

APPENDIX A
AIR QUALITY AND GREENHOUSE GAS
EMISSIONS ASSESSMENT

SILVER DOLLAR MIXED- USE PROJECT AIR QUALITY AND GHG ASSESSMENT

Union City, California

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Introduction

This report presents the results of the construction health risk and greenhouse gas (GHG) emissions analysis completed for the proposed Silver Dollar Mixed-Use project located at 31063 Watkins Street in Union City, California. The project would demolish the existing vacant building, a duplex building, and a single-family home on the approximately 0.89-acre site. The project would then construct a three-story mixed-use development consisting of 19 multi-family residential units and approximately 6,943 square feet of ground-floor retail use. The project would also construct six, three-story townhome units for a total of 25 dwelling units. The project proposes to provide a total of 54 on-site parking spaces. Air pollutant and GHG emissions associated with construction and operation of the project were modeled. This analysis addresses those issues following the guidance provided by the Bay Area Air Quality Management District (BAAQMD).

Setting

The project is located in Alameda County, which is in the San Francisco Bay Area Air Basin. Ambient air quality standards have been established at both the State and federal level. The Bay Area meets all ambient air quality standards with the exception of ground-level ozone, respirable particulate matter (PM₁₀), and fine particulate matter (PM_{2.5}).

Toxic Air Contaminants

Toxic air contaminants (TAC) are a broad class of compounds known to cause morbidity or mortality (usually because they cause cancer) and include, but are not limited to, the criteria air pollutants. TACs are found in ambient air, especially in urban areas, and are caused by industry, agriculture, fuel combustion, and commercial operations (e.g., dry cleaners). TACs are typically found in low concentrations, even near their source (e.g., diesel particulate matter [DPM] near a freeway). Because chronic exposure can result in adverse health effects, TACs are regulated at the regional, State, and federal level.

Diesel exhaust is the predominant TAC in urban air and is estimated to represent about three-quarters of the cancer risk from TACs (based on the Bay Area average). According to the California Air Resources Board (CARB), diesel exhaust is a complex mixture of gases, vapors, and fine particles. This complexity makes the evaluation of health effects of diesel exhaust a complex scientific issue. Some of the chemicals in diesel exhaust, such as benzene and formaldehyde, have been previously identified as TACs by the CARB, and are listed as carcinogens either under the State's Proposition 65 or under the Federal Hazardous Air Pollutants programs.

CARB has adopted and implemented a number of regulations for stationary and mobile sources to reduce emissions of DPM. Several of these regulatory programs affect medium and heavy-duty diesel trucks that represent the bulk of DPM emissions from California highways. These regulations include the solid waste collection vehicle (SWCV) rule, in-use public and utility fleets, and the heavy-duty diesel truck and bus regulations. In 2008, CARB approved a new regulation to reduce emissions of DPM and nitrogen oxides from existing on-road heavy-duty diesel fueled

vehicles.¹ The regulation requires affected vehicles to meet specific performance requirements between 2014 and 2023, with all affected diesel vehicles required to have 2010 model-year engines or equivalent by 2023. These requirements are phased in over the compliance period and depend on the model year of the vehicle.

The BAAQMD is the regional agency tasked with managing air quality in the region. At the State level, the CARB (a part of the California Environmental Protection Agency [EPA]) oversees regional air district activities and regulates air quality at the State level. The BAAQMD has published CEQA Air Quality Guidelines that are used in this assessment to evaluate air quality impacts of projects.²

Sensitive Receptors

There are groups of people more affected by air pollution than others. CARB has identified the following persons who are most likely to be affected by air pollution: children under 16, the elderly over 65, athletes, and people with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive receptors. Locations that may contain a high concentration of these sensitive population groups include residential areas, hospitals, daycare facilities, elder care facilities, and elementary schools. The closest sensitive receptor to the project site are the adjacent residents to the northern boundary. There are additional residences further out, surrounding the site. There is also an elementary school and middle school to the east of the site. The project would introduce sensitive receptors in the form of new residences.

Significance Thresholds

The Bay Area Air Quality Management District (BAAQMD) identified significance thresholds for exposure to TACs and PM_{2.5} as part of its May 2011 CEQA Air Quality Guidelines. The following are the significance criteria that are used to judge this project's impacts:

Single Source Impacts

If emissions of TACs or PM_{2.5} exceed any of the thresholds of significance listed below, the proposed project would result in a significant impact and mitigation would be required.

- An excess cancer risk level of more than 10.0 in 1 million, or a non-cancer (chronic or acute) hazard index greater than 1.0.
- An incremental increase of more than 0.3 micrograms per cubic meter (µg/m³) annual average PM_{2.5}.

Cumulative Source Impacts

A project would have a cumulatively considerable impact if the aggregate total of all past, present, and foreseeable future sources within a 1,000-foot radius of the fence line of a source or from the location of a receptor, plus the contribution from the project, exceeds the following thresholds:

¹ Available online: <http://www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm>. Accessed: November 21, 2014.

² Bay Area Air Quality Management District. 2011. *BAAQMD CEQA Air Quality Guidelines*. May.

- An excess cancer risk levels of more than 100 in one million or a chronic non-cancer hazard index (from all local sources) greater than 10.0.
- An incremental increase of more than 0.8 $\mu\text{g}/\text{m}^3$ annual average $\text{PM}_{2.5}$.

Project Construction Activity

Construction equipment and associated heavy-duty truck traffic generates diesel exhaust, which is a known TAC. These exhaust air pollutant emissions would not be considered to contribute substantially to existing or projected air quality violations. Construction exhaust emissions may still pose health risks for sensitive receptors such as surrounding residents. The primary community risk impact issues associated with construction emissions are cancer risk and exposure to $\text{PM}_{2.5}$. Diesel exhaust poses both a potential health and nuisance impact to nearby receptors. A health risk assessment of the project construction activities was conducted that evaluated potential health effects of sensitive receptors at these nearby residences from construction emissions of DPM and $\text{PM}_{2.5}$.³ The closest sensitive receptor to the project site are the adjacent residents to the northern boundary. There are additional residences further out, surrounding the site. There is also an elementary school and middle school to the east of the site.

Construction activity is anticipated to include demolition, grading and site preparation, trenching, building construction, and paving. Construction period emissions were modeled using the California Emissions Estimator Model, Version 2016.3.2 (CalEEMod). The anticipated construction schedule and equipment usage assumptions were provided for this modeling. The proposed project land uses were input into CalEEMod, which included 19 dwelling units and 28,179 sf entered as “Apartments Mid Rise”, 6,943 sf entered as “Strip Mall”, 6 dwelling units entered as “Condo/Townhouse High Rise,” and 54 spaces entered as “Parking Lot” on a 0.89-acre site. In addition, 96 tons of demolition debris and 200 cubic yards (cy) of grading import and export were entered into the model. Construction period emissions were modeled using CalEEMod along with the anticipated project construction activity. The number and types of construction equipment and diesel vehicles, along with the anticipated length of their use for different phases of construction, were based on a CalEEMod default construction schedule.

Construction Emissions

The CalEEMod model provided total annual PM_{10} exhaust emissions (assumed to be DPM) for the off-road construction equipment and for exhaust emissions from on-road vehicles, with total emissions from all construction stages of 0.0352 tons (70 pounds). The on-road emissions are a result of haul truck travel during demolition and grading activities, worker travel, and vendor deliveries during construction. A trip length of 1 mile was used to represent vehicle travel while at or near the construction site. It was assumed that these emissions from on-road vehicles traveling at or near the site would occur at the construction site. Fugitive $\text{PM}_{2.5}$ dust emissions were calculated by CalEEMod as 0.00101 tons (2 pounds) for the overall construction period.

³ DPM is identified by California as a toxic air contaminant due to the potential to cause cancer.

Qualitative Construction Analysis

Given the close proximity of sensitive receptors to the project site, the construction activities are considered to result in potentially significant impacts in terms of excess cancer risk to any infants present or increased annual PM_{2.5} concentrations caused by construction equipment and traffic exhaust and fugitive dust. There are measures available that would reduce these emissions and result in less than significant impacts.

Mitigation Measure 1: Include basic measures to control dust and exhaust during construction.

During any construction period ground disturbance, the applicant shall ensure that the project contractor implement measures to control dust and exhaust. Implementation of the measures recommended by BAAQMD and listed below would reduce the air quality impacts associated with grading and new construction to a less than significant level. The contractor shall implement the following best management practices that are required of all projects:

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
4. All vehicle speeds on unpaved roads shall be limited to 15 miles per hour (mph).
5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
8. Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take

corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

Mitigation Measure 2: The project shall use equipment that has low DPM or zero emissions, implementing the following measures:

1. All mobile diesel-powered off-road equipment larger than 25 horsepower and operating on the site for more than two days shall meet, at a minimum, U.S. EPA particulate matter emissions standards for Tier 2 engines that include particulate matter emissions control equivalent to CARB Level 3 verifiable diesel emission control devices (VDECs) that altogether achieve an 85 percent reduction in particulate matter exhaust; alternatively (or in combination) use of alternatively-fueled or electric equipment (i.e., non-diesel).
2. Avoid diesel generator use by supplying line power to the construction site and limiting the use of diesel generators to no more than 50 total hours.
3. Avoid staging of construction equipment near portions of the site that are adjacent to residences.

Effectiveness of Mitigation

Implementation of Mitigation Measure 1 is considered to reduce exhaust emissions by 5 percent. Implementation of Mitigation Measure 2 would further reduce on-site diesel exhaust emissions by about 85 percent. This would reduce the cancer risk proportionally, such that the mitigated risk would be effectively controlled. After implementation of these mitigation measures, the project would have a *less-than-significant* impact with respect to community risk caused by construction activities.

Greenhouse Gas Emissions

Greenhouse gas emissions (GHG) emissions associated with development of the proposed project would occur over the short-term from construction activities, consisting primarily of emissions from equipment exhaust and worker and vendor trips. There would also be long-term operational emissions associated with vehicular traffic within the project vicinity, energy and water usage, and solid waste disposal. Emissions for the proposed project are discussed below and were analyzed using the methodology recommended in the BAAQMD CEQA Air Quality Guidelines.

Union City Climate Action Plan

The Union City Climate Action Plan (CAP) is a strategy tool that includes goal and actions, to help reduce the city's share of GHG emissions⁴. The CAP was adopted by the City Council in

⁴ City of Union City, California (2010). *Union City Climate Action Plan November 2010*.
<https://www.unioncity.org/DocumentCenter/View/708/Union-City-Climate-Action-Plan-PDF?bidId=>

October 2010 and is aligned with the City Council's goal of reducing GHG emissions 20% below 2005 levels by the year 2020.

The operational year for this project is anticipated to begin in 2021 and projected future GHG emission levels are targeted for the BAAQMD 2030 thresholds. Therefore, the Union City CAP 2020 GHG reduction measures were not included within this GHG analysis.

Emission-Based Significance Thresholds

The BAAQMD's CEQA Air Quality Guidelines recommended a GHG threshold of 1,100 metric tons or 4.6 metric tons per capita. These thresholds were developed based on meeting the 2020 GHG targets set in the scoping plan that addressed AB 32. Development of the project would occur beyond 2020, so a threshold that addresses a future target is appropriate. Although BAAQMD has not published a quantified threshold for 2030 yet, this assessment uses a "Substantial Progress" efficiency metric of 2.6 MT CO_{2e}/year/service population and a bright-line threshold of 660 MT CO_{2e}/year based on the GHG reduction goals of EO B-30-15. The service population metric of 2.6 is calculated for 2030 based on the 1990 inventory and the projected 2030 statewide population and employment levels.⁵ The 2030 bright-line threshold is a 40 percent reduction of the 2020 1,100 MT CO_{2e}/year threshold.

CaleEMod Modeling

CaleEMod was used to predict GHG emissions from operation of the site assuming full build-out of the project. The project land use types and size and other project-specific information were input to the model, as described above. CaleEMod output is included in *Attachment 1*.

Land Uses

The project land uses were input to CaleEMod as described above for the construction period modeling.

Model Year

Emissions associated with vehicle travel depend on the year of analysis because emission control technology requirements are phased-in over time. Therefore, the earlier the year analyzed in the model, the higher the emission rates utilized by CaleEMod. The earliest the project could possibly be constructed and begin operating would be 2021. Emissions associated with build-out later than 2021 would be lower.

Trip Generation Rates

The default trip rates, trip lengths, and trip types specified by CaleEMod were used.

⁵ Association of Environmental Professionals, 2016. *Beyond 2020 and Newhall: A Field Guide to New CEQA Greenhouse Gas Thresholds and Climate Action Plan Targets for California*. April.

Energy

CalEEMod defaults for energy use were used, which include the 2016 Title 24 Building Standards. GHG emissions modeling includes those indirect emissions from electricity consumption. The electricity produced emission rate was modified in CalEEMod. CalEEMod has a default emission factor of 641.3 pounds of CO₂ per megawatt of electricity produced, which is based on PG&E's 2008 emissions rate. PG&E published 2015 emissions rates for 2009 through 2015, which showed the emission rate for delivered electricity had been reduced to 405 pounds CO₂ per megawatt of electricity delivered.⁶ The projected GHG intensity factor for the year 2020 is 290 pounds of CO₂ per megawatt of electricity produced, which was input to the model.⁷

Other Inputs

Default model assumptions for emissions associated with solid waste generation use were applied to the project. Water/wastewater use were changed to 100% aerobic conditions to represent wastewater treatment plant conditions. In the Area sources input, hearth use was changed to eliminate all wood fireplaces and stoves and the natural gas fireplaces was increased to include the number wood burning fireplaces.

Existing Uses

A CalEEMod model run was developed to computed emissions from use of the existing building as if it was operating in 2021. Inputs for this modeling scenario included 1 dwelling unit entered as "Single Family Housing", 2 dwelling units entered as "Condo/Townhouse", 1,409 sf entered as "High Turnover (Sit Down Restaurant)", and 0.30 acres entered as "Parking Lot". These inputs were applied to the modeling in the same manner described for the proposed project.

Service Population Emissions

The project service population efficiency rate is based on the number of future residents. The applicant provided the number of future residences and employees for the project site, which included 68 residences and 15 employees. The total future service population for the project site would be 83.

Construction Emissions

GHG emissions associated with construction were computed to be 84 MT of CO₂e for the total construction period. These are the emissions from on-site operation of construction equipment, vendor and hauling truck trips, and worker trips. Neither the City nor BAAQMD have an adopted threshold of significance for construction-related GHG emissions, though BAAQMD recommends quantifying emissions and disclosing that GHG emissions would occur during construction. BAAQMD also encourages the incorporation of best management practices to reduce GHG

⁶ PG&E 2017. Climate Change. See

http://www.pgecorp.com/corp_responsibility/reports/2017/en02_climate_change.html accessed March 13, 2018.

⁷ PG&E. 2015. Greenhouse Gas Emission Factors: Guidance for PG&E Customers

See: https://www.pge.com/includes/docs/pdfs/shared/environment/calculator/pge_ghg_emission_factor_info_sheet.pdf

emissions during construction where feasible and applicable. Best management practices assumed to be incorporated into construction of the proposed project include but are not limited to: using local building materials of at least 10 percent and recycling or reusing at least 50 percent of construction waste or demolition materials.

Operational Emissions

The CalEEMod model, along with the project vehicle trip generation rates, was used to estimate daily emissions associated with operation of the fully-developed site under the proposed project. The project would be operational after 2020, so the future 2030 emissions were used for this analysis. The 2020 CO_{2e} significance thresholds, though, are also shown as a comparison.

In 2030, as shown in Table 4, annual emissions resulting from operation of the proposed project are predicted to be 352 MT of CO_{2e}. The annual emissions from operation of the existing buildings are computed as 62 MT of CO_{2e}. The net emissions resulting from the project would be 290 MT of CO_{2e}. These emissions would not exceed the 2030 “Substantial Progress” threshold of 660 MT CO_{2e}/year.

Table 4. Annual Project GHG Emissions (CO_{2e}) in Metric Tons

Source Category	Existing	Proposed Project in 2021	Proposed Project in 2030
Area	< 1	1	1
Energy Consumption	25	39	38
Mobile	33	365	300
Solid Waste Generation	2	9	9
Water Usage	< 1	3	3
Total	62	417	352
Net New Emissions		355	290
<i>BAAQMD 2020 Significance Threshold</i>		<i>1,100 MT CO_{2e}/yr</i>	<i>-</i>
<i>2030 Substantial Progress Threshold</i>		<i>-</i>	<i>660 MT of CO_{2e}/year</i>
Service Population Emissions		5.0	3.5
<i>Significance Threshold</i>		<i>4.6 in 2020</i>	<i>2.6 in 2030</i>

Attachment 1: CalEEMod Modeling Outputs for Construction and GHG

18-131 Silver Dollar Mixed Use AQ - Alameda County, Annual

18-131 Silver Dollar Mixed Use AQ
Alameda County, Annual

1.0 Project Characteristics**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	54.00	Space	0.00	21,600.00	0
Apartments Mid Rise	19.00	Dwelling Unit	0.89	28,179.00	54
Condo/Townhouse High Rise	6.00	Dwelling Unit	0.00	8,796.00	17
Strip Mall	6.94	1000sqft	0.00	6,943.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	63
Climate Zone	5			Operational Year	2021
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	290	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2020 rate

Land Use - three story mixed-used build, 19 stacked residential units above ground floor (28,179 sf); 6943 sf of ground floor retail; six three-bedroom three-story townhome units (4,400 sf per unit); 54 parking spaces; 0.89 acres total

Construction Phase - Default

Off-road Equipment - Default

Demolition - construction information

Grading - took site prep acreage (0.5) and used for grading

Vehicle Trips - default operational trips

Woodstoves - assuming all gas

Energy Use -

Water And Wastewater - 100% aerobic

Construction Off-road Equipment Mitigation -

Water Mitigation -

Table Name	Column Name	Default Value	New Value
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberGas	2.85	6.08
tblFireplaces	NumberGas	0.90	1.92
tblFireplaces	NumberWood	3.23	0.00
tblFireplaces	NumberWood	1.02	0.00
tblGrading	AcresOfGrading	0.00	0.50
tblGrading	AcresOfGrading	0.50	0.00
tblGrading	MaterialExported	0.00	200.00
tblGrading	MaterialImported	0.00	200.00
tblLandUse	LandUseSquareFeet	19,000.00	28,179.00
tblLandUse	LandUseSquareFeet	6,000.00	8,796.00
tblLandUse	LandUseSquareFeet	6,940.00	6,943.00
tblLandUse	LotAcreage	0.49	0.00
tblLandUse	LotAcreage	0.50	0.89
tblLandUse	LotAcreage	0.09	0.00
tblLandUse	LotAcreage	0.16	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00

tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00

2.0 Emissions Summary

2.1 Overall Construction
Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.3655	0.6298	0.5052	9.3000e-004	0.0173	0.0355	0.0528	4.7100e-003	0.0328	0.0375	0.0000	83.9427	83.9427	0.0193	0.0000	84.4247
Maximum	0.3655	0.6298	0.5052	9.3000e-004	0.0173	0.0355	0.0528	4.7100e-003	0.0328	0.0375	0.0000	83.9427	83.9427	0.0193	0.0000	84.4247

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					

2019	0.3655	0.6298	0.5052	9.3000e-004	0.0173	0.0355	0.0528	4.7100e-003	0.0328	0.0375	0.0000	83.9426	83.9426	0.0193	0.0000	84.4247
Maximum	0.3655	0.6298	0.5052	9.3000e-004	0.0173	0.0355	0.0528	4.7100e-003	0.0328	0.0375	0.0000	83.9426	83.9426	0.0193	0.0000	84.4247

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	5-1-2019	7-31-2019	0.3837	0.3837
2	8-1-2019	9-30-2019	0.2589	0.2589
		Highest	0.3837	0.3837

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.2088	3.0100e-003	0.1870	2.0000e-005		1.1000e-003	1.1000e-003		1.1000e-003	1.1000e-003	0.0000	1.3030	1.3030	3.2000e-004	2.0000e-005	1.3164
Energy	1.3500e-003	0.0116	5.5900e-003	7.0000e-005		9.3000e-004	9.3000e-004		9.3000e-004	9.3000e-004	0.0000	38.0065	38.0065	2.7200e-003	7.5000e-004	38.2995
Mobile	0.1148	0.7297	1.1515	3.9500e-003	0.2901	3.9300e-003	0.2940	0.0780	3.6900e-003	0.0817	0.0000	364.3002	364.3002	0.0177	0.0000	364.7416
Waste						0.0000	0.0000		0.0000	0.0000	3.8142	0.0000	3.8142	0.2254	0.0000	9.4495
Water						0.0000	0.0000		0.0000	0.0000	0.7582	2.1431	2.9013	2.8200e-003	1.6900e-003	3.4764
Total	0.3249	0.7444	1.3440	4.0400e-003	0.2901	5.9600e-003	0.2961	0.0780	5.7200e-003	0.0837	4.5724	405.7528	410.3252	0.2489	2.4600e-003	417.2833

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.2088	3.0100e-003	0.1870	2.0000e-005		1.1000e-003	1.1000e-003		1.1000e-003	1.1000e-003	0.0000	1.3030	1.3030	3.2000e-004	2.0000e-005	1.3164
Energy	1.3500e-003	0.0116	5.5900e-003	7.0000e-005		9.3000e-004	9.3000e-004		9.3000e-004	9.3000e-004	0.0000	38.0065	38.0065	2.7200e-003	7.5000e-004	38.2995
Mobile	0.1148	0.7297	1.1515	3.9500e-003	0.2901	3.9300e-003	0.2940	0.0780	3.6900e-003	0.0817	0.0000	364.3002	364.3002	0.0177	0.0000	364.7416
Waste						0.0000	0.0000		0.0000	0.0000	3.8142	0.0000	3.8142	0.2254	0.0000	9.4495
Water						0.0000	0.0000		0.0000	0.0000	0.6065	1.8004	2.4069	2.2700e-003	1.3600e-003	2.8678
Total	0.3249	0.7444	1.3440	4.0400e-003	0.2901	5.9600e-003	0.2961	0.0780	5.7200e-003	0.0837	4.4207	405.4101	409.8308	0.2484	2.1300e-003	416.6747

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.32	0.08	0.12	0.22	13.41	0.15

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/1/2019	5/14/2019	5	10	
2	Site Preparation	Site Preparation	5/15/2019	5/15/2019	5	1	
3	Grading	Grading	5/16/2019	5/17/2019	5	2	
4	Building Construction	Building Construction	5/18/2019	10/4/2019	5	100	
5	Paving	Paving	10/5/2019	10/11/2019	5	5	
6	Architectural Coating	Architectural Coating	10/12/2019	10/18/2019	5	5	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0.5

Acres of Paving: 0

Residential Indoor: 74,874; Residential Outdoor: 24,958; Non-Residential Indoor: 10,415; Non-Residential Outdoor: 3,472; Striped

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	10.00	0.00	9.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	50.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	29.00	7.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

Architectural Coating	1	6.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
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3.1 Mitigation Measures Construction

3.2 Demolition - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.0300e-003	0.0000	1.0300e-003	1.6000e-004	0.0000	1.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.7700e-003	0.0430	0.0385	6.0000e-005		2.6900e-003	2.6900e-003		2.5600e-003	2.5600e-003	0.0000	5.2601	5.2601	1.0000e-003	0.0000	5.2852
Total	4.7700e-003	0.0430	0.0385	6.0000e-005	1.0300e-003	2.6900e-003	3.7200e-003	1.6000e-004	2.5600e-003	2.7200e-003	0.0000	5.2601	5.2601	1.0000e-003	0.0000	5.2852

