MIN.)   (INCH/HOUR)
      1       20.67     6.97       5.744
      2       20.41     7.18       5.635

  COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
  PEAK FLOW RATE(CFS) =      20.67   Tc(MIN.) =    6.97
  TOTAL AREA(ACRES) =        7.7
  LONGEST FLOWPATH FROM NODE     30.00 TO NODE     20.15 =    1355.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     20.15 TO NODE     20.20 IS CODE =  52
----------------------------------------------------------------------------
  >>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
```

```
  ELEVATION DATA: UPSTREAM(FEET) =    162.00  DOWNSTREAM(FEET) =    158.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =    50.00   CHANNEL SLOPE =  0.0800
  CHANNEL FLOW THRU SUBAREA(CFS) =      20.67
  FLOW VELOCITY(FEET/SEC) =   8.55 (PER LACFCD/RCFC&WCD HYDROLOGY MANUAL)
  TRAVEL TIME(MIN.) =   0.10   Tc(MIN.) =    7.06
  LONGEST FLOWPATH FROM NODE     30.00 TO NODE     20.20 =    1405.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     20.20 TO NODE     20.20 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
  TIME OF CONCENTRATION(MIN.) =    7.06
  RAINFALL INTENSITY(INCH/HR) =   5.69
  TOTAL STREAM AREA(ACRES) =     7.74
  PEAK FLOW RATE(CFS) AT CONFLUENCE =     20.67

****************************************************************************
  FLOW PROCESS FROM NODE     40.15 TO NODE     40.20 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
  *USER SPECIFIED(SUBAREA):
  USER-SPECIFIED RUNOFF COEFFICIENT = .5700
  S.C.S. CURVE NUMBER (AMC II) =   0
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   116.00
  UPSTREAM ELEVATION(FEET) =    210.00
  DOWNSTREAM ELEVATION(FEET) =    203.80
  ELEVATION DIFFERENCE(FEET) =      6.20
  SUBAREA OVERLAND TIME OF FLOW(MIN.) =    5.457
  WARNING: INITIAL SUBAREA FLOW PATH LENGTH IS GREATER THAN
           THE MAXIMUM OVERLAND FLOW LENGTH =   100.00
           (Reference: Table 3-1B of Hydrology Manual)
           THE MAXIMUM OVERLAND FLOW LENGTH IS USED IN Tc CALCULATION!
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  6.724
  SUBAREA RUNOFF(CFS) =      0.54
  TOTAL AREA(ACRES) =      0.14   TOTAL RUNOFF(CFS) =      0.54

****************************************************************************
  FLOW PROCESS FROM NODE     40.20 TO NODE     40.25 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   201.00  DOWNSTREAM(FEET) =   200.00
  FLOW LENGTH(FEET) =   117.00   MANNING'S N =  0.009
  DEPTH OF FLOW IN   6.0 INCH PIPE IS   3.8 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   4.06
  ESTIMATED PIPE DIAMETER(INCH) =   6.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       0.54
  PIPE TRAVEL TIME(MIN.) =   0.48    Tc(MIN.) =    5.94
  LONGEST FLOWPATH FROM NODE     40.15 TO NODE     40.25 =     233.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     40.25 TO NODE     40.30 IS CODE =  62
```

```
----------------------------------------------------------------------------
  >>>>>COMPUTE STREET FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>(STREET TABLE SECTION #  2 USED)<<<<<
============================================================================
  UPSTREAM ELEVATION(FEET) =  200.00  DOWNSTREAM ELEVATION(FEET) =  176.00
  STREET LENGTH(FEET) =   240.00   CURB HEIGHT(INCHES) =  6.0
  STREET HALFWIDTH(FEET) = 12.00

  DISTANCE FROM CROWN TO CROSSFALL GRADEBREAK(FEET) =   7.00
  INSIDE STREET CROSSFALL(DECIMAL) =  0.020
  OUTSIDE STREET CROSSFALL(DECIMAL)  =  0.020

  SPECIFIED NUMBER OF HALFSTREETS CARRYING RUNOFF =  1
  STREET PARKWAY CROSSFALL(DECIMAL)  =  0.020
  Manning's FRICTION FACTOR for Streetflow Section(curb-to-curb) =   0.0180
  Manning's FRICTION FACTOR for Back-of-Walk Flow Section =   0.0200

    **TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =       2.38
    STREETFLOW MODEL RESULTS USING ESTIMATED FLOW:
    STREET FLOW DEPTH(FEET) =  0.24
    HALFSTREET FLOOD WIDTH(FEET) =    6.50
    AVERAGE FLOW VELOCITY(FEET/SEC.) =    4.67
    PRODUCT OF DEPTH&VELOCITY(FT*FT/SEC.) =    1.10
  STREET FLOW TRAVEL TIME(MIN.) =   0.86   Tc(MIN.) =    6.79
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  5.838
  *USER SPECIFIED(SUBAREA):
  USER-SPECIFIED RUNOFF COEFFICIENT = .5200
  S.C.S. CURVE NUMBER (AMC II) =   0
  AREA-AVERAGE RUNOFF COEFFICIENT =  0.525
  SUBAREA AREA(ACRES) =    1.21      SUBAREA RUNOFF(CFS) =    3.67
  TOTAL AREA(ACRES) =        1.4        PEAK FLOW RATE(CFS) =       4.14

  END OF SUBAREA STREET FLOW HYDRAULICS:
  DEPTH(FEET) = 0.27   HALFSTREET FLOOD WIDTH(FEET) =   8.36
  FLOW VELOCITY(FEET/SEC.) =  5.27   DEPTH*VELOCITY(FT*FT/SEC.) =   1.43
  LONGEST FLOWPATH FROM NODE     40.15 TO NODE     40.30 =     473.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     40.30 TO NODE     40.30 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  5.838
  *USER SPECIFIED(SUBAREA):
  USER-SPECIFIED RUNOFF COEFFICIENT = .5600
  S.C.S. CURVE NUMBER (AMC II) =   0
  AREA-AVERAGE RUNOFF COEFFICIENT = 0.5333
  SUBAREA AREA(ACRES) =    0.41   SUBAREA RUNOFF(CFS) =    1.34
  TOTAL AREA(ACRES) =        1.8   TOTAL RUNOFF(CFS) =       5.48
  TC(MIN.) =    6.79

****************************************************************************
  FLOW PROCESS FROM NODE     40.30 TO NODE     40.35 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
```

```
  ELEVATION DATA: UPSTREAM(FEET) =   170.70  DOWNSTREAM(FEET) =   170.55
  FLOW LENGTH(FEET) =     6.00   MANNING'S N =  0.009
  DEPTH OF FLOW IN  12.0 INCH PIPE IS   7.3 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =  10.89
  ESTIMATED PIPE DIAMETER(INCH) =  12.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       5.48
  PIPE TRAVEL TIME(MIN.) =   0.01    Tc(MIN.) =    6.80
  LONGEST FLOWPATH FROM NODE     40.15 TO NODE     40.35 =     479.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     40.35 TO NODE     40.35 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  5.833
  *USER SPECIFIED(SUBAREA):
  USER-SPECIFIED RUNOFF COEFFICIENT = .3500
  S.C.S. CURVE NUMBER (AMC II) =   0
  AREA-AVERAGE RUNOFF COEFFICIENT = 0.5249
  SUBAREA AREA(ACRES) =    0.09   SUBAREA RUNOFF(CFS) =    0.17
  TOTAL AREA(ACRES) =        1.8   TOTAL RUNOFF(CFS) =       5.65
  TC(MIN.) =    6.80

****************************************************************************
  FLOW PROCESS FROM NODE     40.40 TO NODE     40.45 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   164.00  DOWNSTREAM(FEET) =   159.50
  FLOW LENGTH(FEET) =   116.00   MANNING'S N =  0.009
  DEPTH OF FLOW IN  12.0 INCH PIPE IS   6.5 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =  12.99
  ESTIMATED PIPE DIAMETER(INCH) =  12.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       5.65
  PIPE TRAVEL TIME(MIN.) =   0.15    Tc(MIN.) =    6.95
  LONGEST FLOWPATH FROM NODE     40.15 TO NODE     40.45 =     595.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     40.45 TO NODE     20.20 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   159.00  DOWNSTREAM(FEET) =   158.00
  FLOW LENGTH(FEET) =   105.00   MANNING'S N =  0.009
  DEPTH OF FLOW IN  15.0 INCH PIPE IS   8.7 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   7.66
  ESTIMATED PIPE DIAMETER(INCH) =  15.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       5.65
  PIPE TRAVEL TIME(MIN.) =   0.23    Tc(MIN.) =    7.18
  LONGEST FLOWPATH FROM NODE     40.15 TO NODE     20.20 =     700.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     20.20 TO NODE     20.20 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
```

```
  >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
================================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
  TIME OF CONCENTRATION(MIN.) =    7.18
  RAINFALL INTENSITY(INCH/HR) =   5.63
  TOTAL STREAM AREA(ACRES) =     1.85
  PEAK FLOW RATE(CFS) AT CONFLUENCE =      5.65

  ** CONFLUENCE DATA **
  STREAM     RUNOFF       Tc      INTENSITY      AREA
  NUMBER      (CFS)     (MIN.)   (INCH/HOUR)    (ACRE)
      1       20.67     7.06        5.692          7.74
      2        5.65     7.18        5.633          1.85

  RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
  CONFLUENCE FORMULA USED FOR  2 STREAMS.

  ** PEAK FLOW RATE TABLE **
  STREAM     RUNOFF      Tc      INTENSITY
  NUMBER      (CFS)    (MIN.)   (INCH/HOUR)
      1       26.23     7.06       5.692
      2       26.10     7.18       5.633

  COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
  PEAK FLOW RATE(CFS) =      26.23   Tc(MIN.) =    7.06
  TOTAL AREA(ACRES) =        9.6
  LONGEST FLOWPATH FROM NODE     30.00 TO NODE     20.20 =    1405.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     20.20 TO NODE     20.25 IS CODE =  52
----------------------------------------------------------------------------
  >>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =    158.00  DOWNSTREAM(FEET) =    138.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =   236.00   CHANNEL SLOPE =  0.0847
  CHANNEL FLOW THRU SUBAREA(CFS) =      26.23
  FLOW VELOCITY(FEET/SEC) =   9.39 (PER LACFCD/RCFC&WCD HYDROLOGY MANUAL)
  TRAVEL TIME(MIN.) =   0.42   Tc(MIN.) =    7.48
  LONGEST FLOWPATH FROM NODE     30.00 TO NODE     20.25 =    1641.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     20.25 TO NODE     20.25 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  5.485
  *USER SPECIFIED(SUBAREA):
  USER-SPECIFIED RUNOFF COEFFICIENT = .3500
  S.C.S. CURVE NUMBER (AMC II) =   0
  AREA-AVERAGE RUNOFF COEFFICIENT = 0.4744
  SUBAREA AREA(ACRES) =    0.11   SUBAREA RUNOFF(CFS) =    0.21
  TOTAL AREA(ACRES) =        9.7   TOTAL RUNOFF(CFS) =      26.23
  TC(MIN.) =    7.48
  NOTE: PEAK FLOW RATE DEFAULTED TO UPSTREAM VALUE
============================================================================
```

```
  END OF STUDY SUMMARY:
  TOTAL AREA(ACRES)     =        9.7  TC(MIN.) =      7.48
  PEAK FLOW RATE(CFS)   =      26.23
================================================================================
================================================================================
  END OF RATIONAL METHOD ANALYSIS
```

3.3 Detention Analysis

The HMP Biofiltration basins (BMPs) provide pollutant control, hydromodification management flow control and mitigation of the 100-year storm event peak flow rate. The 100-year storm event detention analysis was performed using HydroCAD Stormwater Modeling software. The inflow runoff hydrograph to each BMP was modeled using RatHydro which is a Rational Method Design Storm Hydrograph software that creates a hydrograph using the results of the Rational Method calculations. HydroCAD has the ability to route the 100-year 6-hour storm event inflow hydrograph through each BMP and based on the BMP cross sectional geometry, stage storage and outlet structure data, HydroCAD calculates the detained peak flow rate and detained time to peak.

The HMP Biofiltration facilities consists of a basin with 18 inches of engineered soil and 12 inches of gravel. Runoff will be biofiltered through the engineered soil and gravel layers, then collected in a series of small PVC drainpipes and directed to a catch basin located in the HMP Biofiltration basin where runoff will be mitigated via a small HMP orifice to comply with HMP requirements. In larger storm events, runoff not filtered through the engineered soil and gravel layers will be conveyed via an overflow outlet structure. Runoff conveyed via the outlet structure will bypass the small HMP orifice and be conveyed directly to the proposed discharge outlet. Refer to Appendix B for cross-sections of the HMP Biofiltration basins.

Based on the results of the HydroCAD analysis, the HMP Biofiltration facilities provide mitigation for the 100-year storm event peak flow rate, detaining the proposed condition to below the existing condition. Refer to Section 3.4 for the proposed detained condition hydrologic calculations and to Appendix B for the HydroCAD detention detailed output.

3.4 Proposed Detained Condition Hydrologic Model Output (100-Year Event)

```
**************************************************************************

            RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM PACKAGE
            Reference: SAN DIEGO COUNTY FLOOD CONTROL DISTRICT
                         2003,1985,1981 HYDROLOGY MANUAL
          (c) Copyright 1982-2016 Advanced Engineering Software (aes)
              Ver. 23.0 Release Date: 07/01/2016  License ID 1452

                              Analysis prepared by:

                          PASCO LARET SUITER & ASSOCIATES
                            535 NORTH HIGHWAY 101, STE A
                               SOLANA BEACH, CA 92075
                                    858-259-8212

 ************************** DESCRIPTION OF STUDY **************************
* POSTEDEVELOPED HYDROLOGIC ANALYSIS FOR OLIVENHAIN HILLS                  *
* 100 YEAR STORM EVENT                                                     *
* DETAINED                                                                 *
 **************************************************************************

  FILE NAME: 3009PD00.DAT
  TIME/DATE OF STUDY: 13:45 12/09/2020
--------------------------------------------------------------------------
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
--------------------------------------------------------------------------
  2003 SAN DIEGO MANUAL CRITERIA

  USER SPECIFIED STORM EVENT(YEAR) = 100.00
  6-HOUR DURATION PRECIPITATION (INCHES) =   2.700
  SPECIFIED MINIMUM PIPE SIZE(INCH) =   4.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
  SAN DIEGO HYDROLOGY MANUAL "C"-VALUES USED FOR RATIONAL METHOD
  NOTE: USE MODIFIED RATIONAL METHOD PROCEDURES FOR CONFLUENCE ANALYSIS
  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  =========  =================  ======  ===== ====== ===== =======
  1   30.0     20.0    0.018/0.018/0.020   0.67    2.00 0.0313 0.167 0.0150
  2   12.0      7.0    0.020/0.020/0.020   0.50    1.50 0.0100 0.125 0.0180

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.00 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*

**************************************************************************
  FLOW PROCESS FROM NODE     10.00 TO NODE     10.05 IS CODE =  21
--------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
==========================================================================
  *USER SPECIFIED(SUBAREA):
  USER-SPECIFIED RUNOFF COEFFICIENT = .6000
```

```
  S.C.S. CURVE NUMBER (AMC II) =   0
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   250.00
  UPSTREAM ELEVATION(FEET) =    324.00
  DOWNSTREAM ELEVATION(FEET) =    300.60
  ELEVATION DIFFERENCE(FEET) =     23.40
  SUBAREA OVERLAND TIME OF FLOW(MIN.) =    4.271
  WARNING: INITIAL SUBAREA FLOW PATH LENGTH IS GREATER THAN
           THE MAXIMUM OVERLAND FLOW LENGTH =   100.00
           (Reference: Table 3-1B of Hydrology Manual)
           THE MAXIMUM OVERLAND FLOW LENGTH IS USED IN Tc CALCULATION!
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  7.114
  NOTE: RAINFALL INTENSITY IS BASED ON Tc = 5-MINUTE.
  SUBAREA RUNOFF(CFS) =      3.63
  TOTAL AREA(ACRES) =      0.85   TOTAL RUNOFF(CFS) =      3.63

****************************************************************************
  FLOW PROCESS FROM NODE     10.05 TO NODE     10.10 IS CODE =  52
----------------------------------------------------------------------------
  >>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =    300.60  DOWNSTREAM(FEET) =    156.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =   915.00   CHANNEL SLOPE =  0.1580
  NOTE: CHANNEL SLOPE OF .1 WAS ASSUMED IN VELOCITY ESTIMATION
  CHANNEL FLOW THRU SUBAREA(CFS) =       3.63
  FLOW VELOCITY(FEET/SEC) =   6.20 (PER LACFCD/RCFC&WCD HYDROLOGY MANUAL)
  TRAVEL TIME(MIN.) =   2.46   Tc(MIN.) =    6.73
  LONGEST FLOWPATH FROM NODE     10.00 TO NODE     10.10 =    1165.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     10.10 TO NODE     10.10 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  5.872
  *USER SPECIFIED(SUBAREA):
  USER-SPECIFIED RUNOFF COEFFICIENT = .3500
  S.C.S. CURVE NUMBER (AMC II) =   0
  AREA-AVERAGE RUNOFF COEFFICIENT = 0.3841
  SUBAREA AREA(ACRES) =    5.39   SUBAREA RUNOFF(CFS) =   11.08
  TOTAL AREA(ACRES) =        6.2   TOTAL RUNOFF(CFS) =      14.07
  TC(MIN.) =    6.73

****************************************************************************
  FLOW PROCESS FROM NODE     10.10 TO NODE     10.10 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
  TIME OF CONCENTRATION(MIN.) =    6.73
  RAINFALL INTENSITY(INCH/HR) =   5.87
  TOTAL STREAM AREA(ACRES) =     6.24
  PEAK FLOW RATE(CFS) AT CONFLUENCE =     14.07

****************************************************************************
  FLOW PROCESS FROM NODE     50.00 TO NODE     50.05 IS CODE =  21
```

```
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
  *USER SPECIFIED(SUBAREA):
  USER-SPECIFIED RUNOFF COEFFICIENT = .3500
  S.C.S. CURVE NUMBER (AMC II) =   0
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   170.00
  UPSTREAM ELEVATION(FEET) =    188.00
  DOWNSTREAM ELEVATION(FEET) =    173.50
  ELEVATION DIFFERENCE(FEET) =     14.50
  SUBAREA OVERLAND TIME OF FLOW(MIN.) =    6.608
  WARNING: INITIAL SUBAREA FLOW PATH LENGTH IS GREATER THAN
           THE MAXIMUM OVERLAND FLOW LENGTH =   100.00
           (Reference: Table 3-1B of Hydrology Manual)
           THE MAXIMUM OVERLAND FLOW LENGTH IS USED IN Tc CALCULATION!
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  5.943
  SUBAREA RUNOFF(CFS) =      0.27
  TOTAL AREA(ACRES) =      0.13   TOTAL RUNOFF(CFS) =      0.27

****************************************************************************
  FLOW PROCESS FROM NODE     50.05 TO NODE     50.05 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  5.943
  *USER SPECIFIED(SUBAREA):
  USER-SPECIFIED RUNOFF COEFFICIENT = .3500
  S.C.S. CURVE NUMBER (AMC II) =   0
  AREA-AVERAGE RUNOFF COEFFICIENT = 0.3500
  SUBAREA AREA(ACRES) =    0.11   SUBAREA RUNOFF(CFS) =    0.23
  TOTAL AREA(ACRES) =        0.2   TOTAL RUNOFF(CFS) =       0.50
  TC(MIN.) =    6.61

****************************************************************************
  FLOW PROCESS FROM NODE     50.05 TO NODE     50.05 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  5.943
  *USER SPECIFIED(SUBAREA):
  USER-SPECIFIED RUNOFF COEFFICIENT = .3500
  S.C.S. CURVE NUMBER (AMC II) =   0
  AREA-AVERAGE RUNOFF COEFFICIENT = 0.3500
  SUBAREA AREA(ACRES) =    0.08   SUBAREA RUNOFF(CFS) =    0.17
  TOTAL AREA(ACRES) =        0.3   TOTAL RUNOFF(CFS) =       0.67
  TC(MIN.) =    6.61

****************************************************************************
  FLOW PROCESS FROM NODE     50.05 TO NODE     50.05 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  5.943
  *USER SPECIFIED(SUBAREA):
  USER-SPECIFIED RUNOFF COEFFICIENT = .3500
  S.C.S. CURVE NUMBER (AMC II) =   0
  AREA-AVERAGE RUNOFF COEFFICIENT = 0.3500
```

```
  SUBAREA AREA(ACRES) =    0.22   SUBAREA RUNOFF(CFS) =    0.46
  TOTAL AREA(ACRES) =        0.5   TOTAL RUNOFF(CFS) =       1.12
  TC(MIN.) =    6.61

****************************************************************************
  FLOW PROCESS FROM NODE     50.05 TO NODE     10.10 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
  >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
  TIME OF CONCENTRATION(MIN.) =    6.61
  RAINFALL INTENSITY(INCH/HR) =   5.94
  TOTAL STREAM AREA(ACRES) =     0.54
  PEAK FLOW RATE(CFS) AT CONFLUENCE =      1.12

  ** CONFLUENCE DATA **
  STREAM     RUNOFF       Tc      INTENSITY      AREA
  NUMBER      (CFS)     (MIN.)   (INCH/HOUR)    (ACRE)
      1       14.07     6.73        5.872          6.24
      2        1.12     6.61        5.943          0.54

  RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
  CONFLUENCE FORMULA USED FOR  2 STREAMS.