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.0000e-005	1.4000e-003	2.4000e-004	0.0000	8.0000e-005	1.0000e-005	8.0000e-005	2.0000e-005	0.0000	3.0000e-005	0.0000	0.3482	0.3482	2.0000e-005	0.0000	0.3487
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9000e-004	1.4000e-004	1.4600e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3627	0.3627	1.0000e-005	0.0000	0.3629
Total	2.3000e-004	1.5400e-003	1.7000e-003	0.0000	4.8000e-004	1.0000e-005	4.8000e-004	1.3000e-004	0.0000	1.4000e-004	0.0000	0.7109	0.7109	3.0000e-005	0.0000	0.7116

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.0300e-003	0.0000	1.0300e-003	1.6000e-004	0.0000	1.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.7700e-003	0.0430	0.0385	6.0000e-005		2.6900e-003	2.6900e-003		2.5600e-003	2.5600e-003	0.0000	5.2601	5.2601	1.0000e-003	0.0000	5.2852
Total	4.7700e-003	0.0430	0.0385	6.0000e-005	1.0300e-003	2.6900e-003	3.7200e-003	1.6000e-004	2.5600e-003	2.7200e-003	0.0000	5.2601	5.2601	1.0000e-003	0.0000	5.2852

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.0000e-005	1.4000e-003	2.4000e-004	0.0000	8.0000e-005	1.0000e-005	8.0000e-005	2.0000e-005	0.0000	3.0000e-005	0.0000	0.3482	0.3482	2.0000e-005	0.0000	0.3487
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9000e-004	1.4000e-004	1.4600e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3627	0.3627	1.0000e-005	0.0000	0.3629
Total	2.3000e-004	1.5400e-003	1.7000e-003	0.0000	4.8000e-004	1.0000e-005	4.8000e-004	1.3000e-004	0.0000	1.4000e-004	0.0000	0.7109	0.7109	3.0000e-005	0.0000	0.7116

3.3 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.6000e-004	4.4600e-003	2.0700e-003	0.0000		1.8000e-004	1.8000e-004		1.7000e-004	1.7000e-004	0.0000	0.4378	0.4378	1.4000e-004	0.0000	0.4413
Total	3.6000e-004	4.4600e-003	2.0700e-003	0.0000	0.0000	1.8000e-004	1.8000e-004	0.0000	1.7000e-004	1.7000e-004	0.0000	0.4378	0.4378	1.4000e-004	0.0000	0.4413

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	7.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0181	0.0181	0.0000	0.0000	0.0182
Total	1.0000e-005	1.0000e-005	7.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0181	0.0181	0.0000	0.0000	0.0182

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.6000e-004	4.4600e-003	2.0700e-003	0.0000		1.8000e-004	1.8000e-004		1.7000e-004	1.7000e-004	0.0000	0.4378	0.4378	1.4000e-004	0.0000	0.4413

Total	3.6000e-004	4.4600e-003	2.0700e-003	0.0000	0.0000	1.8000e-004	1.8000e-004	0.0000	1.7000e-004	1.7000e-004	0.0000	0.4378	0.4378	1.4000e-004	0.0000	0.4413
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Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	7.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0181	0.0181	0.0000	0.0000	0.0182
Total	1.0000e-005	1.0000e-005	7.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0181	0.0181	0.0000	0.0000	0.0182

3.4 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.0400e-003	0.0000	1.0400e-003	4.5000e-004	0.0000	4.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.5000e-004	8.6000e-003	7.6900e-003	1.0000e-005		5.4000e-004	5.4000e-004		5.1000e-004	5.1000e-004	0.0000	1.0520	1.0520	2.0000e-004	0.0000	1.0570
Total	9.5000e-004	8.6000e-003	7.6900e-003	1.0000e-005	1.0400e-003	5.4000e-004	1.5800e-003	4.5000e-004	5.1000e-004	9.6000e-004	0.0000	1.0520	1.0520	2.0000e-004	0.0000	1.0570

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.3000e-004	7.7700e-003	1.3300e-003	2.0000e-005	4.2000e-004	3.0000e-005	4.5000e-004	1.2000e-004	3.0000e-005	1.4000e-004	0.0000	1.9346	1.9346	1.0000e-004	0.0000	1.9371
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	3.0000e-005	2.9000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0725	0.0725	0.0000	0.0000	0.0726
Total	2.7000e-004	7.8000e-003	1.6200e-003	2.0000e-005	5.0000e-004	3.0000e-005	5.3000e-004	1.4000e-004	3.0000e-005	1.6000e-004	0.0000	2.0071	2.0071	1.0000e-004	0.0000	2.0096

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.0400e-003	0.0000	1.0400e-003	4.5000e-004	0.0000	4.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.5000e-004	8.6000e-003	7.6900e-003	1.0000e-005		5.4000e-004	5.4000e-004		5.1000e-004	5.1000e-004	0.0000	1.0520	1.0520	2.0000e-004	0.0000	1.0570
Total	9.5000e-004	8.6000e-003	7.6900e-003	1.0000e-005	1.0400e-003	5.4000e-004	1.5800e-003	4.5000e-004	5.1000e-004	9.6000e-004	0.0000	1.0520	1.0520	2.0000e-004	0.0000	1.0570

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	2.3000e-004	7.7700e-003	1.3300e-003	2.0000e-005	4.2000e-004	3.0000e-005	4.5000e-004	1.2000e-004	3.0000e-005	1.4000e-004	0.0000	1.9346	1.9346	1.0000e-004	0.0000	1.9371
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	3.0000e-005	2.9000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0725	0.0725	0.0000	0.0000	0.0726
Total	2.7000e-004	7.8000e-003	1.6200e-003	2.0000e-005	5.0000e-004	3.0000e-005	5.3000e-004	1.4000e-004	3.0000e-005	1.6000e-004	0.0000	2.0071	2.0071	1.0000e-004	0.0000	2.0096

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0479	0.4910	0.3772	5.7000e-004		0.0303	0.0303		0.0279	0.0279	0.0000	51.1502	51.1502	0.0162	0.0000	51.5548
Total	0.0479	0.4910	0.3772	5.7000e-004		0.0303	0.0303		0.0279	0.0279	0.0000	51.1502	51.1502	0.0162	0.0000	51.5548

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.5800e-003	0.0448	9.9000e-003	1.0000e-004	2.3000e-003	2.9000e-004	2.5800e-003	6.6000e-004	2.7000e-004	9.4000e-004	0.0000	9.3231	9.3231	5.7000e-004	0.0000	9.3375
Worker	5.4900e-003	4.1900e-003	0.0423	1.2000e-004	0.0115	8.0000e-005	0.0116	3.0500e-003	8.0000e-005	3.1300e-003	0.0000	10.5167	10.5167	3.0000e-004	0.0000	10.5242
Total	7.0700e-003	0.0490	0.0522	2.2000e-004	0.0138	3.7000e-004	0.0141	3.7100e-003	3.5000e-004	4.0700e-003	0.0000	19.8399	19.8399	8.7000e-004	0.0000	19.8617

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0479	0.4910	0.3772	5.7000e-004		0.0303	0.0303		0.0279	0.0279	0.0000	51.1502	51.1502	0.0162	0.0000	51.5548
Total	0.0479	0.4910	0.3772	5.7000e-004		0.0303	0.0303		0.0279	0.0279	0.0000	51.1502	51.1502	0.0162	0.0000	51.5548

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.5800e-003	0.0448	9.9000e-003	1.0000e-004	2.3000e-003	2.9000e-004	2.5800e-003	6.6000e-004	2.7000e-004	9.4000e-004	0.0000	9.3231	9.3231	5.7000e-004	0.0000	9.3375
Worker	5.4900e-003	4.1900e-003	0.0423	1.2000e-004	0.0115	8.0000e-005	0.0116	3.0500e-003	8.0000e-005	3.1300e-003	0.0000	10.5167	10.5167	3.0000e-004	0.0000	10.5242
Total	7.0700e-003	0.0490	0.0522	2.2000e-004	0.0138	3.7000e-004	0.0141	3.7100e-003	3.5000e-004	4.0700e-003	0.0000	19.8399	19.8399	8.7000e-004	0.0000	19.8617

3.6 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.0700e-003	0.0196	0.0179	3.0000e-005		1.1100e-003	1.1100e-003		1.0300e-003	1.0300e-003	0.0000	2.3931	2.3931	6.8000e-004	0.0000	2.4102
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	2.0700e-003	0.0196	0.0179	3.0000e-005		1.1100e-003	1.1100e-003		1.0300e-003	1.0300e-003	0.0000	2.3931	2.3931	6.8000e-004	0.0000	2.4102

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7000e-004	1.3000e-004	1.3100e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.3264	0.3264	1.0000e-005	0.0000	0.3266
Total	1.7000e-004	1.3000e-004	1.3100e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.3264	0.3264	1.0000e-005	0.0000	0.3266

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.0700e-003	0.0196	0.0179	3.0000e-005		1.1100e-003	1.1100e-003		1.0300e-003	1.0300e-003	0.0000	2.3931	2.3931	6.8000e-004	0.0000	2.4102

Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	2.0700e-003	0.0196	0.0179	3.0000e-005		1.1100e-003	1.1100e-003		1.0300e-003	1.0300e-003	0.0000	2.3931	2.3931	6.8000e-004	0.0000	2.4102

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7000e-004	1.3000e-004	1.3100e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.3264	0.3264	1.0000e-005	0.0000	0.3266
Total	1.7000e-004	1.3000e-004	1.3100e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.3264	0.3264	1.0000e-005	0.0000	0.3266

3.7 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.3010					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.7000e-004	4.5900e-003	4.6000e-003	1.0000e-005		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	0.6383	0.6383	5.0000e-005	0.0000	0.6397
Total	0.3017	4.5900e-003	4.6000e-003	1.0000e-005		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	0.6383	0.6383	5.0000e-005	0.0000	0.6397

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	4.0000e-005	4.4000e-004	0.0000	1.2000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1088	0.1088	0.0000	0.0000	0.1089
Total	6.0000e-005	4.0000e-005	4.4000e-004	0.0000	1.2000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1088	0.1088	0.0000	0.0000	0.1089

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.3010					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.7000e-004	4.5900e-003	4.6000e-003	1.0000e-005		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	0.6383	0.6383	5.0000e-005	0.0000	0.6397
Total	0.3017	4.5900e-003	4.6000e-003	1.0000e-005		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	0.6383	0.6383	5.0000e-005	0.0000	0.6397

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	4.0000e-005	4.4000e-004	0.0000	1.2000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1088	0.1088	0.0000	0.0000	0.1089
Total	6.0000e-005	4.0000e-005	4.4000e-004	0.0000	1.2000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1088	0.1088	0.0000	0.0000	0.1089

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1148	0.7297	1.1515	3.9500e-003	0.2901	3.9300e-003	0.2940	0.0780	3.6900e-003	0.0817	0.0000	364.3002	364.3002	0.0177	0.0000	364.7416
Unmitigated	0.1148	0.7297	1.1515	3.9500e-003	0.2901	3.9300e-003	0.2940	0.0780	3.6900e-003	0.0817	0.0000	364.3002	364.3002	0.0177	0.0000	364.7416

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	126.35	121.41	111.34	285,237	285,237
Condo/Townhouse High Rise	25.08	25.86	20.58	56,698	56,698
Parking Lot	0.00	0.00	0.00		
Strip Mall	307.58	291.76	141.78	433,727	433,727
Total	459.01	439.03	273.70	775,661	775,661

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Condo/Townhouse High Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.559358	0.040058	0.190549	0.109335	0.016678	0.005213	0.023344	0.044042	0.002152	0.002669	0.005545	0.000316	0.000739
Condo/Townhouse High Rise	0.559358	0.040058	0.190549	0.109335	0.016678	0.005213	0.023344	0.044042	0.002152	0.002669	0.005545	0.000316	0.000739
Parking Lot	0.559358	0.040058	0.190549	0.109335	0.016678	0.005213	0.023344	0.044042	0.002152	0.002669	0.005545	0.000316	0.000739
Strip Mall	0.559358	0.040058	0.190549	0.109335	0.016678	0.005213	0.023344	0.044042	0.002152	0.002669	0.005545	0.000316	0.000739

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	24.6549	24.6549	2.4700e-003	5.1000e-004	24.8686
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	24.6549	24.6549	2.4700e-003	5.1000e-004	24.8686
NaturalGas Mitigated	1.3500e-003	0.0116	5.5900e-003	7.0000e-005		9.3000e-004	9.3000e-004		9.3000e-004	9.3000e-004	0.0000	13.3516	13.3516	2.6000e-004	2.4000e-004	13.4309
NaturalGas Unmitigated	1.3500e-003	0.0116	5.5900e-003	7.0000e-005		9.3000e-004	9.3000e-004		9.3000e-004	9.3000e-004	0.0000	13.3516	13.3516	2.6000e-004	2.4000e-004	13.4309

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	165878	8.9000e-004	7.6400e-003	3.2500e-003	5.0000e-005		6.2000e-004	6.2000e-004		6.2000e-004	6.2000e-004	0.0000	8.8519	8.8519	1.7000e-004	1.6000e-004	8.9045
Condo/Townhouse High Rise	52382.6	2.8000e-004	2.4100e-003	1.0300e-003	2.0000e-005		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	2.7953	2.7953	5.0000e-005	5.0000e-005	2.8120
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	31937.8	1.7000e-004	1.5700e-003	1.3200e-003	1.0000e-005		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004	0.0000	1.7043	1.7043	3.0000e-005	3.0000e-005	1.7145
Total		1.3400e-003	0.0116	5.6000e-003	8.0000e-005		9.4000e-004	9.4000e-004		9.4000e-004	9.4000e-004	0.0000	13.3515	13.3515	2.5000e-004	2.4000e-004	13.4309

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	165878	8.9000e-004	7.6400e-003	3.2500e-003	5.0000e-005		6.2000e-004	6.2000e-004		6.2000e-004	6.2000e-004	0.0000	8.8519	8.8519	1.7000e-004	1.6000e-004	8.9045
Condo/Townhouse High Rise	52382.6	2.8000e-004	2.4100e-003	1.0300e-003	2.0000e-005		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	2.7953	2.7953	5.0000e-005	5.0000e-005	2.8120
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	31937.8	1.7000e-004	1.5700e-003	1.3200e-003	1.0000e-005		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004	0.0000	1.7043	1.7043	3.0000e-005	3.0000e-005	1.7145
Total		1.3400e-003	0.0116	5.6000e-003	8.0000e-005		9.4000e-004	9.4000e-004		9.4000e-004	9.4000e-004	0.0000	13.3515	13.3515	2.5000e-004	2.4000e-004	13.4309

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	80217.8	10.5520	1.0600e-003	2.2000e-004	10.6434
Condo/Townhouse High Rise	26889.9	3.5372	3.5000e-004	7.0000e-005	3.5678
Parking Lot	7560	0.9945	1.0000e-004	2.0000e-005	1.0031
Strip Mall	72762.6	9.5713	9.6000e-004	2.0000e-004	9.6543
Total		24.6549	2.4700e-003	5.1000e-004	24.8686

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	80217.8	10.5520	1.0600e-003	2.2000e-004	10.6434
Condo/Townhouse High Rise	26889.9	3.5372	3.5000e-004	7.0000e-005	3.5678
Parking Lot	7560	0.9945	1.0000e-004	2.0000e-005	1.0031
Strip Mall	72762.6	9.5713	9.6000e-004	2.0000e-004	9.6543
Total		24.6549	2.4700e-003	5.1000e-004	24.8686

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.2088	3.0100e-003	0.1870	2.0000e-005		1.1000e-003	1.1000e-003		1.1000e-003	1.1000e-003	0.0000	1.3030	1.3030	3.2000e-004	2.0000e-005	1.3164
Unmitigated	0.2088	3.0100e-003	0.1870	2.0000e-005		1.1000e-003	1.1000e-003		1.1000e-003	1.1000e-003	0.0000	1.3030	1.3030	3.2000e-004	2.0000e-005	1.3164

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0301					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1729					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.0000e-004	8.6000e-004	3.7000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	0.9987	0.9987	2.0000e-005	2.0000e-005	1.0047
Landscaping	5.6900e-003	2.1500e-003	0.1866	1.0000e-005		1.0300e-003	1.0300e-003		1.0300e-003	1.0300e-003	0.0000	0.3043	0.3043	3.0000e-004	0.0000	0.3117
Total	0.2088	3.0100e-003	0.1870	2.0000e-005		1.1000e-003	1.1000e-003		1.1000e-003	1.1000e-003	0.0000	1.3030	1.3030	3.2000e-004	2.0000e-005	1.3164

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0301					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1729					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.0000e-004	8.6000e-004	3.7000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	0.9987	0.9987	2.0000e-005	2.0000e-005	1.0047
Landscaping	5.6900e-003	2.1500e-003	0.1866	1.0000e-005		1.0300e-003	1.0300e-003		1.0300e-003	1.0300e-003	0.0000	0.3043	0.3043	3.0000e-004	0.0000	0.3117
Total	0.2088	3.0100e-003	0.1870	2.0000e-005		1.1000e-003	1.1000e-003		1.1000e-003	1.1000e-003	0.0000	1.3030	1.3030	3.2000e-004	2.0000e-005	1.3164

7.0 Water Detail

7.1 Mitigation Measures Water

- Install Low Flow Bathroom Faucet
- Install Low Flow Kitchen Faucet
- Install Low Flow Toilet
- Install Low Flow Shower
- Use Water Efficient Irrigation System
- Use Water Efficient Landscaping

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	2.4069	2.2700e-003	1.3600e-003	2.8678

Unmitigated	2.9013	2.8200e-003	1.6900e-003	3.4764
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7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	1.23793 / 0.780432	1.6784	1.6300e-003	9.8000e-004	2.0107
Condo/Townhouse High Rise	0.390924 / 0.246452	0.5300	5.2000e-004	3.1000e-004	0.6350
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.514063 / 0.315071	0.6928	6.8000e-004	4.1000e-004	0.8308
Total		2.9013	2.8300e-003	1.7000e-003	3.4764

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	0.990341 / 0.732826	1.3927	1.3100e-003	7.8000e-004	1.6589
Condo/Townhouse High Rise	0.312739 / 0.231419	0.4398	4.1000e-004	2.5000e-004	0.5239
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.411251 / 0.295852	0.5744	5.4000e-004	3.3000e-004	0.6850

Total		2.4069	2.2600e-003	1.3600e-003	2.8678
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8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	3.8142	0.2254	0.0000	9.4495
Unmitigated	3.8142	0.2254	0.0000	9.4495

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	8.74	1.7741	0.1049	0.0000	4.3954
Condo/Townhouse High Rise	2.76	0.5603	0.0331	0.0000	1.3880
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	7.29	1.4798	0.0875	0.0000	3.6662

Total		3.8142	0.2254	0.0000	9.4495
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Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	8.74	1.7741	0.1049	0.0000	4.3954
Condo/Townhouse High Rise	2.76	0.5603	0.0331	0.0000	1.3880
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	7.29	1.4798	0.0875	0.0000	3.6662
Total		3.8142	0.2254	0.0000	9.4495

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

18-131 Silver Dollar Mixed Use TAC Tier 2 lvl 3 - Alameda County, Annual

18-131 Silver Dollar Mixed Use TAC Tier 2 lvl 3
Alameda County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	54.00	Space	0.00	21,600.00	0
Apartments Mid Rise	19.00	Dwelling Unit	0.89	28,179.00	54
Condo/Townhouse High Rise	6.00	Dwelling Unit	0.00	8,796.00	17
Strip Mall	6.94	1000sqft	0.00	6,943.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	63
Climate Zone	5	Operational Year	2021		
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	290	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2020 rate

Land Use - three story mixed-used build, 19 stacked residential units above ground floor (28,179 sf); 6943 sf of ground floor retail; six three-bedroom three-story townhome units (4,400 sf per unit); 54 parking spaces; 0.89 acres total

Construction Phase - Default

Off-road Equipment - Default

Trips and VMT - TAC trip length 1 mile

Demolition - construction information

Grading - took site prep acreage (0.5) and used for grading

Vehicle Trips - default operational trips

Woodstoves - assuming all gas

Energy Use -

Water And Wastewater - 100% aerobic

Construction Off-road Equipment Mitigation - BMPs, tier 2 lvl 3

Water Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
tblConstEquipMitigation	Tier	No Change	Tier 2

tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberGas	2.85	6.08
tblFireplaces	NumberGas	0.90	1.92
tblFireplaces	NumberWood	3.23	0.00
tblFireplaces	NumberWood	1.02	0.00
tblGrading	AcresOfGrading	0.00	0.50
tblGrading	AcresOfGrading	0.50	0.00
tblGrading	MaterialExported	0.00	200.00
tblGrading	MaterialImported	0.00	200.00
tblLandUse	LandUseSquareFeet	19,000.00	28,179.00
tblLandUse	LandUseSquareFeet	6,000.00	8,796.00
tblLandUse	LandUseSquareFeet	6,940.00	6,943.00
tblLandUse	LotAcreage	0.49	0.00
tblLandUse	LotAcreage	0.50	0.89
tblLandUse	LotAcreage	0.09	0.00
tblLandUse	LotAcreage	0.16	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00

tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.3606	0.6016	0.4669	7.3000e-004	3.5800e-003	0.0352	0.0388	1.0100e-003	0.0325	0.0335	0.0000	65.6623	65.6623	0.0189	0.0000	66.1337
Maximum	0.3606	0.6016	0.4669	7.3000e-004	3.5800e-003	0.0352	0.0388	1.0100e-003	0.0325	0.0335	0.0000	65.6623	65.6623	0.0189	0.0000	66.1337

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.3317	0.6587	0.4895	7.3000e-004	2.4400e-003	3.5000e-003	5.9400e-003	5.5000e-004	3.4900e-003	4.0400e-003	0.0000	65.6622	65.6622	0.0189	0.0000	66.1336
Maximum	0.3317	0.6587	0.4895	7.3000e-004	2.4400e-003	3.5000e-003	5.9400e-003	5.5000e-004	3.4900e-003	4.0400e-003	0.0000	65.6622	65.6622	0.0189	0.0000	66.1336

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	8.00	-9.49	-4.86	0.00	31.84	90.05	84.67	45.54	89.26	87.95	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	5-1-2019	7-31-2019	0.3655	0.3832

2	8-1-2019	9-30-2019	0.2479	0.2565
		Highest	0.3655	0.3832

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.2088	3.0100e-003	0.1870	2.0000e-005		1.1000e-003	1.1000e-003		1.1000e-003	1.1000e-003	0.0000	1.3030	1.3030	3.2000e-004	2.0000e-005	1.3164
Energy	1.3500e-003	0.0116	5.5900e-003	7.0000e-005		9.3000e-004	9.3000e-004		9.3000e-004	9.3000e-004	0.0000	38.0065	38.0065	2.7200e-003	7.5000e-004	38.2995
Mobile	0.1148	0.7297	1.1515	3.9500e-003	0.2901	3.9300e-003	0.2940	0.0780	3.6900e-003	0.0817	0.0000	364.3002	364.3002	0.0177	0.0000	364.7416
Waste						0.0000	0.0000		0.0000	0.0000	3.8142	0.0000	3.8142	0.2254	0.0000	9.4495
Water						0.0000	0.0000		0.0000	0.0000	0.7582	2.1431	2.9013	2.8200e-003	1.6900e-003	3.4764
Total	0.3249	0.7444	1.3440	4.0400e-003	0.2901	5.9600e-003	0.2961	0.0780	5.7200e-003	0.0837	4.5724	405.7528	410.3252	0.2489	2.4600e-003	417.2833

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.2088	3.0100e-003	0.1870	2.0000e-005		1.1000e-003	1.1000e-003		1.1000e-003	1.1000e-003	0.0000	1.3030	1.3030	3.2000e-004	2.0000e-005	1.3164
Energy	1.3500e-003	0.0116	5.5900e-003	7.0000e-005		9.3000e-004	9.3000e-004		9.3000e-004	9.3000e-004	0.0000	38.0065	38.0065	2.7200e-003	7.5000e-004	38.2995
Mobile	0.1148	0.7297	1.1515	3.9500e-003	0.2901	3.9300e-003	0.2940	0.0780	3.6900e-003	0.0817	0.0000	364.3002	364.3002	0.0177	0.0000	364.7416

Waste						0.0000	0.0000		0.0000	0.0000	3.8142	0.0000	3.8142	0.2254	0.0000	9.4495
Water						0.0000	0.0000		0.0000	0.0000	0.6065	1.8004	2.4069	2.2700e-003	1.3600e-003	2.8678
Total	0.3249	0.7444	1.3440	4.0400e-003	0.2901	5.9600e-003	0.2961	0.0780	5.7200e-003	0.0837	4.4207	405.4101	409.8308	0.2484	2.1300e-003	416.6747

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.32	0.08	0.12	0.22	13.41	0.15

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/1/2019	5/14/2019	5	10	
2	Site Preparation	Site Preparation	5/15/2019	5/15/2019	5	1	
3	Grading	Grading	5/16/2019	5/17/2019	5	2	
4	Building Construction	Building Construction	5/18/2019	10/4/2019	5	100	
5	Paving	Paving	10/5/2019	10/11/2019	5	5	
6	Architectural Coating	Architectural Coating	10/12/2019	10/18/2019	5	5	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0.5

Acres of Paving: 0

Residential Indoor: 74,874; Residential Outdoor: 24,958; Non-Residential Indoor: 10,415; Non-Residential Outdoor: 3,472; Striped

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41

Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	10.00	0.00	9.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	50.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	29.00	7.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	6.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.0300e-003	0.0000	1.0300e-003	1.6000e-004	0.0000	1.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.7700e-003	0.0430	0.0385	6.0000e-005		2.6900e-003	2.6900e-003		2.5600e-003	2.5600e-003	0.0000	5.2601	5.2601	1.0000e-003	0.0000	5.2852
Total	4.7700e-003	0.0430	0.0385	6.0000e-005	1.0300e-003	2.6900e-003	3.7200e-003	1.6000e-004	2.5600e-003	2.7200e-003	0.0000	5.2601	5.2601	1.0000e-003	0.0000	5.2852

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	5.0000e-004	6.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0623	0.0623	1.0000e-005	0.0000	0.0625
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0000e-005	3.0000e-005	4.1000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0432	0.0432	0.0000	0.0000	0.0432
Total	8.0000e-005	5.3000e-004	4.7000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1054	0.1054	1.0000e-005	0.0000	0.1058

Mitigated Construction On-Site

Off-Road	3.6000e-004	4.4600e-003	2.0700e-003	0.0000		1.8000e-004	1.8000e-004		1.7000e-004	1.7000e-004	0.0000	0.4378	0.4378	1.4000e-004	0.0000	0.4413
Total	3.6000e-004	4.4600e-003	2.0700e-003	0.0000	0.0000	1.8000e-004	1.8000e-004	0.0000	1.7000e-004	1.7000e-004	0.0000	0.4378	0.4378	1.4000e-004	0.0000	0.4413

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.1600e-003	2.1600e-003	0.0000	0.0000	2.1600e-003
Total	0.0000	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.1600e-003	2.1600e-003	0.0000	0.0000	2.1600e-003

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.5000e-004	4.3100e-003	2.9300e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.4378	0.4378	1.4000e-004	0.0000	0.4413
Total	1.5000e-004	4.3100e-003	2.9300e-003	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	2.0000e-005	2.0000e-005	0.0000	0.4378	0.4378	1.4000e-004	0.0000	0.4413

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.1600e-003	2.1600e-003	0.0000	0.0000	2.1600e-003
Total	0.0000	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.1600e-003	2.1600e-003	0.0000	0.0000	2.1600e-003

3.4 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.0400e-003	0.0000	1.0400e-003	4.5000e-004	0.0000	4.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.5000e-004	8.6000e-003	7.6900e-003	1.0000e-005		5.4000e-004	5.4000e-004		5.1000e-004	5.1000e-004	0.0000	1.0520	1.0520	2.0000e-004	0.0000	1.0570
Total	9.5000e-004	8.6000e-003	7.6900e-003	1.0000e-005	1.0400e-003	5.4000e-004	1.5800e-003	4.5000e-004	5.1000e-004	9.6000e-004	0.0000	1.0520	1.0520	2.0000e-004	0.0000	1.0570

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	6.0000e-005	2.7700e-003	3.6000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.3459	0.3459	6.0000e-005	0.0000	0.3474
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	8.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	8.6300e-003	8.6300e-003	0.0000	0.0000	8.6500e-003
Total	7.0000e-005	2.7800e-003	4.4000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.3546	0.3546	6.0000e-005	0.0000	0.3561

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.7000e-004	0.0000	4.7000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.8000e-004	0.0104	7.9400e-003	1.0000e-005		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	1.0520	1.0520	2.0000e-004	0.0000	1.0570
Total	4.8000e-004	0.0104	7.9400e-003	1.0000e-005	4.7000e-004	6.0000e-005	5.3000e-004	1.0000e-004	6.0000e-005	1.6000e-004	0.0000	1.0520	1.0520	2.0000e-004	0.0000	1.0570

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.0000e-005	2.7700e-003	3.6000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.3459	0.3459	6.0000e-005	0.0000	0.3474
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	8.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	8.6300e-003	8.6300e-003	0.0000	0.0000	8.6500e-003
Total	7.0000e-005	2.7800e-003	4.4000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.3546	0.3546	6.0000e-005	0.0000	0.3561

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0479	0.4910	0.3772	5.7000e-004		0.0303	0.0303		0.0279	0.0279	0.0000	51.1502	51.1502	0.0162	0.0000	51.5548
Total	0.0479	0.4910	0.3772	5.7000e-004		0.0303	0.0303		0.0279	0.0279	0.0000	51.1502	51.1502	0.0162	0.0000	51.5548

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.0000e-004	0.0260	5.7700e-003	3.0000e-005	3.2000e-004	5.0000e-005	3.8000e-004	9.0000e-005	5.0000e-005	1.5000e-004	0.0000	2.9648	2.9648	4.5000e-004	0.0000	2.9761
Worker	1.9500e-003	9.3000e-004	0.0118	1.0000e-005	1.0700e-003	2.0000e-005	1.0900e-003	2.9000e-004	1.0000e-005	3.0000e-004	0.0000	1.2520	1.2520	7.0000e-005	0.0000	1.2536
Total	2.6500e-003	0.0269	0.0176	4.0000e-005	1.3900e-003	7.0000e-005	1.4700e-003	3.8000e-004	6.0000e-005	4.5000e-004	0.0000	4.2167	4.2167	5.2000e-004	0.0000	4.2297

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0235	0.5351	0.3981	5.7000e-004		2.8900e-003	2.8900e-003		2.8900e-003	2.8900e-003	0.0000	51.1502	51.1502	0.0162	0.0000	51.5548
Total	0.0235	0.5351	0.3981	5.7000e-004		2.8900e-003	2.8900e-003		2.8900e-003	2.8900e-003	0.0000	51.1502	51.1502	0.0162	0.0000	51.5548

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.0000e-004	0.0260	5.7700e-003	3.0000e-005	3.2000e-004	5.0000e-005	3.8000e-004	9.0000e-005	5.0000e-005	1.5000e-004	0.0000	2.9648	2.9648	4.5000e-004	0.0000	2.9761
Worker	1.9500e-003	9.3000e-004	0.0118	1.0000e-005	1.0700e-003	2.0000e-005	1.0900e-003	2.9000e-004	1.0000e-005	3.0000e-004	0.0000	1.2520	1.2520	7.0000e-005	0.0000	1.2536
Total	2.6500e-003	0.0269	0.0176	4.0000e-005	1.3900e-003	7.0000e-005	1.4700e-003	3.8000e-004	6.0000e-005	4.5000e-004	0.0000	4.2167	4.2167	5.2000e-004	0.0000	4.2297

3.6 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.0700e-003	0.0196	0.0179	3.0000e-005		1.1100e-003	1.1100e-003		1.0300e-003	1.0300e-003	0.0000	2.3931	2.3931	6.8000e-004	0.0000	2.4102

Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	2.0700e-003	0.0196	0.0179	3.0000e-005		1.1100e-003	1.1100e-003		1.0300e-003	1.0300e-003	0.0000	2.3931	2.3931	6.8000e-004	0.0000	2.4102

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	3.0000e-005	3.7000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0389	0.0389	0.0000	0.0000	0.0389
Total	6.0000e-005	3.0000e-005	3.7000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0389	0.0389	0.0000	0.0000	0.0389

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.9000e-004	0.0209	0.0173	3.0000e-005		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	2.3931	2.3931	6.8000e-004	0.0000	2.4102
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	9.9000e-004	0.0209	0.0173	3.0000e-005		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	2.3931	2.3931	6.8000e-004	0.0000	2.4102

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	3.0000e-005	3.7000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0389	0.0389	0.0000	0.0000	0.0389
Total	6.0000e-005	3.0000e-005	3.7000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0389	0.0389	0.0000	0.0000	0.0389

3.7 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.3010					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.7000e-004	4.5900e-003	4.6000e-003	1.0000e-005		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	0.6383	0.6383	5.0000e-005	0.0000	0.6397
Total	0.3017	4.5900e-003	4.6000e-003	1.0000e-005		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	0.6383	0.6383	5.0000e-005	0.0000	0.6397

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	1.0000e-005	1.2000e-004	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0130	0.0130	0.0000	0.0000	0.0130
Total	2.0000e-005	1.0000e-005	1.2000e-004	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0130	0.0130	0.0000	0.0000	0.0130

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.3010					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.8000e-004	5.8800e-003	4.5800e-003	1.0000e-005		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.6383	0.6383	5.0000e-005	0.0000	0.6397
Total	0.3013	5.8800e-003	4.5800e-003	1.0000e-005		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.6383	0.6383	5.0000e-005	0.0000	0.6397

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	1.0000e-005	1.2000e-004	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0130	0.0130	0.0000	0.0000	0.0130
Total	2.0000e-005	1.0000e-005	1.2000e-004	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0130	0.0130	0.0000	0.0000	0.0130

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1148	0.7297	1.1515	3.9500e-003	0.2901	3.9300e-003	0.2940	0.0780	3.6900e-003	0.0817	0.0000	364.3002	364.3002	0.0177	0.0000	364.7416
Unmitigated	0.1148	0.7297	1.1515	3.9500e-003	0.2901	3.9300e-003	0.2940	0.0780	3.6900e-003	0.0817	0.0000	364.3002	364.3002	0.0177	0.0000	364.7416

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	126.35	121.41	111.34	285,237	285,237
Condo/Townhouse High Rise	25.08	25.86	20.58	56,698	56,698
Parking Lot	0.00	0.00	0.00		
Strip Mall	307.58	291.76	141.78	433,727	433,727
Total	459.01	439.03	273.70	775,661	775,661

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Condo/Townhouse High Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.559358	0.040058	0.190549	0.109335	0.016678	0.005213	0.023344	0.044042	0.002152	0.002669	0.005545	0.000316	0.000739
Condo/Townhouse High Rise	0.559358	0.040058	0.190549	0.109335	0.016678	0.005213	0.023344	0.044042	0.002152	0.002669	0.005545	0.000316	0.000739
Parking Lot	0.559358	0.040058	0.190549	0.109335	0.016678	0.005213	0.023344	0.044042	0.002152	0.002669	0.005545	0.000316	0.000739
Strip Mall	0.559358	0.040058	0.190549	0.109335	0.016678	0.005213	0.023344	0.044042	0.002152	0.002669	0.005545	0.000316	0.000739

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	24.6549	24.6549	2.4700e-003	5.1000e-004	24.8686
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	24.6549	24.6549	2.4700e-003	5.1000e-004	24.8686
NaturalGas Mitigated	1.3500e-003	0.0116	5.5900e-003	7.0000e-005		9.3000e-004	9.3000e-004		9.3000e-004	9.3000e-004	0.0000	13.3516	13.3516	2.6000e-004	2.4000e-004	13.4309
NaturalGas Unmitigated	1.3500e-003	0.0116	5.5900e-003	7.0000e-005		9.3000e-004	9.3000e-004		9.3000e-004	9.3000e-004	0.0000	13.3516	13.3516	2.6000e-004	2.4000e-004	13.4309

5.2 Energy by Land Use - NaturalGas
Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	165878	8.9000e-004	7.6400e-003	3.2500e-003	5.0000e-005		6.2000e-004	6.2000e-004		6.2000e-004	6.2000e-004	0.0000	8.8519	8.8519	1.7000e-004	1.6000e-004	8.9045
Condo/Townhouse High Rise	52382.6	2.8000e-004	2.4100e-003	1.0300e-003	2.0000e-005		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	2.7953	2.7953	5.0000e-005	5.0000e-005	2.8120
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	31937.8	1.7000e-004	1.5700e-003	1.3200e-003	1.0000e-005		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004	0.0000	1.7043	1.7043	3.0000e-005	3.0000e-005	1.7145
Total		1.3400e-003	0.0116	5.6000e-003	8.0000e-005		9.4000e-004	9.4000e-004		9.4000e-004	9.4000e-004	0.0000	13.3515	13.3515	2.5000e-004	2.4000e-004	13.4309

Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	165878	8.9000e-004	7.6400e-003	3.2500e-003	5.0000e-005		6.2000e-004	6.2000e-004		6.2000e-004	6.2000e-004	0.0000	8.8519	8.8519	1.7000e-004	1.6000e-004	8.9045
Condo/Townhouse High Rise	52382.6	2.8000e-004	2.4100e-003	1.0300e-003	2.0000e-005		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	2.7953	2.7953	5.0000e-005	5.0000e-005	2.8120
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	31937.8	1.7000e-004	1.5700e-003	1.3200e-003	1.0000e-005		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004	0.0000	1.7043	1.7043	3.0000e-005	3.0000e-005	1.7145
Total		1.3400e-003	0.0116	5.6000e-003	8.0000e-005		9.4000e-004	9.4000e-004		9.4000e-004	9.4000e-004	0.0000	13.3515	13.3515	2.5000e-004	2.4000e-004	13.4309

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			

Apartments Mid Rise	80217.8	10.5520	1.0600e-003	2.2000e-004	10.6434
Condo/Townhouse High Rise	26889.9	3.5372	3.5000e-004	7.0000e-005	3.5678
Parking Lot	7560	0.9945	1.0000e-004	2.0000e-005	1.0031
Strip Mall	72762.6	9.5713	9.6000e-004	2.0000e-004	9.6543
Total		24.6549	2.4700e-003	5.1000e-004	24.8686

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	80217.8	10.5520	1.0600e-003	2.2000e-004	10.6434
Condo/Townhouse High Rise	26889.9	3.5372	3.5000e-004	7.0000e-005	3.5678
Parking Lot	7560	0.9945	1.0000e-004	2.0000e-005	1.0031
Strip Mall	72762.6	9.5713	9.6000e-004	2.0000e-004	9.6543
Total		24.6549	2.4700e-003	5.1000e-004	24.8686

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
--	-----	-----	----	-----	---------------	--------------	------------	----------------	---------------	-------------	----------	-----------	-----------	-----	-----	------

Hearth	1.0000e-004	8.6000e-004	3.7000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	0.9987	0.9987	2.0000e-005	2.0000e-005	1.0047
Landscaping	5.6900e-003	2.1500e-003	0.1866	1.0000e-005		1.0300e-003	1.0300e-003		1.0300e-003	1.0300e-003	0.0000	0.3043	0.3043	3.0000e-004	0.0000	0.3117
Total	0.2088	3.0100e-003	0.1870	2.0000e-005		1.1000e-003	1.1000e-003		1.1000e-003	1.1000e-003	0.0000	1.3030	1.3030	3.2000e-004	2.0000e-005	1.3164

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

Use Water Efficient Landscaping

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	2.4069	2.2700e-003	1.3600e-003	2.8678
Unmitigated	2.9013	2.8200e-003	1.6900e-003	3.4764

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
--	--------------------	-----------	-----	-----	------

Land Use	Mgal	MT/yr			
Apartments Mid Rise	1.23793 / 0.780432	1.6784	1.6300e-003	9.8000e-004	2.0107
Condo/Townhouse High Rise	0.390924 / 0.246452	0.5300	5.2000e-004	3.1000e-004	0.6350
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.514063 / 0.315071	0.6928	6.8000e-004	4.1000e-004	0.8308
Total		2.9013	2.8300e-003	1.7000e-003	3.4764

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	0.990341 / 0.732826	1.3927	1.3100e-003	7.8000e-004	1.6589
Condo/Townhouse High Rise	0.312739 / 0.231419	0.4398	4.1000e-004	2.5000e-004	0.5239
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.411251 / 0.295852	0.5744	5.4000e-004	3.3000e-004	0.6850
Total		2.4069	2.2600e-003	1.3600e-003	2.8678

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	3.8142	0.2254	0.0000	9.4495
Unmitigated	3.8142	0.2254	0.0000	9.4495

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	8.74	1.7741	0.1049	0.0000	4.3954
Condo/Townhouse High Rise	2.76	0.5603	0.0331	0.0000	1.3880
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	7.29	1.4798	0.0875	0.0000	3.6662
Total		3.8142	0.2254	0.0000	9.4495

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	8.74	1.7741	0.1049	0.0000	4.3954

Condo/Townhouse	2.76	0.5603	0.0331	0.0000	1.3880
High Rise					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	7.29	1.4798	0.0875	0.0000	3.6662
Total		3.8142	0.2254	0.0000	9.4495

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

18-131 Silver Dollar Mixed-Use EXISTING - Alameda County, Annual

18-131 Silver Dollar Mixed-Use EXISTING**Alameda County, Annual****1.0 Project Characteristics****1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	0.30	Acre	0.30	13,068.00	0
High Turnover (Sit Down Restaurant)	0.15	1000sqft	0.03	1,409.00	0
Condo/Townhouse	2.00	Dwelling Unit	0.30	2,025.00	6
Single Family Housing	1.00	Dwelling Unit	0.30	1,591.00	3

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	63
Climate Zone	5			Operational Year	2021
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	290	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E existing rate

Land Use - Project description and construction plans

Construction Phase - Existing land use

Off-road Equipment - No existing equipment

Woodstoves - assuming all gas

Water And Wastewater - assuming all 100% aerobic

Grading - 0 acres graded

Energy Use -

Table Name	Column Name	Default Value	New Value
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberGas	0.30	0.64
tblFireplaces	NumberGas	0.25	0.68
tblFireplaces	NumberWood	0.34	0.00
tblFireplaces	NumberWood	0.43	0.00
tblLandUse	LandUseSquareFeet	150.00	1,409.00
tblLandUse	LandUseSquareFeet	2,000.00	2,025.00
tblLandUse	LandUseSquareFeet	1,800.00	1,591.00
tblLandUse	LotAcreage	0.00	0.03
tblLandUse	LotAcreage	0.13	0.30
tblLandUse	LotAcreage	0.32	0.30
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblTripsAndVMT	WorkerTripNumber	0.00	5.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00
tblWoodstoves	WoodstoveWoodMass	956.80	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	1.0000e-005	1.0000e-005	7.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0181	0.0181	0.0000	0.0000	0.0182
Maximum	1.0000e-005	1.0000e-005	7.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0181	0.0181	0.0000	0.0000	0.0182

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	1.0000e-005	1.0000e-005	7.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0181	0.0181	0.0000	0.0000	0.0182
Maximum	1.0000e-005	1.0000e-005	7.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0181	0.0181	0.0000	0.0000	0.0182

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2019	3-31-2019	0.0000	0.0000
		Highest	0.0000	0.0000

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0247	4.0000e-004	0.0224	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	0.2012	0.2012	4.0000e-005	0.0000	0.2030
Energy	1.7500e-003	0.0156	0.0115	1.0000e-004		1.2100e-003	1.2100e-003		1.2100e-003	1.2100e-003	0.0000	25.6476	25.6476	1.1700e-003	4.9000e-004	25.8228
Mobile	0.0107	0.0680	0.1065	3.6000e-004	0.0265	3.6000e-004	0.0269	7.1300e-003	3.4000e-004	7.4700e-003	0.0000	33.4584	33.4584	1.6400e-003	0.0000	33.4995
Waste						0.0000	0.0000		0.0000	0.0000	0.8038	0.0000	0.8038	0.0475	0.0000	1.9915
Water						0.0000	0.0000		0.0000	0.0000	0.0853	0.2296	0.3149	3.2000e-004	1.9000e-004	0.3795
Total	0.0372	0.0840	0.1403	4.6000e-004	0.0265	1.7000e-003	0.0282	7.1300e-003	1.6800e-003	8.8100e-003	0.8891	59.5369	60.4260	0.0507	6.8000e-004	61.8962

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Area	0.0247	4.0000e-004	0.0224	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	0.2012	0.2012	4.0000e-005	0.0000	0.2030
Energy	1.7500e-003	0.0156	0.0115	1.0000e-004		1.2100e-003	1.2100e-003		1.2100e-003	1.2100e-003	0.0000	25.6476	25.6476	1.1700e-003	4.9000e-004	25.8228
Mobile	0.0107	0.0680	0.1065	3.6000e-004	0.0265	3.6000e-004	0.0269	7.1300e-003	3.4000e-004	7.4700e-003	0.0000	33.4584	33.4584	1.6400e-003	0.0000	33.4995
Waste						0.0000	0.0000		0.0000	0.0000	0.8038	0.0000	0.8038	0.0475	0.0000	1.9915
Water						0.0000	0.0000		0.0000	0.0000	0.0853	0.2296	0.3149	3.2000e-004	1.9000e-004	0.3795
Total	0.0372	0.0840	0.1403	4.6000e-004	0.0265	1.7000e-003	0.0282	7.1300e-003	1.6800e-003	8.8100e-003	0.8891	59.5369	60.4260	0.0507	6.8000e-004	61.8962

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2019	1/1/2019	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.3

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	0	8.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	0	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	7.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0181	0.0181	0.0000	0.0000	0.0182
Total	1.0000e-005	1.0000e-005	7.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0181	0.0181	0.0000	0.0000	0.0182

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	7.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0181	0.0181	0.0000	0.0000	0.0182
Total	1.0000e-005	1.0000e-005	7.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0181	0.0181	0.0000	0.0000	0.0182

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0107	0.0680	0.1065	3.6000e-004	0.0265	3.6000e-004	0.0269	7.1300e-003	3.4000e-004	7.4700e-003	0.0000	33.4584	33.4584	1.6400e-003	0.0000	33.4995
Unmitigated	0.0107	0.0680	0.1065	3.6000e-004	0.0265	3.6000e-004	0.0269	7.1300e-003	3.4000e-004	7.4700e-003	0.0000	33.4584	33.4584	1.6400e-003	0.0000	33.4995