  ** PEAK FLOW RATE TABLE **
  STREAM     RUNOFF      Tc      INTENSITY
  NUMBER      (CFS)    (MIN.)   (INCH/HOUR)
      1       14.93     6.61       5.943
      2       15.18     6.73       5.872

  COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
  PEAK FLOW RATE(CFS) =      15.18   Tc(MIN.) =    6.73
  TOTAL AREA(ACRES) =        6.8
  LONGEST FLOWPATH FROM NODE     10.00 TO NODE     10.10 =    1165.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     20.00 TO NODE     20.05 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
  *USER SPECIFIED(SUBAREA):
  USER-SPECIFIED RUNOFF COEFFICIENT = .4600
  S.C.S. CURVE NUMBER (AMC II) =   0
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   280.00
  UPSTREAM ELEVATION(FEET) =    244.00
  DOWNSTREAM ELEVATION(FEET) =    212.00
  ELEVATION DIFFERENCE(FEET) =     32.00
  SUBAREA OVERLAND TIME OF FLOW(MIN.) =    5.348
  WARNING: INITIAL SUBAREA FLOW PATH LENGTH IS GREATER THAN
           THE MAXIMUM OVERLAND FLOW LENGTH =   100.00
           (Reference: Table 3-1B of Hydrology Manual)
           THE MAXIMUM OVERLAND FLOW LENGTH IS USED IN Tc CALCULATION!
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  6.812
  SUBAREA RUNOFF(CFS) =      0.91
  TOTAL AREA(ACRES) =      0.29   TOTAL RUNOFF(CFS) =      0.91
```

```
****************************************************************************
  FLOW PROCESS FROM NODE     20.05 TO NODE     20.10 IS CODE =  52
----------------------------------------------------------------------------
  >>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =    212.00  DOWNSTREAM(FEET) =    180.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =   330.00   CHANNEL SLOPE =  0.0970
  NOTE: CHANNEL FLOW OF 1. CFS WAS ASSUMED IN VELOCITY ESTIMATION
  CHANNEL FLOW THRU SUBAREA(CFS) =       0.91
  FLOW VELOCITY(FEET/SEC) =   4.67 (PER LACFCD/RCFC&WCD HYDROLOGY MANUAL)
  TRAVEL TIME(MIN.) =   1.18   Tc(MIN.) =    6.53
  LONGEST FLOWPATH FROM NODE     20.00 TO NODE     20.10 =     610.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     20.10 TO NODE     20.10 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  5.991
  *USER SPECIFIED(SUBAREA):
  USER-SPECIFIED RUNOFF COEFFICIENT = .4600
  S.C.S. CURVE NUMBER (AMC II) =   0
  AREA-AVERAGE RUNOFF COEFFICIENT = 0.4600
  SUBAREA AREA(ACRES) =    0.70   SUBAREA RUNOFF(CFS) =    1.93
  TOTAL AREA(ACRES) =        1.0   TOTAL RUNOFF(CFS) =       2.73
  TC(MIN.) =    6.53

****************************************************************************
  FLOW PROCESS FROM NODE     20.10 TO NODE     20.15 IS CODE =  52
----------------------------------------------------------------------------
  >>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =    180.00  DOWNSTREAM(FEET) =    162.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =   210.00   CHANNEL SLOPE =  0.0857
  CHANNEL FLOW THRU SUBAREA(CFS) =       2.73
  FLOW VELOCITY(FEET/SEC) =   5.38 (PER LACFCD/RCFC&WCD HYDROLOGY MANUAL)
  TRAVEL TIME(MIN.) =   0.65   Tc(MIN.) =    7.18
  LONGEST FLOWPATH FROM NODE     20.00 TO NODE     20.15 =     820.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     20.15 TO NODE     20.15 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
  TIME OF CONCENTRATION(MIN.) =    7.18
  RAINFALL INTENSITY(INCH/HR) =   5.64
  TOTAL STREAM AREA(ACRES) =     0.99
  PEAK FLOW RATE(CFS) AT CONFLUENCE =      2.73

****************************************************************************
  FLOW PROCESS FROM NODE     30.00 TO NODE     30.05 IS CODE =  21
----------------------------------------------------------------------------
```

```
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
==============================================================================
  *USER SPECIFIED(SUBAREA):
  USER-SPECIFIED RUNOFF COEFFICIENT = .6000
  S.C.S. CURVE NUMBER (AMC II) =   0
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   300.00
  UPSTREAM ELEVATION(FEET) =    324.00
  DOWNSTREAM ELEVATION(FEET) =    299.00
  ELEVATION DIFFERENCE(FEET) =     25.00
  SUBAREA OVERLAND TIME OF FLOW(MIN.) =    4.439
  WARNING: INITIAL SUBAREA FLOW PATH LENGTH IS GREATER THAN
           THE MAXIMUM OVERLAND FLOW LENGTH =   100.00
           (Reference: Table 3-1B of Hydrology Manual)
           THE MAXIMUM OVERLAND FLOW LENGTH IS USED IN Tc CALCULATION!
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  7.114
  NOTE: RAINFALL INTENSITY IS BASED ON Tc = 5-MINUTE.
  SUBAREA RUNOFF(CFS) =      4.44
  TOTAL AREA(ACRES) =      1.04   TOTAL RUNOFF(CFS) =      4.44

****************************************************************************
  FLOW PROCESS FROM NODE     30.05 TO NODE     30.10 IS CODE =  52
----------------------------------------------------------------------------
  >>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA<<<<<
==============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =    299.00  DOWNSTREAM(FEET) =    247.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =   160.00   CHANNEL SLOPE =  0.3250
  NOTE: CHANNEL SLOPE OF .1 WAS ASSUMED IN VELOCITY ESTIMATION
  CHANNEL FLOW THRU SUBAREA(CFS) =       4.44
  FLOW VELOCITY(FEET/SEC) =   6.49 (PER LACFCD/RCFC&WCD HYDROLOGY MANUAL)
  TRAVEL TIME(MIN.) =   0.41   Tc(MIN.) =    4.85
  LONGEST FLOWPATH FROM NODE     30.00 TO NODE     30.10 =     460.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     30.10 TO NODE     30.10 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
==============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  7.114
  NOTE: RAINFALL INTENSITY IS BASED ON Tc = 5-MINUTE.
  *USER SPECIFIED(SUBAREA):
  USER-SPECIFIED RUNOFF COEFFICIENT = .3500
  S.C.S. CURVE NUMBER (AMC II) =   0
  AREA-AVERAGE RUNOFF COEFFICIENT = 0.4756
  SUBAREA AREA(ACRES) =    1.03   SUBAREA RUNOFF(CFS) =    2.56
  TOTAL AREA(ACRES) =       2.1   TOTAL RUNOFF(CFS) =       7.00
  TC(MIN.) =    4.85

****************************************************************************
  FLOW PROCESS FROM NODE     30.10 TO NODE     20.15 IS CODE =  52
----------------------------------------------------------------------------
  >>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA<<<<<
==============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =    247.00  DOWNSTREAM(FEET) =    162.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =   895.00   CHANNEL SLOPE =  0.0950
  CHANNEL FLOW THRU SUBAREA(CFS) =       7.00
```

```
  FLOW VELOCITY(FEET/SEC) =   7.05 (PER LACFCD/RCFC&WCD HYDROLOGY MANUAL)
  TRAVEL TIME(MIN.) =   2.12   Tc(MIN.) =    6.97
  LONGEST FLOWPATH FROM NODE     30.00 TO NODE     20.15 =    1355.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     20.15 TO NODE     20.15 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  5.744
  *USER SPECIFIED(SUBAREA):
  USER-SPECIFIED RUNOFF COEFFICIENT = .4600
  S.C.S. CURVE NUMBER (AMC II) =   0
  AREA-AVERAGE RUNOFF COEFFICIENT = 0.4648
  SUBAREA AREA(ACRES) =    4.68   SUBAREA RUNOFF(CFS) =   12.36
  TOTAL AREA(ACRES) =        6.8   TOTAL RUNOFF(CFS) =      18.02
  TC(MIN.) =    6.97

****************************************************************************
  FLOW PROCESS FROM NODE     20.15 TO NODE     20.15 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
  >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
  TIME OF CONCENTRATION(MIN.) =    6.97
  RAINFALL INTENSITY(INCH/HR) =   5.74
  TOTAL STREAM AREA(ACRES) =     6.75
  PEAK FLOW RATE(CFS) AT CONFLUENCE =     18.02

  ** CONFLUENCE DATA **
  STREAM     RUNOFF       Tc      INTENSITY      AREA
  NUMBER      (CFS)     (MIN.)   (INCH/HOUR)    (ACRE)
      1        2.73     7.18        5.635          0.99
      2       18.02     6.97        5.744          6.75

  RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
  CONFLUENCE FORMULA USED FOR  2 STREAMS.

  ** PEAK FLOW RATE TABLE **
  STREAM     RUNOFF      Tc      INTENSITY
  NUMBER      (CFS)    (MIN.)   (INCH/HOUR)
      1       20.67     6.97       5.744
      2       20.41     7.18       5.635

  COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
  PEAK FLOW RATE(CFS) =      20.67   Tc(MIN.) =    6.97
  TOTAL AREA(ACRES) =        7.7
  LONGEST FLOWPATH FROM NODE     30.00 TO NODE     20.15 =    1355.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     20.15 TO NODE     20.20 IS CODE =  52
----------------------------------------------------------------------------
  >>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
```

```
  ELEVATION DATA: UPSTREAM(FEET) =    162.00  DOWNSTREAM(FEET) =    158.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =    50.00   CHANNEL SLOPE =  0.0800
  CHANNEL FLOW THRU SUBAREA(CFS) =      20.67
  FLOW VELOCITY(FEET/SEC) =   8.55 (PER LACFCD/RCFC&WCD HYDROLOGY MANUAL)
  TRAVEL TIME(MIN.) =   0.10   Tc(MIN.) =    7.06
  LONGEST FLOWPATH FROM NODE     30.00 TO NODE     20.20 =    1405.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     20.20 TO NODE     20.20 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
  TIME OF CONCENTRATION(MIN.) =    7.06
  RAINFALL INTENSITY(INCH/HR) =   5.69
  TOTAL STREAM AREA(ACRES) =     7.74
  PEAK FLOW RATE(CFS) AT CONFLUENCE =     20.67

****************************************************************************
  FLOW PROCESS FROM NODE     40.15 TO NODE     40.20 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
  *USER SPECIFIED(SUBAREA):
  USER-SPECIFIED RUNOFF COEFFICIENT = .5700
  S.C.S. CURVE NUMBER (AMC II) =   0
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   116.00
  UPSTREAM ELEVATION(FEET) =    210.00
  DOWNSTREAM ELEVATION(FEET) =    203.80
  ELEVATION DIFFERENCE(FEET) =      6.20
  SUBAREA OVERLAND TIME OF FLOW(MIN.) =    5.457
  WARNING: INITIAL SUBAREA FLOW PATH LENGTH IS GREATER THAN
           THE MAXIMUM OVERLAND FLOW LENGTH =   100.00
           (Reference: Table 3-1B of Hydrology Manual)
           THE MAXIMUM OVERLAND FLOW LENGTH IS USED IN Tc CALCULATION!
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  6.724
  SUBAREA RUNOFF(CFS) =      0.54
  TOTAL AREA(ACRES) =      0.14   TOTAL RUNOFF(CFS) =      0.54

****************************************************************************
  FLOW PROCESS FROM NODE     40.20 TO NODE     40.25 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   201.00  DOWNSTREAM(FEET) =   200.00
  FLOW LENGTH(FEET) =   117.00   MANNING'S N =  0.009
  DEPTH OF FLOW IN   6.0 INCH PIPE IS   3.8 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   4.06
  ESTIMATED PIPE DIAMETER(INCH) =   6.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       0.54
  PIPE TRAVEL TIME(MIN.) =   0.48    Tc(MIN.) =    5.94
  LONGEST FLOWPATH FROM NODE     40.15 TO NODE     40.25 =     233.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     40.25 TO NODE     40.30 IS CODE =  62
```

```
----------------------------------------------------------------------------
  >>>>>COMPUTE STREET FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>(STREET TABLE SECTION #  2 USED)<<<<<
============================================================================
  UPSTREAM ELEVATION(FEET) =  200.00  DOWNSTREAM ELEVATION(FEET) =  176.00
  STREET LENGTH(FEET) =   240.00   CURB HEIGHT(INCHES) =  6.0
  STREET HALFWIDTH(FEET) = 12.00

  DISTANCE FROM CROWN TO CROSSFALL GRADEBREAK(FEET) =   7.00
  INSIDE STREET CROSSFALL(DECIMAL) =  0.020
  OUTSIDE STREET CROSSFALL(DECIMAL)  =  0.020

  SPECIFIED NUMBER OF HALFSTREETS CARRYING RUNOFF =  1
  STREET PARKWAY CROSSFALL(DECIMAL)  =  0.020
  Manning's FRICTION FACTOR for Streetflow Section(curb-to-curb) =   0.0180
  Manning's FRICTION FACTOR for Back-of-Walk Flow Section =   0.0200

    **TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =       2.38
    STREETFLOW MODEL RESULTS USING ESTIMATED FLOW:
    STREET FLOW DEPTH(FEET) =  0.24
    HALFSTREET FLOOD WIDTH(FEET) =    6.50
    AVERAGE FLOW VELOCITY(FEET/SEC.) =    4.67
    PRODUCT OF DEPTH&VELOCITY(FT*FT/SEC.) =    1.10
  STREET FLOW TRAVEL TIME(MIN.) =   0.86   Tc(MIN.) =    6.79
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  5.838
  *USER SPECIFIED(SUBAREA):
  USER-SPECIFIED RUNOFF COEFFICIENT = .5200
  S.C.S. CURVE NUMBER (AMC II) =   0
  AREA-AVERAGE RUNOFF COEFFICIENT =  0.525
  SUBAREA AREA(ACRES) =    1.21      SUBAREA RUNOFF(CFS) =    3.67
  TOTAL AREA(ACRES) =        1.4        PEAK FLOW RATE(CFS) =       4.14

  END OF SUBAREA STREET FLOW HYDRAULICS:
  DEPTH(FEET) = 0.27   HALFSTREET FLOOD WIDTH(FEET) =   8.36
  FLOW VELOCITY(FEET/SEC.) =  5.27   DEPTH*VELOCITY(FT*FT/SEC.) =   1.43
  LONGEST FLOWPATH FROM NODE     40.15 TO NODE     40.30 =     473.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     40.30 TO NODE     40.30 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  5.838
  *USER SPECIFIED(SUBAREA):
  USER-SPECIFIED RUNOFF COEFFICIENT = .5600
  S.C.S. CURVE NUMBER (AMC II) =   0
  AREA-AVERAGE RUNOFF COEFFICIENT = 0.5333
  SUBAREA AREA(ACRES) =    0.41   SUBAREA RUNOFF(CFS) =    1.34
  TOTAL AREA(ACRES) =        1.8   TOTAL RUNOFF(CFS) =       5.48
  TC(MIN.) =    6.79

****************************************************************************
  FLOW PROCESS FROM NODE     40.30 TO NODE     40.35 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
```

```
  ELEVATION DATA: UPSTREAM(FEET) =   170.70  DOWNSTREAM(FEET) =   170.55
  FLOW LENGTH(FEET) =     6.00   MANNING'S N =  0.009
  DEPTH OF FLOW IN  12.0 INCH PIPE IS   7.3 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =  10.89
  ESTIMATED PIPE DIAMETER(INCH) =  12.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       5.48
  PIPE TRAVEL TIME(MIN.) =   0.01    Tc(MIN.) =    6.80
  LONGEST FLOWPATH FROM NODE     40.15 TO NODE     40.35 =     479.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     40.35 TO NODE     40.35 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  5.833
  *USER SPECIFIED(SUBAREA):
  USER-SPECIFIED RUNOFF COEFFICIENT = .3500
  S.C.S. CURVE NUMBER (AMC II) =   0
  AREA-AVERAGE RUNOFF COEFFICIENT = 0.5249
  SUBAREA AREA(ACRES) =    0.09   SUBAREA RUNOFF(CFS) =    0.17
  TOTAL AREA(ACRES) =        1.8   TOTAL RUNOFF(CFS) =       5.65
  TC(MIN.) =    6.80

****************************************************************************
  FLOW PROCESS FROM NODE     40.35 TO NODE     40.35 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>USER SPECIFIED HYDROLOGY INFORMATION AT NODE<<<<<
============================================================================
  USER-SPECIFIED VALUES ARE AS FOLLOWS:
  TC(MIN) =  13.40   RAIN INTENSITY(INCH/HOUR) =  3.77
  TOTAL AREA(ACRES) =     1.85   TOTAL RUNOFF(CFS) =      1.26

****************************************************************************
  FLOW PROCESS FROM NODE     40.40 TO NODE     40.45 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   164.00  DOWNSTREAM(FEET) =   159.50
  FLOW LENGTH(FEET) =   116.00   MANNING'S N =  0.009
  DEPTH OF FLOW IN   6.0 INCH PIPE IS   4.1 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   8.82
  ESTIMATED PIPE DIAMETER(INCH) =   6.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       1.26
  PIPE TRAVEL TIME(MIN.) =   0.22    Tc(MIN.) =   13.62
  LONGEST FLOWPATH FROM NODE     40.15 TO NODE     40.45 =     595.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     40.45 TO NODE     20.20 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   159.00  DOWNSTREAM(FEET) =   158.00
  FLOW LENGTH(FEET) =   105.00   MANNING'S N =  0.009
  DEPTH OF FLOW IN   9.0 INCH PIPE IS   4.8 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   5.27
```

```
 ESTIMATED PIPE DIAMETER(INCH) =   9.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =       1.26
 PIPE TRAVEL TIME(MIN.) =   0.33    Tc(MIN.) =   13.95
 LONGEST FLOWPATH FROM NODE     40.15 TO NODE     20.20 =     700.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE     20.20 TO NODE     20.20 IS CODE =   1
----------------------------------------------------------------------------
 >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
 >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
 TOTAL NUMBER OF STREAMS =  2
 CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
 TIME OF CONCENTRATION(MIN.) =   13.95
 RAINFALL INTENSITY(INCH/HR) =   3.67
 TOTAL STREAM AREA(ACRES) =     1.85
 PEAK FLOW RATE(CFS) AT CONFLUENCE =      1.26

 ** CONFLUENCE DATA **
 STREAM     RUNOFF       Tc      INTENSITY      AREA
 NUMBER      (CFS)     (MIN.)   (INCH/HOUR)    (ACRE)
     1       20.67     7.06        5.692          7.74
     2        1.26    13.95        3.670          1.85

 RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
 CONFLUENCE FORMULA USED FOR  2 STREAMS.

 ** PEAK FLOW RATE TABLE **
 STREAM     RUNOFF      Tc      INTENSITY
 NUMBER      (CFS)    (MIN.)   (INCH/HOUR)
     1       21.31     7.06       5.692
     2       14.59    13.95       3.670

 COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
 PEAK FLOW RATE(CFS) =      21.31   Tc(MIN.) =    7.06
 TOTAL AREA(ACRES) =        9.6
 LONGEST FLOWPATH FROM NODE     30.00 TO NODE     20.20 =    1405.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE     20.20 TO NODE     20.25 IS CODE =  52
----------------------------------------------------------------------------
 >>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =    158.00  DOWNSTREAM(FEET) =    138.00
 CHANNEL LENGTH THRU SUBAREA(FEET) =   236.00   CHANNEL SLOPE =  0.0847
 CHANNEL FLOW THRU SUBAREA(CFS) =      21.31
 FLOW VELOCITY(FEET/SEC) =   8.87 (PER LACFCD/RCFC&WCD HYDROLOGY MANUAL)
 TRAVEL TIME(MIN.) =   0.44   Tc(MIN.) =    7.51
 LONGEST FLOWPATH FROM NODE     30.00 TO NODE     20.25 =    1641.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE     20.25 TO NODE     20.25 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  5.473
```