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse	11.62	11.34	9.68	26,105	26,105
High Turnover (Sit Down Restaurant)	19.07	23.76	19.78	23,022	23,022
Parking Lot	0.00	0.00	0.00		
Single Family Housing	9.52	9.91	8.62	21,819	21,819
Total	40.21	45.01	38.08	70,946	70,946

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Condo/Townhouse	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
High Turnover (Sit Down Restaurant)	9.50	7.30	7.30	8.50	72.50	19.00	37	20	43
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Single Family Housing	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Condo/Townhouse	0.559358	0.040058	0.190549	0.109335	0.016678	0.005213	0.023344	0.044042	0.002152	0.002669	0.005545	0.000316	0.000739
High Turnover (Sit Down Restaurant)	0.559358	0.040058	0.190549	0.109335	0.016678	0.005213	0.023344	0.044042	0.002152	0.002669	0.005545	0.000316	0.000739

Parking Lot	0.559358	0.040058	0.190549	0.109335	0.016678	0.005213	0.023344	0.044042	0.002152	0.002669	0.005545	0.000316	0.000739
Single Family Housing	0.559358	0.040058	0.190549	0.109335	0.016678	0.005213	0.023344	0.044042	0.002152	0.002669	0.005545	0.000316	0.000739

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	8.3385	8.3385	8.3000e-004	1.7000e-004	8.4107
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	8.3385	8.3385	8.3000e-004	1.7000e-004	8.4107
NaturalGas Mitigated	1.7500e-003	0.0156	0.0115	1.0000e-004		1.2100e-003	1.2100e-003		1.2100e-003	1.2100e-003	0.0000	17.3092	17.3092	3.3000e-004	3.2000e-004	17.4120
NaturalGas Unmitigated	1.7500e-003	0.0156	0.0115	1.0000e-004		1.2100e-003	1.2100e-003		1.2100e-003	1.2100e-003	0.0000	17.3092	17.3092	3.3000e-004	3.2000e-004	17.4120

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Condo/Townhouse	45438.4	2.5000e-004	2.0900e-003	8.9000e-004	1.0000e-005		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004	0.0000	2.4248	2.4248	5.0000e-005	4.0000e-005	2.4392
High Turnover (Sit Down Restaurant)	236599	1.2800e-003	0.0116	9.7400e-003	7.0000e-005		8.8000e-004	8.8000e-004		8.8000e-004	8.8000e-004	0.0000	12.6258	12.6258	2.4000e-004	2.3000e-004	12.7009

Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	42323.8	2.3000e-004	1.9500e-003	8.3000e-004	1.0000e-005		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004	0.0000	2.2586	2.2586	4.0000e-005	4.0000e-005	2.2720
Total		1.7600e-003	0.0156	0.0115	9.0000e-005		1.2100e-003	1.2100e-003		1.2100e-003	1.2100e-003	0.0000	17.3092	17.3092	3.3000e-004	3.1000e-004	17.4120

Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Condo/Townhouse	45438.4	2.5000e-004	2.0900e-003	8.9000e-004	1.0000e-005		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004	0.0000	2.4248	2.4248	5.0000e-005	4.0000e-005	2.4392
High Turnover (Sit Down Restaurant)	236599	1.2800e-003	0.0116	9.7400e-003	7.0000e-005		8.8000e-004	8.8000e-004		8.8000e-004	8.8000e-004	0.0000	12.6258	12.6258	2.4000e-004	2.3000e-004	12.7009
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	42323.8	2.3000e-004	1.9500e-003	8.3000e-004	1.0000e-005		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004	0.0000	2.2586	2.2586	4.0000e-005	4.0000e-005	2.2720
Total		1.7600e-003	0.0156	0.0115	9.0000e-005		1.2100e-003	1.2100e-003		1.2100e-003	1.2100e-003	0.0000	17.3092	17.3092	3.3000e-004	3.1000e-004	17.4120

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	10001.3	1.3156	1.3000e-004	3.0000e-005	1.3270
High Turnover (Sit Down Restaurant)	40832.8	5.3712	5.4000e-004	1.1000e-004	5.4178
Parking Lot	4573.8	0.6017	6.0000e-005	1.0000e-005	0.6069

Single Family Housing	7982.49	1.0500	1.1000e-004	2.0000e-005	1.0591
Total		8.3385	8.4000e-004	1.7000e-004	8.4107

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	10001.3	1.3156	1.3000e-004	3.0000e-005	1.3270
High Turnover (Sit Down Restaurant)	40832.8	5.3712	5.4000e-004	1.1000e-004	5.4178
Parking Lot	4573.8	0.6017	6.0000e-005	1.0000e-005	0.6069
Single Family Housing	7982.49	1.0500	1.1000e-004	2.0000e-005	1.0591
Total		8.3385	8.4000e-004	1.7000e-004	8.4107

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0247	4.0000e-004	0.0224	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	0.2012	0.2012	4.0000e-005	0.0000	0.2030

Unmitigated	0.0247	4.0000e-004	0.0224	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	0.2012	0.2012	4.0000e-005	0.0000	0.2030
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6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	3.5500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0205					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	2.0000e-005	1.4000e-004	6.0000e-005	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.1648	0.1648	0.0000	0.0000	0.1658
Landscaping	6.8000e-004	2.6000e-004	0.0223	0.0000		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004	0.0000	0.0364	0.0364	4.0000e-005	0.0000	0.0373
Total	0.0247	4.0000e-004	0.0224	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	0.2012	0.2012	4.0000e-005	0.0000	0.2031

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	3.5500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0205					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	2.0000e-005	1.4000e-004	6.0000e-005	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.1648	0.1648	0.0000	0.0000	0.1658
Landscaping	6.8000e-004	2.6000e-004	0.0223	0.0000		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004	0.0000	0.0364	0.0364	4.0000e-005	0.0000	0.0373

Total	0.0247	4.0000e-004	0.0224	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	0.2012	0.2012	4.0000e-005	0.0000	0.2031
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7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.3149	3.2000e-004	1.9000e-004	0.3795
Unmitigated	0.3149	3.2000e-004	1.9000e-004	0.3795

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse	0.130308 / 0.0821507	0.1767	1.7000e-004	1.0000e-004	0.2117
High Turnover (Sit Down Restaurant)	0.0455301 / 0.0039064	0.0499	6.0000e-005	4.0000e-005	0.0620
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0.065154 / 0.0410754	0.0883	9.0000e-005	5.0000e-005	0.1058
Total		0.3149	3.2000e-004	1.9000e-004	0.3795

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse	0.130308 / 0.0821507	0.1767	1.7000e-004	1.0000e-004	0.2117
High Turnover (Sit Down Restaurant)	0.0455301 / 0.0030064	0.0499	6.0000e-005	4.0000e-005	0.0620
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0.065154 / 0.0410754	0.0883	9.0000e-005	5.0000e-005	0.1058
Total		0.3149	3.2000e-004	1.9000e-004	0.3795

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.8038	0.0475	0.0000	1.9915
Unmitigated	0.8038	0.0475	0.0000	1.9915

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse	0.92	0.1868	0.0110	0.0000	0.4627
High Turnover (Sit Down Restaurant)	1.78	0.3613	0.0214	0.0000	0.8952
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	1.26	0.2558	0.0151	0.0000	0.6337
Total		0.8038	0.0475	0.0000	1.9915

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse	0.92	0.1868	0.0110	0.0000	0.4627
High Turnover (Sit Down Restaurant)	1.78	0.3613	0.0214	0.0000	0.8952
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	1.26	0.2558	0.0151	0.0000	0.6337
Total		0.8038	0.0475	0.0000	1.9915

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

18-131 Silver Dollar Mixed Use GHG 2030 - Alameda County, Annual

18-131 Silver Dollar Mixed Use GHG 2030**Alameda County, Annual****1.0 Project Characteristics****1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	54.00	Space	0.00	21,600.00	0
Apartments Mid Rise	19.00	Dwelling Unit	0.89	28,179.00	54
Condo/Townhouse High Rise	6.00	Dwelling Unit	0.00	8,796.00	17
Strip Mall	6.94	1000sqft	0.00	6,943.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	63
Climate Zone	5	Operational Year	2030		
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	290	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2020 rate

Land Use - three story mixed-used build, 19 stacked residential units above ground floor (28,179 sf); 6943 sf of ground floor retail; six three-bedroom three-story townhome units (4,400 sf per unit); 54 parking spaces; 0.89 acres total

Construction Phase - Default

Off-road Equipment - Default

Demolition - construction information

Grading - took site prep acreage (0.5) and used for grading

Vehicle Trips - default operational trips

Woodstoves - assuming all gas

Energy Use -

Water And Wastewater - 100% aerobic

Construction Off-road Equipment Mitigation -

Water Mitigation -

Table Name	Column Name	Default Value	New Value
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberGas	2.85	6.08
tblFireplaces	NumberGas	0.90	1.92
tblFireplaces	NumberWood	3.23	0.00
tblFireplaces	NumberWood	1.02	0.00
tblGrading	AcresOfGrading	0.00	0.50
tblGrading	AcresOfGrading	0.50	0.00
tblGrading	MaterialExported	0.00	200.00
tblGrading	MaterialImported	0.00	200.00
tblLandUse	LandUseSquareFeet	19,000.00	28,179.00
tblLandUse	LandUseSquareFeet	6,000.00	8,796.00
tblLandUse	LandUseSquareFeet	6,940.00	6,943.00
tblLandUse	LotAcreage	0.49	0.00
tblLandUse	LotAcreage	0.50	0.89
tblLandUse	LotAcreage	0.09	0.00
tblLandUse	LotAcreage	0.16	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00

tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00

2.0 Emissions Summary

2.1 Overall Construction
Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.3655	0.6298	0.5052	9.3000e-004	0.0173	0.0355	0.0528	4.7100e-003	0.0328	0.0375	0.0000	83.9427	83.9427	0.0193	0.0000	84.4247
Maximum	0.3655	0.6298	0.5052	9.3000e-004	0.0173	0.0355	0.0528	4.7100e-003	0.0328	0.0375	0.0000	83.9427	83.9427	0.0193	0.0000	84.4247

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					

2019	0.3655	0.6298	0.5052	9.3000e-004	0.0173	0.0355	0.0528	4.7100e-003	0.0328	0.0375	0.0000	83.9426	83.9426	0.0193	0.0000	84.4247
Maximum	0.3655	0.6298	0.5052	9.3000e-004	0.0173	0.0355	0.0528	4.7100e-003	0.0328	0.0375	0.0000	83.9426	83.9426	0.0193	0.0000	84.4247

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	5-1-2019	7-31-2019	0.3837	0.3837
2	8-1-2019	9-30-2019	0.2589	0.2589
		Highest	0.3837	0.3837

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.2087	3.0000e-003	0.1861	2.0000e-005		1.1000e-003	1.1000e-003		1.1000e-003	1.1000e-003	0.0000	1.3030	1.3030	3.1000e-004	2.0000e-005	1.3163
Energy	1.3500e-003	0.0116	5.5900e-003	7.0000e-005		9.3000e-004	9.3000e-004		9.3000e-004	9.3000e-004	0.0000	38.0065	38.0065	2.7200e-003	7.5000e-004	38.2995
Mobile	0.0667	0.5185	0.6559	3.2200e-003	0.2899	2.0200e-003	0.2919	0.0779	1.8900e-003	0.0798	0.0000	299.5197	299.5197	0.0120	0.0000	299.8192
Waste						0.0000	0.0000		0.0000	0.0000	3.8142	0.0000	3.8142	0.2254	0.0000	9.4495
Water						0.0000	0.0000		0.0000	0.0000	0.7582	2.1431	2.9013	2.8200e-003	1.6900e-003	3.4764
Total	0.2768	0.5332	0.8475	3.3100e-003	0.2899	4.0500e-003	0.2939	0.0779	3.9200e-003	0.0818	4.5724	340.9722	345.5446	0.2432	2.4600e-003	352.3609

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.2087	3.0000e-003	0.1861	2.0000e-005		1.1000e-003	1.1000e-003		1.1000e-003	1.1000e-003	0.0000	1.3030	1.3030	3.1000e-004	2.0000e-005	1.3163
Energy	1.3500e-003	0.0116	5.5900e-003	7.0000e-005		9.3000e-004	9.3000e-004		9.3000e-004	9.3000e-004	0.0000	38.0065	38.0065	2.7200e-003	7.5000e-004	38.2995
Mobile	0.0667	0.5185	0.6559	3.2200e-003	0.2899	2.0200e-003	0.2919	0.0779	1.8900e-003	0.0798	0.0000	299.5197	299.5197	0.0120	0.0000	299.8192
Waste						0.0000	0.0000		0.0000	0.0000	3.8142	0.0000	3.8142	0.2254	0.0000	9.4495
Water						0.0000	0.0000		0.0000	0.0000	0.6065	1.8004	2.4069	2.2700e-003	1.3600e-003	2.8678
Total	0.2768	0.5332	0.8475	3.3100e-003	0.2899	4.0500e-003	0.2939	0.0779	3.9200e-003	0.0818	4.4207	340.6295	345.0502	0.2427	2.1300e-003	351.7522

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.32	0.10	0.14	0.23	13.41	0.17

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/1/2019	5/14/2019	5	10	
2	Site Preparation	Site Preparation	5/15/2019	5/15/2019	5	1	
3	Grading	Grading	5/16/2019	5/17/2019	5	2	
4	Building Construction	Building Construction	5/18/2019	10/4/2019	5	100	
5	Paving	Paving	10/5/2019	10/11/2019	5	5	
6	Architectural Coating	Architectural Coating	10/12/2019	10/18/2019	5	5	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0.5

Acres of Paving: 0

Residential Indoor: 74,874; Residential Outdoor: 24,958; Non-Residential Indoor: 10,415; Non-Residential Outdoor: 3,472; Striped

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	10.00	0.00	9.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	50.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	29.00	7.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

Architectural Coating	1	6.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
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3.1 Mitigation Measures Construction

3.2 Demolition - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.0300e-003	0.0000	1.0300e-003	1.6000e-004	0.0000	1.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.7700e-003	0.0430	0.0385	6.0000e-005		2.6900e-003	2.6900e-003		2.5600e-003	2.5600e-003	0.0000	5.2601	5.2601	1.0000e-003	0.0000	5.2852
Total	4.7700e-003	0.0430	0.0385	6.0000e-005	1.0300e-003	2.6900e-003	3.7200e-003	1.6000e-004	2.5600e-003	2.7200e-003	0.0000	5.2601	5.2601	1.0000e-003	0.0000	5.2852

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.0000e-005	1.4000e-003	2.4000e-004	0.0000	8.0000e-005	1.0000e-005	8.0000e-005	2.0000e-005	0.0000	3.0000e-005	0.0000	0.3482	0.3482	2.0000e-005	0.0000	0.3487
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9000e-004	1.4000e-004	1.4600e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3627	0.3627	1.0000e-005	0.0000	0.3629
Total	2.3000e-004	1.5400e-003	1.7000e-003	0.0000	4.8000e-004	1.0000e-005	4.8000e-004	1.3000e-004	0.0000	1.4000e-004	0.0000	0.7109	0.7109	3.0000e-005	0.0000	0.7116

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.0300e-003	0.0000	1.0300e-003	1.6000e-004	0.0000	1.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.7700e-003	0.0430	0.0385	6.0000e-005		2.6900e-003	2.6900e-003		2.5600e-003	2.5600e-003	0.0000	5.2601	5.2601	1.0000e-003	0.0000	5.2852
Total	4.7700e-003	0.0430	0.0385	6.0000e-005	1.0300e-003	2.6900e-003	3.7200e-003	1.6000e-004	2.5600e-003	2.7200e-003	0.0000	5.2601	5.2601	1.0000e-003	0.0000	5.2852

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.0000e-005	1.4000e-003	2.4000e-004	0.0000	8.0000e-005	1.0000e-005	8.0000e-005	2.0000e-005	0.0000	3.0000e-005	0.0000	0.3482	0.3482	2.0000e-005	0.0000	0.3487
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9000e-004	1.4000e-004	1.4600e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3627	0.3627	1.0000e-005	0.0000	0.3629
Total	2.3000e-004	1.5400e-003	1.7000e-003	0.0000	4.8000e-004	1.0000e-005	4.8000e-004	1.3000e-004	0.0000	1.4000e-004	0.0000	0.7109	0.7109	3.0000e-005	0.0000	0.7116

3.3 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.6000e-004	4.4600e-003	2.0700e-003	0.0000		1.8000e-004	1.8000e-004		1.7000e-004	1.7000e-004	0.0000	0.4378	0.4378	1.4000e-004	0.0000	0.4413
Total	3.6000e-004	4.4600e-003	2.0700e-003	0.0000	0.0000	1.8000e-004	1.8000e-004	0.0000	1.7000e-004	1.7000e-004	0.0000	0.4378	0.4378	1.4000e-004	0.0000	0.4413

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	7.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0181	0.0181	0.0000	0.0000	0.0182
Total	1.0000e-005	1.0000e-005	7.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0181	0.0181	0.0000	0.0000	0.0182

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.6000e-004	4.4600e-003	2.0700e-003	0.0000		1.8000e-004	1.8000e-004		1.7000e-004	1.7000e-004	0.0000	0.4378	0.4378	1.4000e-004	0.0000	0.4413

Total	3.6000e-004	4.4600e-003	2.0700e-003	0.0000	0.0000	1.8000e-004	1.8000e-004	0.0000	1.7000e-004	1.7000e-004	0.0000	0.4378	0.4378	1.4000e-004	0.0000	0.4413
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Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	7.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0181	0.0181	0.0000	0.0000	0.0182
Total	1.0000e-005	1.0000e-005	7.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0181	0.0181	0.0000	0.0000	0.0182

3.4 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.0400e-003	0.0000	1.0400e-003	4.5000e-004	0.0000	4.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.5000e-004	8.6000e-003	7.6900e-003	1.0000e-005		5.4000e-004	5.4000e-004		5.1000e-004	5.1000e-004	0.0000	1.0520	1.0520	2.0000e-004	0.0000	1.0570
Total	9.5000e-004	8.6000e-003	7.6900e-003	1.0000e-005	1.0400e-003	5.4000e-004	1.5800e-003	4.5000e-004	5.1000e-004	9.6000e-004	0.0000	1.0520	1.0520	2.0000e-004	0.0000	1.0570

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.3000e-004	7.7700e-003	1.3300e-003	2.0000e-005	4.2000e-004	3.0000e-005	4.5000e-004	1.2000e-004	3.0000e-005	1.4000e-004	0.0000	1.9346	1.9346	1.0000e-004	0.0000	1.9371
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	3.0000e-005	2.9000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0725	0.0725	0.0000	0.0000	0.0726
Total	2.7000e-004	7.8000e-003	1.6200e-003	2.0000e-005	5.0000e-004	3.0000e-005	5.3000e-004	1.4000e-004	3.0000e-005	1.6000e-004	0.0000	2.0071	2.0071	1.0000e-004	0.0000	2.0096

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.0400e-003	0.0000	1.0400e-003	4.5000e-004	0.0000	4.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.5000e-004	8.6000e-003	7.6900e-003	1.0000e-005		5.4000e-004	5.4000e-004		5.1000e-004	5.1000e-004	0.0000	1.0520	1.0520	2.0000e-004	0.0000	1.0570
Total	9.5000e-004	8.6000e-003	7.6900e-003	1.0000e-005	1.0400e-003	5.4000e-004	1.5800e-003	4.5000e-004	5.1000e-004	9.6000e-004	0.0000	1.0520	1.0520	2.0000e-004	0.0000	1.0570

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	2.3000e-004	7.7700e-003	1.3300e-003	2.0000e-005	4.2000e-004	3.0000e-005	4.5000e-004	1.2000e-004	3.0000e-005	1.4000e-004	0.0000	1.9346	1.9346	1.0000e-004	0.0000	1.9371
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	3.0000e-005	2.9000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0725	0.0725	0.0000	0.0000	0.0726
Total	2.7000e-004	7.8000e-003	1.6200e-003	2.0000e-005	5.0000e-004	3.0000e-005	5.3000e-004	1.4000e-004	3.0000e-005	1.6000e-004	0.0000	2.0071	2.0071	1.0000e-004	0.0000	2.0096

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0479	0.4910	0.3772	5.7000e-004		0.0303	0.0303		0.0279	0.0279	0.0000	51.1502	51.1502	0.0162	0.0000	51.5548
Total	0.0479	0.4910	0.3772	5.7000e-004		0.0303	0.0303		0.0279	0.0279	0.0000	51.1502	51.1502	0.0162	0.0000	51.5548

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.5800e-003	0.0448	9.9000e-003	1.0000e-004	2.3000e-003	2.9000e-004	2.5800e-003	6.6000e-004	2.7000e-004	9.4000e-004	0.0000	9.3231	9.3231	5.7000e-004	0.0000	9.3375
Worker	5.4900e-003	4.1900e-003	0.0423	1.2000e-004	0.0115	8.0000e-005	0.0116	3.0500e-003	8.0000e-005	3.1300e-003	0.0000	10.5167	10.5167	3.0000e-004	0.0000	10.5242
Total	7.0700e-003	0.0490	0.0522	2.2000e-004	0.0138	3.7000e-004	0.0141	3.7100e-003	3.5000e-004	4.0700e-003	0.0000	19.8399	19.8399	8.7000e-004	0.0000	19.8617

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0479	0.4910	0.3772	5.7000e-004		0.0303	0.0303		0.0279	0.0279	0.0000	51.1502	51.1502	0.0162	0.0000	51.5548
Total	0.0479	0.4910	0.3772	5.7000e-004		0.0303	0.0303		0.0279	0.0279	0.0000	51.1502	51.1502	0.0162	0.0000	51.5548

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.5800e-003	0.0448	9.9000e-003	1.0000e-004	2.3000e-003	2.9000e-004	2.5800e-003	6.6000e-004	2.7000e-004	9.4000e-004	0.0000	9.3231	9.3231	5.7000e-004	0.0000	9.3375
Worker	5.4900e-003	4.1900e-003	0.0423	1.2000e-004	0.0115	8.0000e-005	0.0116	3.0500e-003	8.0000e-005	3.1300e-003	0.0000	10.5167	10.5167	3.0000e-004	0.0000	10.5242
Total	7.0700e-003	0.0490	0.0522	2.2000e-004	0.0138	3.7000e-004	0.0141	3.7100e-003	3.5000e-004	4.0700e-003	0.0000	19.8399	19.8399	8.7000e-004	0.0000	19.8617

3.6 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.0700e-003	0.0196	0.0179	3.0000e-005		1.1100e-003	1.1100e-003		1.0300e-003	1.0300e-003	0.0000	2.3931	2.3931	6.8000e-004	0.0000	2.4102
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	2.0700e-003	0.0196	0.0179	3.0000e-005		1.1100e-003	1.1100e-003		1.0300e-003	1.0300e-003	0.0000	2.3931	2.3931	6.8000e-004	0.0000	2.4102

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7000e-004	1.3000e-004	1.3100e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.3264	0.3264	1.0000e-005	0.0000	0.3266
Total	1.7000e-004	1.3000e-004	1.3100e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.3264	0.3264	1.0000e-005	0.0000	0.3266

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.0700e-003	0.0196	0.0179	3.0000e-005		1.1100e-003	1.1100e-003		1.0300e-003	1.0300e-003	0.0000	2.3931	2.3931	6.8000e-004	0.0000	2.4102

Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	2.0700e-003	0.0196	0.0179	3.0000e-005		1.1100e-003	1.1100e-003		1.0300e-003	1.0300e-003	0.0000	2.3931	2.3931	6.8000e-004	0.0000	2.4102

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7000e-004	1.3000e-004	1.3100e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.3264	0.3264	1.0000e-005	0.0000	0.3266
Total	1.7000e-004	1.3000e-004	1.3100e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.3264	0.3264	1.0000e-005	0.0000	0.3266

3.7 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.3010					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.7000e-004	4.5900e-003	4.6000e-003	1.0000e-005		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	0.6383	0.6383	5.0000e-005	0.0000	0.6397
Total	0.3017	4.5900e-003	4.6000e-003	1.0000e-005		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	0.6383	0.6383	5.0000e-005	0.0000	0.6397

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	4.0000e-005	4.4000e-004	0.0000	1.2000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1088	0.1088	0.0000	0.0000	0.1089
Total	6.0000e-005	4.0000e-005	4.4000e-004	0.0000	1.2000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1088	0.1088	0.0000	0.0000	0.1089

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.3010					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.7000e-004	4.5900e-003	4.6000e-003	1.0000e-005		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	0.6383	0.6383	5.0000e-005	0.0000	0.6397
Total	0.3017	4.5900e-003	4.6000e-003	1.0000e-005		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	0.6383	0.6383	5.0000e-005	0.0000	0.6397

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	4.0000e-005	4.4000e-004	0.0000	1.2000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1088	0.1088	0.0000	0.0000	0.1089
Total	6.0000e-005	4.0000e-005	4.4000e-004	0.0000	1.2000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1088	0.1088	0.0000	0.0000	0.1089

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0667	0.5185	0.6559	3.2200e-003	0.2899	2.0200e-003	0.2919	0.0779	1.8900e-003	0.0798	0.0000	299.5197	299.5197	0.0120	0.0000	299.8192
Unmitigated	0.0667	0.5185	0.6559	3.2200e-003	0.2899	2.0200e-003	0.2919	0.0779	1.8900e-003	0.0798	0.0000	299.5197	299.5197	0.0120	0.0000	299.8192

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	126.35	121.41	111.34	285,237	285,237
Condo/Townhouse High Rise	25.08	25.86	20.58	56,698	56,698
Parking Lot	0.00	0.00	0.00		
Strip Mall	307.58	291.76	141.78	433,727	433,727
Total	459.01	439.03	273.70	775,661	775,661

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Condo/Townhouse High Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.566339	0.035990	0.189848	0.102849	0.012430	0.005068	0.026569	0.050520	0.002280	0.001770	0.005305	0.000389	0.000644
Condo/Townhouse High Rise	0.566339	0.035990	0.189848	0.102849	0.012430	0.005068	0.026569	0.050520	0.002280	0.001770	0.005305	0.000389	0.000644
Parking Lot	0.566339	0.035990	0.189848	0.102849	0.012430	0.005068	0.026569	0.050520	0.002280	0.001770	0.005305	0.000389	0.000644
Strip Mall	0.566339	0.035990	0.189848	0.102849	0.012430	0.005068	0.026569	0.050520	0.002280	0.001770	0.005305	0.000389	0.000644

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	24.6549	24.6549	2.4700e-003	5.1000e-004	24.8686
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	24.6549	24.6549	2.4700e-003	5.1000e-004	24.8686
NaturalGas Mitigated	1.3500e-003	0.0116	5.5900e-003	7.0000e-005		9.3000e-004	9.3000e-004		9.3000e-004	9.3000e-004	0.0000	13.3516	13.3516	2.6000e-004	2.4000e-004	13.4309
NaturalGas Unmitigated	1.3500e-003	0.0116	5.5900e-003	7.0000e-005		9.3000e-004	9.3000e-004		9.3000e-004	9.3000e-004	0.0000	13.3516	13.3516	2.6000e-004	2.4000e-004	13.4309

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	165878	8.9000e-004	7.6400e-003	3.2500e-003	5.0000e-005		6.2000e-004	6.2000e-004		6.2000e-004	6.2000e-004	0.0000	8.8519	8.8519	1.7000e-004	1.6000e-004	8.9045
Condo/Townhouse High Rise	52382.6	2.8000e-004	2.4100e-003	1.0300e-003	2.0000e-005		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	2.7953	2.7953	5.0000e-005	5.0000e-005	2.8120
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	31937.8	1.7000e-004	1.5700e-003	1.3200e-003	1.0000e-005		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004	0.0000	1.7043	1.7043	3.0000e-005	3.0000e-005	1.7145
Total		1.3400e-003	0.0116	5.6000e-003	8.0000e-005		9.4000e-004	9.4000e-004		9.4000e-004	9.4000e-004	0.0000	13.3515	13.3515	2.5000e-004	2.4000e-004	13.4309

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	165878	8.9000e-004	7.6400e-003	3.2500e-003	5.0000e-005		6.2000e-004	6.2000e-004		6.2000e-004	6.2000e-004	0.0000	8.8519	8.8519	1.7000e-004	1.6000e-004	8.9045
Condo/Townhouse High Rise	52382.6	2.8000e-004	2.4100e-003	1.0300e-003	2.0000e-005		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	2.7953	2.7953	5.0000e-005	5.0000e-005	2.8120
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	31937.8	1.7000e-004	1.5700e-003	1.3200e-003	1.0000e-005		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004	0.0000	1.7043	1.7043	3.0000e-005	3.0000e-005	1.7145
Total		1.3400e-003	0.0116	5.6000e-003	8.0000e-005		9.4000e-004	9.4000e-004		9.4000e-004	9.4000e-004	0.0000	13.3515	13.3515	2.5000e-004	2.4000e-004	13.4309

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	80217.8	10.5520	1.0600e-003	2.2000e-004	10.6434
Condo/Townhouse High Rise	26889.9	3.5372	3.5000e-004	7.0000e-005	3.5678
Parking Lot	7560	0.9945	1.0000e-004	2.0000e-005	1.0031
Strip Mall	72762.6	9.5713	9.6000e-004	2.0000e-004	9.6543
Total		24.6549	2.4700e-003	5.1000e-004	24.8686

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	80217.8	10.5520	1.0600e-003	2.2000e-004	10.6434
Condo/Townhouse High Rise	26889.9	3.5372	3.5000e-004	7.0000e-005	3.5678
Parking Lot	7560	0.9945	1.0000e-004	2.0000e-005	1.0031
Strip Mall	72762.6	9.5713	9.6000e-004	2.0000e-004	9.6543
Total		24.6549	2.4700e-003	5.1000e-004	24.8686

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.2087	3.0000e-003	0.1861	2.0000e-005		1.1000e-003	1.1000e-003		1.1000e-003	1.1000e-003	0.0000	1.3030	1.3030	3.1000e-004	2.0000e-005	1.3163
Unmitigated	0.2087	3.0000e-003	0.1861	2.0000e-005		1.1000e-003	1.1000e-003		1.1000e-003	1.1000e-003	0.0000	1.3030	1.3030	3.1000e-004	2.0000e-005	1.3163

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0301					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1729					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.0000e-004	8.6000e-004	3.7000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	0.9987	0.9987	2.0000e-005	2.0000e-005	1.0047
Landscaping	5.5900e-003	2.1400e-003	0.1857	1.0000e-005		1.0300e-003	1.0300e-003		1.0300e-003	1.0300e-003	0.0000	0.3043	0.3043	2.9000e-004	0.0000	0.3116
Total	0.2087	3.0000e-003	0.1861	2.0000e-005		1.1000e-003	1.1000e-003		1.1000e-003	1.1000e-003	0.0000	1.3030	1.3030	3.1000e-004	2.0000e-005	1.3163

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0301					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1729					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.0000e-004	8.6000e-004	3.7000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	0.9987	0.9987	2.0000e-005	2.0000e-005	1.0047
Landscaping	5.5900e-003	2.1400e-003	0.1857	1.0000e-005		1.0300e-003	1.0300e-003		1.0300e-003	1.0300e-003	0.0000	0.3043	0.3043	2.9000e-004	0.0000	0.3116
Total	0.2087	3.0000e-003	0.1861	2.0000e-005		1.1000e-003	1.1000e-003		1.1000e-003	1.1000e-003	0.0000	1.3030	1.3030	3.1000e-004	2.0000e-005	1.3163

7.0 Water Detail

7.1 Mitigation Measures Water

- Install Low Flow Bathroom Faucet
- Install Low Flow Kitchen Faucet
- Install Low Flow Toilet
- Install Low Flow Shower
- Use Water Efficient Irrigation System
- Use Water Efficient Landscaping

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	2.4069	2.2700e-003	1.3600e-003	2.8678

Unmitigated	2.9013	2.8200e-003	1.6900e-003	3.4764
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7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	1.23793 / 0.780432	1.6784	1.6300e-003	9.8000e-004	2.0107
Condo/Townhouse High Rise	0.390924 / 0.246452	0.5300	5.2000e-004	3.1000e-004	0.6350
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.514063 / 0.315071	0.6928	6.8000e-004	4.1000e-004	0.8308
Total		2.9013	2.8300e-003	1.7000e-003	3.4764

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	0.990341 / 0.732826	1.3927	1.3100e-003	7.8000e-004	1.6589
Condo/Townhouse High Rise	0.312739 / 0.231419	0.4398	4.1000e-004	2.5000e-004	0.5239
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.411251 / 0.295852	0.5744	5.4000e-004	3.3000e-004	0.6850

Total		2.4069	2.2600e-003	1.3600e-003	2.8678
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8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	3.8142	0.2254	0.0000	9.4495
Unmitigated	3.8142	0.2254	0.0000	9.4495

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	8.74	1.7741	0.1049	0.0000	4.3954
Condo/Townhouse High Rise	2.76	0.5603	0.0331	0.0000	1.3880
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	7.29	1.4798	0.0875	0.0000	3.6662

Total		3.8142	0.2254	0.0000	9.4495
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Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	8.74	1.7741	0.1049	0.0000	4.3954
Condo/Townhouse High Rise	2.76	0.5603	0.0331	0.0000	1.3880
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	7.29	1.4798	0.0875	0.0000	3.6662
Total		3.8142	0.2254	0.0000	9.4495

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

APPENDIX B

ARBORIST REPORT

Arborist Report for the site located at:

Watkins, Horner, and Vallejo Streets, Union City, CA



Prepared for:
Mohammed Shaig
July 2018

Prepared by:
John J. Leone
I.S.A. Certified Arborist # W. E. 1056A.
Since 1992
"In the Horticulture Field Since 1977."



John J. Leone, Certified

John J. Leone, Certified Arborist
4361 Carol Ave.
Fremont, CA 94538
Arborjohnl@aol.com



Mohamed Shaig
537 Morrison Canyon Road
Fremont, CA 94539

July 24, 2015

RE: Shaig1@gmail.com
c/o 31063 Watkins Street
Union City, CA 94587

Re: Property at Watkins, Howard, and Valero Streets, Union City, CA

Dear Mohammed:

Enclosed is the ArboNet report which was prepared at the address above, Union City, CA. Thank you for giving me the opportunity to assist you with your project at the site. If you have any questions, or require any additional information, please contact me at the phone number 510-447-0464. Again, thank you for the opportunity to assist you.

Sincerely,

John J. Leone
International Society of Arboriculture
Fremont Chapter - Certified Arborist, No. 1015

**John J. Leone, Certified
Arborist**

4361 Carol Avenue
Fremont, CA 94538
510/657-3299
510-449-3654 cell

ArborjohnL@aol.com



July 24, 2018

Mohammed Shaig
537 Morrison Canyon Road
Fremont, CA 94539

Re: Property at Watkins, Horner, and Vallejo Streets, Union City, CA

Dear Mohammed,

Enclosed is the Arborist Report for the trees located at the above referenced property in Union City, CA. Thank you for giving me the opportunity to assist you with your project at this address. Should you have any questions, or require any additional information, please contact me at my cell number 510/449-3654. Again, thank you for the opportunity to assist you.

Sincerely,

A handwritten signature in black ink, appearing to read "John J. Leone". The signature is fluid and cursive, with the first and last names being more prominent.

John J. Leone
International Society of Arboriculture
Western Chapter, Certified Arborist, W.E.1056A

Purpose

At the request of Mohammed Shaig, I prepared an Arborist Report for the trees located at Watkins, Horner, and Vallejo Streets in Union City, CA. This report is for the purpose of a complete inventory of all applicable trees on the site. There are no defined heritage trees at the site. All of the trees in this report are in fair to poor condition due to the lack of maintenance, basic horticultural care, watering, and proper pruning.

This report includes the following elements: tree comments page, photographs, site layout plan, Tree and Root Protection Guidelines, Glossary of Terms, and a Tree Chart. The Tree Chart provides the botanical name, common name, measurement of diameter at base height (DBH), approximate canopy measurement, a brief description, preservation rating, and overall condition of the trees.

Field documentation

* I arrived at the proposed construction site, located at the three streets referenced above in Union City CA, on July 12, 2018. The weather was calm, warm, with clear skies.

* I made all my inspections and observations, noting the trees and their condition at the location and given the time of year, and the lack of any maintenance on the trees, if applicable.

* All measuring devices used for report documentations are approved by the International Society of Arboriculture and the American Society of Consulting Arborists.

* A Sony digital camera was used for taking photos of the trees, either individually or in groups.

Structure and Health Condition Comments

None of the trees on the properties listed are defined as heritage trees. Preserving trees on this property will require tree and root protection during planning stages, excavation, and construction. Preserving existing trees provide interest to the new home site, the community, and provide aesthetic value to the City of Union City.

- **Tree #1; Chinese Pistache, *Pistacia chinensis*:** Tree has an 11" D.B.H., diameter breast height, and a 30' drip canopy. The tree is in fair condition with a sparsely foliated canopy, with no signs of disease, infestations, biological or mechanical damages of any kind. Tree may be deficient in provided moisture and/or basic nutrients. This tree is a low to moderate preservation value city street tree.
- **Tree #2: Chinese Pistache, *Pistacia chinensis*:** Tree has a 12" D.B.H., diameter breast height, and a 35' drip canopy. The tree is in fair to good condition with a fully lush and foliated canopy, with no signs of disease, infestations, biological or mechanical damages of any kind. Tree is not deficient in moisture and/or basic nutrients. This tree has a moderate preservation value as a city street tree.
- **Tree #3; Chinese Pistache, *Pistacia chinensis*:** Tree has a 12" D.B.H., diameter breast height, and a 32' drip canopy. The tree is in fair to good condition with a fully lush and foliated canopy, with no signs of disease, infestations, biological or mechanical damages of any kind. Tree is not deficient in moisture and/or basic nutrients. This tree has a moderate preservation value as a city street tree.
- **Tree #4; *Juglans species*, Walnut:** Multiple main stems add to a cumulative D.B.H. of approximately 30", with a 25' drip canopy. This tree is in poor condition
- **Tree # 5; *Juglans species*, Walnut:** Multiple main stems with much of the tree dead. This tree is in poor condition and has no value.
- **Tree # 6; *Juglans species*, Walnut:** Multiple main stems, totaling 32" D.B.H. Tree has been Improperly maintained and neglected, and much of this tree has dying or dead limbs and branches. This tree is in poor condition and has no value.

- **Tree # 7; Cupressus sempervirens; Italian Cypress:** Multiple main stems, this tree has a canopy width of 7'. Foliage is dark-green, full, and lush, with no sign of diseases, or infestations. This tree is in fair condition.
- **Tree # 8; Cupressus sempervirens; Italian Cypress:** Multiple main stems, this tree has a canopy width of 6'. Foliage is dark-green, full, and lush, with no sign of diseases, or infestations. This tree is in fair condition.
- **Tree # 9; Cupressus sempervirens; Italian Cypress:** Multiple main stems, this tree has a canopy width of 6'. Foliage is dark-green, full, and lush, with no sign of diseases, or infestations. This tree is in fair condition.
- **Tree # 10; Cupressus sempervirens; Italian Cypress:** Multiple main stems, this tree has a canopy width of 6'. Foliage is -green, full, and lush, however, this tree has many dead branches up in the column canopy. This tree is in poor condition.
- **Tree # 11; Cupressus sempervirens; Italian Cypress:** Multiple main stems, this tree has a canopy width of 6'. Foliage is dark green, full, lush, with no sign of diseases, or infestations. This tree is in fair condition.
- **Tree # 12; Cupressus sempervirens; Italian Cypress:** Multiple main stems, this tree has a canopy width of 6'. Foliage is dark green, full, and lush; however, the tree is overgrown with Algerian Ivy. This tree is in poor condition.
- **Tree # 13; Taxus baccatta stricta:** Multiple main stems, this tree is lush, full, and dark-green, with no sign of diseases, or infestations. This tree has been improperly trimmed and pruned over the years.
- **Tree # 14; Taxus baccatta stricta:** Multiple main stems, this tree is lush, full, and dark-green, with no sign of diseases, or infestations. This tree has been improperly trimmed and pruned over the years.

General Comments on Trees at This Site

Overall, the landscape at this site is in a neglected condition and has been for a long time.

The trees have been left to survive on their own, without care, watering, and very little pruning. Some trees have been improperly pruned for clearance.

The Chinese Pistache trees along Watkins Street are well established and mature and can be preserved as city street trees.

General Comments on Trees at This Site continued

All of the tree on the Union City site are in fair to fair/poor condition. The trees have received little or no care and maintenance and only seasonal rainfall to survive. Improper pruning has been done for head or house clearances.

Reasons for Tree Removal

- Construction: Excessive construction impact is unavoidable, and it is not worthwhile to save the tree.
- Condition: The tree may have poor structure, low vigor, or have potential structure failure issues.
- Landscaping: Tree is being removed because it does not fit in with or conflicts with a proposed new landscape scheme.
- Species: The tree may be considered a poor species.
- Risk: The tree presents a moderate or extreme risk or potential hazard to people or the property around it.

Rating Trees on the Charts

Excellent: These trees are in unusually good health and condition. The trees are free of disease, infestations, structural defects, moisture, or nutrient deficiencies. Excellent trees are usually aesthetically pleasing, high quality species, or in a highly visual location.

Good: These trees may have a few minor defects, or their conditions may require some kind of professional attention. Usually with some minor work, the trees can be improved and will thrive. Good trees may require a small amount of pruning, a few broken limbs might be present, or may need other treatment. They may provide some benefit to the location site or the environment.

Fair: This categorizes a majority of average trees. They may have a combination of problems and issues which include structural defects, combination of deficiencies, or general health problems. Fair trees may also include a poor choice of tree for the given location or site. These trees may require horticultural management to try to save them or could be considered for removal.

Poor: This category is for trees which have severe defects, health, and structural defects. Trees which are poor will usually decline regardless of proper care or extensive treatment to improve its general health and condition. This classification may also qualify as a poor choice of tree species in a given landscape or environment which has or will have a great potential for being a liability or nuisance. Trees classified as poor are recommended to be removed and replaced with a more aesthetically pleasant species where people and property are considered.

Limiting Conditions Accompanying Arborist Reports

- This report requires no laboratory assessment of either the soil or plant and tree tissues. The inspection is limited to visual examination only without excavation probing, coring or “Resistograph” tools.
- This report is specific to the identified client prepared for, as well as the unique identified site, the address enclosed. Although some of the principles here discussed might appear to be applicable to another site, tree or situation, it is not possible to effectively carry any of these ideas across to another scenario or site.
- If the circumstances surrounding this report turn to a legal forum, then this report and I could be brought into legal testimony or court appearances only with a new assignment covered by additional fees.
- Alteration of this report, intentionally or unintentionally, voids the entire report.
- Sketches, photographs, and any other graphics used in this report are intended solely as visual aids. Every attempt is made to limit distortions and to provide graphics realistic enough for the purposes of this report. If engineering accuracy is important to any user of this report, then professionals skilled in the particular discipline must be retained to provide that level of detail.

Arborist Disclosure Statements

- Arborists cannot detect every condition that could possibly lead to the structural failure of a tree. Trees are living organisms that fail in ways we do not fully understand, only speculate. Conditions are often hidden within trees and below the ground. Arborists cannot guarantee that a tree will be healthy or safe under all circumstances, or for a specified period of time.
- Arborists are tree specialists who use their education, knowledge, training, and experience to examine trees, recommend measures to enhance the beauty and health of trees, and attempt to reduce the risk of living near trees. Clients may choose to accept or disregard the recommendations of the arborist, or to seek additional advice.
- Treatment, planting, pruning, and removal of trees may involve considerations beyond the scope of the arborists services such as property boundaries, property ownership, site lines, disputes between neighbors, and other issues. Arborists cannot take such considerations into account unless complete and accurate information is disclosed to the arborist. An arborist should then be expected to reasonably rely upon the completeness and accuracy of the information provided.
- Trees can be managed but, they cannot be controlled. To live near trees is to accept some degree of risk. The only way to eliminate all risk associated with trees is to eliminate the trees completely.

Certification of Performance

I, John J. Leone, Certify,

- That I have personally inspected the trees and the property referred to in this report and have stated my findings as accurately and to the best of my ability.
- That I have no current or prospective interest in the vegetation or the property that is the subject of this report and have no personal interest or bias with respect to the parties involved.
- That the analysis, opinions, and conclusions stated herein are my own, and are based on current scientific procedures and facts.
- That my analysis, opinions, and conclusions were developed, and this report has been prepared according to commonly accepted Arboricultural practices.
- Inspections were performed visually only, and I do not assume responsibility for defects or deficiencies that could only be discovered by probing, coring, excavating, or dissecting.
- I do not provide a guarantee that problems or deficiencies on trees inspected may not arise in the future.
- This report has been prepared exclusively for the use of the contracting, developing, or municipal agencies and parties, and may not be copied partially or in total without prior written consent.

I further certify that I am a member of the International Society of Arboriculture and a Certified Arborist with the organization. In addition to these facts, I have been involved in the practice of Arboriculture and the care and study of trees and landscape since 1977.

John J. Leone
I.S.A. Certified Arborist # WC 1056A.

References

Richard Harris; 1992 Arbor Culture – Integrated Management of Landscape Trees, Shrubs and Vines, Second Edition, Prentice Hall, Inc. Englewood Cliffs, New Jersey.

International Society of Arboriculture, Western Chapter

American Society of Consulting Arborists

Bay Area Landscape Supervisors Forum

Sunset Western Garden Book; copyright 2001

Master Gardener Program, U.C. Extension Program, Santa Clara County

Species Classification and Group Assignment; Guide for Plant Appraisal, 9th Edition, published by the International Society of Arboriculture.

Basic Tree and Root Protection Guidelines

- During construction, root protection is essential to the survival and safety of any established trees.
- A written agreement should be made between the developer and the construction company with a clear understanding and procedure of these guidelines.
- It is highly recommended a project arborist inspect the tree protection measures and devices before demolition and construction begins.
- It is highly recommended a Certified Arborist be hired by the construction company or the developer, to do periodic, monthly inspections of preserved trees. The protection practices must remain in place in order to insure the survival of the trees during and after the construction process.
- The project arborist should report monthly, the inspection results, to the City of Fremont, planning department.
- Driving vehicles and equipment, or stacking materials under the drip line of trees **is prohibited**. Heavy activity under the drip line will cause compaction and compromise the health of the tree; thereby causing the tree to eventually perish. The drip line starts at the edge of the branches of the tree.
- Install a substantial non-movable tree protection fence (i.e. chain-link fence) to protect the roots, trunk, and branches of the trees to be preserved within the construction zone. The fence must be 6' chain link fencing and extend to the drip line or outer edge of the branches of the tree. 2" diameter posts, 10' long to the need to be securely driven into the ground 24 inches, until construction is complete. A weather proof sign posted on the fencing which reads, "Authorized Persons Only." Access inside the protection area must be provided by some kind of secure gate or similar device.
- Absolutely no self driven mechanical or heavy equipment is allowed inside the root protection zone fencing area.
- Any digging inside the root protection zones must be done by hand, air spade or air knife devices.
- Any cutting of roots, larger than 2" in diameter must be done under the supervision of a Certified Arborist.

- **Absolutely no** soil grade changes should occur in the root zones or drip line of the trees. No piling of soil or scraping of soil should occur within the drip line of the trunk of the tree.
- Store soil intended for later use in piles located well outside of the root zones of trees to be preserved.
- Cutting of buttress roots is to be prohibited, as it can cause instability with the structure of the entire tree. Buttress roots are located directly under the bark flare at the base of the tree.
- Large roots exposed by excavation must be covered with burlap and kept damp to keep them from drying out. Trenching and shredding large roots within the drip line of the tree increases the chances of tree instability and mortality.
- Washing of paints, solvents, or concrete materials within the drip line of the tree must be prohibited. A concrete washout must be provided. Paints, solvents, and concrete residues are toxic to plant materials and will cause them to decline or die.

Glossary of Terms

Aeration - Providing oxygen to the root system.

Branch Bark Ridge – A ridge of bark that forms in the branch crotches, where they meet, as specialized tissue of the branch and trunk. The bark ridge usually turns upward.

Caliper – Diameter of trunks or trunk at 4 feet 5 inches above the ground level.

Critical root zone – The root system of a tree that is generally considered to be within and under the drip line of the crown of the tree. It is the portion of the root system that is the minimum necessary to maintain the vitality and stability of the tree. Encroachment or damage to the critical zone will put the tree at risk of failure.

Crown – The full complement of branches, twigs, and leaves of a tree.

Decay – Changes over time of a host tree by a decay organism that results in the breakdown of tissues, wood, and bark, which can cause the tree or its parts to become weak.

Decline – A general loss of vitality over the entire tree caused by a disease or by a series of events that disrupt essential life processes such as too little water, too much fertilizer, improper pruning, soil compaction, or chemical pollution.

Drip line – The area under the canopy of a tree that is equal to the total branch spread.

Dieback – Death of shoots and branches, generally from the tip to the base.

Exotic Tree – Tree not native to California.

Included Bark – Pattern of development at branch junction where bark is turned inward rather than pushed outward.

Mulch – Wood chips or green waste used to hold in moisture and regulate the temperature of the soil.

Native Tree – Tree indigenous to California.

Root System- The portion of the tree containing the root organs, including buttress roots, transport roots, and fine absorbing roots; all underground parts of the tree.

Root Zone -The area and volume of soil around the tree in which roots are normally found. May extend to three or more times the branch spread of the tree or several times the height of the tree.

Suppressed – Trees that have been overtopped, and whose crown development is restricted.

Tree protection zone – A designated area around trees where maximum protection and preservation efforts are implemented.

Vigor - Overall health of the tree.

Tree Chart

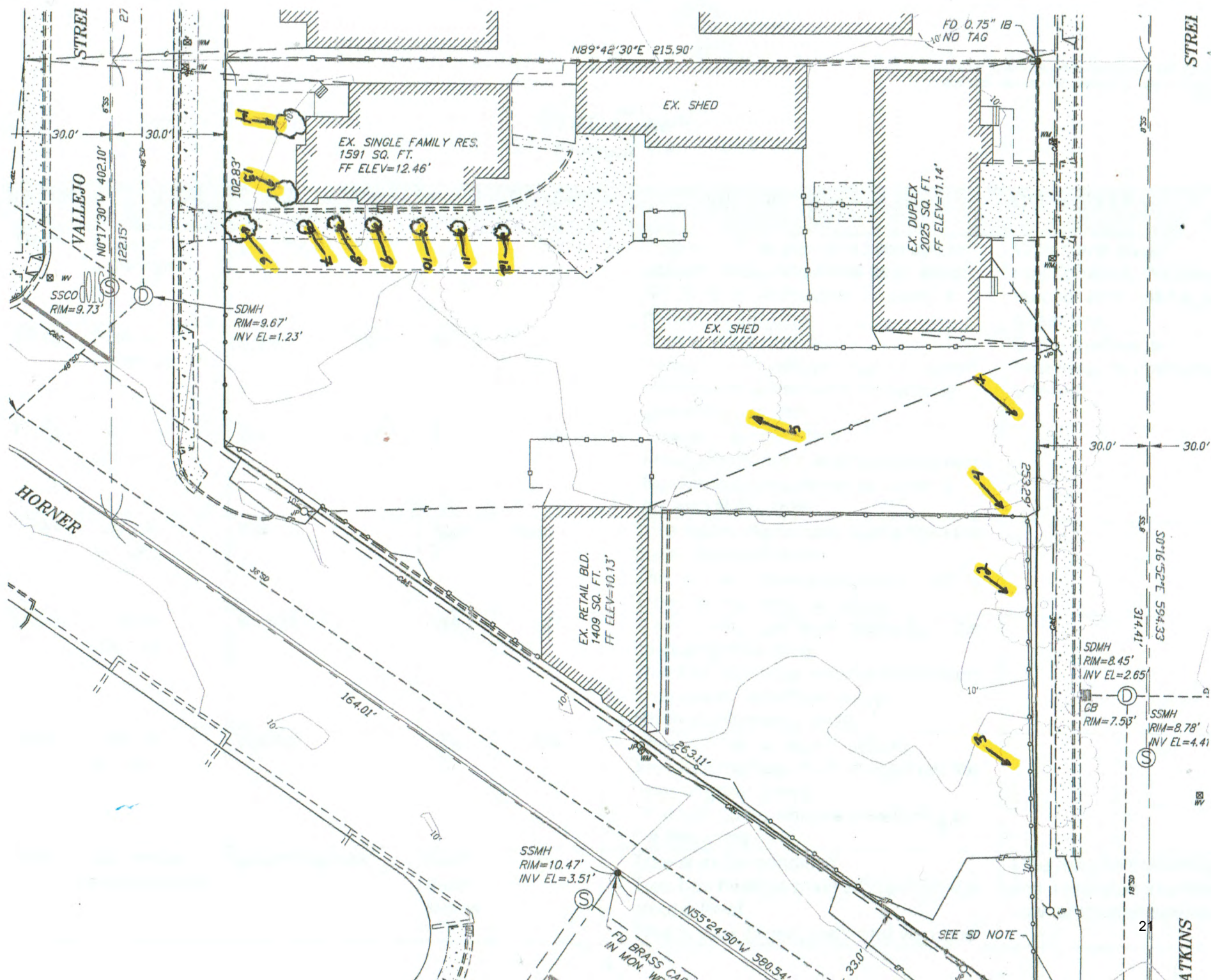
Fremont, CA

TREE #	BOTANICAL NAME	COMMON NAME	DBH In.	CANOPY (Ft.)	CONDITION/OBSERVATION	COMMENTS
TR#1	Pistacia chinensis	Chinese Pistache	11"	30'	<ul style="list-style-type: none"> - Tree is in fair to poor condition due to sparse canopy and some dead limbs. - No disease, infestations, or decay is present at this time. 	
TR#2	Pistacia chinensis	Chinese Pistache	12"	34'	<ul style="list-style-type: none"> - Tree is in fair condition. - Foliage is full, lush, and medium-green. - No disease, infestations, or decay is present at this time. 	Some pruning is necessary to make this tree safe.
TR#3	Pistacia chinensis	Chinese Pistache	11"	33'	<ul style="list-style-type: none"> - Tree is in fair condition. - Foliage is full, lush, and medium-green. - No disease, infestations, or decay is present at this time. 	
TR#4	Juglans species	Walnut	App. 30"	App. 25'	<ul style="list-style-type: none"> - Tree has multiple main stems from the base at ground level. - This tree is in poor structural condition. - Tree has no aesthetic value. 	
TR#5	Juglans species	Walnut	N/A	N/A	<ul style="list-style-type: none"> - Tree has multiple main stems from the base at ground level. - This tree is in poor structural condition. - Tree has no aesthetic value. - Much of this tree is dead. 	
TR#6	Juglans species	Walnut	App. 32"	N/A	<ul style="list-style-type: none"> - Tree is in fair to poor condition. - Tree has multiple main stems from the base at ground level. - Tree has some walnuts developing 	

					on the branches.	
TR#7	Cupressus sempervirens	Italian Cypress	Multi. Main stems	6'	<ul style="list-style-type: none"> - Tree is in fair condition - Tree has multiple main stems from the ground level. - Tree is dark-green, lush, and vigorous, with no signs of disease, infestations or decay at this time. - No mechanical or biological damages of any kind are present at this time. 	.
TR#8	Cupressus sempervirens	Italian Cypress	Multi. Main stems	6'	<ul style="list-style-type: none"> - Tree is in fair condition - Tree has multiple main stems from the ground level. - Tree is dark-green, lush, and vigorous, with no signs of disease, infestations or decay at this time. - No mechanical or biological damages of any kind are present at this time. 	.
TR#9	Cupressus sempervirens	Italian Cypress	Multi. Main stems	6'	<ul style="list-style-type: none"> - Tree is in fair condition - Tree has multiple main stems from the ground level. - Tree is dark-green, lush, and vigorous, with no signs of disease, infestations or decay at this time. - No mechanical or biological damages of any kind are present at this time. 	
TR#10	Cupressus sempervirens	Italian Cypress	Multi. Main stems	6'	<ul style="list-style-type: none"> - Tree has multiple main stems from the ground level. - Tree has dark-green needle foliage; however, some dead limbs high in the column canopy are present. 	

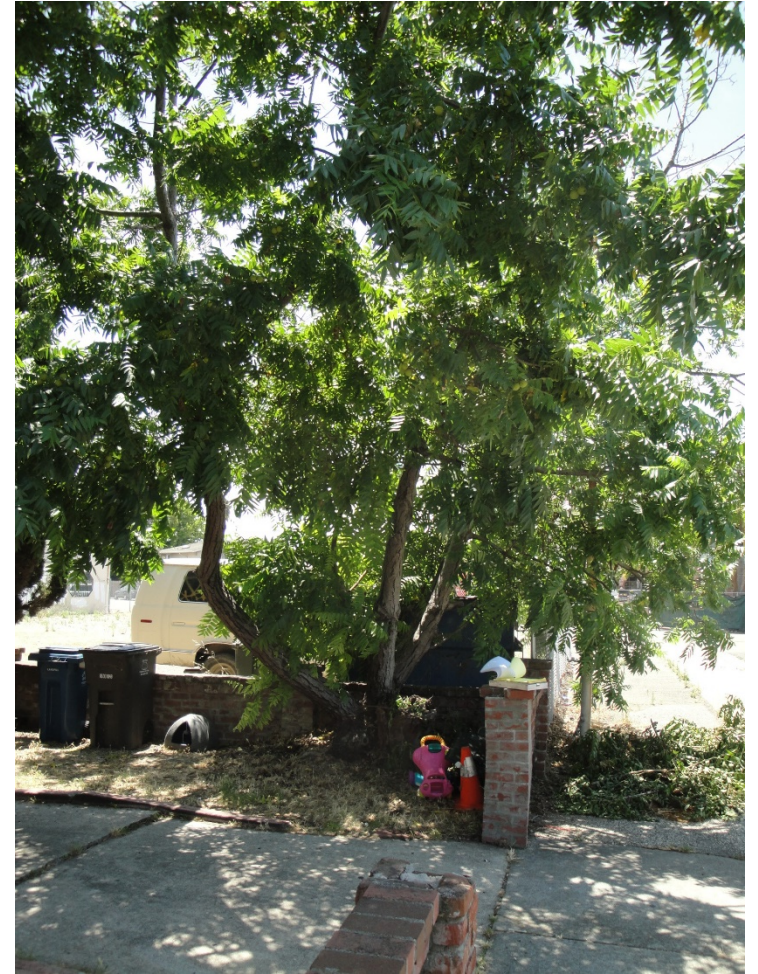
					- Tree has dead limbs due to some kind of damage.	
TR#11	Cupressus sempervirens	Italian Cypress	Multi. Main stems	6'	<ul style="list-style-type: none"> - Tree is in fair condition - Tree has multiple main stems from the ground level. - Tree is dark-green, lush, and vigorous, with no signs of disease, infestations or decay at this time. - No mechanical or biological damages of any kind are present at this time. 	
TR#11	Cupressus sempervirens	Italian Cypress	Multi. Main stems	6'	<ul style="list-style-type: none"> - Tree is in fair condition - Tree has multiple main stems from the ground level. - Tree is dark-green, lush, and vigorous, with no signs of disease, infestations or decay at this time. - No mechanical or biological damages of any kind are present at this time. 	
TR#12	Cupressus sempervirens	Italian Cypress	Multi. Main stems	6'	<ul style="list-style-type: none"> - Tree is in poor condition. - Most of tree is overgrown with Algerian Ivy. - Tree has multiple main stems from the ground level. - Tree is dark-green, lush, and vigorous, with no signs of disease, infestations or decay at this time. - No mechanical or biological damages of any kind are present at this time. 	
TR#13	Taxus baccata	English Yew	Multi. From grade	8'	<ul style="list-style-type: none"> - Tree/shrub is in fair condition. - Leaves are dark-green, and lush that are full, thick, and vigorous. 	Some improper pruning for clearance was performed on this tree.

			level.		- No sign of disease, infestation or decay of any kind is present at this time.	
TR#14	Taxus baccata	English Yew	Multi. From grade level.	8'	<ul style="list-style-type: none"> - Tree/shrub is in fair condition. - Leaves are dark-green, and lush that are full, thick, and vigorous. - No sign of disease, infestation or decay of any kind is present at this time. 	Some improper pruning for clearance was performed on this tree. value.





Tree #'s 1-4



Tree #6



Tree #'s 7-12



Tree #'s 13-14

APPENDIX C
HISTORIC RESOURCES
EVALUATION

December 11, 2017

Planning Division
City of Union City
34009 Alvarado-Niles Road
Union City, California 94587

Subject: Historical Evaluation of the Santos Family Property including the buildings at 31088 Vallejo Street, 31150 Horner Street, and 31063 and 31067 Watkins Street, Union City, Alameda County, California.

Dear Avalon,

The letter report that follows, along with the DPR 523 forms attached, comprise the evaluation of the property at 31088 Vallejo Street, 31150 Horner Street, and 31063 and 31067 Watkins Street, Union City, as required by the City of Union City Planning Division.

Methodology

Kara Brunzell conducted a site visit on August 3, 2016. The site visit included collecting photographs of all elevations of the seven buildings on the property, the parcel, and the neighborhood setting. Kara Brunzell conducted a record search of the subject property at the Northwest Information Center (NWIC), located at California State University, Sonoma, deed research at the Alameda County Recorder's and Assessor's offices, permit review at the Union City Building Department, and online research at ancestry.com and other websites. In addition, she conducted research through the Fremont branch of the Alameda County Library and the Washington Township Museum of Local History.

Summary of Findings

The record search at the NWIC did not reveal any previous surveys of the parcel. The City of Union City's Planning Department, however, provided a copy of a DPR 523 form documenting the Silver Dollar Café and Tavern. Local historian Timothy Swenson prepared the DPR 523 form in 2015 but did not submit it to the NWIC. The City also provided access to a document entitled "Design Guidelines for Old Alvarado" that a planning consultant prepared in 1989. The "Design Guidelines" document, while outdated in some respects, provided useful background information regarding Alvarado's history and built environment. Because this evaluation is undertaken pursuant to CEQA, all resources discovered during the field survey require evaluation for California Register of Historical Resources (CRHR). The property was also evaluated for National Register of Historic Places (NRHP) eligibility, and according to Section 18.106.240 of the City of Union City's Municipal Code, which sets forth local criteria for inclusion in the City's Landmarks and Historic Preservation Overlay (LHP) Zone. The seven buildings evaluated are located at the following four addresses on a single large parcel:

- 31150 Horner Street, the vacant former Silver Dollar Café and Tavern building
- 31063 and 31067 Watkins Street, a duplex building that comprises two residential units and two integral garages;
- 31088 Vallejo Street, which includes:
 - the Tudor-style house fronting onto Vallejo Street
 - a small clapboard shed south of the house and driveway
 - a single-car garage immediately behind the house to the east

- an accessory residential building adjacent to the east elevation of the garage (listed on County of Alameda Residential Building Record as “Rumpus Room A”)
- an accessory residential building at the approximate center of the property (listed on County of Alameda Residential Building Record as “Rumpus Room B”) .

This report evaluates the seven buildings for historical significance and integrity both individually and as a district. The National Park Service defines a district as follows. “A district possesses a significant concentration, linkage, or continuity of sites, buildings, structures, or objects united historically or aesthetically by plan or physical development.” These buildings on the property are concentrated on a single large parcel and therefore linked physically by their siting. They are also united by their shared land-use history of development over time by a single family for use by its members. Therefore, the property has been evaluated on a DPR 523 d (district) form, and its individual resources documented on primary forms.

National Register of Historic Places

The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

- A. That are associated with events that have made a significant contribution to the broad patterns of our history; or
- B. That are associated with the lives of significant persons in our past; or
- C. That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- D. That have yielded or may be likely to yield, information important in history or prehistory.

Under most circumstances, a property¹ must be at least fifty years old before it can be evaluated for historic significance under NRHP criteria.

California Register of Historical Resources

The criteria for listing historical resources in the California Register are consistent with those developed by the National Park Service for listing historical resources in the National Register, but have been modified for state use in order to include a range of historical resources which better reflect the history of California (CCR 4852) . For a property to be eligible for inclusion on the CRHR, one or more of the following criteria must be met:

- 1. It is associated with the events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States;
- 2. It is associated with the lives of persons important to local, California, or national history;
- 3. It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master, or possesses high artistic values; and/or
- 4. It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

¹ For the purposes of historic documentation, survey, and evaluation “property” refers to a historic-period building or structure and its parcel or site.

Under most circumstances, a property must be at least fifty years old before it can be evaluated for historic significance under CRHR criteria. The CRHR also requires that a resource possess historic integrity.

City of Union City

The zoning ordinance in the City of Union City's municipal code sets forth criteria for inclusion in its LHP Zone. These criteria for designation are modeled on NRHP and CRHR standards, but stated somewhat differently. Age and integrity requirements, and the definition of historic districts are stated within the criteria (rather than separately as with the state and national standards). Union City Criterion A focuses primarily on aesthetic qualities and is intended to correspond to NRHP/CRHR Criterion C/3 (architecture and design). Union City Criterion C covers the aspects of historical significance that are split into NRHP/CRHR Criteria A/1 and B/2 (events and persons). Union City Criterion B is a locally unique category that deals with rarity. (Although historic preservation professionals, cultural resource managers, architects, local historical societies, preservation advocacy groups, historic property owners, State Historic Preservation Officers, city planners, and other interested parties familiar with historic preservation practices tacitly accept rarity to be a factor in historic eligibility, it is not an explicitly codified element of the NRHP or CRHR significance criteria.)

Municipal Code Section 18.106.240

Designation findings.

The Planning Commission may approve a nomination application for, and the City Council may designate, a structure, improvement, natural feature, object or area for designation as a cultural resource or historic district if it finds that the structure, improvement, natural feature, object or area meets the following criteria:

- A. It exemplifies or reflects a special element of the City's cultural, social, economic, political, aesthetic, architectural or natural history and possesses an integrity of location, design, setting, materials, workmanship, feeling and association, and
 1. It embodies distinctive characteristics of style, type, period or method of construction, or is a valuable example of the use of indigenous materials or craftsmanship, or
 2. It contributes to the significance of a historic area being a geographically definable area possessing a concentration of historic or scenic properties or thematically related grouping of properties or properties which contribute to each other and are unified aesthetically by plan or physical development, or
 3. It embodies elements of architectural design, detail materials or craftsmanship that represents a significant structural or architectural achievement or innovation, or
 4. It has a unique location or singular physical characteristic or is a view or vista representing an established and familiar visual feature of a neighborhood, community or the City of Union City, or
 5. It is at least forty-five (45) years of age;
- B. It is one (1) of the few remaining examples in the City, region, state or nation possessing distinguishing characteristics of an architectural or historical type or specimen;
- C. It is identified with persons or events significant in local, state, or national history.

Evaluation

Criterion A/1/C (historically significant events): The Santos Family Property is not eligible for historic listing to the NRHP under Criterion A, the CRHR under Criterion 1, or Union City's LHP under Criterion C. The residential and commercial buildings on the parcel were constructed between c1927 and c1950, within the general context of the twentieth century residential and commercial development of Alvarado (which became part of Union City after the buildings were constructed). Every building constructed is at least tangentially connected to one or more specific historic contexts, however, most buildings are not historically significant according to NRHP, CRHR, or local criteria. The Santos House on Vallejo Street and the duplex on Watkins Street were both loosely associated with residential development and growth in Alvarado. They were among

many such dwellings constructed, and research has revealed no important association between the dwellings on the property and this historic trend. Therefore they are ineligible for individual historic listing for their historical associations.

Likewise, the Silver Dollar Café and Tavern (constructed c1938) was associated with commercial development in Alvarado. It was one of several bars that opened (or re-opened) in Alvarado after the repeal of Prohibition in 1933. Thirty years later, the Silver Dollar was still just one of a half dozen bars in the immediate area. Extensive research has not revealed any important associations between this particular business and the commercial development of Alvarado. Nor is there evidence that the bar was a significant cultural or social locus for the community. Therefore it is ineligible for individual historic listing based on its association with historical trends. In addition to the bar's lack of significance, its integrity has been compromised to the point that even if future research revealed historical significance it would be unlikely to be eligible for historic listing. When the Nimitz Freeway was constructed, Horner Street lost its historical status as a highway, significantly altering the *setting*. Demolition of the adjacent gas station c1961 further compromised the setting. Integrity of *feeling* and *association* are especially important for buildings that lack architectural distinction. Integrity of *association* was lost when the Silver Dollar ceased operation as a tavern c2014. Degradation of most other aspects of integrity combine to form a lack of integrity of *feeling*.

The garage, shed, and two accessory residential buildings are ancillary buildings constructed to provide storage and extra living space for the residents of the house and duplex. As such, they would only be eligible for historic listing based on their association with the house and duplex. Since those buildings are not significantly associated with an important historic context, the ancillary buildings are similarly lacking in historic significance..

Criterion B/2/C (historically significant persons): The Santos Family Property is not eligible for historic listing to the NRHP under Criterion B, the CRHR under Criterion 2, or Union City's LHP under Criterion C. Although members of the Santos family were active in the local community in various capacities during their lifetimes and were somewhat prominent as local business operators, research does not indicate that they were important to local history or influenced historical trends. Therefore, none of the buildings on the Santos Family Property is individually eligible for historic listing due to its association with persons important to history.