```
  *USER SPECIFIED(SUBAREA):
  USER-SPECIFIED RUNOFF COEFFICIENT = .3500
  S.C.S. CURVE NUMBER (AMC II) =   0
  AREA-AVERAGE RUNOFF COEFFICIENT = 0.4088
  SUBAREA AREA(ACRES) =    0.11   SUBAREA RUNOFF(CFS) =    0.21
  TOTAL AREA(ACRES) =        9.7   TOTAL RUNOFF(CFS) =      21.71
  TC(MIN.) =    7.51
================================================================================
  END OF STUDY SUMMARY:
  TOTAL AREA(ACRES)     =        9.7  TC(MIN.) =      7.51
  PEAK FLOW RATE(CFS)   =      21.71
================================================================================
================================================================================
  END OF RATIONAL METHOD ANALYSIS
```

3.5 Hydromodification Analysis

To satisfy the requirements of the MS4 Permit, a hydromodification management strategy has been developed for the project based on the Final Hydromodification Management Plan dated March 2011, (Final HMP). A continuous simulation model, the Environmental Protection Agency (EPA) Storm Water Management Model (SWMM) version 5.1, was selected to size mitigation measures. The SWMM model is capable of modeling hydromodification management facilities to mitigate the effects of increased runoff from the post-development conditions and use changes that may cause negative impacts (i.e. erosion) to downstream channels. Refer to the Stormwater Quality Management Plan (SWQMP) for the project titled "Stormwater Quality Management Plan for The Sanctuary Development" dated December 2020 prepared by Pasco Laret Suiter & Associates for the detailed HMP analysis.

3.6 Storm Water Pollutant Control

To meet the requirements of the MS4 Permit, the HMP Biofiltration facility is designed to treat onsite storm water pollutants contained in the volume of runoff from a 24-hour, 85th percentile storm event by slowly infiltrating runoff through an engineered soil layer and gravel layer. Refer to the Stormwater Quality Management Plan (SWQMP) for the project titled "Stormwater Quality Management Plan for The Sanctuary Development" dated December 2020 prepared by Pasco Laret Suiter & Associates for the detailed pollutant control calculations.

APPENDIX A

Hydrology Support Material

Table 3-1
RUNOFF COEFFICIENTS FOR URBAN AREAS

Land Use		Runoff Coefficient "C"				
			Soil Type			
NRCS Elements	County Elements	% IMPER.	A	B	C	D
Undisturbed Natural Terrain (Natural)	Permanent Open Space	0*	0.20	0.25	0.30	0.35
Low Density Residential (LDR)	Residential, 1.0 DU/A or less	10	0.27	0.32	0.36	0.41
Low Density Residential (LDR)	Residential, 2.0 DU/A or less	20	0.34	0.38	0.42	0.46
Low Density Residential (LDR)	Residential, 2.9 DU/A or less	25	0.38	0.41	0.45	0.49
Medium Density Residential (MDR)	Residential, 4.3 DU/A or less	30	0.41	0.45	0.48	0.52
Medium Density Residential (MDR)	Residential, 7.3 DU/A or less	40	0.48	0.51	0.54	0.57
Medium Density Residential (MDR)	Residential, 10.9 DU/A or less	45	0.52	0.54	0.57	0.60
Medium Density Residential (MDR)	Residential, 14.5 DU/A or less	50	0.55	0.58	0.60	0.63
High Density Residential (HDR)	Residential, 24.0 DU/A or less	65	0.66	0.67	0.69	0.71
High Density Residential (HDR)	Residential, 43.0 DU/A or less	80	0.76	0.77	0.78	0.79
Commercial/Industrial (N. Com)	Neighborhood Commercial	80	0.76	0.77	0.78	0.79
Commercial/Industrial (G. Com)	General Commercial	85	0.80	0.80	0.81	0.82
Commercial/Industrial (O.P. Com)	Office Professional/Commercial	90	0.83	0.84	0.84	0.85
Commercial/Industrial (Limited I.)	Limited Industrial	90	0.83	0.84	0.84	0.85
Commercial/Industrial (General I.)	General Industrial	95	0.87	0.87	0.87	0.87

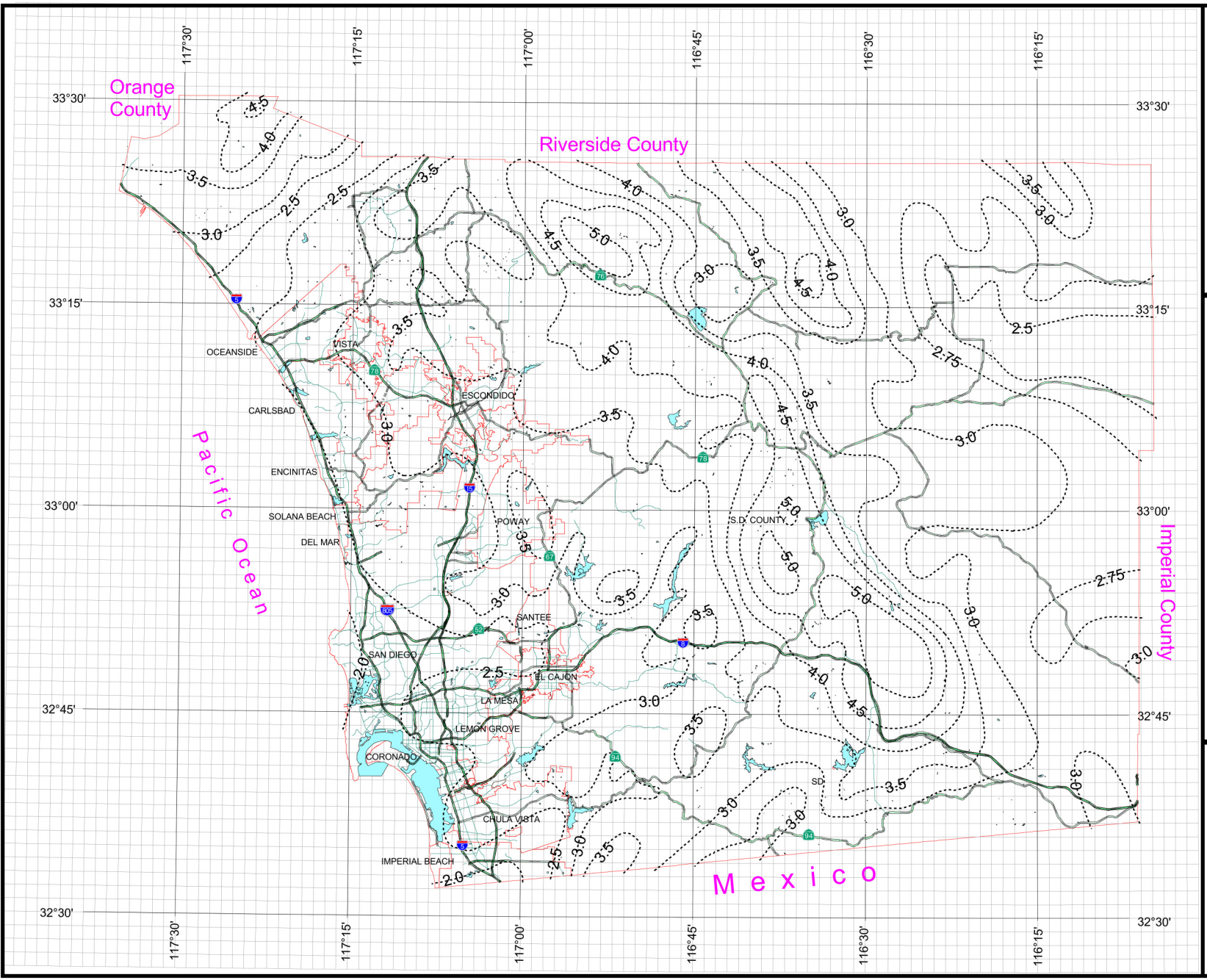
*The values associated with 0% impervious may be used for direct calculation of the runoff coefficient as described in Section 3.1.2 (representing the pervious runoff coefficient, Cp, for the soil type), or for areas that will remain undisturbed in perpetuity. Justification must be given that the area will remain natural forever (e.g., the area is located in Cleveland National Forest).
DU/A = dwelling units per acre
NRCS = National Resources Conservation Service

County of San Diego Hydrology Manual

Rainfall Isopluvials

100 Year Rainfall Event - 6 Hours

Isopluvial (inches)



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Geographic Information Services

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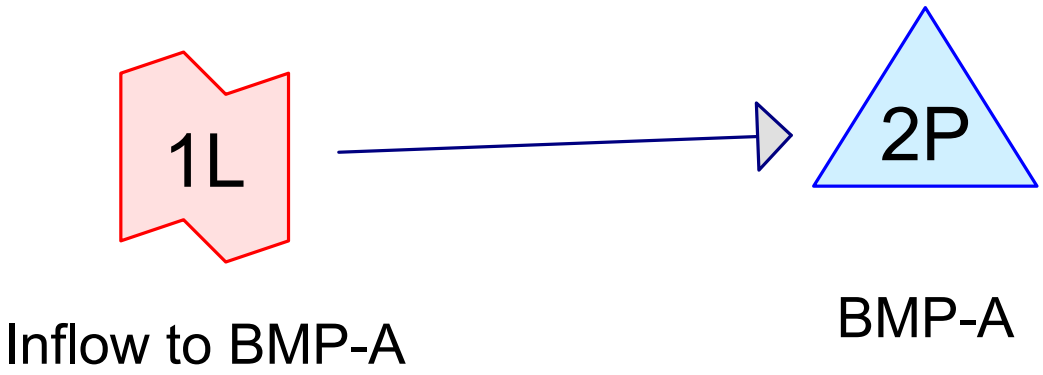
3 0 3 Miles

APPENDIX B

Detention Support Material



Subcat Reach Pond Link

Routing Diagram for 3009
Prepared by Pasco Laret Suiter & Associates, Printed 12/9/2020
HydroCAD® 10.10-5a s/n 10097 © 2020 HydroCAD Software Solutions LLC

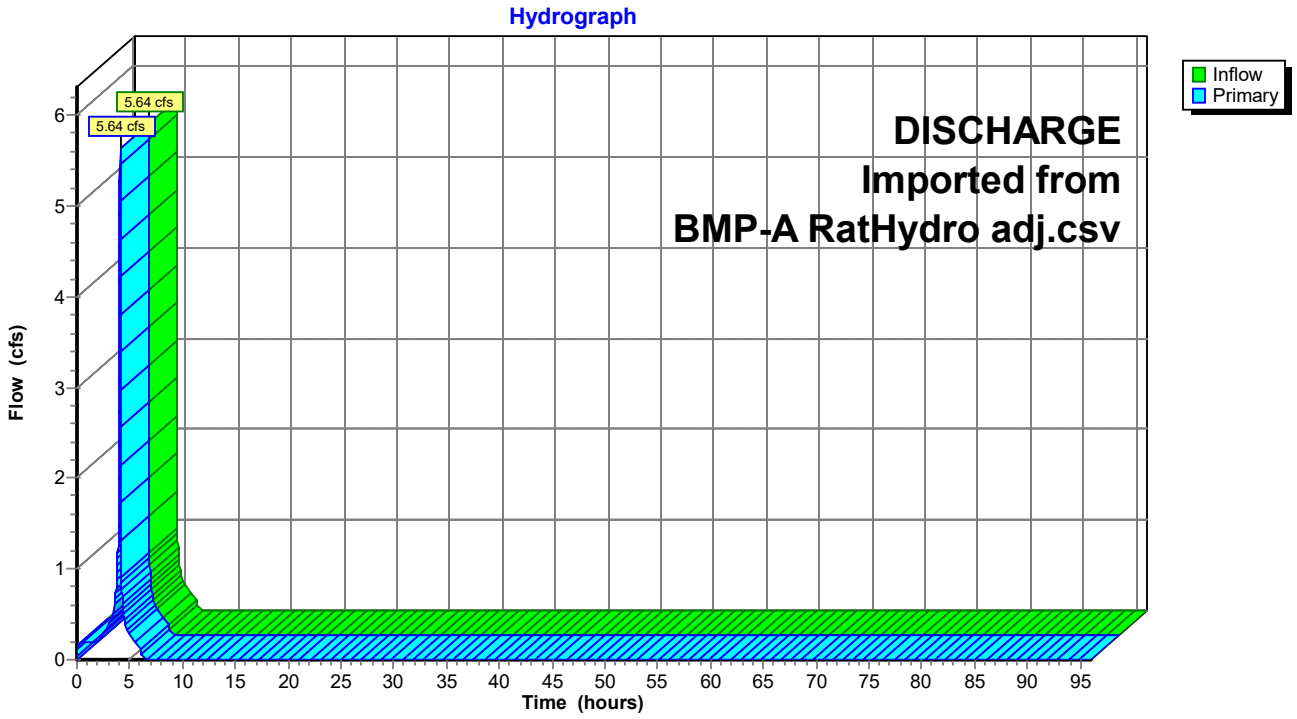
Summary for Link 1L: Inflow to BMP-A

Inflow = 5.64 cfs @ 4.08 hrs, Volume= 0.222 af
Primary = 5.64 cfs @ 4.08 hrs, Volume= 0.222 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

DISCHARGE Imported from BMP-A RatHydro adj.csv

Link 1L: Inflow to BMP-A



Summary for Pond 2P: BMP-A

Inflow	=	5.64 cfs @	4.08 hrs,	Volume=	0.222 af
Outflow	=	1.26 cfs @	4.19 hrs,	Volume=	0.222 af, Atten= 78%, Lag= 6.6 min
Primary	=	1.26 cfs @	4.19 hrs,	Volume=	0.222 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Peak Elev= 101.10' @ 4.19 hrs Surf.Area= 3,708 sf Storage= 6,657 cf

Plug-Flow detention time= 497.9 min calculated for 0.222 af (100% of inflow)
Center-of-Mass det. time= 497.9 min (709.1 - 211.3)

Volume	Invert	Avail.Storage	Storage Description
#1	97.50'	8,158 cf	**Custom Stage Data (Conic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
97.50	3,708	0.0	0	0	3,708
98.50	3,708	40.0	1,483	1,483	3,924
100.00	3,708	20.0	1,112	2,596	4,248
101.50	3,708	100.0	5,562	8,158	4,571

Device	Routing	Invert	Outlet Devices
#1	Primary	97.50'	**12.0" Round Culvert** L= 116.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 97.50' / 86.50' S= 0.0948 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	97.50'	**1.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads
#3	Device 1	101.00'	**36.0" x 36.0" Horiz. Grate** C= 0.600 in 36.0" x 36.0" Grate (100% open area) Limited to weir flow at low heads

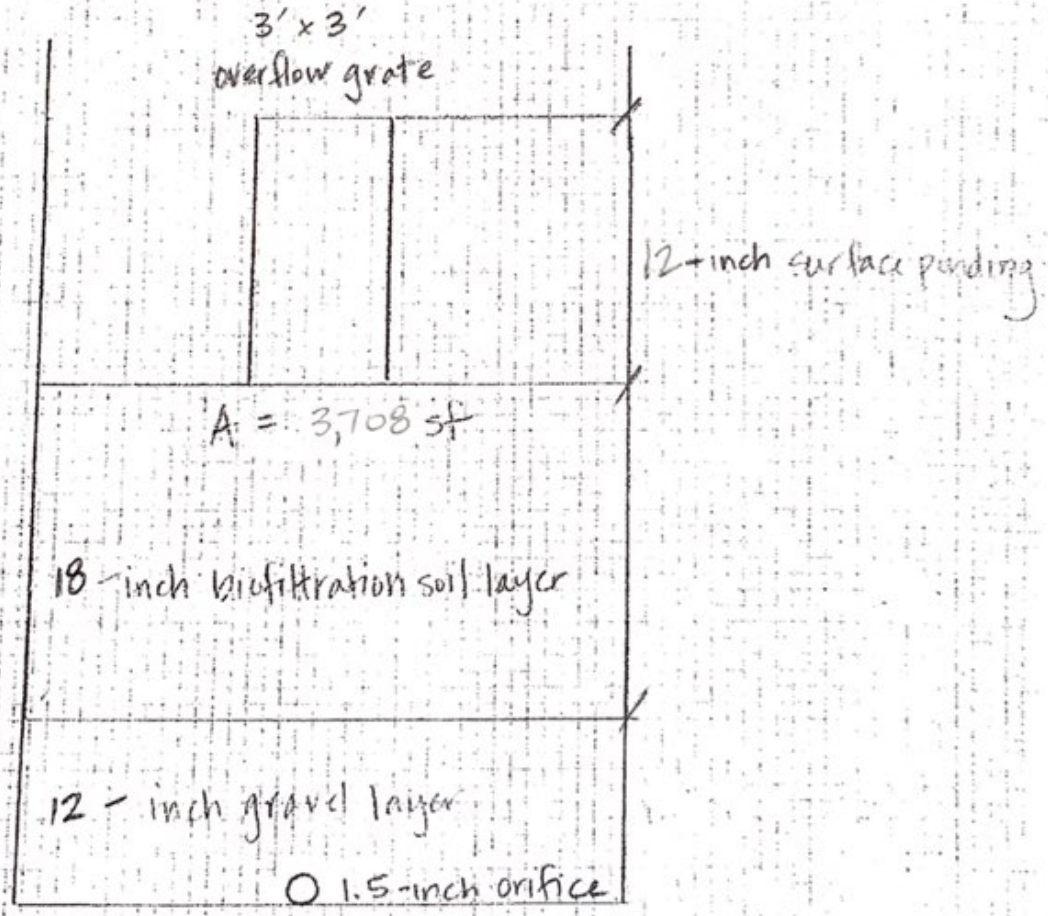
Primary OutFlow Max=1.26 cfs @ 4.19 hrs HW=101.09' (Free Discharge)
└**1=Culvert** (Passes 1.26 cfs of 8.32 cfs potential flow)
  └**2=Orifice** (Orifice Controls 0.11 cfs @ 9.05 fps)
  └**3=Grate** (Weir Controls 1.15 cfs @ 1.01 fps)

PASCO LARET SUITER & ASSOCIATES

Melamed

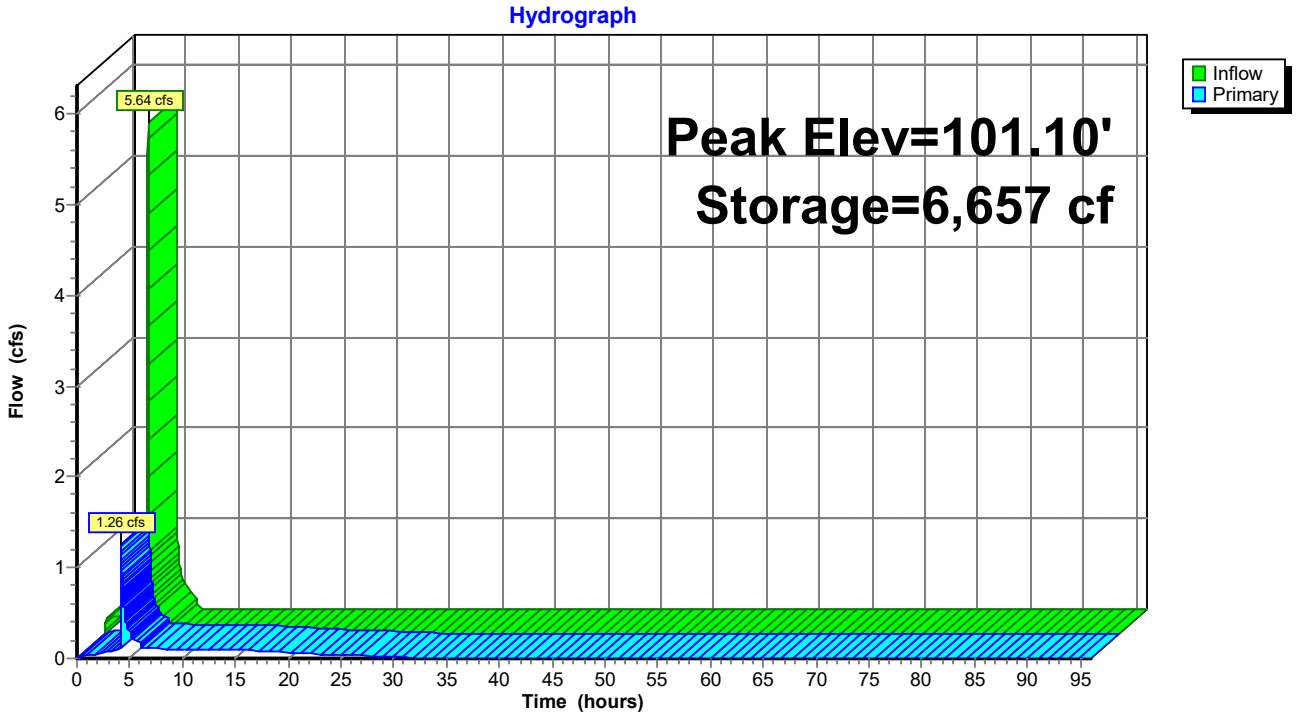
Date 12/9/2020 Job# 3009

HMP. Partial Infiltration Basin BMP-A



not to scale

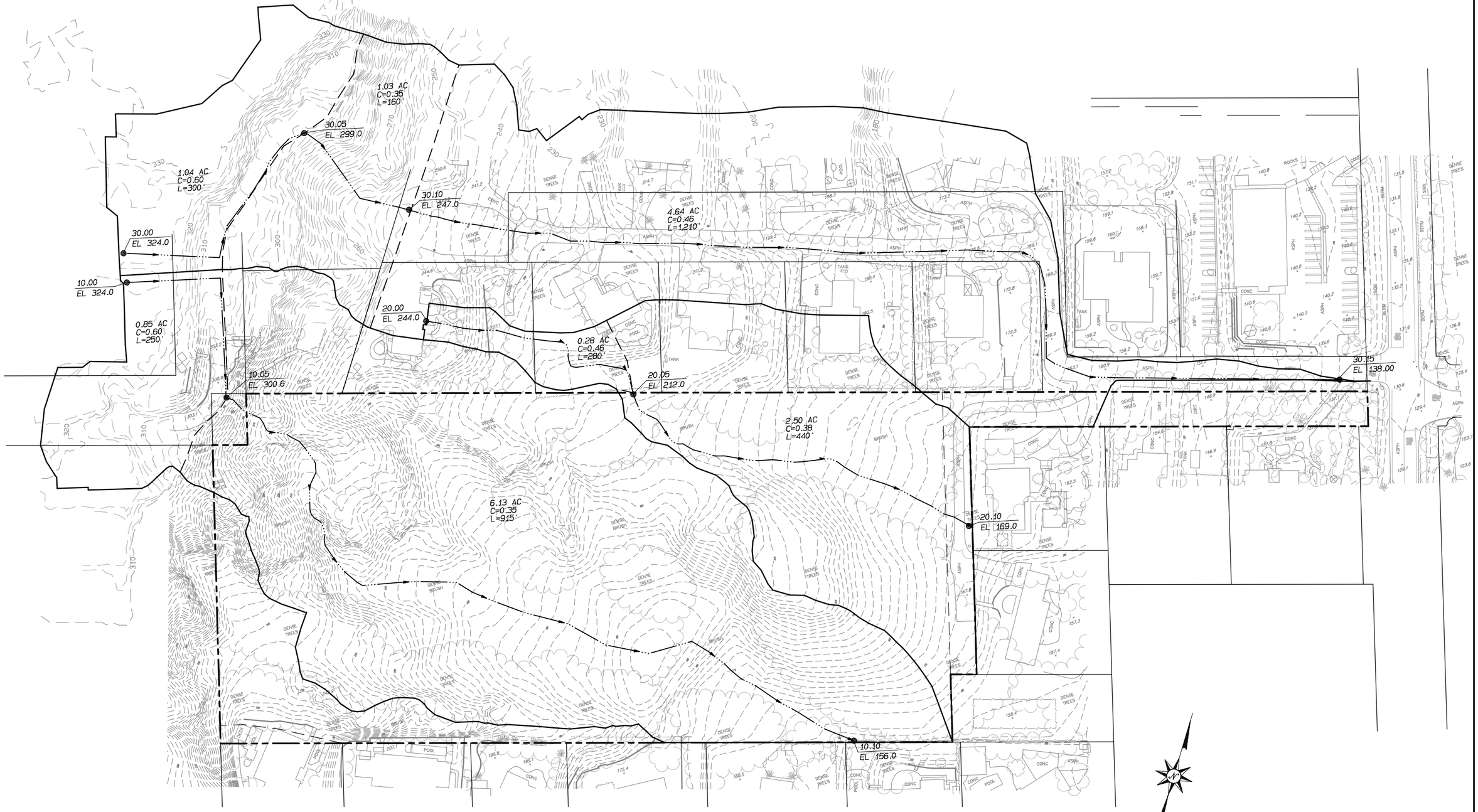
Pond 2P: BMP-A


Hydrograph
Inflow
Primary
5.64 cfs
1.26 cfs
Peak Elev=101.10'
Storage=6,657 cf
Flow (cfs)
Time (hours)
0
1
2
3
4
5
6
0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95

APPENDIX C

Existing and Proposed Hydrology Maps

PREDEVELOPED HYDROLOGIC NODE MAP
THE SANCTUARY
18-198 TM/DR/PRD/EIA



PREPARED BY:
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POSTDEVELOPED HYDROLOGIC NODE MAP
THE SANCTUARY
18-198 TM/DR/PRD/EIA

1.03 AC
C=0.35
L=160'

1.04 AC
C=0.60
L=300'

4.68 AC
C=0.46
L=960'

0.85 AC
C=0.60
L=250'

0.28 AC
C=0.46
L=280'

0.78 AC
C=0.46
L=330'

5.08 AC
C=0.35
L=940'

40.15
EL 210.0

20.05
EL 212.0

20.10
EL 180.0

40.40
EL 170.5
IE 164.0
L=210'

20.15
EL 162.0
L=55'

20.20
EL 158.0
L=236'

20.25
EL 138.0

L=105'

L=116'

HIM 165.4'
IE 159.05

40.35
EL 170.55

40.30
FL 176.0
IE 170.7

L=60'

Sub Area A
0.14 AC
C=0.57

40.20
EL 203.6
IE 202.8

L=265'

Sub Area B
0.91 AC
C=0.58

Sub Area D
0.36 AC
C=0.35

-6'

Sub Area H
0.25 AC
C=0.35

L=225'
50.00
FL 188.0

40.25
FL 200.0

L=160'

Sub Area E
0.11 AC
C=0.35

Sub Area F
0.13 AC
C=0.35

Sub Area C
0.41 AC
C=0.56

0.17 AC
C=0.35

50.05
FL 173.5

Sub Area G
0.08 AC
C=0.35

GRAPHIC SCALE 1"=50'

0 50 100 150

PREPARED BY:

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PLSA 3009

Appendix K –
Noise Assessment – Sanctuary Residential Subdivision

DUDEK
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TECHNICAL MEMORANDUM

Date:	March 9, 2023
To:	Candice Magnus, Dudek
From:	Jonathan V. Leech, INCE, Dudek
Subject:	Revised Noise Assessment – Sanctuary Residential Subdivision, Encinitas
Date:	February 28, 2023
Attachments:	A – Ambient Noise Measurement Data
	B – Construction Noise Modeling Files
	C – On-Site Operational Noise Modeling Files
	D – Traffic Noise Modeling Files

This report contains Dudek's assessment of the noise environment at the proposed Sanctuary Subdivision project located in the City of Encinitas (City). Dudek evaluated noise from project construction, project-added trips on area roadways, and stationary mechanical equipment (heating, ventilation, and cooling [HVAC] units). The analysis also includes predicted exterior noise exposure at the new residential lots from roadway traffic, for comparison to Noise Element policy limits.

1. Background

1.1 Project Setting

The proposed Sanctuary Subdivision project is located west of Rancho Santa Fe Road, between Ranch View Terrace on the north and Woodwind Drive on the south, in the City of Encinitas. Figure 1 (at the end of this report) illustrates the regional and local vicinity of the project site. The project proposes to construct 9 single-family detached residences on individual lots, with the balance of the parcel maintained as open space. Figure 2 (at the end of this report) provides the site plan. Surrounding uses include single-family residences immediately to the north, east, and south, and within approximately 200 feet west of the western boundary of the project site.

1.2 Acoustical Fundamentals

Although the terms may be used interchangeably in the right context, "sound" is defined as any gas or fluid pressure variation detected by the human ear, and "noise" is unwanted sound. The preferred unit for measuring sound is the decibel (dB), which by way of expressing the ratio of sound pressures to a reference value logarithmically enables a wide range of audible sound to be evaluated and discussed conveniently. On the low end of this range, zero dB is not the absence of sound energy, but instead corresponds approximately to the threshold of average healthy human hearing; and, on the upper end, 120–140 dB corresponds to an average person's threshold of pain.

The human ear is not equally responsive to all frequencies of the audible sound spectrum. An electronic filter is normally used when taking noise measurements that de-emphasizes certain frequencies in a manner that mimics the human ear's response to sound; this method is referred to as A-weighting. Sound levels expressed under the A-weighted system are sometimes designated dBA. All sound levels discussed in this report are A-weighted.

The equivalent continuous sound level (L_{eq}) is a single dB value which, if held constant during the specified time period, would represent the same total acoustical energy of a fluctuating noise level over that same time period; this is also known as the "average" sound level. L_{eq} values are commonly expressed for periods of one hour, but longer or shorter time periods may be specified. Another descriptor is maximum sound level (L_{max}), which is the greatest sound level measured during a designated time interval or event. The minimum sound level (L_{min}) is the lowest measured level and often called the floor of a measurement period.

Unlike the L_{eq}, L_{max}, and L_{min} metrics, L_{dn} and CNEL descriptors always represent 24-hour periods and differ from a 24-hour L_{eq} value because they apply a time-weighted factor designed to emphasize noise events that occur during the non-daytime hours (when speech and sleep disturbance is of more concern). *Time weighted* refers to the fact that L_{dn} and CNEL penalize noise that occurs during certain sensitive periods. In the case of CNEL, noise occurring during the daytime (7:00 a.m. to 7:00 p.m.) receives no penalty. Noise during the evening (7:00 p.m. to 10:00 p.m.) is penalized by adding 5 dB to the actual levels, and nighttime (10:00 p.m. to 7:00 a.m.) noise is penalized by adding 10 dB to the actual levels. L_{dn} differs from CNEL in that the daytime period is longer (defined instead as 7:00 a.m. to 10:00 p.m.), thus eliminating the dB adjustment for the evening period. L_{dn} and CNEL are the predominant criteria used to measure roadway noise affecting residential receptors. These two metrics generally differ from one another by no more than 0.5–1 dB and are often considered or actually defined as being essentially equivalent by many jurisdictions.

1.2.1 Exterior Noise Attenuation

Noise sources are classified in two forms: (1) point sources, such as stationary equipment or a group of construction vehicles and equipment working within a spatially limited area at a given time; and (2) line sources, such as a roadway with a large number of pass-by sources (motor vehicles). Sound generated by a point source typically diminishes (attenuates) at a rate of 6.0 dBA for each doubling of distance from the source to the receptor at acoustically "hard" sites and at a rate of 7.5 dBA for each doubling of distance from source to receptor at acoustically "soft" sites (Caltrans 2009). Sound generated by a line source (i.e., a roadway) typically attenuates at a rate of 3 dBA and 4.5 dBA per doubling distance, for hard and soft sites, respectively (Caltrans 2009). Sound levels can also be attenuated by human-made or natural barriers. For the purpose of a sound attenuation discussion, a hard or reflective site does not provide any excess ground-effect attenuation and is characteristic of asphalt or concrete ground surfaces, as well as very hard-packed soils. An acoustically soft or absorptive site is characteristic of unpaved loose soil or vegetated ground.

With respect to examples of this distance-attenuation relationship for exterior noise, a 65-dBA noise level measured at 25 feet from a roadway centerline with hard-packed shoulder would diminish to 62 dBA at 50 feet from the centerline, and to 59 dBA at 100 feet from the centerline. This scenario is addressed by the line source attenuation for a hard site (3 dBA with each doubling of the distance). For the scenario where soft-site conditions exist between a point source (such as construction equipment) and receptor, represented by open ground between the construction zone and receiver, an attenuation rate of 7.5 dBA per doubling of distance would apply; the

construction equipment noise measured as a 85 dBA at 50 feet from the construction equipment would diminish to 77.5 dBA at 100 feet from the source and to 70 dBA at 200 feet from the source, where soft ground with or without vegetation exists between the sound source and the receptor location.

1.3. Vibration Characteristics

Per the Caltrans Transportation and Construction Vibration Guidance Manual (2020), vibration is the periodic oscillation of a medium or object. The rumbling sound caused by the vibration of room surfaces is called structure-borne noise. Sources of ground-borne vibrations include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) or human-made causes (e.g., explosions, machinery, traffic, trains, construction equipment).

Peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal and is expressed in inches/second (in/sec). PPV is most frequently used to describe vibration impacts to buildings but can also be used to quantify vibration annoyance potential for humans. Caltrans has established a human annoyance vibration threshold of 0.24 in/sec PPV (distinctly perceptible level) for construction-related vibration levels (Caltrans 2020). The Caltrans threshold for potential damage to newer residential structures is 0.5 in/sec PPV (Caltrans 2020).

1.4 Noise Regulation in Encinitas

The City of Encinitas has established noise guidelines in its General Plan Noise Element Update Current Conditions Report (City of Encinitas 2010). These guidelines identify compatible exterior noise levels for various land use types. The maximum acceptable exterior noise level for single-family residences is an L_{dn} of 60 dBA. This noise level criterion should be applied where outdoor use is a major consideration (e.g., backyards of single-family residences). The 60 dB criterion serves as a screening threshold, anticipated exterior noise exposure above this level triggers a requirement for a site-specific acoustic evaluation to be performed. The maximum conditionally acceptable noise level for proposed single-family residential developments is 70 dBA L_{dn}., where an acoustic evaluation has been performed and it is demonstrated that exterior noise would not exceed this level. Interior noise levels are not to exceed an L_{dn} of 45 dBA. All sound levels discussed in this report are A-weighted.

The City's noise ordinance limits construction activities to the hours of 7 a.m. to 7 p.m. Mondays through Saturdays, and prohibits construction on Sundays and on legal holidays. Also, construction noise is limited to 75 dBA maximum for no more than 8 hours during any 24-hour period at or within the property lines of any property used for residential purposes (City of Encinitas 2016).

2. Baseline Sound Level Survey

On February 7, 2023, Dudek conducted short-term (e.g., less than one hour in duration) sound pressure level measurements along two roadways adjacent to several residential land uses in the Project vicinity, in order to characterize the existing exterior ambient noise levels at these residences that could be impacted by Project on-site noise sources. The measurement locations are depicted in Figure 3 (at the end of this report). The closest residences to the north of the project site are represented by ST1; the closest residences to the south of the project site are represented by ST2. Residences to the east of the project site have frontage along Rancho Santa Fe Road; traffic noise modeling for Rancho Santa Fe Road was conducted to determine ambient noise levels at these residences. Along the eastern project site boundary.

The measurements were conducted using a SoftdB brand Piccolo II Type 2 Sound Level Meter. Type 2 sound-level meters have precision accuracy that is suitable for all types of environmental noise evaluation. The sound-level meter was calibrated before and after use in the field for these measurements. The sound level meter was configured to record data for 10-second intervals; total duration of measurements at each location ranged from approximately 5 to 10 minutes. Sound level metrics including L_{eq}. L_{max}, L_{min}, were recorded for each 10-second period. Data logs for each of the two measurement locations are included in Attachment A. Table 1 presents the baseline sound level survey results as the average (L_{eq}) across the duration of the measurement at each location for ST1 through ST2. Refer to Attachment A for the complete data logs from the sound level meter over the measurement period.

Table 1: Measured Sound Levels in Project Vicinity

Site	Average Noise Level Across Measure Duration (dBA L_{eq})
Measure Location ST1	**41**
Measure Location ST2	**46**

The roadways along which ST1 and ST2 were located are residential collector streets serving a small number of residences. As such, measured sound levels were relatively low, compared to a typical urban setting.

3. Project Description

The proposed project consists of nine single-family residences each situated on an individual lot, and the balance of the parcel maintained as open space. A new private driveway would connect to Rancho Santa Fe Road to provide access to each of the new residential lots.

Development of the project would include site preparation and grading to create the driveway alignment and building pads, construction of the homes, paving of the driveway, and installation of landscaping. Once constructed, noise generating components of the project would be limited to exterior components of heating ventilation and cooling (HVAC) systems for each residence, and roadway traffic increases from project-related trips.

4. Construction Noise

One of the most extensive and widely used databases for sound levels from motorized or powered equipment is the FHWA RCNM. While the focus of data compilation was for equipment that would typically be employed for the construction of transportation facilities, the list is comprehensive enough to be useful in assessing sound levels for nearly every activity for which powered equipment is used. Table 2 provides an excerpt from RCNM of the sound levels generated by various powered equipment that could be associated with construction of the project. Note that the equipment noise levels presented in Table 2 are maximum noise levels. Usually, construction equipment operates in alternating cycles of full power and low power, producing average noise levels over time that are less than the maximum noise level. The average sound level of construction activity also depends on the amount of time that the equipment operates and the intensity of construction activities during that time.

Table 2. Selected Powered Equipment Noise Emission Levels from RCNM

Equipment	Maximum Sound Level (dBA L_{max}) – 50 feet from Source
Air Compressor	81
Backhoe	80
Compactor	82
Concrete Mixer	85
Crane, Mobile	83
Dozer	85
Generator	81
Grader	85
Loader	85
Paver	89
Pneumatic Tool	85
Pump	76
Roller	74
Saw	76
Scraper	89
Truck	88

Source: FHWA 2006a, 2006b.
Notes: dBA = decibel (A-weighted).

Noise emissions from the construction phase of the Project were estimated based upon default construction scenario information provided by CalEEMod for the type and size of proposed development, and included phasing, equipment mix, and vehicle trips. The construction equipment mixes used for estimating the Project-generated construction noise emissions are included in Attachment B.

A Microsoft Excel–based noise prediction model emulating and using reference data from the FHWA RCNM was used to estimate construction noise levels at the nearest noise-sensitive land uses (i.e., residences) in each direction from the project site, based upon the distance between the closest project construction boundary and these residences. Aggregate noise emission from project construction activities, broken down by sequential phase of construction, was predicted for the worst-case construction activity occurring along the closest construction boundary to the off-site closest residences. Dudek compared predicted construction noise levels to the adopted Encinitas construction noise exposure standard and to measured ambient noise levels.

4.1 Construction Equipment Inventory

The California Air Resources Board CalEEMod (California Emissions Evaluation Model) was used to identify the construction equipment anticipated for development of the Project, including earthwork, building construction, and paving activities. The equipment list is based upon the detailed project description; CalEEMod (Version: CalEEMod.2016.3.1) identified the following anticipated equipment for each phase of the Project construction.

Table 3. Construction Equipment Per Phase

Construction Activity	Site Preparation		
Equipment Needed	Dozer	Backhoe	Loader
Construction Activity	**Grading**		
Equipment Needed	Dozer Excavator	Front End Loader	Grader
Construction Activity	**Building Construction**		
Equipment Needed	Forklift Backhoe	Crane Generator	Welder
Construction Activity	**Paving**		
Equipment Needed	Paver Roller	Paving Equipment Concrete Mixer Truck	Backhoe
Construction Activity	**Architectural Coating**		
Equipment Needed	Air Compressor		

4.2 Construction Noise Assessment

With the noise sources identified above, a noise analysis was performed with a Microsoft Excel–based noise prediction model emulating and using reference data from the FHWA RCNM. Input variables consist of the receiver / land use types, the equipment type (i.e., backhoe, crane, truck, etc.), the number of equipment pieces, the duty cycle for each piece of equipment (i.e., percentage of each hour the equipment typically works), and the distance from the sensitive noise. Refer to Attachment B for the inputs used in the RCNM-based model, as well as results.

Noise-sensitive land uses in the vicinity of the Project include residences on properties to the north, west, south, and east of the project site. The closest off-site residence is located approximately 55 feet north from the closest boundary of a future construction zone for one of the residential lots; the closest homes to the east are approximately 65 feet from the closest future construction zone boundary; the homes to the south are approximately 75 feet from the closest future construction zone boundary; and homes to the west. are approximately 590 feet from the closest future construction zone boundary. Using the provided construction information and the distance identified for the closest receivers, the RCNM-based construction noise model was used to predict noise from on-site construction activities. The construction noise was modeled at each of the representative distances to determine construction noise exposure for the existing adjacent homes on each side of the project site. The results are summarized in Table 4 (see Attachment B for complete results).

In reviewing Table 4, maximum construction noise levels would exceed the allowable limit of 75 dBA L_{max} at the closest residences to the north, east, and south of the project site, resulting in a **potentially significant short-term construction noise impact**. As such, a temporary sound wall would need to be constructed along the north, east, and south sides of the project site for the duration of construction activities. Homes west of the project would not experience construction noise levels exceeding the standard, but to avoid extension of the temporary soundwall into proposed open space areas, the soundwall should also follow the western edge of the development envelop. Refer to the Mitigation Section below for mitigation language.

Table 4. Construction Noise Levels Per Phase at Closest Residences

Task/Activity	Nearest Residence North (55 Feet)	Nearest Residence East (65 Feet)	Nearest Residence South (75 Feet)	Nearest Residence West (590 Feet)
	L_{max}	L_{max}	L_{max}	L_{max}
Site Preparation	88	86	85	62
Grading	88	87	85	62
Building Construction	89	87	86	63
Architectural Coating	77	76	74	52
Paving	88	87	85	62
Highest Noise Level All Phases	**89**	**87**	**86**	**63**

Table 4 does not display hourly average construction noise levels at nearby residences, as the Encinitas ordinance is based upon L_{max}. However, hourly average noise levels were also modeled. As illustrated in the construction noise worksheets in Attachment B, unmitigated hourly average ($L_{EQ\ 1\ Hour}$) construction noise levels would range from 70 to 84 dBA. This average noise level would be up to 38 dBA above the documented daytime level at the closest residences. Thus, construction noise would represent a substantial increase over ambient, and would make use of exterior living areas at adjacent residential lots undesirable. Compared to existing ambient noise levels, construction noise would be a **potentially significant short-term construction noise impact.** The same temporary soundwall mitigation would apply to ambient noise increases during construction. With typical outdoor to indoor attenuation of 25 dBA for standard construction residential structures, interior noise levels at the closest residence during construction would peak at approximately 60 dBA, which should not interfere with conversation or other daytime activities indoors.

4.3 Mitigation – Construction Noise Levels

Construction noise is predicted to exceed the allowable limit of 75 dBA L_{max} at the closest residences to the north, east, and west of the project site. The following mitigation measure is required to address this significant impact.

MM-NOI-1 A temporary soundwall shall be erected prior to the commencement of site preparation activities and maintained throughout construction of the project, along the northern, eastern, southern, and western development envelop boundaries, to the extents indicated in Figure 4. A licensed surveyor or registered civil engineer shall ensure the design of the wall installation such that it does not encroach into the proposed open space areas. The soundwall shall be a minimum of 10 feet in height, measured from the ground elevation on the project side of the soundwall. The soundwall shall be of solid material with a minimum STC rating of 25.

4.4 Mitigated Construction Noise Levels

Table 5 presents the construction noise levels at the closest neighbors to the north, east, south and west with the required temporary soundwall in place. It should be noted that the soundwall along the west side of the

development envelop is not required in order to mitigate construction noise levels at residences to the west, but rather would mitigate noise levels at residences along the northern and southern property boundaries that are close to future construction zone boundaries.. As illustrated in Table 5, post mitigation sound levels would comply with the Encinitas construction noise limit of 75 dBA L_{max}.

Table 5. Mitigated Construction Noise Levels at Closest Residences

Task/Activity	Nearest Residence North (55 Feet)	Nearest Residence East (65 Feet)	Nearest Residence South (75 Feet)	Nearest Residence West (590 Feet)
	L max	L max	L max	L max
Site Preparation	74	73	71	58
Grading	74	73	71	58
Building Construction	75	73	72	59
Architectural Coating	63	62	60	43
Paving	74	73	71	58
Highest Noise Level All Phases	**75**	**73**	**72**	**58**

Table 5 does not display hourly average construction noise levels at nearby residences; However, hourly average noise levels were also modeled for the mitigate scenario. As illustrated in the construction noise worksheets in Attachment B, hourly average ($L_{EQ\ 1\ Hour}$) construction noise levels would range from 56 to 70 dBA. This average noise level would be up to 25 dBA above the documented daytime level at the closest residences, which would be very clearly noticeable and could lead to annoyance. Nonetheless, the mitigated average noise levels in exterior living areas at adjacent residential lots would not be harmful, nor present a deterrent to use of yard areas. With typical outdoor to indoor attenuation of 25 dBA for standard construction residential structures, mitigated interior noise levels at the closest residence during construction would peak at approximately 45 dBA, which should not interfere with conversation or other daytime activities indoors.

5. Operational Noise Prediction

5.1 Methodology

Prediction of project on-site operation noise (i.e., HVAC equipment use) at neighboring receiver properties involved creation of a sound propagation model using a Dudek proprietary Excel-based software tool. Dudek NoisePro is used for calculation, presentation, assessment, and prediction of environmental noise. Estimated sound emission from one assumed HVAC units per residential lot were entered into the Dudek NoisePro model. The outdoor noise propagation formulas in NoisePro follow the International Organization of Standardization (ISO) Standard 9613-2, “Attenuation of Sound During Propagation Outdoors, Part 2: General Method of Calculation” (ISO 1996).

For the HVAC units, Dudek used a Carrier Infinity 19VS air conditioner with 6-ton capacity. The air conditioner element of the HVAC system is the only exterior component that would generate sound levels outdoors. The Carrier

Infinity 19VS 6-ton version has a sound power rating of 72 L_W which equals a sound pressure level of 64 dBA at 1 meter (3.28 feet) from the unit.

The air conditioning units would not be anticipated to operate continuously, but rather would have cycles of operation separated by periods of no operation. In practice, at any given time, some of the equipment would be in operation mode, while other equipment would be in rest mode. Nonetheless, the model was constructed to address a worst-case scenario where all the equipment is in continuous operation for a full day (for comparison to the Encinitas noise element limits). Five receiver points, representing the closest residences on the north, east, and south of the project site were also entered into the NoisePro model space. Figure 5 indicates the location of these receiver points (designated R1 – R5).

Calculation parameters that establish how the NoisePro model predicts combined noise level from these above-listed Project sources include as follows:

- Sound propagation per International Organization of Standardization (ISO) 9613-2 (ISO 1996);
- Default ground acoustical absorption coefficient = 0.5 (on a scale of 0 = reflective, 1 = absorptive); and.
- Zero order of reflection.

5.2 Operation Noise Assessment Results