Criterion C/3/A (architecture and design): The Santos Family Property is not eligible to the NRHP under Criterion C, the CRHR under Criterion 3, or Union City's LHP under Criterion A. The Santos House on Vallejo Street is a modest example of a Tudor-style house from the 1920s. The style was popular from about 1890 until 1940, and was inspired by English medieval and Renaissance architecture. The Santos House's steeply-pitched cross-gabled roof, arched entry door, and massive chimney are features that associate the residence with modest examples of the style. According to Virginia McAlester, the most widely respected expert on historic American houses, roughly a quarter of the houses constructed during the 1920s were Tudor style, so it was a common type of residence during this era. The Santos House lacks the decorative features and elaborations that distinguish architecturally significant examples of Tudor architecture, including half-timbered cladding, brick and or stone masonry cladding or trim, strapwork, decorative chimney pots, carved wooden doors, and windows with multiple small panes. Alterations over the years, especially the large hipped-roof addition at the rear and porch enclosure on the south elevation, have also compromised its integrity of *design*, *materials*, and *workmanship*. Therefore the house is not eligible for historic listing for its architecture.

The Silver Dollar building is a primarily utilitarian example of a commercial building constructed to house a bar after Prohibition. Its small hexagonal windows were commonly incorporated into bar buildings during this period in order to make drinkers less visible to children and other passersby. The building's flat roof, irregular plan that conforms to the slant of the road, lack of entry porch or permanent awning, and cladding that is different on front and rear elevations are all features of a building constructed to be inexpensive rather

than according to particular design principles. Its only extant decorative features are minimal molding on wall surfaces and coping at its parapets. For simple buildings such as this one, even minor alterations can significantly degrade historic integrity. Its two original neon signs have been removed, destroying the building's most characteristic decorative features. Other alterations have also been performed, such as replacement of the original door, boarding up of transoms and sidelights, installation of security bars over windows, and installation of a rooftop satellite dish. These modifications, in aggregate, significantly compromise its integrity of *design*, *workmanship*, and *materials*. Therefore, the Silver Dollar Café and Tavern is not eligible for historic listing for its architecture.

The duplex on Watkins Street is a common example of Minimal Traditional architecture, the most popular style for inexpensive houses and small multi-family buildings when it was constructed. It lacks architectural distinction and is therefore not eligible for historic listing for its architecture.

The garage, shed, and two accessory residential buildings are ancillary buildings that lack decorative or aesthetic qualities and are not eligible for historic listing for their architecture.

To sum up, none of the buildings on the property embodies the distinctive characteristics of a type, period, or method of construction, represents the work of a master, possesses high artistic values, or is a valuable example of the use of indigenous materials or craftsmanship. Nor do any of the buildings embody elements of architectural design, detail materials or craftsmanship that represents a significant structural or architectural achievement or innovation. Therefore, none of the elements of the Santos Family Property qualifies for historic listing at any level for their architecture or design.

Criterion D/4: The Santos Family Property is not a likely source of information about history or prehistory, and is therefore not eligible to the NRHP under Criterion D or the CRHR under Criterion 4.

Union City LHP Criterion B: None of the buildings on Santos Family Property can be considered rare in Union City, the region, state, or nation. As stated above, the house and duplex on the property were types of dwellings commonly constructed during the twentieth century. There are many examples of these building types and architectural styles throughout the region. The Silver Dollar is an example of a utilitarian commercial building from the 1930s, and lacks strong distinguishing aesthetic or design characteristics. As such it does not qualify as one of a few remaining examples of an architectural or historical type. The ancillary buildings on the parcel are also utilitarian in style and as such do not qualify as rare. Therefore the property is not eligible for local listing under LHP Criterion B.

Historic District Evaluation: A district derives its importance from being a unified entity (even though they are frequently composed of a wide variety of resources). A district must possess significance, as well as being an identifiable entity, to qualify for historic listing. It must be important for historical, architectural, archeological, engineering, or cultural values. Therefore, districts that are significant under the NRHP criteria will usually meet the last portion of Criterion C (represent a significant and distinguishable entity whose components may lack individual distinction) in addition to another criterion. The Santos Family Property does not meet this standard because although it is a distinguishable entity, it lacks the historical or architectural significance required for listing as a historic district. Therefore the property is not eligible for listing as a historic district at any level.

Historic Status

None of the buildings on the Santos Family Property are eligible for historic listing either individually or as contributors to a historic district. Therefore does not qualify as a historic resource, and should be assigned

California Historic Resource Status Code 6Z², which means a property has been found ineligible for NRHP, CRHR or local designation through survey evaluation.

Recommendations

None of the buildings on the property rise to the level of significance required for historic listing as individual landmarks or as contributors to a potential historic district. Therefore, none of those buildings qualifies as a historic resource under CEQA and as such do not merit special protection during the planning process.

Preparer's Qualifications

I meet the Secretary of Interior's Professional Qualifications for both History and Architectural History. I hold a Master's degree in Public History and have worked in multiple facets of historic preservation and cultural resource evaluation since 2007. My experience includes municipal preservation planning and working as the lead staff member of a non-profit preservation organization. Since 2012, I have worked full-time as a historical consultant, completing dozens of evaluations for CEQA and Section 106 compliance. Additionally, I have completed local and national register nominations, historic context statements, and HAER recordation. I have managed historical projects in Union City, Fremont, Mountain View, San Jose, Los Gatos, and unincorporated Santa Clara County. I frequently work in the greater Sacramento area and other parts of the Bay Area, and have also completed projects in Southern California, Oregon, and New York. In addition to my work with historic-period domestic, agricultural, and commercial properties for private clients, I have evaluated post offices, military bases, university campuses, hospitals, church properties, and a NASA site. I am listed as a Historian and Architectural Historian on the California Office of Historic Preservation's roster of qualified consultants for every county in California.

Please contact me by phone at 707/290-2918 or e-mail at kara.brunzell@yahoo.com with any questions or comments.

Sincerely,

A handwritten signature in blue ink that reads "Kara L. Brunzell". The signature is written in a cursive, flowing style.

Kara Brunzell, M.A.
Architectural Historian

2899493.1

² See the California Office of Historic Preservation's "TECHNICAL ASSISTANCE BULLETIN #8 User's Guide to the California Historical Resource Status Codes & Historic Resources Inventory Directory" for background and additional information regarding California Historical Resource Status Codes.

***Resource Name or #** (Assigned by recorder): Santos Family Property

D1. Historic Name: Santos Family Property

D2. Common Name: Santos Family Property

***D3. Detailed Description** (Discuss overall coherence of the district, its setting, visual characteristics, and minor features. List all elements of district.)

The Santos Family Property is a large parcel located in Union City on the southern part of the block between Horner, Watkins, and Vallejo Streets. It is irregularly shaped to conform to Horner Street (formerly Alvarado Boulevard and Alvarado-Centerville Highway) which runs northwest-southeast at the property's southern boundary. It includes five addresses: 31088 Vallejo Street, 31063 and 31067 Watkins Street, and 31055 and 31112 Horner Street.

***D4. Boundary Description** (Describe limits of district and attach map showing boundary and district elements.):

The property is bounded to the south/southwest by Horner Street, to the east by Watkins Street, and to the west by Vallejo Street. The northern boundary consists of the parcel lines between 31082 Vallejo Street/31051 Watkins Street and 31088 Vallejo Street/31063 Watkins Street.

***D5. Boundary Justification:**

The property's boundaries are the boundaries of the parcel as mapped by the County of Alameda Recorder's Office.

***D6. Significance: Theme:** n/a

Area: n/a

Period of Significance: n/a

Applicable Criteria: n/a

(Discuss district's importance in terms of its historical context as defined by theme, period of significance, and geographic scope. Also address the integrity of the district as a whole.)

Union City

The Ohlone people inhabited area that later became Union City prior to the arrival of Europeans. In 1797, Spanish priests founded Mission San Jose in order to convert the local Ohlone to Christianity. The mission was about ten miles to the southeast of the area that would become Alvarado. It was situated at a geographically advantageous site, adjacent to Mill Creek and surrounded by fertile agricultural land. The Mexican government began making land grants in the early 1830s, after Mexico gained independence. Juan Bautista Alvarado, governor of Alta California at the time, granted two ranchos in the Union City area: Rancho Potrero de los Cerritos and Rancho Arroyo del Alameda. The first was made to Augustine Alviso and Thomas Pacheco in 1844, spanning 10,610 acres, including present-day Alvarado, Centerville, and Irvington. They sold during the gold rush and the area was used for farming potatoes.¹

The fertility of its agricultural land meant that the area around Mission San Jose was one of the first areas in California to attract American settlers. In 1846, a Mormon group took up residence in the disused Mission San Jose barracks. John M. Horner and Henry and Napoleon Smith established a general store, and Horner built a landing and several warehouses on a bend of the Alameda Creek that had been used for shipping by the mission. He laid out Union City in 1851, naming the town after his steamship the *Union*. Henry C. Smith may have founded New Haven nearby in 1850. Eventually, these two towns merged into one, which was named Alvarado after the former governor and had a majority Portuguese population. Alternately, lawyers named Strode and Jones may have founded Alvarado on land they bought from Alviso in 1852. Histories on the area differ; New Haven may have had its name changed to Alvarado at some point, they may have been separate and coexisting towns, Alvarado may have been used as an unofficial name for the general area, or any combination of the above (continued on p. 2).²

***D7. References** (Give full citations including the names and addresses of any informants, where possible.):

(See footnotes)

***D8. Evaluator:** Kara Brunzell

Date: August 3, 2016

Affiliation and Address: Kara Brunzell, Brunzell Historical
1613 B Street, Napa, CA 94559

DPR 523D (1/95)

*Required information

¹ M.W. Wood, *History of Alameda County, California*, M.W. Wood, Alameda, California: 1883, p. 63, 816, 819, 957, 830; Country Club, The Woman's Club of Washington Township, *History of Washington Township, Alameda County*, Country Club, The Woman's Club of Washington Township, Alameda County: 1904, p. 39; *Draft Union City Cultural Resources Inventory*, Architectural Resources Group, February 1, 1999, 15-16.

² Architectural Resources Group, 1999, 18; Timothy Swenson, *Images of America: Union City*, Arcadia Publishing, Charleston, 2008; Timothy Swenson, "Three Towns – Early Names for Alvarado", Union City History Collection: A Collection of Articles on Union City History, Timothy Swenson, 2005.

***D3. Detailed Description** (continued)

There are three main buildings on the property: the Santos House at 31088 Vallejo Street, the Silver Dollar Café and Tavern at 31150 Horner Street, and a duplex at 31063 and 31067 Watkins Street. There are also several ancillary buildings: a small shed south of the driveway and a garage are associated with the Santos House on Vallejo Street. Two accessory residential buildings (referred to as “rumpus rooms” on Alameda County Building Records) are located between the house and duplex on Watkins Street. Although originally documented along with the duplex, a field visit in August of 2016 revealed that the accessory residential buildings (which appear to be in use as dwellings) are accessed via 31088 Vallejo Street and separated from the Watkins Street duplex by a fence. A gas station at 31112 Horner Street has been demolished, and the portion of the property on which it stood near the corner of Vallejo and Horner streets remains vacant. The table below lists the resources on the property by number. Approximate locations of buildings are shown on the sketch map below the table. The building photographs and detailed descriptions can be on attached Primary forms.

No.	Address	Resource Name	Approximate Construction Date
1	31088 Vallejo St.	Santos House	c1929
2	31088 Vallejo St.	Shed	Unknown, early twentieth century
3	31088 Vallejo St.	Garage	2009
4	31088 Vallejo St.	Accessory Residential building (Rumpus Room A)	c1950
5	31088 Vallejo St.	Accessory Residential building (Rumpus Room B)	c1950
6	31150 Horner Street	Silver Dollar Café and Tavern	c1937
7	31063 and 31067 Watkins St.	Duplex	c1945



Figure 1: Detail map (City of Union City Design Guidelines for Old Alvarado) showing approximate locations of the seven buildings on the property.

***D6. Significance** (continued)

In 1853, Smith petitioned for the creation of Alameda County, with the county seat Alvarado. Alvarado became a commercial center during this era, and in 1870 Ebenezer H. Dyer established the first sugar beet factory near its edge. Salt production in the area increased in the 1860s as the gold rush produced demand (processing gold and silver required salt), and J.A. Plummer and his son founded two companies that would become the Morton Salt Company in 1868. 17,000 tons of salt a year were produced that year, and there were 28 salt companies in the area by 1900. By 1878, J.J. Stokes owned the original Union City landing.³

³ Architectural Resources Group, 1999, p. 20, 22; Swenson, *Images*.

During the early twentieth century, Alvarado remained an agricultural town and shipping center. Salt and sugar production were the main local industrial activities. The town remained heavily Portuguese, but also began to attract immigrants from Asia and Latin America. After World War II, population growth in San Francisco and San Jose began to stimulate increased suburban development in the farming communities of Washington Township and further diversify the community. By the early 1950s, the Nimitz Freeway had been extended from Oakland to San Leandro, and was slated for extension to San Jose. Population growth brought changes, and the area began a transformation from an agricultural to a bedroom community. In the 1950s, Newark, Fremont, and Hayward all considered attempting to annex the Alvarado-Decoto area. Locals formed an incorporation movement to prevent this possibility. Incorporation passed on January 13, 1959, and the new town of Union City was formed on January 26. At this time, Union City had a population of around 6,000. On November 3, 1959, the Alvarado Post Office, which had been open since 1853, closed in favor of the Union City Post Office, which had been called the Decoto Post Office. In 1966, the Union City Police Department was created (previously, the Alameda County Sheriff Department had provided police services.) Dyer's sugar beet plant remained in operation until 1975 and was a significant employer in the area.⁴

A period of spectacular growth followed incorporation. While former farmland was developed around it, tiny Alvarado retained its farm-town atmosphere. In 1974, an article in the Hayward Review described Alvarado as "small, quaint, and curiously out-of-time," portraying the community as an old-fashioned and slow paced island surrounded by new development and change. By this time, Alvarado was a diverse community, with Asian and Spanish-speaking immigrants alongside of the descendants of the Portuguese immigrants that dominated the area in the late nineteenth and early twentieth century. By the end of the twentieth century Union City was an ethnically diverse suburb calling itself the "Gateway to the Silicon Valley." Although growth tapered off after 2000, Union City remains diverse and in 2016 has a population of 70,000.⁵

The Santos family owned the large parcel, which was undeveloped and bounded by Vallejo and Watkins streets, and Alvarado-Centerville Highway (Horner) in the early twentieth century. The block was just south of the town's main commercial district, and Horner Street was at that time a highway that led to the nearby town of Centerville. The Santos family built businesses on Alvarado-Centerville Highway and constructed dwellings on the side streets.

Santos Family

Mae (May) Elizabeth Davilla was born about 1903 to a Portuguese-American family that lived and worked in Alvarado. The family had come to the area in 1882, and were early business owners and civic leaders. Mae's father Antone was a native of the Azores Islands, and operated a number of businesses after coming to Washington Township. His wife Mary was born in Alvarado in about 1881. In 1910, he had a barbershop, while his wife Mary operated a store with the help of the children. Antone Davilla also operated the Peerless Saloon. Mary Foster Davilla was born in California to a Portuguese immigrant family. She worked at the post office. The family lived on Levee Street. Mae's eldest sibling was named Antone, and she had sisters named Isabel, Clara, Genevieve, and Edna. A little brother, Maurice (Morris), was born in 1920. That same year, Mae, still in her teens, married Antone Santos. The couple may have met at the salt plant, where Antone was a laborer, as their marriage license records Mae as also working in salt production.⁶

Antone (Tony) Santos was a Portuguese immigrant who had come to Washington Township in 1911 as a young man. He was already 30 when he married Mae Davilla. Daughters Alvina (named for Antone's mother) and Winifred were born in 1920 and 1924. The family attended St Anne's Catholic Church, where Mae was an active volunteer. They were also involved in local Portuguese cultural and social life. Antone continued to work at the salt plant into the 1930s after the family built a gas station near the corner of Vallejo and Horner c1927 and the Tudor-style house on Vallejo Street about two years later. In 1937, they added the Silver Dollar to the family commercial-residential compound. By 1940, Antone was running the family businesses full time.⁷

Both Santos daughters attended Washington Union High School in Centerville, where Alvina was a member of the yearbook staff. In 1939, Alvina turned nineteen and announced her engagement to Tony Brune, who worked at door and window factory in Hayward. Winifred was still a drum majorette and a Junior at Washington Union High School at this point. Both daughters were still living with their parents on Vallejo Street in 1940. Alvina married Tony Brune in 1940.

⁴ John S. Sandoval, *The History of Washington Township*, Mt. Eden Historical Publishers, Fremont, California, 2011, p. 276, 293; Swenson, *Images*; Architectural Resources Group, 1999, 23; Timothy Swenson, "Union City City Halls", Union City History Collection: A Collection of Articles on Union City History, Timothy Swenson, 2005; Timothy Swenson, "Alvarado, Decoto and Union City Postmasters", Union City History Collection: A Collection of Articles on Union City History, Timothy Swenson, 2005.

⁵ Gary Tischler, "Alvarado: Our own Brigadoon," Hayward Daily Review, 10 March 1974; "Facts and Figures," Union City, California, <http://www.unioncity.org/about-us/facts-and-figures>, accessed 23 February 2016.

⁶ Myrla Raymundo, "History: An Early Alvarado Family," Tri-City Voice, 20 July 2009; U.S. Census Records, Washington Township, 1910; California Marriage Record, Anthony Santos and May Elizabeth Davilla, November, 1920.

⁷ Myrla Raymundo, "History: Historical Buildings in Union City," Tri-City Voice, 29 July 2010; Census Records, Washington Township, 1930, 1940.

Brune, (whose birth name was Antonio de Brune da Silva, Jr.) was born in Portugal's Azores Islands in 1912. Their son David was born the following year, and they had a second son named Don a couple of years later. Tony died in 1976, at the age of 64. Alvina followed her grandmother into the postal service, becoming post mistress and working in the local post office until her retirement in 1981. Winifred Santos married Billy Harper in the early 1940s. He joined the army during World War II, serving as a sergeant in the South Pacific. In 1943, Winifred was running family gas station. The couple had a son, William Gale Harper III about 1943. The Santos family constructed the duplex at 31063 and 31067 Watkins Street about 1945. The Harpers lived in San Jose during the mid-1950s.⁸

Davilla/Santos/Brune Gas Station

In 1927, the Davillas and/or Santos's built the U Auto Stop Service Station on the property's Alvarado-Centerville Highway (Horner Street) frontage. Located at the highway's intersection with Vallejo Street, the small gas station became a Shell station in 1928. The "U Auto Stop" name appears to have been used only briefly, and by the 1940s the business appears in local directories as a Shell Service Station. As with the bar next door, operation of the Shell station was a family affair. In 1943, a newspaper story identified Winifred Harper (who gave birth to her son Billy about this time) as its proprietor. When the East Shore Freeway opened in 1957, it relieved automobile congestion in Alvarado but also led to a drop in trade. Antone Santos reported selling less than half the volume of fuel at the gas station after the freeway was completed. The gas station was demolished and rebuilt in 1961. The second gas station building was demolished in 2003.

31088 Vallejo Street

About 1929, Antone and Mae Santos built the Tudor-style house at 31088 Vallejo Street. The Santos family converted the basement at the rear of the house to a two-story mother-in-law addition at an unknown date. This unit was present when an Assessor visited the property in 1960 and shown on the 1944 Sanborn Map, so was in all likelihood constructed in the early 1940s when the Santos daughters were marrying and starting their own families. (Housing was difficult to find for young couples during the Depression and World War II, and the elder Santos's may have wanted to make room for their growing family.) According to an item in the Alvarado Pioneer, the low brick wall around the front yard was added in 1944. Antone and Mae Santos continued to live in the house on Vallejo Street after their daughters married until Antone died in 1959. After his death, Mae lived on in the house until at least the 1990s. She died in 2003 at the age of 99.⁹

Silver Dollar Café and Tavern

In 1937, a few years after the repeal of Prohibition once again made bars legal, Antone Santos built and opened the Silver Dollar just southeast of the U-Auto Stop/Shell gas station. The single-story bar building at 31150 Alvarado-Centerville Highway was trapezoidal to conform to the slant of the highway, and had a neon sign with a coin image next to the words "Silver Dollar."¹⁰

The new establishment was variously referred to in local newspapers and directories of the era as a cocktail lounge, tavern, or the Silver Dollar Café. Antone was finally able to leave the salt plant, working full time at the bar and gas station. By 1938, Santos was sponsoring a Silver Dollar softball team. The Silver Dollar appears to have primarily been oriented toward drinking and pool, but would sometimes offer food. On New Year's Eve 1940, for example, Tony Santos gave away free homemade linguica to encourage patrons to buy drinks. The bar had a juke box, pinball machines, and pool or snooker tables for entertainment. The pool or "restaurant" area was at the rear, and the bar in the front half of the building near the entrance. The Silver Dollar was family-run in its first decade, and Mae's brother Morris Davilla tended bar there in the mid-1940s when he was in his twenties. By the 1940s, Alvarado had recovered from Prohibition to the point that it boasted at least six drinking establishments, including a pool hall and liquor store, all of which competed with the Silver Dollar. The Silver Dollar was the site for several dramatic events. In 1944, a drunk woman came in with a gun and fired a shot out the door. The bar suffered several burglaries over the years and an armed robbery in 1971. In 1969, a 77-year-old local man was found dead in his car in the Silver Dollar parking lot.¹¹

Although the family held onto the property, Antone Santos appears to have retired from active management of the bar in the late 1940s. By late in the decade Santos was approaching 60, and apparently starting to have health problems. In 1949, he was hospitalized for an unspecified illness and then spent time recuperating at home. Mae's brother Morris Davilla may have been running the business as well as tending bar in the mid-1940s. In 1948, the Silver Dollar advertised in the Alvarado Pioneer as having a record player for dancing and listed Jack Cordoba and Davilla as proprietors. Jack Cordoba appears to have been Joaquin Cordoba, who grew up in the Alvarado area and whose parents were Spanish immigrants. Davilla moved on quickly, and by the following year was a bartender at the local Bear Cat Tavern (where he was murdered by a customer at the start of 1950). By 1949, Frank De Salles and Tony Costa were co-owners of the Silver

⁸ The Alvarado Pioneer, 27 December 1940, 10 November 1939, 17 November 1939, 28 April 1944; Myrla Raymundo, "History: An Early Alvarado Family," Tri-City Voice, 20 July 2009.

⁹ The Alvarado Pioneer, 11 August 1944;

¹⁰ U.S. Census Records, Washington Township, 1930, 1940; Alvarado Pioneer, 3 September 1943; Oakland Tribune, "Freeway ends Alvarado Congestion," 25 December 1957; "Santos, Antone," 13 September 1959.

¹¹ Hayward Daily Review, "Burglars get Small Change," 1 September 1949, "Single Gunman Robs Tavern," 4 September 1971, "Mystery in Union City Death," 8 October 1969;.