Figure 5 depicts the modeled receiver locations for the closest adjacent land uses (R1, R2. R3, R4 and R5) in the NoisePro model space. The receiver points in the NoisePro space are intended to represent Project operational sound levels at these existing nearby residences for comparison to the Encinitas Noise Element limits. Table 6 presents the modeled operational noise level at the five receivers and compares these to the Noise Element exterior limit for residences of 60 dBA L_{dn}. Attachment C provides data inputs and results from the NoisePro model setup.

Table 6: Modeled Project Operation Sound Levels Compared to Noise Element Limits

Model Receiver	Modeled Project Operational Noise Level dBA ($L_{eq\ 1\ hour}$)	Modeled Project Operational Noise Level dBA L_{dn}	Noise Element Limit dBA L_{dn}
R1	35	44	60
R2	37	46	
R3	32	41	
R4	38	47	
R5	37	46	

Table Notes: [1] Ordinance limit based upon the more restrictive nighttime period, to account for potential Project operations at night.

The noise model results are also graphically represented on Figure 5, which provides noise contours extending outward from the proposed project to illustrate the hourly average ($L_{eq\ 1\ Hour}$) noise level from operation of the Project (i.e., the worst-case scenario with all the equipment in operation simultaneously). These hourly noise levels were assumed to occur around the clock, continuously, for calculation of the L_{dn} values displayed in Table 6. As illustrated in Table 6, project operational noise levels at the closest adjacent residences would range from 41 to 47 dBA L_{dn}

which would be well below the noise element limit of 60 dBA L_{dn}. With regard to the noise element limit, the project operational noise would result in a **less than significant noise impact.**

Table 7 compares the modeled project operational noise levels at the five receivers to ambient noise levels at these receivers. Ambient noise levels are based upon the ambient noise levels measured at ST1 (for residences to the north and east), and at ST2 (for residences to the south).

Table 7: Modeled Project Operation Sound Levels Compared to Ambient Noise Levels

Model Receiver	Modeled Project Operational Noise Level dBA (L_{max})	Ambient Noise Level ($L_{eq\ hour}$) [1]
R1	35	**46**
R2	37	**41**
R3	32	**41**
R4	38	**41**
R5	37	**41**

As indicated in Table 7, project operational noise levels would remain between 4 – 11 dBA L_{eq} below the ambient noise levels at adjacent residential properties. Adding the project noise levels to the ambient noise levels would not result in an increase of the ambient noise level values. Therefore, in comparing project operational noise to ambient noise levels, the project would have a **less than significant noise impact.**

6. Offsite Traffic Noise Prediction

6.1 Methodology

LOS Engineering quantified average daily trips (ADTs) on roadways to which the project would contribute trips, including scenarios for existing and existing plus project (Local Transportation Analysis, Sanctuary Residential 9 Homes, Ranch View Terrace, City of Encinitas, December 9, 2021). Roadway segments addressed in the LOS study included Rancho Santa Fe Road, north and south of 7th Street.

Dudek used a Microsoft Excel based model incorporating standard traffic noise assessment equations adapted from the FHWA noise prediction model to quantify traffic noise exposure levels along Santa Fe Road, to which the Project would contribute trips. Traffic noise levels were modeled based upon the calculated ADT for each included roadway segment and for each of the scenarios addressed in the LOS study.

6.2 Traffic Noise Assessment Results

Based upon ADT data provided by LOS, Dudek modelled traffic noise exposure along Rancho Santa Fe Road, the roadway to which the Project would principally add trips. The two studied traffic scenarios allow the direct determination of project-related traffic noise increases, by comparing “existing” to “existing plus project.” Table 8 presents the results of the traffic noise modeling, detailed information is provided in Attachment D.

Table 8: Modeled Project Contributions to Roadway Traffic Noise Levels

Roadway	Existing dBA CNEL	Existing + Project dBA CNEL	Project-Related Increase dBA CNEL	Significant?
Rancho Santa Fe, south of 7th	68.4	68.4	0	No
Rancho Santa Fe, north of 7th	66.0	66.1	0.1	No

Source: Attachment D

As indicated in Table 8, operation of the Project would involve trip generation that would result in traffic noise level increases on each roadway segment of no more than 0.1 dBA CNEL, which would not be discernible to the human ear. According to the traffic modeling results, some residences along Rancho Santa Fe Road may be exposed to exterior noise levels that exceed the Noise Element recommended maximum of 60 dBA L_{dn}. However, the project would increase traffic noise exposure by no more than 0.1 dBA, which is a less than discernible increase. The project would therefore not have a considerable contribution to traffic noise levels that could already exceed recommended levels at vicinity residences. Project traffic noise contributions would therefore be a **less than significant noise impact.**

6.3 Traffic Noise for Future Project Residents (Non-CEQA)

Using the project ADT predictions from the LOS report, Dudek also modeled the traffic noise level that would be associated with the project access driveway, since the homes would be at a large enough distance from Rancho Santa Fe Road (and protected by a row of existing homes along this roadway) that traffic noise from Rancho Santa Fe would not affect the noise levels at project future home sites. Based upon the 90 ADTs that would travel along the project driveway, traffic noise levels at the closest homes on the project site would be 44 dBA L_{dn} which would be well below the noise element limit of 60 dBA L_{dn}. Consequently future homes at the project site would experience traffic noise exposure levels that are easily compliant with the noise element standard.

7. Construction Vibration

7.1 Methodology

Construction activity can result in varying degrees of ground vibration at local receptors, depending on the equipment and methods used, distance to the affected structures, and soil type. Ground-borne vibration levels resulting from typical construction activities occurring within the Project site were estimated by data and methods published by Caltrans (2020). Ground vibration levels associated with various types of construction equipment are summarized in Table 9 (Caltrans 2020).

Table 9: Vibration Source Levels for Construction Equipment

Equipment	PPV (in/sec) at 25 feet
Small bulldozer	0.003
Loaded Trucks	0.076
Large bulldozer	0.089
Vibratory roller	0.21

Source: Caltrans 2020

Groundborne vibration attenuates rapidly, even over short distances. The attenuation of groundborne vibration as it propagates from source to receptor through intervening soils and rock strata can be estimated with expressions found in Caltrans guidance (Caltrans 2020). The following equation is used to calculate Peak Particle Velocity (PPV) at any distance of interest from the operating construction equipment

$$PPV_{rcvr} = PPV_{ref} * (25/D)^{1.5}$$

In the above equation, PPV_{rcvr} is the predicted vibration velocity at the receiver position, PPV_{ref} is the reference value at 25 feet from the vibration source (as listed in Table 8), and D is the actual horizontal distance to the receiver.

7.2 Vibration Assessment Results

Using the vibration source level of construction equipment provided in Table 9, the distance to the closest sensitive receiver (i.e., residence), and the equation supplied in the Caltrans (2020) construction vibration assessment methodology (above), Dudek estimated the Project construction-related vibration impacts at the closest residence. The closest residence is at a distance of approximately 55 feet north from the closest future construction zone boundary. Table 10 presents the results of the construction vibration assessment for the closest residence.

Table 10: Construction Vibration Levels at Closest Residence

Equipment	PPV (in/sec) at Nearest Residence (55 Feet)	Significance Threhold PPV (in/sec)	Significant ?
Small bulldozer	0.0009	0.24	No
Loaded Trucks	0.023		No
Large bulldozer	0.027		No
Vibratory roller	0.064		No

As illustrated in Table 10, Project construction-related vibration levels at the residence closest to the Project would in all cases represent less than 30% of the significance threshold for human annoyance (0.24 PPV in/sec). The threshold for structural damage to typical residential structures is even higher (0.5 PPV in/sec). As such, Project construction would have no potential to cause structural damage to the closest residences, or to result in annoyance for the occupants of such residences. Project construction vibration impacts are therefore **less than significant.**

8. References

Caltrans. 2009. *Technical Noise Supplement.*

Caltrans.2013. *Traffic Noise Analysis Protocol.*

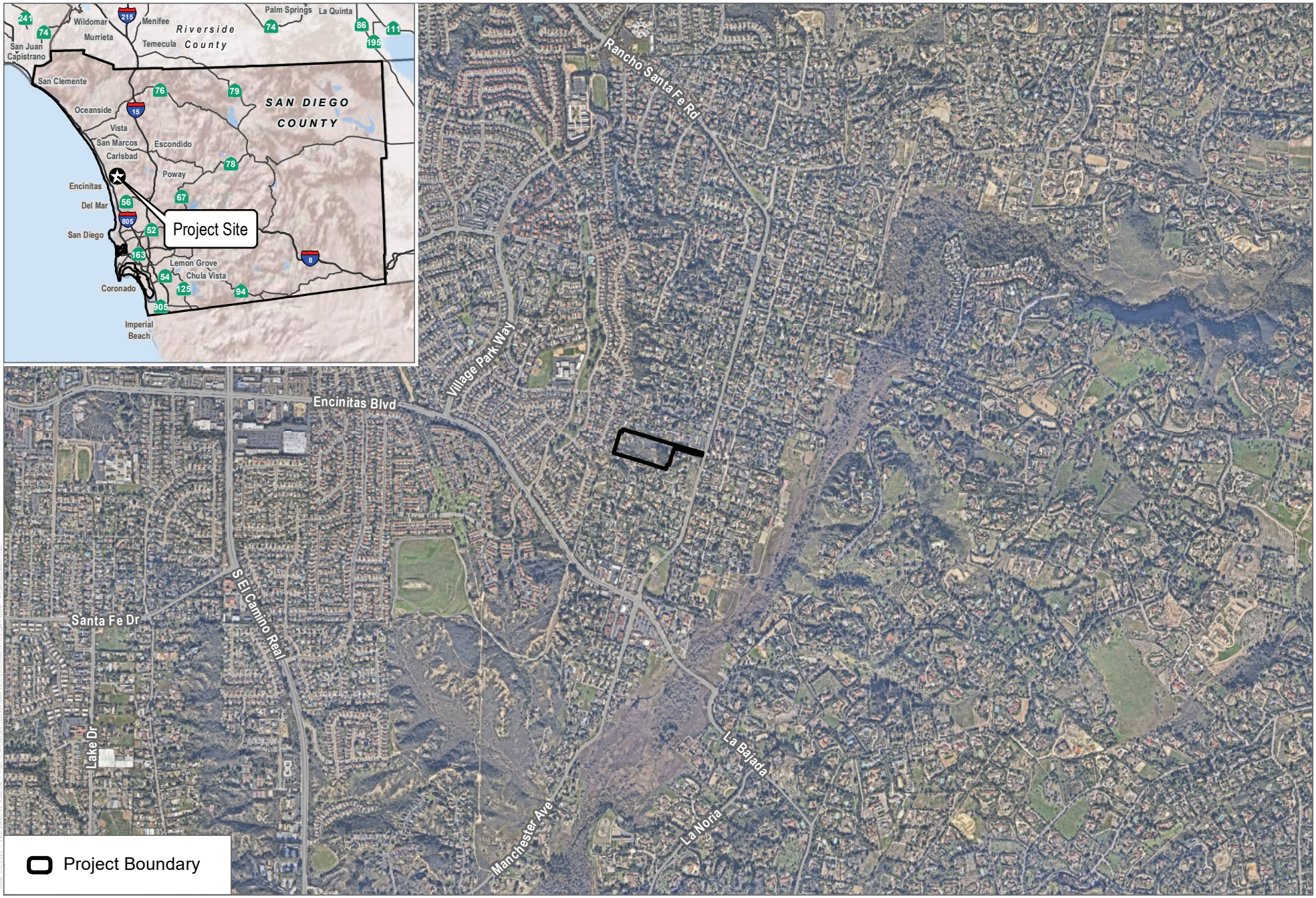
Caltrans. 2020. *Transportation and Construction Vibration Guidance Manual.*

Encinitas, City of. 2011. *General Plan Noise Element*.

FHWA. 2006. *Roadway Construction Noise Model*, Version 1.1

International Organization of Standardization (ISO). 1996. 9613-2: "Attenuation of Sound During Propagation Outdoors, Part 2: General Method of Calculation". December. Accessible at *https://www.iso.org/standard/20649.html*

LOS Engineering Inc. 2021. *Local Transportation Analysis, Sanctuary Residential 9 Homes, Ranch View Terrace, City of Encinitas,* December 9, 2021



SOURCE: SanGIS 2019

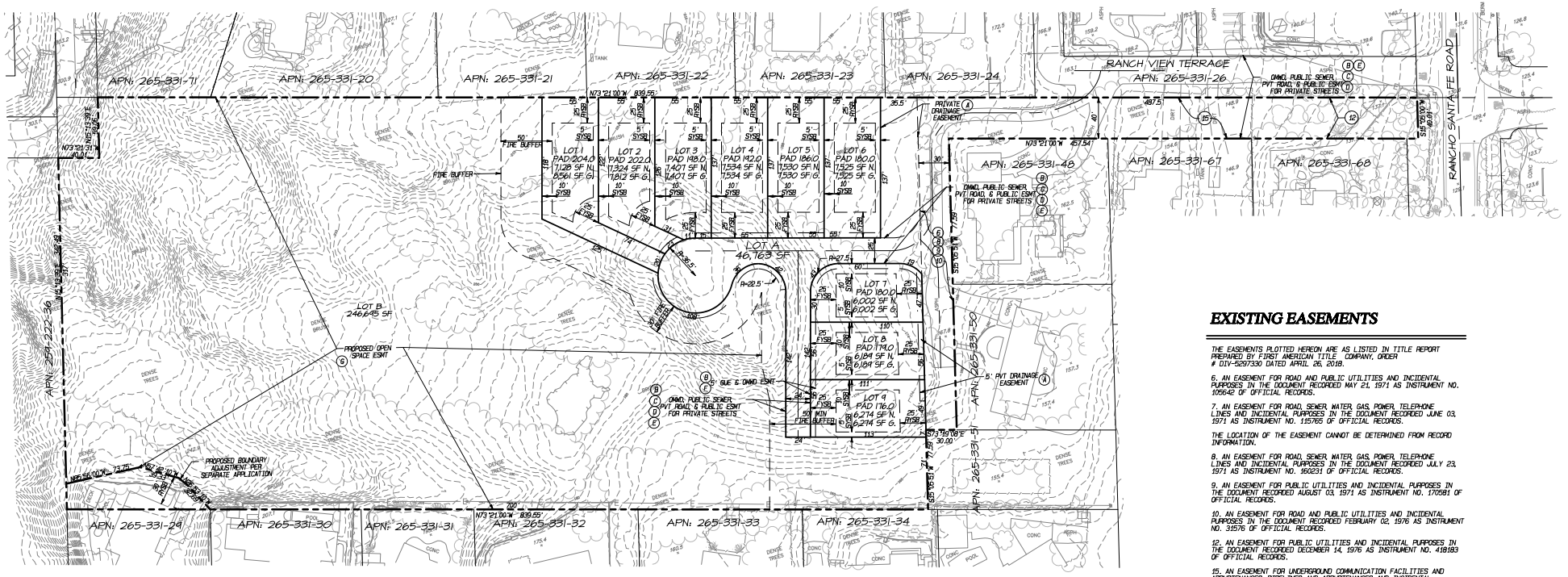
DUDEK

0 1,000 2,000 Feet

FIGURE 1

Project Location

Encinitas Sanctuary Project



EXISTING EASEMENTS

THE EASEMENTS PLOTTED HEREON ARE AS LISTED IN TITLE REPORT PREPARED BY FIRST AMERICAN TITLE COMPANY, ORDER # DIV-5297330 DATED APRIL 26, 2018.

6. AN EASEMENT FOR ROAD AND PUBLIC UTILITIES AND INCIDENTAL PURPOSES IN THE DOCUMENT RECORDED MAY 21, 1971 AS INSTRUMENT NO. 105642 OF OFFICIAL RECORDS.

7. AN EASEMENT FOR ROAD, SEWER, WATER, GAS, POWER, TELEPHONE LINES AND INCIDENTAL PURPOSES IN THE DOCUMENT RECORDED JUNE 03, 1971 AS INSTRUMENT NO. 115765 OF OFFICIAL RECORDS.

THE LOCATION OF THE EASEMENT CANNOT BE DETERMINED FROM RECORD INFORMATION.

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10. AN EASEMENT FOR ROAD AND PUBLIC UTILITIES AND INCIDENTAL PURPOSES IN THE DOCUMENT RECORDED FEBRUARY 02, 1976 AS INSTRUMENT NO. 31576 OF OFFICIAL RECORDS.

12. AN EASEMENT FOR PUBLIC UTILITIES AND INCIDENTAL PURPOSES IN THE DOCUMENT RECORDED DECEMBER 14, 1976 AS INSTRUMENT NO. 418183 OF OFFICIAL RECORDS.

15. AN EASEMENT FOR UNDERGROUND COMMUNICATION FACILITIES AND APPURTENANCES, PIPELINES AND APPURTENANCES AND INCIDENTAL PURPOSES IN THE DOCUMENT RECORDED MARCH 28, 2001 AS INSTRUMENT NO. 01-182048 OF OFFICIAL RECORDS.

PROPOSED EASEMENTS

- (A) PRIVATE DRAINAGE EASEMENT
- (B) OLIVENHAIN MUNICIPAL WATER DISTRICT EASEMENT
- (C) PUBLIC SEWER EASEMENT
- (D) PRIVATE ACCESS EASEMENT
- (E) PUBLIC EASEMENT FOR PRIVATE STREETS
- (F) GENERAL UTILITY EASEMENT
- (G) OPEN SPACE EASEMENT

LOTS A & B MAY NOT BE FURTHER SUBDIVIDED.

LEGEND

SUBDIVISION BOUNDARY	
LOT LINE	
LOT NUMBER	LOT 4
LOT AREA	5,000 SF
PROPOSED SETBACKS	
CENTERLINE OF RIGHT-OF-WAY	

GRAPHIC SCALE 1"=50'

0 50 100 150

SOURCE: Pasco Laret Suiter & Associates 2021

DUDEK

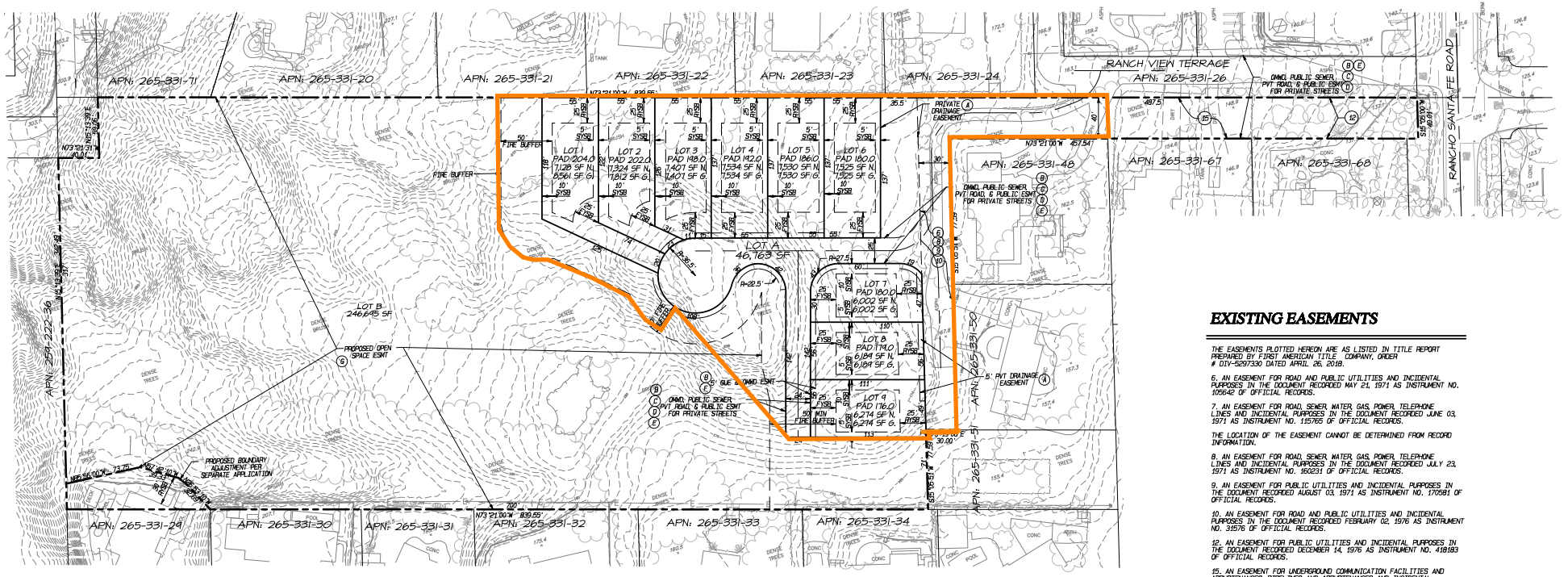
FIGURE 2

Site Plan

Encinitas Sanctuary Project

FIGURE 3

Ambient Noise Measurement Locations



LOTS A & B MAY NOT BE FURTHER SUBDIVIDED.

LEGEND

SUBDIVISION BOUNDARY	
LOT LINE	
LOT NUMBER	LOT 4
LOT AREA	5,000 SF
PROPOSED SETBACKS	
CENTERLINE OF RIGHT-OF-WAY	

LEGEND

Soundwall Location

GRAPHIC SCALE 1"=50'

0 50 100 150

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- (F) GENERAL UTILITY EASEMENT
- (G) OPEN SPACE EASEMENT

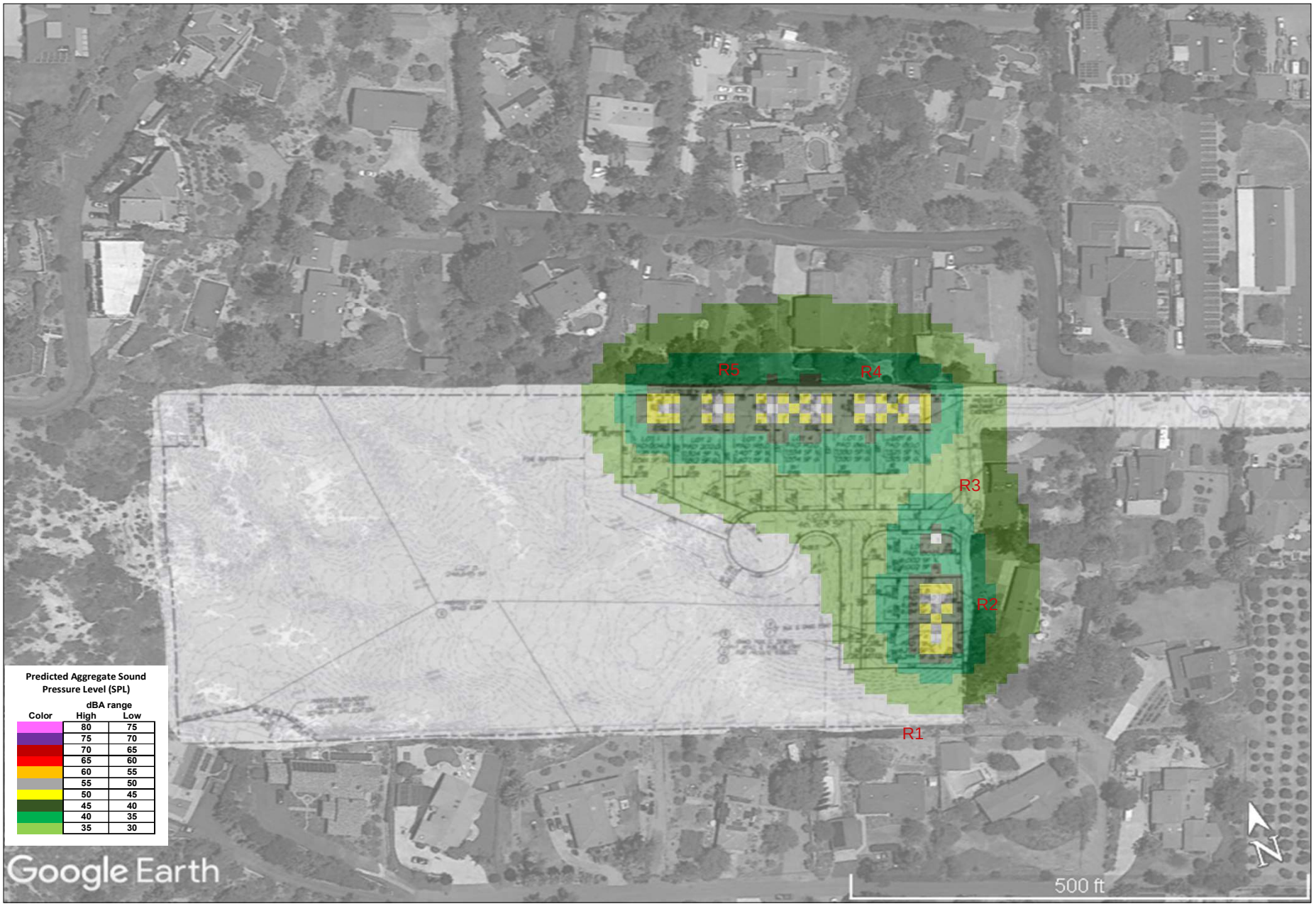
SOURCE: Pasco Laret Suiter & Associates 2021

FIGURE 4

Required Temporary Construction Noise Soundwall Location

Encinitas Sanctuary Project

DUDEK



SOURCE: Dudek 2023

DUDEK

0 119 238 Feet

FIGURE 5

AVERAGE (LEQ) NOISE LEVELS FOR HVAC OPERATIONS

Encinitas Sanctuary Project

ATTACHMENT A

AMBIENT NOISE MEASUREMENT DATA

MEASUREMENT LOCATION ST1

Start Date	Start Time	End Time	Duration	SPL Rate	Freq Weight	LAeq	LAmax	LAmin	LApk	L10	L25	L50	L90
2/7/2023	4:30:20 PM	4:30:30 PM	0:00:10	Slow	dBA	38.1	39.6	37.2	64	38.5	38.2	37.8	37.3
2/7/2023	4:30:30 PM	4:30:40 PM	0:00:10	Slow	dBA	37.8	38.6	36.7	65.6	38.4	38.2	38	37.2
2/7/2023	4:30:40 PM	4:30:50 PM	0:00:10	Slow	dBA	38.2	39.9	36.7	63.2	39.4	38.4	37.8	37.4
2/7/2023	4:30:50 PM	4:31:00 PM	0:00:10	Slow	dBA	37.9	40.5	36.6	57.4	39.2	38.4	37.7	37.1
2/7/2023	4:31:00 PM	4:31:10 PM	0:00:10	Slow	dBA	36.9	37.9	36.2	51.5	37.6	36.9	36.7	36.5
2/7/2023	4:31:10 PM	4:31:20 PM	0:00:10	Slow	dBA	39.6	45	36.8	63	38.7	38.4	37.4	36.9
2/7/2023	4:31:20 PM	4:31:30 PM	0:00:10	Slow	dBA	46	50	42.7	65.9	48.1	46.2	45.5	43.3
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2/7/2023	4:31:40 PM	4:31:50 PM	0:00:10	Slow	dBA	47.1	47.5	46.5	57.6	47.3	47.1	47.1	46.8
2/7/2023	4:31:50 PM	4:32:00 PM	0:00:10	Slow	dBA	46.9	47.5	46.5	59.5	47.3	47.2	46.9	46.7
2/7/2023	4:32:00 PM	4:32:10 PM	0:00:10	Slow	dBA	45.2	51.9	37.7	80.8	50.4	47.1	42.3	38
2/7/2023	4:32:10 PM	4:32:20 PM	0:00:10	Slow	dBA	38.3	39.7	36.8	56.4	39.4	39	38.4	37.1
2/7/2023	4:32:20 PM	4:32:30 PM	0:00:10	Slow	dBA	37.7	38.6	36.8	67.2	38.1	37.9	37.7	37.1
2/7/2023	4:32:30 PM	4:32:40 PM	0:00:10	Slow	dBA	37.8	41.2	35.2	61.6	40.6	39.1	37.2	35.5
2/7/2023	4:32:40 PM	4:32:50 PM	0:00:10	Slow	dBA	38.1	39.8	35.2	55	39.4	39.2	37.9	35.3
2/7/2023	4:32:50 PM	4:33:00 PM	0:00:10	Slow	dBA	38.8	40.8	36.8	56.7	40.1	39.8	38.3	37.3
2/7/2023	4:33:00 PM	4:33:10 PM	0:00:10	Slow	dBA	37.8	39.8	37	56.8	39.1	38.4	37.8	37.1
2/7/2023	4:33:10 PM	4:33:20 PM	0:00:10	Slow	dBA	40.5	44.4	36.5	59.1	43.6	41.3	39.3	36.6
2/7/2023	4:33:20 PM	4:33:30 PM	0:00:10	Slow	dBA	39.1	40.1	37.9	56.9	39.7	39.5	39.1	38.3
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2/7/2023	4:33:40 PM	4:33:50 PM	0:00:10	Slow	dBA	38.3	42.9	36.8	52.3	41.1	39.7	38.8	37
2/7/2023	4:33:50 PM	4:34:00 PM	0:00:10	Slow	dBA	36.4	37.1	35.8	51.7	37	36.6	36.3	36
2/7/2023	4:34:00 PM	4:34:10 PM	0:00:10	Slow	dBA	36.4	37	36.2	50	36.7	36.6	36.5	36.3
2/7/2023	4:34:10 PM	4:34:20 PM	0:00:10	Slow	dBA	36.2	36.7	35.7	56.8	36.6	36.4	36.2	35.9
2/7/2023	4:34:20 PM	4:34:30 PM	0:00:10	Slow	dBA	36.6	37.7	35.5	51.4	37.3	37.1	36.6	35.7
2/7/2023	4:34:30 PM	4:34:40 PM	0:00:10	Slow	dBA	35.7	36.5	35	51.9	36.2	35.9	35.6	35.1
2/7/2023	4:34:40 PM	4:34:50 PM	0:00:10	Slow	dBA	36.5	37.7	35.8	59.2	36.9	36.7	36.4	35.9
2/7/2023	4:34:50 PM	4:35:00 PM	0:00:10	Slow	dBA	35.9	36.6	35.6	50.9	36.3	36.1	36	35.7
2/7/2023	4:35:00 PM	4:35:10 PM	0:00:10	Slow	dBA	36.3	36.7	35.9	57	36.5	36.4	36.3	36
2/7/2023	4:35:10 PM	4:35:20 PM	0:00:10	Slow	dBA	36.9	37.5	35.9	50.9	37.4	37.2	36.9	35.9
2/7/2023	4:35:20 PM	4:35:30 PM	0:00:10	Slow	dBA	36.5	37.2	35.9	49.6	36.8	36.6	36.4	36.1

Start Date	Start Time	End Time	Duration	SPL Rate	Freq Weight	LAeq	LAmax	LAmin	LApk	L10	L25	L50	L90
2/7/2023	4:35:30 PM	4:35:40 PM	0:00:10	Slow	dBA	36.6	37.4	36	50.4	37.1	36.9	36.4	36
2/7/2023	4:35:40 PM	4:35:50 PM	0:00:10	Slow	dBA	37.5	38.8	36.8	51.4	38.4	37.6	37.3	37
2/7/2023	4:35:50 PM	4:36:00 PM	0:00:10	Slow	dBA	35.8	37	35.3	50.9	36.6	36	35.8	35.4
2/7/2023	4:36:00 PM	4:36:10 PM	0:00:10	Slow	dBA	35.9	36.2	35.6	49.5	36.1	36	35.8	35.6
2/7/2023	4:36:10 PM	4:36:20 PM	0:00:10	Slow	dBA	36.4	36.8	35.9	50.2	36.6	36.5	36.3	35.9
2/7/2023	4:36:20 PM	4:36:30 PM	0:00:10	Slow	dBA	37.8	39.8	36	54.8	38.9	38.2	37.1	36.1
2/7/2023	4:36:30 PM	4:36:40 PM	0:00:10	Slow	dBA	38.4	41.2	37.1	57.6	39.8	38.9	38.5	37.4
2/7/2023	4:36:40 PM	4:36:50 PM	0:00:10	Slow	dBA	36.9	38.1	36.6	50.2	37.5	37.2	37	36.7
2/7/2023	4:36:50 PM	4:37:00 PM	0:00:10	Slow	dBA	37.1	37.4	36.6	50.5	37.3	37.2	37	36.7
2/7/2023	4:37:00 PM	4:37:10 PM	0:00:10	Slow	dBA	37.8	38.7	36.8	58.8	38.4	38	37.4	37
2/7/2023	4:37:10 PM	4:37:20 PM	0:00:10	Slow	dBA	38.2	39.3	37.6	58.2	38.7	38.3	38.1	37.8
2/7/2023	4:37:20 PM	4:37:30 PM	0:00:10	Slow	dBA	38.6	40.5	37.3	54.8	40.2	39.8	38.1	37.4
2/7/2023	4:37:30 PM	4:37:40 PM	0:00:10	Slow	dBA	37.3	38.1	36.7	60.4	37.8	37.7	37.5	36.8
2/7/2023	4:37:40 PM	4:37:50 PM	0:00:10	Slow	dBA	37.6	38.4	36.6	59.6	38	37.7	37.6	36.9
2/7/2023	4:37:50 PM	4:38:00 PM	0:00:10	Slow	dBA	37.1	37.4	36.8	50.7	37.3	37.3	37.1	36.9
2/7/2023	4:38:00 PM	4:38:10 PM	0:00:10	Slow	dBA	38.5	40.5	37	59.6	39.7	38.6	38.3	37.2
2/7/2023	4:38:10 PM	4:38:20 PM	0:00:10	Slow	dBA	38.4	39.3	37.7	62.4	38.7	38.6	38.3	37.8
2/7/2023	4:38:20 PM	4:38:30 PM	0:00:10	Slow	dBA	39.1	40.2	38.2	53.7	39.7	39.2	39	38.4
2/7/2023	4:38:30 PM	4:38:40 PM	0:00:10	Slow	dBA	39.8	40.5	39.3	53.1	40.4	40.2	39.9	39.4
2/7/2023	4:38:40 PM	4:38:50 PM	0:00:10	Slow	dBA	39.9	40.6	39.3	56.8	40.5	40.4	39.8	39.4
2/7/2023	4:38:50 PM	4:39:00 PM	0:00:10	Slow	dBA	41.2	45.6	39.1	63.2	43.6	41.8	39.9	39.3
2/7/2023	4:39:00 PM	4:39:10 PM	0:00:10	Slow	dBA	40	40.5	39.2	54.4	40.3	40.1	39.9	39.5
2/7/2023	4:39:10 PM	4:39:20 PM	0:00:10	Slow	dBA	39.2	40.1	38.5	53	39.9	39.6	39.3	38.6
2/7/2023	4:39:20 PM	4:39:30 PM	0:00:10	Slow	dBA	39.6	40.4	38.5	61.2	40.2	39.8	39.3	38.8
2/7/2023	4:39:30 PM	4:39:40 PM	0:00:10	Slow	dBA	41.4	44	39.6	55.6	43.1	42	41.3	39.8
2/7/2023	4:39:40 PM	4:39:50 PM	0:00:10	Slow	dBA	38.2	39.6	37.6	52.1	39.1	38.9	38.4	37.7
2/7/2023	4:39:50 PM	4:40:00 PM	0:00:10	Slow	dBA	38.5	40.1	37.5	55.1	39.1	38.5	38	37.6
2/7/2023	4:40:00 PM	4:40:10 PM	0:00:10	Slow	dBA	39.9	41	38.7	53.4	40.8	40.1	39.7	39
2/7/2023	4:40:10 PM	4:40:20 PM	0:00:10	Slow	dBA	40.6	41.2	40.1	54.6	41	40.7	40.5	40.3
2/7/2023	4:40:20 PM	4:40:30 PM	0:00:10	Slow	dBA	41	43.1	39.3	54.8	42.3	41.4	40.9	39.5
2/7/2023	4:40:30 PM	4:40:40 PM	0:00:10	Slow	dBA	42.7	43.8	40.8	56.2	43.2	42.9	42.7	41.7
2/7/2023	4:40:40 PM	4:40:50 PM	0:00:10	Slow	dBA	46.2	49.5	41	60.2	49	48.1	42.3	41.1
2/7/2023	4:40:50 PM	4:41:00 PM	0:00:10	Slow	dBA	47.6	48.5	45.7	59.6	48.3	48.1	47.9	47

Start Date	Start Time	End Time	Duration	SPL Rate	Freq Weight	LAeq	LAmax	LAmin	LApk	L10	L25	L50	L90
2/7/2023	4:41:00 PM	4:41:10 PM	0:00:10	Slow	dBA	45.7	46.7	44.8	58.4	46	45.9	45.6	45.2
2/7/2023	4:41:10 PM	4:41:20 PM	0:00:10	Slow	dBA	44.4	47.5	41.8	58.1	47.1	46.4	44.1	41.9
2/7/2023	4:41:20 PM	4:41:30 PM	0:00:10	Slow	dBA	40.3	41.8	39.2	54.4	41.6	41.3	40.2	39.3
2/7/2023	4:41:30 PM	4:41:40 PM	0:00:10	Slow	dBA	39.6	40.3	39	52.5	40.1	39.8	39.6	39.1
2/7/2023	4:41:40 PM	4:41:50 PM	0:00:10	Slow	dBA	39.8	41	39	55.8	40.4	40.2	39.9	39.2
2/7/2023	4:41:50 PM	4:42:00 PM	0:00:10	Slow	dBA	42.4	44.1	39.3	57.1	43.8	43.5	41.7	39.6
2/7/2023	4:42:00 PM	4:42:10 PM	0:00:10	Slow	dBA	45	48.6	42.3	61.7	45.2	44.8	43.5	42.8
2/7/2023	4:42:10 PM	4:42:20 PM	0:00:10	Slow	dBA	43.4	48.7	42.2	60.5	47.1	44.5	43.5	42.3
2/7/2023	4:42:20 PM	4:42:30 PM	0:00:10	Slow	dBA	45	46.6	42.3	59.2	46.1	45.7	45.1	42.8
2/7/2023	4:42:30 PM	4:42:40 PM	0:00:10	Slow	dBA	45.7	47.6	44.1	58.9	47.1	46.5	45.5	44.4
2/7/2023	4:42:40 PM	4:42:50 PM	0:00:10	Slow	dBA	43.2	44.5	42	56.8	44.3	43.6	43.4	42.5
2/7/2023	4:42:50 PM	4:43:00 PM	0:00:10	Slow	dBA	40.9	42.3	40.3	54.7	42	41.7	40.8	40.6
2/7/2023	4:43:00 PM	4:43:10 PM	0:00:10	Slow	dBA	41.9	44.5	39.6	58.7	44.1	43	41.3	39.8
2/7/2023	4:43:10 PM	4:43:20 PM	0:00:10	Slow	dBA	40.3	40.9	39.6	53.7	40.8	40.7	40.4	40
2/7/2023	4:43:20 PM	4:43:30 PM	0:00:10	Slow	dBA	39.3	44.8	37.3	79.7	38.8	38.1	37.9	37.4
2/7/2023	4:43:30 PM	4:43:40 PM	0:00:10	Slow	dBA	37.5	44.5	37.2	55.5	41.5	38.7	37.7	37.3
2/7/2023	4:43:40 PM	4:43:50 PM	0:00:10	Slow	dBA	37.8	38.8	36.9	54.3	38.1	38	37.7	37.1
2/7/2023	4:43:50 PM	4:44:00 PM	0:00:10	Slow	dBA	37.4	38.4	36.9	51.6	38.2	37.9	37.4	37
2/7/2023	4:44:00 PM	4:44:10 PM	0:00:10	Slow	dBA	37.1	38.2	36.5	52.1	38	37.5	37	36.6
2/7/2023	4:44:10 PM	4:44:20 PM	0:00:10	Slow	dBA	37.6	38.2	36.5	52.6	38.1	37.9	37.4	37
2/7/2023	4:44:20 PM	4:44:30 PM	0:00:10	Slow	dBA	37	37.9	36.6	58.2	37.7	37.2	37	36.7
2/7/2023	4:44:30 PM	4:44:40 PM	0:00:10	Slow	dBA	38	40.1	36.7	74.7	39.4	38.4	37.6	37
2/7/2023	4:44:40 PM	4:44:50 PM	0:00:10	Slow	dBA	36.7	37.1	36.2	50.2	36.9	36.8	36.7	36.3
2/7/2023	4:44:50 PM	4:45:00 PM	0:00:10	Slow	dBA	37.8	39.3	36.5	53.3	38.9	38.1	37.8	36.8
2/7/2023	4:45:01 PM	4:45:10 PM	0:00:09	Slow	dBA	39.3	42.9	36.4	75.1	41.4	39.2	38	36.5

MEASUREMENT LOCATION ST1	Laeq			L10	L25	L50	L90
Values Averaged Across Measurement Period:	40.8			42.3	41.4	40.5	39.6
Lowest Value Recorded Across Period (Lmin)			0				
Highest Value Recorded Across Period (Lmax)		51.9					

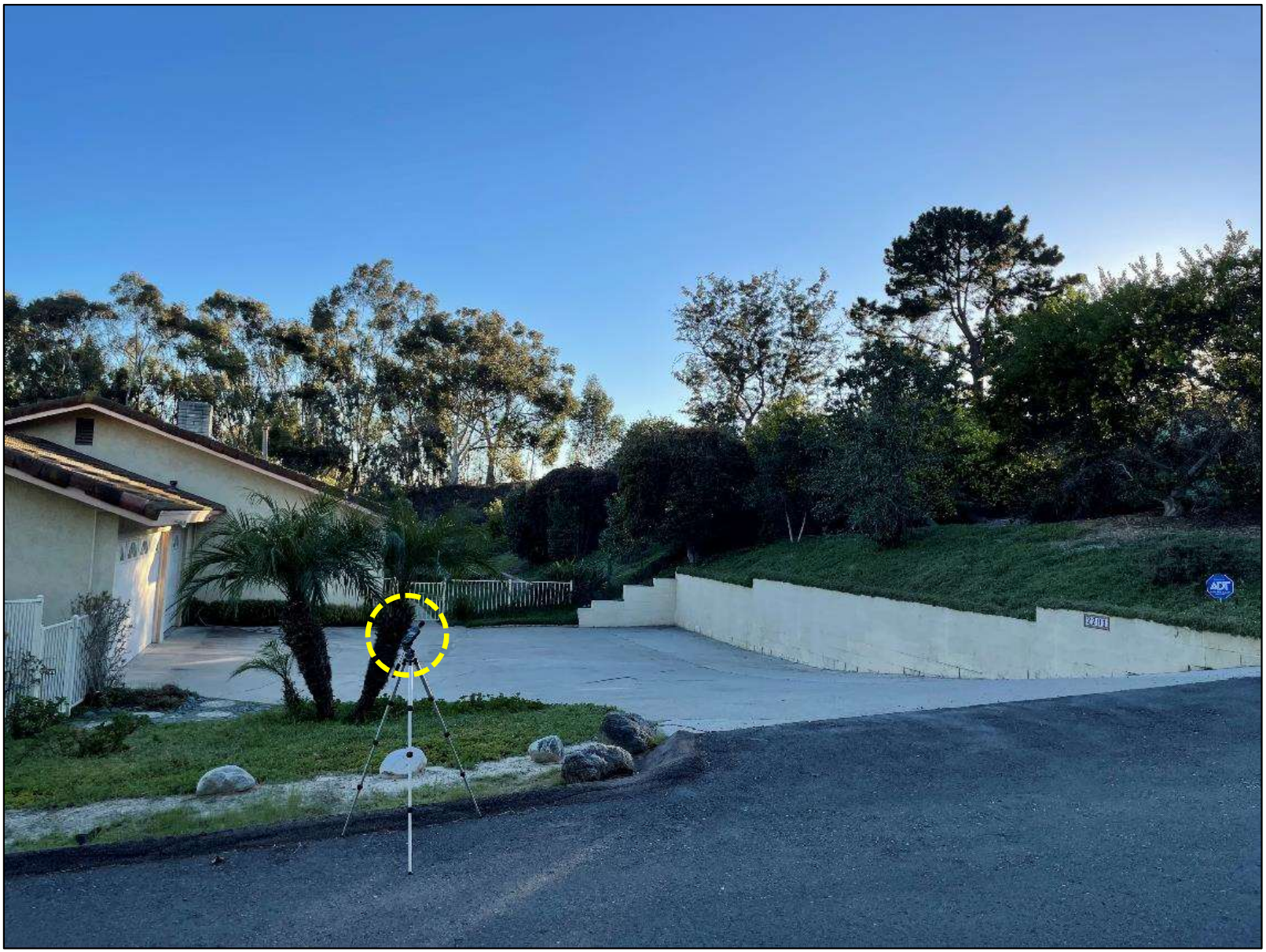
MEASUREMENT LOCATION ST2

Start Date	Start Time	End Time	Duration	SPL Rate	Freq Weight	LAeq	LAmax	LAmin	LApk	L10	L25	L50	L90
2/7/2023	4:53:20 PM	4:53:30 PM	0:00:10	Slow	dBA	39.3	42.2	37	66.6	41	40.3	39	37.6
2/7/2023	4:53:30 PM	4:53:40 PM	0:00:10	Slow	dBA	35.7	37.6	34.4	64.2	36.9	36.2	35.8	34.7
2/7/2023	4:53:40 PM	4:53:50 PM	0:00:10	Slow	dBA	37.6	39.7	34.4	66.1	39.3	38.6	37.8	34.6
2/7/2023	4:53:50 PM	4:54:00 PM	0:00:10	Slow	dBA	38.9	41.9	35.6	68.9	40.9	39.2	37.9	36.2
2/7/2023	4:54:00 PM	4:54:10 PM	0:00:10	Slow	dBA	37.1	41.3	34.6	58.6	40.4	38.9	37.1	35.3
2/7/2023	4:54:10 PM	4:54:20 PM	0:00:10	Slow	dBA	38.7	41.7	34.6	58.5	40.3	39.4	37.8	36.3
2/7/2023	4:54:20 PM	4:54:30 PM	0:00:10	Slow	dBA	39.6	41.5	36.6	63.5	41.2	40.8	38.8	36.9
2/7/2023	4:54:30 PM	4:54:40 PM	0:00:10	Slow	dBA	57.1	62.5	41.5	79.2	61.8	59	53.9	43.4
2/7/2023	4:54:40 PM	4:54:50 PM	0:00:10	Slow	dBA	41.8	53.3	35.5	70.3	50	46.3	42.9	35.8
2/7/2023	4:54:50 PM	4:55:00 PM	0:00:10	Slow	dBA	37.4	39.4	35.3	55.8	38.7	37.9	37	35.8
2/7/2023	4:55:00 PM	4:55:10 PM	0:00:10	Slow	dBA	44	51.2	35.5	67.3	43.4	36.5	36.3	35.6
2/7/2023	4:55:10 PM	4:55:20 PM	0:00:10	Slow	dBA	39.9	50.4	36	63	46.6	44.3	40.7	36.7
2/7/2023	4:55:20 PM	4:55:30 PM	0:00:10	Slow	dBA	44	48.8	36	66.2	47.7	46	41.9	37.7
2/7/2023	4:55:30 PM	4:55:40 PM	0:00:10	Slow	dBA	36.1	37.7	35.3	51	37.1	36.4	36.1	35.6
2/7/2023	4:55:40 PM	4:55:50 PM	0:00:10	Slow	dBA	35.8	36.8	34.8	49.2	36.4	36	35.9	35
2/7/2023	4:55:50 PM	4:56:00 PM	0:00:10	Slow	dBA	37.9	38.9	36.7	57.5	38.8	38.4	37.6	37.2
2/7/2023	4:56:00 PM	4:56:10 PM	0:00:10	Slow	dBA	37.5	39.5	36.6	55.3	38.3	37.7	37.4	36.9
2/7/2023	4:56:10 PM	4:56:20 PM	0:00:10	Slow	dBA	36.2	38	35.3	63.8	37.1	36.8	36	35.5
2/7/2023	4:56:20 PM	4:56:30 PM	0:00:10	Slow	dBA	35.8	39.2	34.1	56.2	37.8	36.8	35.3	34.3
2/7/2023	4:56:30 PM	4:56:40 PM	0:00:10	Slow	dBA	35.6	37.3	34.4	51.3	35.9	35.6	35.3	34.4
2/7/2023	4:56:40 PM	4:56:50 PM	0:00:10	Slow	dBA	37.4	38.5	36.5	51.8	38	37.8	37.4	36.9
2/7/2023	4:56:50 PM	4:57:00 PM	0:00:10	Slow	dBA	40.6	44.4	36.6	60.3	42.9	41.2	39.3	37.9
2/7/2023	4:57:00 PM	4:57:10 PM	0:00:10	Slow	dBA	43.3	45.7	40.5	60.4	44.8	43.9	42.8	40.8
2/7/2023	4:57:10 PM	4:57:20 PM	0:00:10	Slow	dBA	47.5	49.3	44.6	61.6	49.2	48.3	47	45.2
2/7/2023	4:57:20 PM	4:57:30 PM	0:00:10	Slow	dBA	47.5	48.4	46.9	61.7	47.9	47.7	47.6	47.1
2/7/2023	4:57:30 PM	4:57:40 PM	0:00:10	Slow	dBA	47.7	48.7	46	59.6	48.4	48.2	47.7	46.5
2/7/2023	4:57:40 PM	4:57:50 PM	0:00:10	Slow	dBA	48.5	50.2	46.9	61.9	49.5	48.5	48.1	47.4
2/7/2023	4:57:50 PM	4:58:00 PM	0:00:10	Slow	dBA	51	53.2	47.4	64.3	52.8	52.4	50.4	47.7
2/7/2023	4:58:00 PM	4:58:10 PM	0:00:10	Slow	dBA	50.2	52.7	48.4	63.9	51.9	51.2	50.2	48.6
2/7/2023	4:58:10 PM	4:58:20 PM	0:00:10	Slow	dBA	51	52.7	49	63.8	52.5	52	50.5	49.5

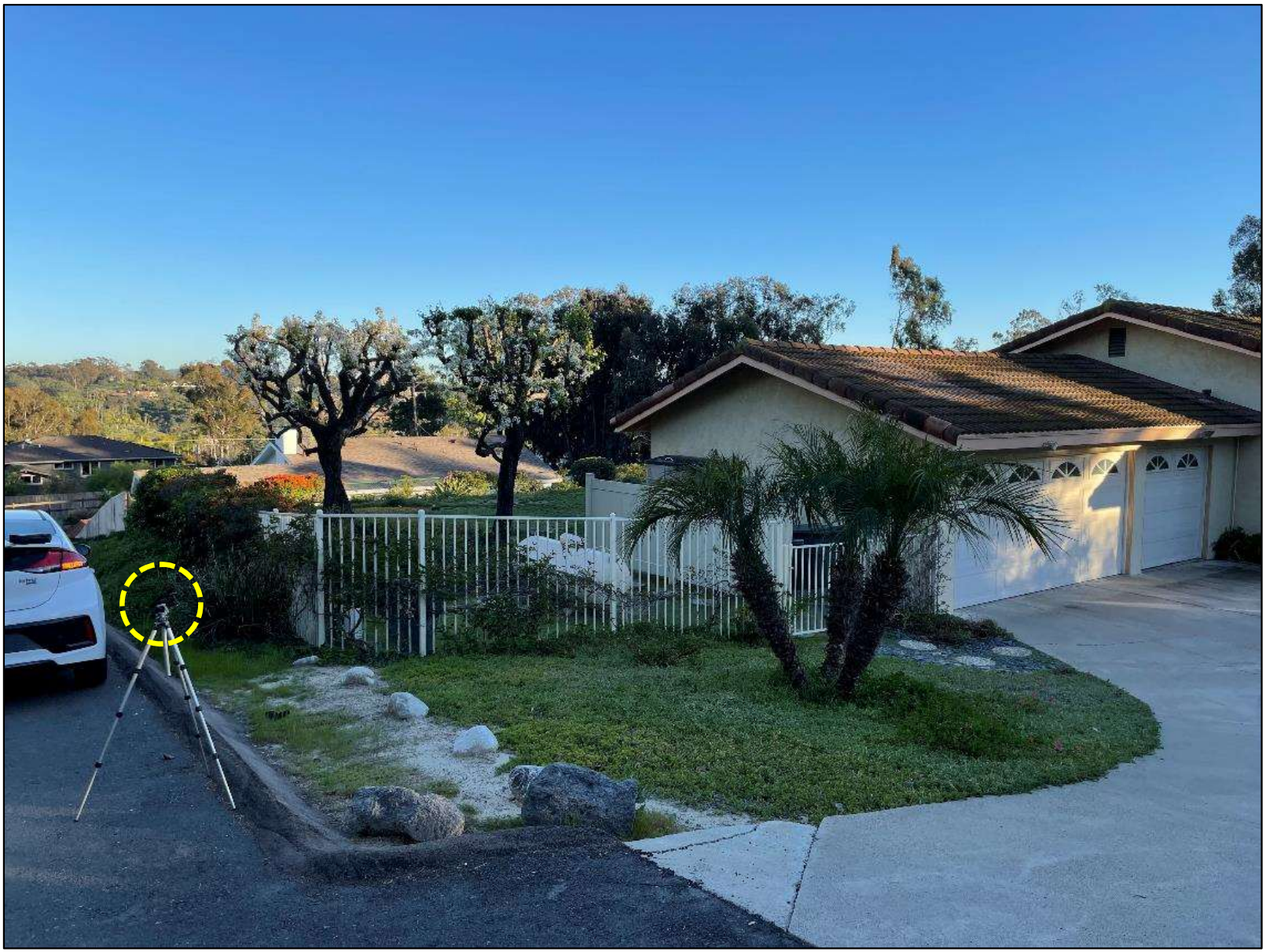
Start Date	Start Time	End Time	Duration	SPL Rate	Freq Weight	LAeq	LAmax	LAmin	LApk	L10	L25	L50	L90
2/7/2023	4:58:20 PM	4:58:30 PM	0:00:10	Slow	dBA	42.7	50.5	38.4	66.5	48.5	46.1	42.1	38.9
2/7/2023	4:58:30 PM	4:58:40 PM	0:00:10	Slow	dBA	39.2	40.7	38	58.6	40.2	39.8	39.3	38.3
2/7/2023	4:58:40 PM	4:58:50 PM	0:00:10	Slow	dBA	41.4	42.8	38.7	59.8	42.4	41.8	41.4	39.7
2/7/2023	4:58:50 PM	4:58:53 PM	0:00:03	Slow	dBA	38.1	40.3	37.4	55.2	39.8	39.6	39.3	37.8

MEASUREMENT LOCATION ST2

	Laeq			L10	L25	L50	L90
Values Averaged Across Measurement Period:	46.0			49.2	47.4	44.7	42.1
Lowest Value Recorded Across Period (Lmin)			34.1				
Highest Value Recorded Across Period (Lmax)		62.5					



02/07/23 – View of Sound Level Meter (SLM) at Position **ST1**
(looking southwest; SLM encircled in yellow dashes)



02/07/23 – View of Sound Level Meter (SLM) at Position **ST1**
(looking south-southeast; SLM encircled in yellow dashes)

02/07/23 – View of Sound Level Meter (SLM) at Position **ST2**
(looking west-northwest; SLM encircled in yellow dashes)

02/07/23 – View of Sound Level Meter (SLM) at Position **ST2**
(looking east-southeast; SLM encircled in yellow dashes)

02/07/23 – Screenshots of Field Survey Positions (at blue dots):
ST1 (left) and **ST2** (right)

ATTACHMENT B

CONSTRUCTION NOISE MODELING DATA

To User: bordered cells are inputs, unbordered cells have formulae

Lmax noise level limit for construction phase at residential land use, per Encinitas noise ordinance = **75**

hours over which Leq is to be averaged = **1**

0 = temporary barrier (TB) of input height inserted between source and receptor

Construction Activity	Equipment	Total Equipment Qty	AUF % (from FHWA RCNM)	Reference Lmax @ 50 ft. from FHWA RCNM	Lmax @ 50 ft. for quantify of equipment	Source to NSR Distance (ft.)	*Temporary Barrier Insertion Loss (dB)*	*Additional Noise Reduction*	Distance-Adjusted Lmax	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 1-hour Leq	Source Elevation (ft)	Receiver Elevation (ft)	Barrier Height (ft)	Source to Barr. ("A") Horiz. (ft)	Rcvr. to Barr. ("B") Horiz. (ft)	Source to Rcvr. ("C") Horiz. (ft)	"A" (ft)	"B" (ft)	"C" (ft)	Path Length Diff. "P" (ft)	Abarr (dB)	Heff (with barrier)	Heff (wout barrier)	G (with barrier)	G (without barrier)	ILbarr (dB)
Site Preparation	dozer	3	40	82	86.8	55	0.1		85.8	1	60	82	6	5	0	45	10	55	45.4	11.2	55.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	front end loader	2	40	79	82.0	55	0.1		81.1	1	60	77	6	5	0	45	10	55	45.4	11.2	55.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	backhoe	2	40	78	81.0	55	0.1		80.1	1	60	76	6	5	0	45	10	55	45.4	11.2	55.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
							Total Lmax for Site Preparation Phase:		87.9		Total Hourly Leq:	**83.9**																
Grading	excavator	1	40	81	81.0	55	0.1		80.1	1	60	76	6	5	0	45	10	55	45.4	11.2	55.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	grader	1	40	85	85.0	55	0.1		84.1	1	60	80	6	5	0	45	10	55	45.4	11.2	55.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	dozer	1	40	82	82.0	55	0.1		81.1	1	60	77	6	5	0	45	10	55	45.4	11.2	55.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	backhoe	3	40	78	82.8	55	0.1		81.8	1	60	78	6	5	0	45	10	55	45.4	11.2	55.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
							Total Lmax for Grading Phase:		88.0		Total Hourly Leq:	**84.0**																
Building Erection	crane	1	16	81	81.0	55	0.1		80.1	1	60	72	6	5	0	45	10	55	45.4	11.2	55.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	gradall	3	40	83	87.8	55	0.1		86.8	1	60	83	6	5	0	45	10	55	45.4	11.2	55.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	generator	1	50	72	72.0	55	0.1		71.1	1	60	68	6	5	0	45	10	55	45.4	11.2	55.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	backhoe	3	40	78	82.8	55	0.1		81.8	1	60	78	6	5	0	45	10	55	45.4	11.2	55.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	welder / torch	1	40	73	73.0	55	0.1		72.1	1	60	68	6	5	0	45	10	55	45.4	11.2	55.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
							Total Lmax for Building Erection Phase:		88.8		Total Hourly Leq:	**84.5**																
Architectural Coating	compressor (air)	1	40	78	78.0	55	0.1		77.1	1	60	73	6	5	0	45	10	55	45.4	11.2	55.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
							Total Lmax for Architectural Coating Phase:		77.1			**73.1**																
Paving	concrete mixer truck	2	40	79	82.0	55	0.1		81.1	1	60	77	6	5	0	45	10	55	45.4	11.2	55.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	paver	1	50	77	77.0	55	0.1		76.1	1	60	73	6	5	0	45	10	55	45.4	11.2	55.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	roller	2	20	80	83.0	55	0.1		82.1	1	60	75	6	5	0	45	10	55	45.4	11.2	55.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	backhoe	1	40	78	78.0	55	0.1		77.1	1	60	73	6	5	0	45	10	55	45.4	11.2	55.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	All Other Equipment > 5 HP	1	50	85	85.0	55	0.1		84.1	1	60	81	6	5	0	45	10	55	45.4	11.2	55.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
							Total Lmax for Paving Phase:		88.0		Total Hourly Leq:	**84.0**																

To User: bordered cells are inputs, unbordered cells have formulae

Lmax noise level limit for construction phase at residential land use, per Encinitas noise ordinance = **75**

hours over which Leq is to be averaged = **1**

10 = temporary barrier (TB) of input height inserted between source and receptor

Construction Activity	Equipment	Total Equipment Qty	AUF % (from FHWA RCNM)	Reference Lmax @ 50 ft. from FHWA RCNM	Lmax @ 50 ft. for quantify of equipment	Source to NSR Distance (ft.)	*Temporary Barrier Insertion Loss (dB)*	*Additional Noise Reduction*	Distance-Adjusted Lmax	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 1-hour Leq	Source Elevation (ft)	Receiver Elevation (ft)	Barrier Height (ft)	Source to Barr. ("A") Horiz. (ft)	Rcvr. to Barr. ("B") Horiz. (ft)	Source to Rcvr. ("C") Horiz. (ft)	"A" (ft)	"B" (ft)	"C" (ft)	Path Length Diff. "P" (ft)	Abarr (dB)	Heff (with barrier)	Heff (wout barrier)	G (with barrier)	G (without barrier)	ILbarr (dB)
Site Preparation	dozer	3	40	82	86.8	55	14.2		71.7	1	60	68	6	5	10	45	10	55	45.2	11.2	55.0	1.35	14.3	15.5	5.5	0.5	0.7	14.2
	front end loader	2	40	79	82.0	55	14.2		66.9	1	60	63	6	5	10	45	10	55	45.2	11.2	55.0	1.35	14.3	15.5	5.5	0.5	0.7	14.2
	backhoe	2	40	78	81.0	55	14.2		65.9	1	60	62	6	5	10	45	10	55	45.2	11.2	55.0	1.35	14.3	15.5	5.5	0.5	0.7	14.2
							Total Lmax for Site Preparation Phase:		**73.7**		Total Hourly Leq:	**69.7**															
Grading	excavator	1	40	81	81.0	55	14.2		65.9	1	60	62	6	5	10	45	10	55	45.2	11.2	55.0	1.35	14.3	15.5	5.5	0.5	0.7	14.2
	grader	1	40	85	85.0	55	14.2		69.9	1	60	66	6	5	10	45	10	55	45.2	11.2	55.0	1.35	14.3	15.5	5.5	0.5	0.7	14.2
	dozer	1	40	82	82.0	55	14.2		66.9	1	60	63	6	5	10	45	10	55	45.2	11.2	55.0	1.35	14.3	15.5	5.5	0.5	0.7	14.2
	backhoe	3	40	78	82.8	55	14.2		67.7	1	60	64	6	5	10	45	10	55	45.2	11.2	55.0	1.35	14.3	15.5	5.5	0.5	0.7	14.2
							Total Lmax for Grading Phase:		**73.9**		Total Hourly Leq:	**69.9**															
Building Erection	crane	1	16	81	81.0	55	14.2		65.9	1	60	58	6	5	10	45	10	55	45.2	11.2	55.0	1.35	14.3	15.5	5.5	0.5	0.7	14.2
	gradall	3	40	83	87.8	55	14.2		72.7	1	60	69	6	5	10	45	10	55	45.2	11.2	55.0	1.35	14.3	15.5	5.5	0.5	0.7	14.2
	generator	1	50	72	72.0	55	14.2		56.9	1	60	54	6	5	10	45	10	55	45.2	11.2	55.0	1.35	14.3	15.5	5.5	0.5	0.7	14.2
	backhoe	3	40	78	82.8	55	14.2		67.7	1	60	64	6	5	10	45	10	55	45.2	11.2	55.0	1.35	14.3	15.5	5.5	0.5	0.7	14.2
	welder / torch	1	40	73	73.0	55	14.2		57.9	1	60	54	6	5	10	45	10	55	45.2	11.2	55.0	1.35	14.3	15.5	5.5	0.5	0.7	14.2
							Total Lmax for Building Erection Phase:		**74.7**		Total Hourly Leq:	**70.4**															
Architectural Coating	compressor (air)	1	40	78	78.0	55	14.2		62.9	1	60	59	6	5	10	45	10	55	45.2	11.2	55.0	1.35	14.3	15.5	5.5	0.5	0.7	14.2
							Total Lmax for Architectural Coating Phase:		**62.9**			**58.9**															
Paving	concrete mixer truck	2	40	79	82.0	55	14.2		66.9	1	60	63	6	5	10	45	10	55	45.2	11.2	55.0	1.35	14.3	15.5	5.5	0.5	0.7	14.2
	paver	1	50	77	77.0	55	14.2		61.9	1	60	59	6	5	10	45	10	55	45.2	11.2	55.0	1.35	14.3	15.5	5.5	0.5	0.7	14.2
	roller	2	20	80	83.0	55	14.2		67.9	1	60	61	6	5	10	45	10	55	45.2	11.2	55.0	1.35	14.3	15.5	5.5	0.5	0.7	14.2
	backhoe	1	40	78	78.0	55	14.2		62.9	1	60	59	6	5	10	45	10	55	45.2	11.2	55.0	1.35	14.3	15.5	5.5	0.5	0.7	14.2
	All Other Equipment > 5 HP	1	50	85	85.0	55	14.2		69.9	1	60	67	6	5	10	45	10	55	45.2	11.2	55.0	1.35	14.3	15.5	5.5	0.5	0.7	14.2
							Total Lmax for Paving Phase:		**73.9**		Total Hourly Leq:	**69.8**															

To User: bordered cells are inputs, unbordered cells have formulae

Lmax noise level limit for construction phase at residential land use, per Encinitas noise ordinance = **75**

hours over which Leq is to be averaged = **1**

0 = temporary barrier (TB) of input height inserted between source and receptor

Construction Activity	Equipment	Total Equipment Qty	AUF % (from FHWA RCNM)	Reference Lmax @ 50 ft. from FHWA RCNM	Lmax @ 50 ft. for quantify of equipment	Source to NSR Distance (ft.)	*Temporary Barrier Insertion Loss (dB)*	*Additional Noise Reduction*	Distance-Adjusted Lmax	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 1-hour Leq	Source Elevation (ft)	Receiver Elevation (ft)	Barrier Height (ft)	Source to Barr. ("A") Horiz. (ft)	Rcvr. to Barr. ("B") Horiz. (ft)	Source to Rcvr. ("C") Horiz. (ft)	"A" (ft)	"B" (ft)	"C" (ft)	Path Length Diff. "P" (ft)	Abarr (dB)	Heff (with barrier)	Heff (wout barrier)	G (with barrier)	G (without barrier)	ILbarr (dB)
Site Preparation	dozer	3	40	82	86.8	65	0.1		84.4	1	60	80	6	5	0	55	10	65	55.3	11.2	65.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	front end loader	2	40	79	82.0	65	0.1		79.6	1	60	76	6	5	0	55	10	65	55.3	11.2	65.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	backhoe	2	40	78	81.0	65	0.1		78.6	1	60	75	6	5	0	55	10	65	55.3	11.2	65.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
							Total Lmax for Site Preparation Phase:		86.4		Total Hourly Leq:	**82.4**																
Grading	excavator	1	40	81	81.0	65	0.1		78.6	1	60	75	6	5	0	55	10	65	55.3	11.2	65.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	grader	1	40	85	85.0	65	0.1		82.6	1	60	79	6	5	0	55	10	65	55.3	11.2	65.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	dozer	1	40	82	82.0	65	0.1		79.6	1	60	76	6	5	0	55	10	65	55.3	11.2	65.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	backhoe	3	40	78	82.8	65	0.1		80.4	1	60	76	6	5	0	55	10	65	55.3	11.2	65.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
							Total Lmax for Grading Phase:		86.6		Total Hourly Leq:	**82.6**																
Building Erection	crane	1	16	81	81.0	65	0.1		78.6	1	60	71	6	5	0	55	10	65	55.3	11.2	65.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	gradall	3	40	83	87.8	65	0.1		85.4	1	60	81	6	5	0	55	10	65	55.3	11.2	65.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	generator	1	50	72	72.0	65	0.1		69.6	1	60	67	6	5	0	55	10	65	55.3	11.2	65.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	backhoe	3	40	78	82.8	65	0.1		80.4	1	60	76	6	5	0	55	10	65	55.3	11.2	65.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	welder / torch	1	40	73	73.0	65	0.1		70.6	1	60	67	6	5	0	55	10	65	55.3	11.2	65.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
							Total Lmax for Building Erection Phase:		87.4		Total Hourly Leq:	**83.0**																
Architectural Coating	compressor (air)	1	40	78	78.0	65	0.1		75.6	1	60	72	6	5	0	55	10	65	55.3	11.2	65.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
							Total Lmax for Architectural Coating Phase:		75.6			**71.6**																
Paving	concrete mixer truck	2	40	79	82.0	65	0.1		79.6	1	60	76	6	5	0	55	10	65	55.3	11.2	65.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	paver	1	50	77	77.0	65	0.1		74.6	1	60	72	6	5	0	55	10	65	55.3	11.2	65.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	roller	2	20	80	83.0	65	0.1		80.6	1	60	74	6	5	0	55	10	65	55.3	11.2	65.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	backhoe	1	40	78	78.0	65	0.1		75.6	1	60	72	6	5	0	55	10	65	55.3	11.2	65.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	All Other Equipment > 5 HP	1	50	85	85.0	65	0.1		82.6	1	60	80	6	5	0	55	10	65	55.3	11.2	65.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
							Total Lmax for Paving Phase:		86.6		Total Hourly Leq:	**82.5**																

To User: bordered cells are inputs, unbordered cells have formulae

Lmax noise level limit for construction phase at residential land use, per Encinitas noise ordinance = **75**

hours over which Leq is to be averaged = **1**

10 = temporary barrier (TB) of input height inserted between source and receptor

Construction Activity	Equipment	Total Equipment Qty	AUF % (from FHWA RCNM)	Reference Lmax @ 50 ft. from FHWA RCNM	Lmax @ 50 ft. for quantify of equipment	Source to NSR Distance (ft.)	*Temporary Barrier Insertion Loss (dB)*	*Additional Noise Reduction*	Distance-Adjusted Lmax	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 1-hour Leq	Source Elevation (ft)	Receiver Elevation (ft)	Barrier Height (ft)	Source to Barr. ("A") Horiz. (ft)	Rcvr. to Barr. ("B") Horiz. (ft)	Source to Rcvr. ("C") Horiz. (ft)	"A" (ft)	"B" (ft)	"C" (ft)	Path Length Diff. "P" (ft)	Abarr (dB)	Heff (with barrier)	Heff (wout barrier)	G (with barrier)	G (without barrier)	ILbarr (dB)
Site Preparation	dozer	3	40	82	86.8	65	14.0		70.4	1	60	66	6	5	10	55	10	65	55.1	11.2	65.0	1.32	14.2	15.5	5.5	0.5	0.7	14.0
	front end loader	2	40	79	82.0	65	14.0		65.7	1	60	62	6	5	10	55	10	65	55.1	11.2	65.0	1.32	14.2	15.5	5.5	0.5	0.7	14.0
	backhoe	2	40	78	81.0	65	14.0		64.7	1	60	61	6	5	10	55	10	65	55.1	11.2	65.0	1.32	14.2	15.5	5.5	0.5	0.7	14.0
							Total Lmax for Site Preparation Phase:		**72.5**		Total Hourly Leq:	**68.5**																
Grading	excavator	1	40	81	81.0	65	14.0		64.7	1	60	61	6	5	10	55	10	65	55.1	11.2	65.0	1.32	14.2	15.5	5.5	0.5	0.7	14.0
	grader	1	40	85	85.0	65	14.0		68.7	1	60	65	6	5	10	55	10	65	55.1	11.2	65.0	1.32	14.2	15.5	5.5	0.5	0.7	14.0
	dozer	1	40	82	82.0	65	14.0		65.7	1	60	62	6	5	10	55	10	65	55.1	11.2	65.0	1.32	14.2	15.5	5.5	0.5	0.7	14.0
	backhoe	3	40	78	82.8	65	14.0		66.4	1	60	62	6	5	10	55	10	65	55.1	11.2	65.0	1.32	14.2	15.5	5.5	0.5	0.7	14.0
							Total Lmax for Grading Phase:		**72.6**		Total Hourly Leq:	**68.7**																
Building Erection	crane	1	16	81	81.0	65	14.0		64.7	1	60	57	6	5	10	55	10	65	55.1	11.2	65.0	1.32	14.2	15.5	5.5	0.5	0.7	14.0
	gradall	3	40	83	87.8	65	14.0		71.4	1	60	67	6	5	10	55	10	65	55.1	11.2	65.0	1.32	14.2	15.5	5.5	0.5	0.7	14.0
	generator	1	50	72	72.0	65	14.0		55.7	1	60	53	6	5	10	55	10	65	55.1	11.2	65.0	1.32	14.2	15.5	5.5	0.5	0.7	14.0
	backhoe	3	40	78	82.8	65	14.0		66.4	1	60	62	6	5	10	55	10	65	55.1	11.2	65.0	1.32	14.2	15.5	5.5	0.5	0.7	14.0
	welder / torch	1	40	73	73.0	65	14.0		56.7	1	60	53	6	5	10	55	10	65	55.1	11.2	65.0	1.32	14.2	15.5	5.5	0.5	0.7	14.0
							Total Lmax for Building Erection Phase:		**73.4**		Total Hourly Leq:	**69.1**																
Architectural Coating	compressor (air)	1	40	78	78.0	65	14.0		61.7	1	60	58	6	5	10	55	10	65	55.1	11.2	65.0	1.32	14.2	15.5	5.5	0.5	0.7	14.0
							Total Lmax for Architectural Coating Phase:		**61.7**			**57.7**																
Paving	concrete mixer truck	2	40	79	82.0	65	14.0		65.7	1	60	62	6	5	10	55	10	65	55.1	11.2	65.0	1.32	14.2	15.5	5.5	0.5	0.7	14.0
	paver	1	50	77	77.0	65	14.0		60.7	1	60	58	6	5	10	55	10	65	55.1	11.2	65.0	1.32	14.2	15.5	5.5	0.5	0.7	14.0
	roller	2	20	80	83.0	65	14.0		66.7	1	60	60	6	5	10	55	10	65	55.1	11.2	65.0	1.32	14.2	15.5	5.5	0.5	0.7	14.0
	backhoe	1	40	78	78.0	65	14.0		61.7	1	60	58	6	5	10	55	10	65	55.1	11.2	65.0	1.32	14.2	15.5	5.5	0.5	0.7	14.0
	All Other Equipment > 5 HP	1	50	85	85.0	65	14.0		68.7	1	60	66	6	5	10	55	10	65	55.1	11.2	65.0	1.32	14.2	15.5	5.5	0.5	0.7	14.0
							Total Lmax for Paving Phase:		**72.6**		Total Hourly Leq:	**68.6**																

To User: bordered cells are inputs, unbordered cells have formulae

Lmax noise level limit for construction phase at residential land use, per Encinitas noise ordinance = **75**

hours over which Leq is to be averaged = **1**

0 = temporary barrier (TB) of input height inserted between source and receptor

Construction Activity	Equipment	Total Equipment Qty	AUF % (from FHWA RCNM)	Reference Lmax @ 50 ft. from FHWA RCNM	Lmax @ 50 ft. for quantify of equipment	Source to NSR Distance (ft.)	*Temporary Barrier Insertion Loss (dB)*	*Additional Noise Reduction*	Distance-Adjusted Lmax	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 1-hour Leq	Source Elevation (ft)	Receiver Elevation (ft)	Barrier Height (ft)	Source to Barr. ("A") Horiz. (ft)	Rcvr. to Barr. ("B") Horiz. (ft)	Source to Rcvr. ("C") Horiz. (ft)	"A" (ft)	"B" (ft)	"C" (ft)	Path Length Diff. "P" (ft)	Abarr (dB)	Heff (with barrier)	Heff (wout barrier)	G (with barrier)	G (without barrier)	ILbarr (dB)
Site Preparation	dozer	3	40	82	86.8	75	0.1		82.7	1	60	79	6	5	0	65	10	75	65.3	11.2	75.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	front end loader	2	40	79	82.0	75	0.1		78.0	1	60	74	6	5	0	65	10	75	65.3	11.2	75.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	backhoe	2	40	78	81.0	75	0.1		77.0	1	60	73	6	5	0	65	10	75	65.3	11.2	75.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
							Total Lmax for Site Preparation Phase:		**84.8**		Total Hourly Leq:	**80.8**																
Grading	excavator	1	40	81	81.0	75	0.1		77.0	1	60	73	6	5	0	65	10	75	65.3	11.2	75.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	grader	1	40	85	85.0	75	0.1		81.0	1	60	77	6	5	0	65	10	75	65.3	11.2	75.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	dozer	1	40	82	82.0	75	0.1		78.0	1	60	74	6	5	0	65	10	75	65.3	11.2	75.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	backhoe	3	40	78	82.8	75	0.1		78.7	1	60	75	6	5	0	65	10	75	65.3	11.2	75.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
							Total Lmax for Grading Phase:		**84.9**		Total Hourly Leq:	**81.0**																
Building Erection	crane	1	16	81	81.0	75	0.1		77.0	1	60	69	6	5	0	65	10	75	65.3	11.2	75.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	gradall	3	40	83	87.8	75	0.1		83.7	1	60	80	6	5	0	65	10	75	65.3	11.2	75.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	generator	1	50	72	72.0	75	0.1		68.0	1	60	65	6	5	0	65	10	75	65.3	11.2	75.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	backhoe	3	40	78	82.8	75	0.1		78.7	1	60	75	6	5	0	65	10	75	65.3	11.2	75.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	welder / torch	1	40	73	73.0	75	0.1		69.0	1	60	65	6	5	0	65	10	75	65.3	11.2	75.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
							Total Lmax for Building Erection Phase:		**85.7**		Total Hourly Leq:	**81.4**																
Architectural Coating	compressor (air)	1	40	78	78.0	75	0.1		74.0	1	60	70	6	5	0	65	10	75	65.3	11.2	75.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
							Total Lmax for Architectural Coating Phase:		**74.0**			**70.0**																
Paving	concrete mixer truck	2	40	79	82.0	75	0.1		78.0	1	60	74	6	5	0	65	10	75	65.3	11.2	75.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	paver	1	50	77	77.0	75	0.1		73.0	1	60	70	6	5	0	65	10	75	65.3	11.2	75.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	roller	2	20	80	83.0	75	0.1		79.0	1	60	72	6	5	0	65	10	75	65.3	11.2	75.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	backhoe	1	40	78	78.0	75	0.1		74.0	1	60	70	6	5	0	65	10	75	65.3	11.2	75.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	All Other Equipment > 5 HP	1	50	85	85.0	75	0.1		81.0	1	60	78	6	5	0	65	10	75	65.3	11.2	75.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
							Total Lmax for Paving Phase:		**84.9**		Total Hourly Leq:	**80.9**																

To User: bordered cells are inputs, unbordered cells have formulae

Lmax noise level limit for construction phase at residential land use, per Encinitas noise ordinance = **75**

hours over which Leq is to be averaged = **1**

10 = temporary barrier (TB) of input height inserted between source and receptor

Construction Activity	Equipment	Total Equipment Qty	AUF % (from FHWA RCNM)	Reference Lmax @ 50 ft. from FHWA RCNM	Lmax @ 50 ft. for quantify of equipment	Source to NSR Distance (ft.)	*Temporary Barrier Insertion Loss (dB)*	*Additional Noise Reduction*	Distance-Adjusted Lmax	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 1-hour Leq	Source Elevation (ft)	Receiver Elevation (ft)	Barrier Height (ft)	Source to Barr. ("A") Horiz. (ft)	Rcvr. to Barr. ("B") Horiz. (ft)	Source to Rcvr. ("C") Horiz. (ft)	"A" (ft)	"B" (ft)	"C" (ft)	Path Length Diff. "P" (ft)	Abarr (dB)	Heff (with barrier)	Heff (wout barrier)	G (with barrier)	G (without barrier)	ILbarr (dB)
Site Preparation	dozer	3	40	82	86.8	75	13.8		69.0	1	60	65	6	5	10	65	10	75	65.1	11.2	75.0	1.30	14.1	15.5	5.5	0.5	0.7	13.8
	front end loader	2	40	79	82.0	75	13.8		64.2	1	60	60	6	5	10	65	10	75	65.1	11.2	75.0	1.30	14.1	15.5	5.5	0.5	0.7	13.8
	backhoe	2	40	78	81.0	75	13.8		63.2	1	60	59	6	5	10	65	10	75	65.1	11.2	75.0	1.30	14.1	15.5	5.5	0.5	0.7	13.8
							Total Lmax for Site Preparation Phase:		**71.0**		Total Hourly Leq:	**67.0**																
Grading	excavator	1	40	81	81.0	75	13.8		63.2	1	60	59	6	5	10	65	10	75	65.1	11.2	75.0	1.30	14.1	15.5	5.5	0.5	0.7	13.8
	grader	1	40	85	85.0	75	13.8		67.2	1	60	63	6	5	10	65	10	75	65.1	11.2	75.0	1.30	14.1	15.5	5.5	0.5	0.7	13.8
	dozer	1	40	82	82.0	75	13.8		64.2	1	60	60	6	5	10	65	10	75	65.1	11.2	75.0	1.30	14.1	15.5	5.5	0.5	0.7	13.8
	backhoe	3	40	78	82.8	75	13.8		65.0	1	60	61	6	5	10	65	10	75	65.1	11.2	75.0	1.30	14.1	15.5	5.5	0.5	0.7	13.8
							Total Lmax for Grading Phase:		**71.2**		Total Hourly Leq:	**67.2**																
Building Erection	crane	1	16	81	81.0	75	13.8		63.2	1	60	55	6	5	10	65	10	75	65.1	11.2	75.0	1.30	14.1	15.5	5.5	0.5	0.7	13.8
	gradall	3	40	83	87.8	75	13.8		70.0	1	60	66	6	5	10	65	10	75	65.1	11.2	75.0	1.30	14.1	15.5	5.5	0.5	0.7	13.8
	generator	1	50	72	72.0	75	13.8		54.2	1	60	51	6	5	10	65	10	75	65.1	11.2	75.0	1.30	14.1	15.5	5.5	0.5	0.7	13.8
	backhoe	3	40	78	82.8	75	13.8		65.0	1	60	61	6	5	10	65	10	75	65.1	11.2	75.0	1.30	14.1	15.5	5.5	0.5	0.7	13.8
	welder / torch	1	40	73	73.0	75	13.8		55.2	1	60	51	6	5	10	65	10	75	65.1	11.2	75.0	1.30	14.1	15.5	5.5	0.5	0.7	13.8
							Total Lmax for Building Erection Phase:		**72.0**		Total Hourly Leq:	**67.7**																
Architectural Coating	compressor (air)	1	40	78	78.0	75	13.8		60.2	1	60	56	6	5	10	65	10	75	65.1	11.2	75.0	1.30	14.1	15.5	5.5	0.5	0.7	13.8
							Total Lmax for Architectural Coating Phase:		**60.2**			**56.2**																
Paving	concrete mixer truck	2	40	79	82.0	75	13.8		64.2	1	60	60	6	5	10	65	10	75	65.1	11.2	75.0	1.30	14.1	15.5	5.5	0.5	0.7	13.8
	paver	1	50	77	77.0	75	13.8		59.2	1	60	56	6	5	10	65	10	75	65.1	11.2	75.0	1.30	14.1	15.5	5.5	0.5	0.7	13.8
	roller	2	20	80	83.0	75	13.8		65.2	1	60	58	6	5	10	65	10	75	65.1	11.2	75.0	1.30	14.1	15.5	5.5	0.5	0.7	13.8
	backhoe	1	40	78	78.0	75	13.8		60.2	1	60	56	6	5	10	65	10	75	65.1	11.2	75.0	1.30	14.1	15.5	5.5	0.5	0.7	13.8
	All Other Equipment > 5 HP	1	50	85	85.0	75	13.8		67.2	1	60	64	6	5	10	65	10	75	65.1	11.2	75.0	1.30	14.1	15.5	5.5	0.5	0.7	13.8
							Total Lmax for Paving Phase:		**71.2**		Total Hourly Leq:	**67.2**																

To User: bordered cells are inputs, unbordered cells have formulae

Lmax noise level limit for construction phase at residential land use, per Encinitas noise ordinance = **75**

hours over which Leq is to be averaged = **1**

0 = temporary barrier (TB) of input height inserted between source and receptor

Construction Activity	Equipment	Total Equipment Qty	AUF % (from FHWA RCNM)	Reference Lmax @ 50 ft. from FHWA RCNM	Lmax @ 50 ft. for quantify of equipment	Source to NSR Distance (ft.)	*Temporary Barrier Insertion Loss (dB)*	*Additional Noise Reduction*	Distance-Adjusted Lmax	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 1-hour Leq	Source Elevation (ft)	Receiver Elevation (ft)	Barrier Height (ft)	Source to Barr. ("A") Horiz. (ft)	Rcvr. to Barr. ("B") Horiz. (ft)	Source to Rcvr. ("C") Horiz. (ft)	"A" (ft)	"B" (ft)	"C" (ft)	Path Length Diff. "P" (ft)	Abarr (dB)	Heff (with barrier)	Heff (wout barrier)	G (with barrier)	G (without barrier)	ILbarr (dB)
Site Preparation	dozer	3	40	82	86.8	590	0.1		60.2	1	60	56	6	5	0	580	10	590	580.0	11.2	590.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	front end loader	2	40	79	82.0	590	0.1		55.5	1	60	51	6	5	0	580	10	590	580.0	11.2	590.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	backhoe	2	40	78	81.0	590	0.1		54.5	1	60	50	6	5	0	580	10	590	580.0	11.2	590.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
					Total Lmax for Site Preparation Phase:				**62.3**		Total Hourly Leq:	**58.3**																
Grading	excavator	1	40	81	81.0	590	0.1		54.5	1	60	50	6	5	0	580	10	590	580.0	11.2	590.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	grader	1	40	85	85.0	590	0.1		58.5	1	60	54	6	5	0	580	10	590	580.0	11.2	590.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	dozer	1	40	82	82.0	590	0.1		55.5	1	60	51	6	5	0	580	10	590	580.0	11.2	590.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	backhoe	3	40	78	82.8	590	0.1		56.2	1	60	52	6	5	0	580	10	590	580.0	11.2	590.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
					Total Lmax for Grading Phase:				**62.4**		Total Hourly Leq:	**58.5**																
Building Erection	crane	1	16	81	81.0	590	0.1		54.5	1	60	46	6	5	0	580	10	590	580.0	11.2	590.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	gradall	3	40	83	87.8	590	0.1		61.2	1	60	57	6	5	0	580	10	590	580.0	11.2	590.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	generator	1	50	72	72.0	590	0.1		45.5	1	60	42	6	5	0	580	10	590	580.0	11.2	590.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	backhoe	3	40	78	82.8	590	0.1		56.2	1	60	52	6	5	0	580	10	590	580.0	11.2	590.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	welder / torch	1	40	73	73.0	590	0.1		46.5	1	60	42	6	5	0	580	10	590	580.0	11.2	590.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
					Total Lmax for Building Erection Phase:				**63.2**		Total Hourly Leq:	**58.9**																
Architectural Coating	compressor (air)	1	40	78	78.0	590	0.1		51.5	1	60	47	6	5	0	580	10	590	580.0	11.2	590.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
					Total Lmax for Architectural Coating Phase:				**51.5**			**47.5**																
Paving	concrete mixer truck	2	40	79	82.0	590	0.1		55.5	1	60	51	6	5	0	580	10	590	580.0	11.2	590.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	paver	1	50	77	77.0	590	0.1		50.5	1	60	47	6	5	0	580	10	590	580.0	11.2	590.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	roller	2	20	80	83.0	590	0.1		56.5	1	60	49	6	5	0	580	10	590	580.0	11.2	590.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	backhoe	1	40	78	78.0	590	0.1		51.5	1	60	47	6	5	0	580	10	590	580.0	11.2	590.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	All Other Equipment > 5 HP	1	50	85	85.0	590	0.1		58.5	1	60	55	6	5	0	580	10	590	580.0	11.2	590.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
					Total Lmax for Paving Phase:				**62.4**		Total Hourly Leq:	**58.4**																

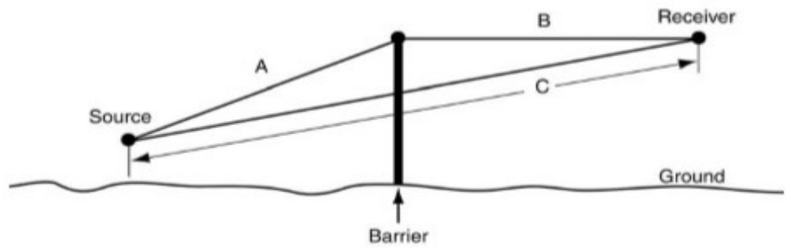
Equipment Description	Impact Device?	Acoustical Use Factor (%)	Lesser of or available Lmax	Spec. 721 Lmax	Measured L_{max} @50ft (dBA, slow)
All Other Equipment > 5 HP	No	50	85	85	-- N/A --
Auger Drill Rig	No	20	84	85	84
Backhoe	No	40	78	80	78
Bar Bender	No	20	80	80	-- N/A --
Blasting	Yes	-- N/A --	94	94	-- N/A --
Boring Jack Power Unit	No	50	80	80	83
Chain Saw	No	20	84	85	84
Clam Shovel (dropping)	Yes	20	87	93	87
Compactor (ground)	No	20	80	80	83
Compressor (air)	No	40	78	80	78
Concrete Batch Plant	No	15	83	83	-- N/A --
Concrete Mixer Truck	No	40	79	85	79
Concrete Pump Truck	No	20	81	82	81
Concrete Saw	No	20	90	90	90
Crane	No	16	81	85	81
Dozer	No	40	82	85	82
Drill Rig Truck	No	20	79	84	79
Drum Mixer	No	50	80	80	80
Dump Truck	No	40	76	84	76
Excavator	No	40	81	85	81
Flat Bed Truck	No	40	74	84	74
Front End Loader	No	40	79	80	79
Generator	No	50	72	72	81
Generator (<25KVA, VMS signs)	No	50	70	70	73
Gradall	No	40	83	85	83
Grader	No	40	85	85	-- N/A --
Grapple (on backhoe)	No	40	85	85	87
Horizontal Boring Hydr. Jack	No	25	80	80	82
Hydra Break Ram	Yes	10	90	90	-- N/A --
Impact Pile Driver	Yes	20	95	95	101
Jackhammer	Yes	20	85	85	89
Man Lift	No	20	75	85	75
Mounted Impact Hammer (hoe ram)	Yes	20	90	90	90
Pavement Scarafier	No	20	85	85	90
Paver	No	50	77	85	77
Pickup Truck	No	40	55	55	75
Pneumatic Tools	No	50	85	85	85
Pumps	No	50	77	77	81
Refrigerator Unit	No	100	73	82	73
Rivit Buster/chipping gun	Yes	20	79	85	79
Rock Drill	No	20	81	85	81
Roller	No	20	80	85	80
Sand Blasting (Single Nozzle)	No	20	85	85	96
Scraper	No	40	84	85	84
Shears (on backhoe)	No	40	85	85	96
Slurry Plant	No	100	78	78	78
Slurry Trenching Machine	No	50	80	82	80
Soil Mix Drill Rig	No	50	80	80	-- N/A --
Tractor	No	40	84	84	-- N/A --
Vacuum Excavator (Vac-truck)	No	40	85	85	85
Vacuum Street Sweeper	No	10	80	80	82
Ventilation Fan	No	100	79	85	79
Vibrating Hopper	No	50	85	85	87
Vibratory Concrete Mixer	No	20	80	80	80
Vibratory Pile Driver	No	20	95	95	101
Warning Horn	No	5	83	85	83
Welder / Torch	No	40	73	73	74

$Source_{elev}$	5.0	A_{horiz}	24.0	A	25.0
$Receiver_{elev}$	10.0	B_{horiz}	38.0	B	38.1
C	62.2	C_{horiz}	62.0		
P	0.85				
$Barrier_{elev}$	12				
Abarr	12.3				

The above calculations, refering to inputs from the figure at right, helps a user estimate what barrier attenuation (Abarr) to expect (i.e., up to 15 per formula to right) based upon source height (above grade), barrier height, and receiver height, and the horizontal distances between the source and receiver to the barrier. The FTA-based formula in the worksheets use these path length (P) and Abarr values to determine the barrier's insertion loss.

Barrier Parameter P

P= A+B-C



For all other barriers, and for protrusion of terrain above the line of sight:	$A_{barrier} = \min\left\{15 or\left[20\times\log\left(\frac{2.51\sqrt{P}}{\tanh\left[4.46\sqrt{P}\right]}\right)+5\right]\right\}$
Barrier Insertion Loss	$IL_{barrier} = \max\left\{0 or\left[A_{barrier} - 10(G_{NB} - G_B)\log\left(\frac{D}{50}\right)\right]\right\}$

D = closest distance between the receiver and the source, in feet
P = path length difference, in feet (see figure below)
G_{NB} = Ground factor G computed *without barrier* (see Figure 6-5)
G_B = Ground factor G computed *with barrier* (see Figure 6-5)

† The term "tanh(variable)" stands for hyperbolic tangent, available on many scientific calculators. If "tanh" is not available, then compute E = exp(variable), and set tanh(variable) = (E - 1/E) / (E + 1/E), where exp(variable) is the "exponential" function, also written as e^x on calculator keypads.

Sources: Transit Noise & Vibration Impact Assessment (FTA 2006)

ATTACHMENT C

NOISEPRO MODELING DATA

Technical Basis of Dudek's "NoisePro" Excel-based Outdoor Sound Propagation Prediction Model

In summary, the Microsoft Excel-based **NoisePro** outdoor sound propagation model developed by Dudek calculates the aggregate sound pressure level (SPL) received by each and every cell within a two-dimensional (2D) array (a product of X columns of cells by Y rows of cells). The quantity of this received SPL, in A-weighted decibels (dBA), is the logarithmic sum of acoustical contribution from each of "n" user-input sound emitting point sources located on the same 2D array, which may be written as follows:

$$SPL_{X,Y} = 10 * \log \sum_{i=1}^{n} 10^{0.1[L_i - A_i]}$$

where each individual source sound level (L_i) is attenuated by an algebraic sum of three attenuation factors ($A_i = A_{div} + A_{atm} + A_{gr}$) that are each dependent on the distance between the sound source position on the X by Y array and the receiving $SPL_{X,Y}$ position on a different position in the same 2D array of worksheet cells, where each cell is defined by the user as representing the center of a square area having equal sides of user-defined length in feet. The above expression is based on Equation 5 from the International Organization for Standardization (ISO) 9613-2 "Acoustics – Attenuation of sound during propagation outdoors – Part 2: General method of calculation", and the individual attenuation factors used by **NoisePro** emulate those in Equation 4 and may be summarized as follows:

- $\boldsymbol{A_{div}}$ = attenuation due to *geometrical divergence* (i.e., pure distance), equating to 20*LOG(d/d_{ref}); and where $\boldsymbol{d}$ is the horizontal distance between a source and a receiver position, while $\boldsymbol{d_{ref}}$ is the reference distance at which the sound source L_i is defined.
- $\boldsymbol{A_{atm}}$ = attenuation due to *atmospheric absorption*, which for 1,000 Hz (1 kHz) = 4.16*$\boldsymbol{d}$/3280 and is derived from Equation 5.7 in Noise & Vibration Control Engineering (Beranek and Ver, 1992).
- $\boldsymbol{A_{gr}}$ = attenuation due to *ground effects*, appearing as Equation 10 in ISO 9613-2 and can be expressed with the following Excel formula:

  $$\boldsymbol{A_{gr}} = \text{MAX}(0,4.8-[\boldsymbol{h_s}+\boldsymbol{h_r}]/\boldsymbol{d}*[17+984/\boldsymbol{d}])$$

  where $\boldsymbol{h_s}$ and $\boldsymbol{h_r}$ are the heights (in feet) of the sound source and receiver positions above grade, respectively. This means that for small distances, attenuation from ground effects will be small or essentially zero; and, even at great distances, the attenuation from ground effects is effectively capped at 4.8 dB.

The Excel workbook comprising **NoisePro** calculates $SPL_{X,Y}$ by using a coding loop to evaluate the acoustic contribution from each attenuated sound source ($\boldsymbol{L_i}$ - $\boldsymbol{A_i}$) in sequence, and logarithmically adding the new evaluation to the previous total in a cumulative manner. When all sources have been evaluated, the loop terminates and yields an aggregate or log-summed total $SPL_{X,Y}$ value that is thus unique to a position in the 2D array of cells represented by X and Y, and can thus be "mapped". If the user has defined a particular cell in the X by Y array as a uniquely tagged Receiver, then the corresponding $SPL_{X,Y}$ value can be indexed and displayed accordingly.

The resulting output array of cells, each having an individually calculated $SPL_{X,Y}$ numerical value, is then filled with a color (from a user-defined palette) by application of a Conditional Formatting rules set (an Excel formatting feature) that compares the dB quantity with user-defined "high" and "low" dB ranges for each available color. Each colored cell can thus be likened to a "pixel" within a 2D array that forms a composite image representing—visually—the sound propagation from all modeled sound sources.

GRID CALCULATION WORKSHEET

Example Portion of Concluded Calculations Loop

grid size (ft)	
x	11.9
y	11.9
rcvr plane height (ft)	
z	5

Source	9
Source TYPE	HVAC09
Source X-coordinate	1023.4
Source Y-coordinate	761.6
Source Z-coordinate	3
Source Reference SPL	64
Source Ref. Distance (ft.)	3.28
Source height above grade (ft.)	3

Grid Upper Left (C,R)

1 1

Grid Lower Right (C,R)

120 90 Receiver Location

Column	Row	X-coord	Y-coord	Z-coord	Cumulative SPL
1	1	11.9	11.9	5	10.59
1	2	11.9	23.8	5	10.50
1	3	11.9	35.7	5	10.49
1	4	11.9	47.6	5	10.51
1	5	11.9	59.5	5	10.55
1	6	11.9	71.4	5	10.60
1	7	11.9	83.3	5	10.65
1	8	11.9	95.2	5	10.71
1	9	11.9	107.1	5	10.76
1	10	11.9	119	5	10.82
1	11	11.9	130.9	5	10.88
1	12	11.9	142.8	5	10.93
1	13	11.9	154.7	5	10.99
1	14	11.9	166.6	5	11.04
1	15	11.9	178.5	5	11.10
1	16	11.9	190.4	5	11.15
1	17	11.9	202.3	5	11.20
1	18	11.9	214.2	5	11.25
1	19	11.9	226.1	5	11.30
1	20	11.9	238	5	11.34
1	21	11.9	249.9	5	11.39
1	22	11.9	261.8	5	11.43
1	23	11.9	273.7	5	11.48
1	24	11.9	285.6	5	11.52
1	25	11.9	297.5	5	11.55
1	26	11.9	309.4	5	11.59
1	27	11.9	321.3	5	11.63
1	28	11.9	333.2	5	11.66
1	29	11.9	345.1	5	11.69
1	30	11.9	357	5	11.72
1	31	11.9	368.9	5	11.75

Source Inventory With Model Grid Coordinate Locations and Sound Pressure Reference Levels

Source	1	2	3	4	5	6	7	8	9
Source Tag	HVAC01	HVAC02	HVAC03	HVAC04	HVAC05	HVAC06	HVAC07	HVAC08	HVAC09
Source X-coordinate	725.9	785.4	844.9	892.5	952	999.6	1023.4	1023.4	1023.4
Source Y-coordinate	487.9	487.9	487.9	487.9	487.9	487.9	642.6	714	761.6
Source Z-coordinate	3	3	3	3	3	3	33	3	3
Source Type	HVAC	HVAC	HVAC	HVAC	HVAC	HVAC	HVAC	HVAC	HVAC
Source Ref. SPL	64	64	64	64	64	64	64	64	64
Source Ref. Dist.(ft.)	3.28	3.28	3.28	3.28	3.28	3.28	3.28	3.28	3.28

Receiver Inventory With Model Grid Coordinate Locations and Predicted Operational Sound Level Exposure

Receiver	**R1**	**R2**	**R3**	**R4**	**R5**
Source Tag	R1	R2	R3	R4	R5
X-Coordinate	988	1071	1071	952	809
Y-Coordinate	881	702	559	440	440
Modeled SPL	**34.8**	**36.8**	**31.9**	**37.7**	**37.4**

ATTACHMENT D

TRAFFIC NOISE MODELING DATA

FHWA - HIGHWAY TRAFFIC NOISE PREDICTION MODEL

(modified for CNEL)

DUDEK

PROJECT:	Sanctuary Encinitas	JN:	15009
ROADWAY:	Rancho Santa Fe Road - North of 7th	DATE:	2/21/2023
Scenario:	**Existing**	BY:	J. Leech

ADT	12,579			PK HR VOL	1,258
SPEED	40				
PK HR %	10				
DIST CTL	50				
DIST N/F	36	(M=76,P=52,S=36,C=12)	AUTO SLE DISTANCE		46.9
DIST WALL	0		MED TRUCK SLE DIST		46.7
DIST W/OB	50		HVY TRUCK SLE DIST		46.7
HTH WALL	0.0	********			
HTH OBS	5.0				
AMBIENT	45.0				
ROADWAY VIEW:					
LF ANGLE	-45				
RT ANGLE	45				
DF ANGLE	90				

SITE CONDITIONS:		(15=HARD SITE, 10=SOFT SITE)			
AUTOM	15.0				
MED TR	15.0				
HVY TR	15.0				
BARRIER	0	(0=WALL,1=BERM)			
ELEVATIONS:					
PAD	0.0	AUTOMOBILES =	0.00		
ROAD	0.0	MEDIUM TRUCKS=	2.30		
		HEAVY TRUCKS =	8.01		
GRADE:	0.0 %	GRADE ADJUSTM=	0.0	(TO HEAVY TRUCKS)	

VEHICLE DISTRIBUTION:

	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.127	0.096	0.9700
MEDIUM TRUCKS	0.874	0.051	0.075	0.0200
HEAVY TRUCKS	0.891	0.028	0.081	0.0100

NOISE IMPACTS WITHOUT TOPO OR BARRIER SHIELDING:

	LEQ PK HR	LEQ DAY	LEQ EVE	LEQ NIGHT	CNEL
AUTOMOBILES	64.3	62.3	60.5	54.5	63.7
MEDIUM TRUCKS	58.6	57.3	50.9	47.9	57.4
HEAVY TRUCKS	60.9	59.6	50.7	50.4	59.6
VEHICULAR NOISE	**66.7**	65.0	61.4	56.6	65.8

FHWA - HIGHWAY TRAFFIC NOISE PREDICTION MODEL

(modified for CNEL)

DUDEK

PROJECT:	Sanctuary Encinitas	JN:	15009
ROADWAY:	Rancho Santa Fe Road - North of 7th	DATE:	2/21/2023
Scenario:	**Existing + Project**	BY:	J. Leech

ADT	12,597			PK HR VOL	1,260
SPEED	40				
PK HR %	10				
DIST CTL	50				
DIST N/F	36	(M=76,P=52,S=36,C=12)	AUTO SLE DISTANCE		46.9
DIST WALL	0		MED TRUCK SLE DIST		46.7
DIST W/OB	50		HVY TRUCK SLE DIST		46.7
HTH WALL	0.0	********			
HTH OBS	5.0				
AMBIENT	45.0				
ROADWAY VIEW:					
LF ANGLE	-45				
RT ANGLE	45				
DF ANGLE	90				

SITE CONDITIONS:		(15=HARD SITE, 10=SOFT SITE)			
AUTOM	15.0				
MED TR	15.0				
HVY TR	15.0				
BARRIER	0	(0=WALL,1=BERM)			
ELEVATIONS:					
PAD	0.0	AUTOMOBILES =	0.00		
ROAD	0.0	MEDIUM TRUCKS=	2.30		
		HEAVY TRUCKS =	8.01		
GRADE:	0.0 %	GRADE ADJUSTM=	0.0	(TO HEAVY TRUCKS)	

VEHICLE DISTRIBUTION:

	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.127	0.096	0.9700
MEDIUM TRUCKS	0.874	0.051	0.075	0.0200
HEAVY TRUCKS	0.891	0.028	0.081	0.0100

NOISE IMPACTS WITHOUT TOPO OR BARRIER SHIELDING:

	LEQ PK HR	LEQ DAY	LEQ EVE	LEQ NIGHT	CNEL
AUTOMOBILES	64.3	62.3	60.5	54.5	63.8
MEDIUM TRUCKS	58.6	57.3	50.9	47.9	57.4
HEAVY TRUCKS	60.9	59.6	50.7	50.4	59.6
VEHICULAR NOISE	**66.7**	65.0	61.4	56.6	65.8

FHWA - HIGHWAY TRAFFIC NOISE PREDICTION MODEL

(modified for CNEL)

DUDEK

PROJECT:	Sanctuary Encinitas	JN:	15009
ROADWAY:	Rancho Santa Fe Road - South of 7th	DATE:	2/21/2023
Scenario:	**Existing**	BY:	J. Leech

ADT	13,175			PK HR VOL	1,318
SPEED	40				
PK HR %	10				
DIST CTL	50				
DIST N/F	36	(M=76,P=52,S=36,C=12)	AUTO SLE DISTANCE		46.9
DIST WALL	0		MED TRUCK SLE DIST		46.7
DIST W/OB	50		HVY TRUCK SLE DIST		46.7
HTH WALL	0.0	********			
HTH OBS	5.0				
AMBIENT	45.0				
ROADWAY VIEW:					
LF ANGLE	-45				
RT ANGLE	45				
DF ANGLE	90				

SITE CONDITIONS:		(15=HARD SITE, 10=SOFT SITE)			
AUTOM	15.0				
MED TR	15.0				
HVY TR	15.0				
BARRIER	0	(0=WALL,1=BERM)			
ELEVATIONS:					
PAD	0.0	AUTOMOBILES =	0.00		
ROAD	0.0	MEDIUM TRUCKS=	2.30		
		HEAVY TRUCKS =	8.01		
GRADE:	0.0 %	GRADE ADJUSTM=	0.0	(TO HEAVY TRUCKS)	

VEHICLE DISTRIBUTION:

	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.127	0.096	0.9700
MEDIUM TRUCKS	0.874	0.051	0.075	0.0200
HEAVY TRUCKS	0.891	0.028	0.081	0.0100

NOISE IMPACTS WITHOUT TOPO OR BARRIER SHIELDING:

	LEQ PK HR	LEQ DAY	LEQ EVE	LEQ NIGHT	CNEL
AUTOMOBILES	64.5	62.5	60.7	54.7	63.9
MEDIUM TRUCKS	58.8	57.5	51.1	48.1	57.6
HEAVY TRUCKS	61.1	59.8	50.9	50.6	59.8
VEHICULAR NOISE	**66.9**	65.2	61.6	56.8	66.0

FHWA - HIGHWAY TRAFFIC NOISE PREDICTION MODEL

(modified for CNEL)

DUDEK

PROJECT:	Sanctuary Encinitas	JN:	15009
ROADWAY:	Rancho Santa Fe Road - South of 7th	DATE:	2/21/2023
Scenario:	**Existing + Project**	BY:	J. Leech

ADT	13,247			PK HR VOL	1,325
SPEED	40				
PK HR %	10				
DIST CTL	50				
DIST N/F	36	(M=76,P=52,S=36,C=12)	AUTO SLE DISTANCE		46.9
DIST WALL	0		MED TRUCK SLE DIST		46.7
DIST W/OB	50		HVY TRUCK SLE DIST		46.7
HTH WALL	0.0	********			
HTH OBS	5.0				
AMBIENT	45.0				
ROADWAY VIEW:					
LF ANGLE	-45				
RT ANGLE	45				
DF ANGLE	90				

SITE CONDITIONS:		(15=HARD SITE, 10=SOFT SITE)			
AUTOM	15.0				
MED TR	15.0				
HVY TR	15.0				
BARRIER	0	(0=WALL,1=BERM)			
ELEVATIONS:					
PAD	0.0	AUTOMOBILES =	0.00		
ROAD	0.0	MEDIUM TRUCKS=	2.30		
		HEAVY TRUCKS =	8.01		
GRADE:	0.0 %	GRADE ADJUSTM=	0.0	(TO HEAVY TRUCKS)	

VEHICLE DISTRIBUTION:

	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.127	0.096	0.9700
MEDIUM TRUCKS	0.874	0.051	0.075	0.0200
HEAVY TRUCKS	0.891	0.028	0.081	0.0100

NOISE IMPACTS WITHOUT TOPO OR BARRIER SHIELDING:

	LEQ PK HR	LEQ DAY	LEQ EVE	LEQ NIGHT	CNEL
AUTOMOBILES	64.5	62.6	60.8	54.8	64.0
MEDIUM TRUCKS	58.9	57.5	51.1	48.1	57.6
HEAVY TRUCKS	61.1	59.8	50.9	50.6	59.8
VEHICULAR NOISE	**66.9**	65.2	61.6	56.8	66.1

FHWA - HIGHWAY TRAFFIC NOISE PREDICTION MODEL

(modified for CNEL)

DUDEK

PROJECT:	Sanctuary Encinitas	JN:	15009
ROADWAY:	Project Driveway	DATE:	2/21/2023
Scenario:	**Project Traffic**	BY:	J. Leech

ADT	90			PK HR VOL	9
SPEED	25				
PK HR %	10				
DIST CTL	30				
DIST N/F	36	(M=76,P=52,S=36,C=12)	AUTO SLE DISTANCE		24.5
DIST WALL	0		MED TRUCK SLE DIST		24.2
DIST W/OB	30		HVY TRUCK SLE DIST		24.2
HTH WALL	0.0	********			
HTH OBS	5.0				
AMBIENT	45.0				
ROADWAY VIEW:					
LF ANGLE	-45				
RT ANGLE	45				
DF ANGLE	90				

SITE CONDITIONS:		(15=HARD SITE, 10=SOFT SITE)			
AUTOM	15.0				
MED TR	15.0				
HVY TR	15.0				
BARRIER	0	(0=WALL,1=BERM)			
ELEVATIONS:					
PAD	0.0	AUTOMOBILES =	0.00		
ROAD	0.0	MEDIUM TRUCKS=	2.30		
		HEAVY TRUCKS =	8.01		
GRADE:	0.0 %	GRADE ADJUSTM=	0.0	(TO HEAVY TRUCKS)	

VEHICLE DISTRIBUTION:

	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.770	0.127	0.096	0.9700
MEDIUM TRUCKS	0.874	0.051	0.075	0.0200
HEAVY TRUCKS	0.891	0.028	0.081	0.0100

NOISE IMPACTS WITHOUT TOPO OR BARRIER SHIELDING:

	LEQ PK HR	LEQ DAY	LEQ EVE	LEQ NIGHT	CNEL
AUTOMOBILES	41.3	39.4	37.6	31.6	40.8
MEDIUM TRUCKS	36.6	35.2	28.9	25.8	35.3
HEAVY TRUCKS	40.8	39.5	30.5	30.3	39.5
VEHICULAR NOISE	**44.8**	43.2	38.8	34.6	43.8

ATTACHMENT A

AMBIENT NOISE MEASUREMENT DATA

ATTACHMENT B

CONSTRUCTION NOISE MODELING DATA

ATTACHMENT C

NOISEPRO MODELING DATA

ATTACHMENT D

TRAFFIC NOISE MODELING DATA