Dollar. De Salles was a Newark native. He lived in Niles while running the bar and was in his late thirties. In 1950, John Cordoba (probably the same person as Jack Cordoba) was again running the Silver Dollar. Santos does not appear to have upgraded or made repairs to the building when he was operating the bar or afterwards. By 1960, a County of Alameda Assessor downgraded the building's rating, stating that it was "economically obsolete" despite its continued use as a bar.¹²

The Silver Dollar stayed open for many years after Antone's death. In the 1970s, it was one of at least five bars in Alvarado, most of which featured tap beer and pool.¹³

Don and Dave Brune were both firefighters in Union City in the 1960s and 1970s. Don had two children and Dave three. Dave retired from the fire department in 1976 after an injury. During the 1980s, he helped his widowed grandmother with management of the bar property, working with the City Building Department and acting as a contractor to make repairs. Research has not revealed whether he was operating the business or just acting as a property manager. By 1981, the Santos/Brune family had attracted the attention of both the Union City Building Department and the Alameda County Health Department due to the dilapidated condition of the bar's interior. The City presented the owners with a list of repairs required for continued operation as a bar: repair and/or replacement of flooring in a number of locations throughout the building, patching holes in walls and ceiling, painting the interior, installation of floor coving, and upgrades to men's and women's restrooms that included the addition of hot water and exhaust fans. In 2002, repairs were made to the property's sewer line. Dave Brune died in 1997, and his mother Alvina died in 2004.¹⁴

31063 and 31067 Watkins Street

The last major building constructed on the Santos property was the duplex on Watkins Street. Alameda County's Residential Building record gives an estimated build date of 1940 for the duplex at 31063 and 31067 Watkins Street. Sanborn maps for the area do not show a building on the lot in 1944, however. The duplex is clearly present on 1946 aerial photographs, so appears to have built c1945 when World War II ended and Alvarado's population was beginning to grow. By this time, both Santos daughters were married with children of their own, so the duplex may have been intended as family housing or an income property. However, research has not revealed information about its early residents.¹⁵

The Santos family also built two long and narrow accessory residential buildings (called rumpus room a and rumpus room b on County of Alameda records) near the center of the parcel between the duplex and the Santos house on Vallejo. The Residential Building Record suggests that they were originally constructed about the same time as the duplex. These rooms were considered part of the duplex dwelling space in 1955 and 1960. At some point, an addition was built on the northern accessory residential building. By 1968, assessor's visits deemed them "uninhabitable" and stated that they were used only for storage. In 2009, it was again stated that they were used only for storage. At the time of a field visit in August 2016 both appeared to be in use as ancillary dwellings. They are separated from the duplex by a fence and accessible from the Vallejo Street house.

By 1972, Isabel and John Bond were living in the duplex unit at 31063 Watkins Street. Research has revealed few biographical details about the couple, who lived in the unit through at least 1990. Both appear to have been born in 1915, so they are likely to have been retired when they lived on Watkins Street. William and Winifred Harper lived in 31067 beginning in 1972. Their son was about 30 by this time, and presumably no longer lived at home (although his name was also William Harper so he may have been the "Wm. Harper" recorded living in the unit). By 1978, Eleanor Cram had replaced the Harper family. She was the last recorded resident of the unit, which was vacant by 1980 and remained so for at least a decade.¹⁶

After Mae Santos' death in 2003, her surviving descendants inherited the entire property including Alvina, Don Brune and Winifred Harper. The family sold to Gu Zhang and Ershi Gu in 2006 after the death of Alvina Brune. The second owners resold to current owner Jing Jiang in 2015. The Silver Dollar has been vacant since 2012.

Evaluation:

Criterion A/1/C (historically significant events): The Santos Family Property is not eligible for historic listing to the NRHP under Criterion A, the CRHR under Criterion 1, or Union City's LHP under Criterion C. The residential and commercial buildings on the parcel were constructed between c1927 and c1950, within the general context of the twentieth century residential and commercial development of Alvarado (which became part of Union City after the buildings were constructed). Every building constructed is at least tangentially connected to one or more specific historic contexts,

¹² The Alvarado Pioneer, 9 January 1923 December 1949, "News Notes," 7 April 1950; Residential Building Record, 31150 Alvarado Blvd., County of Alameda.

¹³ Hayward Daily Review, "The Old," 10 August 1975.

¹⁴ Permits on file with Union City Building Department.

¹⁵ County of Alameda, Residential Building Record, 31063 and 31067 Watkins Street; Sanborn Maps, Alvarado, California, 1925 – 1944.

¹⁶ Union City Telephone Directories, 1970 – 1990.

however, most buildings are not historically significant according to NRHP, CRHR, or local criteria. The Santos House on Vallejo Street and the duplex on Watkins Street were both loosely associated with residential development and growth in Alvarado. They were among many such dwellings constructed, and research has revealed no important association between the dwellings on the property and this historic trend. Therefore they are ineligible for individual historic listing for their historical associations.

Likewise, the Silver Dollar Café and Tavern (constructed c1938) was associated with commercial development in Alvarado. It was one of several bars that opened (or re-opened) in Alvarado after the repeal of Prohibition in 1933. Thirty years later, the Silver Dollar was still just one of a half dozen bars in the immediate area. Extensive research has not revealed any important associations between this particular business and the commercial development of Alvarado. Nor is there evidence that the bar was a significant cultural or social locus for the community. Therefore it is ineligible for individual historic listing based on its association with historical trends. In addition to the bar's lack of significance, its integrity has been compromised to the point that even if future research revealed historical significance it would be unlikely to be eligible for historic listing. When the Nimitz Freeway was constructed, Horner Street lost its historical status as a highway, significantly altering the setting. Demolition of the adjacent gas station c1961 further compromised the setting. Integrity of feeling and association are especially important for buildings that lack architectural distinction. Integrity of association was lost when the Silver Dollar ceased operation as a tavern c2014. Degradation of most other aspects of integrity combine to form a lack of integrity of feeling.

The garage, shed, and two accessory residential buildings are ancillary buildings constructed to provide storage and extra living space for the residents of the house and duplex. As such, they would only be eligible for historic listing based on their association with the house and duplex. Since those buildings are not significantly associated with an important historic context, the ancillary buildings are similarly lacking in historic significance..

Criterion B/2/C (historically significant persons): The Santos Family Property is not eligible for historic listing to the NRHP under Criterion B, the CRHR under Criterion 2, or Union City's LHP under Criterion C. Although members of the Santos family were active in the local community in various capacities during their lifetimes and were somewhat prominent as local business operators, research does not indicate that they were important to local history or influenced historical trends. Therefore, none of the buildings on the Santos Family Property is individually eligible for historic listing due to its association with persons important to history.

Criterion C/3/A (architecture and design): The Santos Family Property is not eligible to the NRHP under Criterion C, the CRHR under Criterion 3, or Union City's LHP under Criterion A. The Santos House on Vallejo Street is a modest example of a Tudor-style house from the 1920s. The style was popular from about 1890 until 1940, and was inspired by English medieval and Renaissance architecture. The Santos House's steeply-pitched cross-gabled roof, arched entry door, and massive chimney are features that associate the residence with modest examples of the style. According to Virginia McAlester, the most widely respected expert on historic American houses, roughly a quarter of the houses constructed during the 1920s were Tudor style, so it was a common type of residence during this era. The Santos House lacks the decorative features and elaborations that distinguish architecturally significant examples of Tudor architecture, including half-timbered cladding, brick and or stone masonry cladding or trim, strapwork, decorative chimney pots, carved wooden doors, and windows with multiple small panes. Alterations over the years, especially the large hipped-roof addition at the rear and porch enclosure on the south elevation, have also compromised its integrity of design, materials, and workmanship. Therefore the house is not eligible for historic listing for its architecture.

The Silver Dollar building is a primarily utilitarian example of a commercial building constructed to house a bar after Prohibition. Its small hexagonal windows were commonly incorporated into bar buildings during this period in order to make drinkers less visible to children and other passersby. The building's flat roof, irregular plan that conforms to the slant of the road, lack of entry porch or permanent awning, and cladding that is different on front and rear elevations are all features of a building constructed to be inexpensive rather than according to particular design principles. Its only extant decorative features are minimal molding on wall surfaces and coping at its parapets. For simple buildings such as this one, even minor alterations can significantly degrade historic integrity. Its two original neon signs have been removed, destroying the building's most characteristic decorative features. Other alterations have also been performed, such as replacement of the original door, boarding up of transoms and sidelights, installation of security bars over windows, and installation of a rooftop satellite dish. These modifications, in aggregate, significantly compromise its integrity of design, workmanship, and materials. Therefore, the Silver Dollar Café and Tavern is not eligible for historic listing for its architecture.

The duplex on Watkins Street is a common example of Minimal Traditional architecture, the most popular style for inexpensive houses and small multi-family buildings when it was constructed. It lacks architectural distinction and is therefore not eligible for historic listing for its architecture.

The garage, shed, and two accessory residential buildings are ancillary buildings that lack decorative or aesthetic qualities and are not eligible for historic listing for their architecture.

To sum up, none of the buildings on the property embodies the distinctive characteristics of a type, period, or method of construction, represents the work of a master, possesses high artistic values, or is a valuable example of the use of indigenous materials or craftsmanship. Nor do any of the buildings embody elements of architectural design, detail materials or craftsmanship that represents a significant structural or architectural achievement or innovation. Therefore, none of the elements of the Santos Family Property qualifies for historic listing at any level for their architecture or design.

Criterion D/4: The Santos Family Property is not a likely source of information about history or prehistory, and is therefore not eligible to the NRHP under Criterion D or the CRHR under Criterion 4.

Union City LHP Criterion B: None of the buildings on Santos Family Property can be considered rare in Union City, the region, state, or nation. As stated above, the house and duplex on the property were types of dwellings commonly constructed during the twentieth century. There are many examples of these building types and architectural styles throughout the region. The Silver Dollar is an example of a utilitarian commercial building from the 1930s, and lacks strong distinguishing aesthetic or design characteristics. As such it does not qualify as one of a few remaining examples of an architectural or historical type. The ancillary buildings on the parcel are also utilitarian in style and as such do not qualify as rare. Therefore the property is not eligible for local listing under LHP Criterion B.

Historic District Evaluation: A district derives its importance from being a unified entity (even though they are frequently composed of a wide variety of resources). A district must possess significance, as well as being an identifiable entity, to qualify for historic listing. It must be important for historical, architectural, archeological, engineering, or cultural values. Therefore, districts that are significant under the NRHP criteria will usually meet the last portion of Criterion C (represent a significant and distinguishable entity whose components may lack individual distinction) in addition to another criterion. The Santos Family Property does not meet this standard because although it is a distinguishable entity, it lacks the historical or architectural significance required for listing as a historic district. Therefore the property is not eligible for listing as a historic district at any level. None of the buildings on the Santos Family Property are eligible for historic listing either individually or as a historic district. Therefore, the property has been assigned a historic resource status code of 6Z and does not qualify as a historic resource.

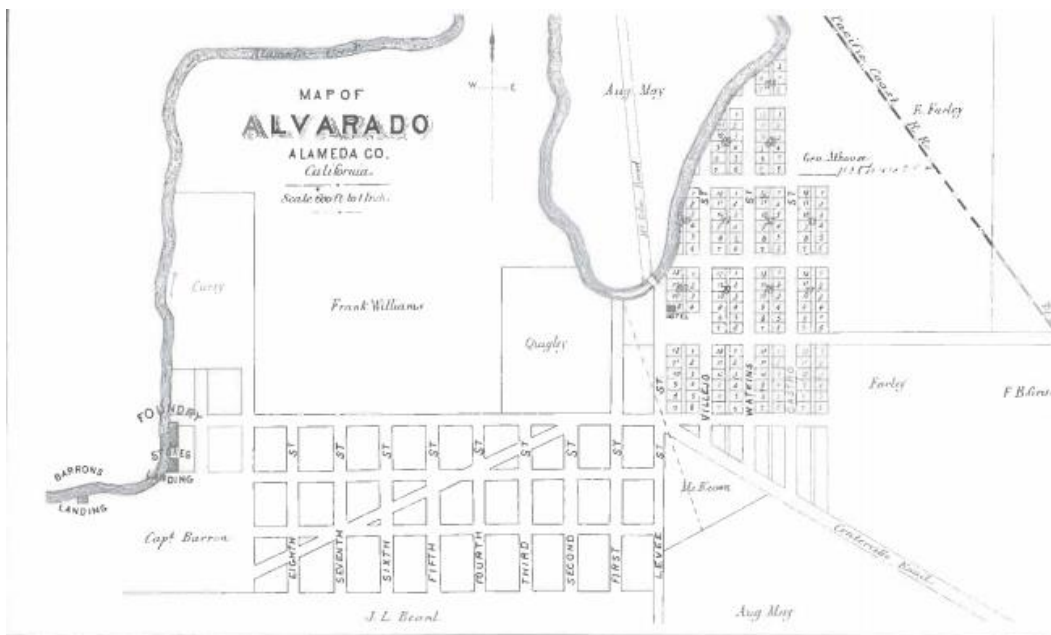


Figure 2: Map of Alvarado, 1878.

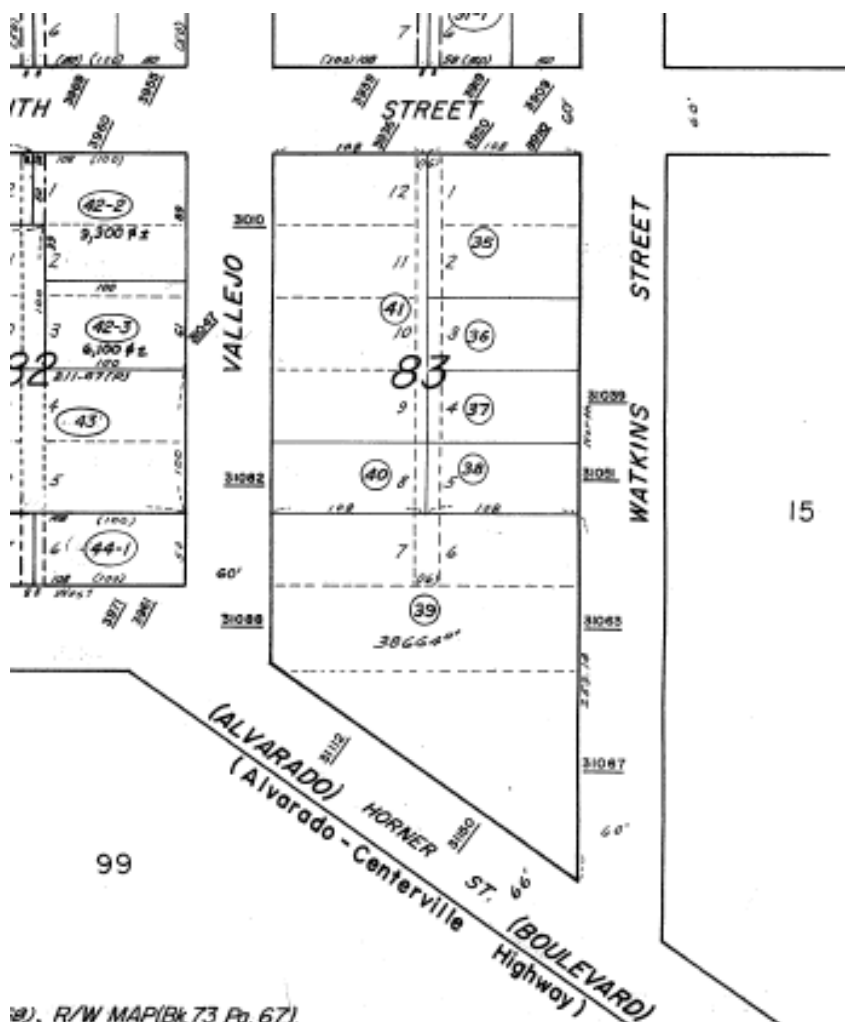
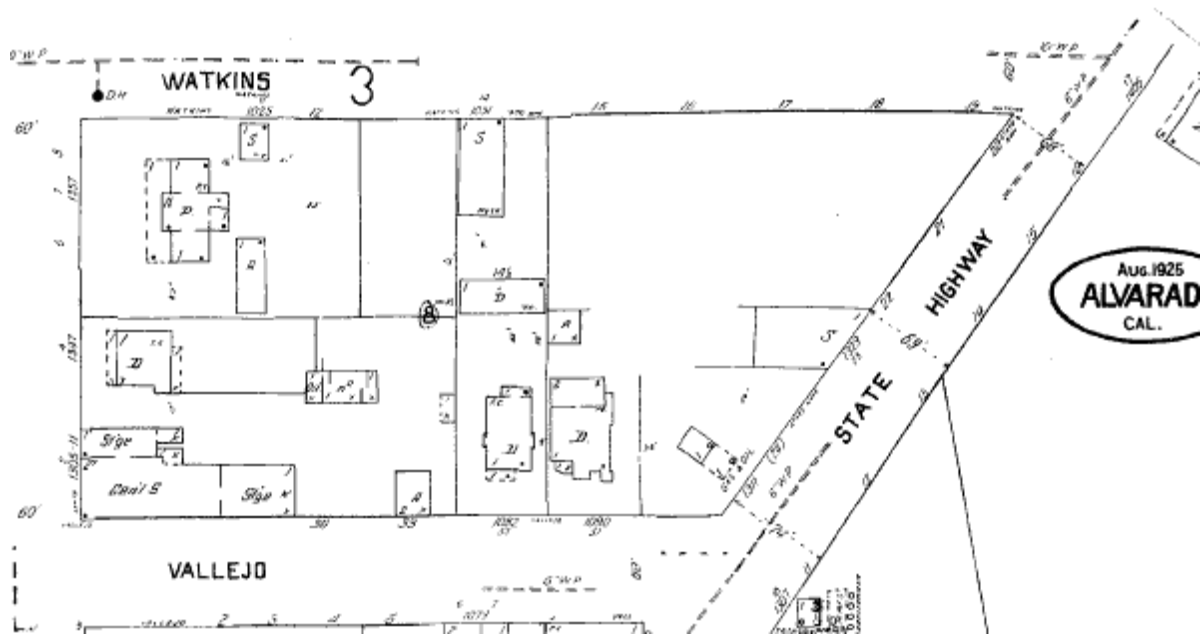




Figure 5: Silver Dollar neon sign, (no longer installed on building), Michael Campbell, 2009



Figure 6: Alvina Santos, 1938.



Figure 7: Winifred Santos as drum majorette, 1940.



Figure 8: Winifred Santos, 1941.



Figure 9: Alvinia Brune, Mary Davilla, David Brune, and Mae Santos, Oakland Tribune, 27 Dec 1941.

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Primary # _____

HRI # _____

Trinomial _____

NRHP Status Code _____

Other Listings _____

Review Code _____ Reviewer _____ Date _____

Page 1 of 4

*Resource Name or # (Assigned by recorder) 31088 Vallejo Street

P1. Other Identifier: 31088 Vallejo Street

***P2. Location:** ☐ Not for Publication ☒ Unrestricted

***a. County** Alameda

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad** Newark **Date** 2015 T; **R** _____; **¼ of Sec** _____; **B.M.** _____

c. Address 31088 Vallejo Street **City** Union City **Zip** 94587

d. UTM: (give more than one for large and/or linear resources) **Zone** 10; 581250.06 mE/ 4161354.80 mN

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate) Assessor Parcel Number 483-10-39

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

There are five buildings associated with this address. They are part of a larger property that was developed by the Santos Family during the first half of the twentieth century.

1. The Santos House, a Tudor-style house that fronts onto Vallejo Street, is its primary building (photos 1 – 6). Its front yard is enclosed by a low brick wall, and it has a long driveway south of the house. The building features a modified rectangular plan and steeply pitched cross-gabled composition shingle roof. Cladding is stucco. Fenestration consists of picture windows on the main façade and a combination of double-hung wood sash, steel casement, and vinyl replacement windows at side and rear elevations. Its main entrance is recessed in the north end of the primary (west) façade (photo 3). An uncovered entry porch with concrete steps and landing leads to the door, which is arched and sheltered by a shallow front-gabled partial width porch. A chimney at the center of the main facade has a decorative faux masonry element executed in stucco and there is an arched picture window in a slightly projecting volume adjacent to the chimney (photo 4). A covered porch on the south façade adjacent to the driveway has been enclosed, and is partially clad in brick (photo 5). The house is split-level, with a two-story hipped-roof addition at the rear (continued page 2).

***P3b. Resource Attributes:** (List attributes and codes) HP2: Single family property

***P4. Resources Present:** ☒ Building ☐ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)



P5b. Description of Photo: (View, date, accession #) Photograph 1: Main house, west (main) and south elevations, camera facing northeast, photograph taken August 3, 2016.

***P6. Date Constructed/Age and Sources:**

☒ Historic ☐ Prehistoric ☐ Both

c1929, Alameda County Building Record

***P7. Owner and Address:**

Jing Jiang

31063 Watkins Street

Union City, CA 94587

***P8. Recorded by:** (Name, affiliation, address)

Kara Brunzell

1613 B Street

Napa, California 94559

***P9. Date Recorded:** August 3, 2016

***P10. Survey Type:** (Describe) Intensive

***P11. Report Citation:** (Cite survey report and

other sources, or enter "none.") Historical Evaluation of the Santos Property, Union City, California

***Attachments:** NONE ☒ Location Map ☐ Sketch Map ☒ Continuation Sheet ☒ Building, Structure, and Object Record ☐ Archaeological Record

☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record

☐ Other (list) _____

Page 2 of 4 *Resource Name or # (Assigned by recorder) 31088 Vallejo Street

*Recorded by Kara Brunzell *Date: August 3, 2016 ☒ Continuation ☐ Update

***P3a. Description:** (continued)

The main house consists of an entry hall, living room, dining room, 3 bedrooms, "nook," bathroom, and basement laundry room. The two-story addition at the rear has its own kitchen, bedroom, and bathroom.

2. A small structure clad in wood clapboard is south of the driveway. It has shelves on its exterior walls. Heavily overgrown with vegetation, it has no visible fenestration or entrances (see photo 7).

3. A single garage with gabled roof and stucco cladding is located behind the main house. A metal roll-up garage door and a wooden entry door are on its south elevation. It is connected at the east to an ancillary housing unit (see photos 8 and 9).

4. The ancillary housing behind the garage is referred to on the Residential Building Record as "rumpus room A and addition". The original rumpus room is to the north, and its shed roof slopes downward to meet the shed roof of the addition, which slopes in the opposite direction, giving the building a butterfly roof. The addition is clad in plywood, while the original section is brick at the east elevation (other elevations are attached to nearby buildings). The rumpus room is slightly wider than the garage, just enough to create room for a wooden door on its west elevation (photo 8). Its south elevation is lined with large fixed multiple light windows, and there is a secondary entrance at its east end fitted with a partially glazed door (photos 9 and 10).

5. Rumpus room b, also used as ancillary housing, is located directly to the south of rumpus room a. It is partially covered by vegetation. The south wall is formed by the fence along the backyard of the duplex on the other side of the property. Its shed roof corrugated metal (photos 10 – 13). There is a prefabricated metal garden shed in the yard between the rumpus rooms (photo 10).

Page 3 of 4 *Resource Name or # (Assigned by recorder) 31088 Vallejo Street

*Recorded by Kara Brunzell

*Date: August 3, 2016 ☒ Continuation ☐ Update



Photograph 2: Main house, north and west elevations, camera facing southeast, August 3, 2016.



Photograph 3: Main house, west elevation, camera facing east, August 3, 2016.



Photograph 4: Main house, west elevation, camera facing east, August 3, 2016.



Photograph 5: Main house, south elevation, camera facing northeast, August 3, 2016.



Photograph 6: Main house, south and east elevations, camera facing northwest, August 3, 2016.



Photograph 7: Shed, north and west elevations, camera facing southeast, August 3, 2016.

Page 4 of 4 *Resource Name or # (Assigned by recorder) 31088 Vallejo Street

*Recorded by Kara Brunzell *Date: August 3, 2016 ☒ Continuation ☐ Update



Photograph 8: Garage and rumpus room A, west and south elevations, camera facing northeast, August 3, 2016.



Photograph 9: Garage and rumpus room A, west and south elevations, camera facing northeast, August 3, 2016.



Photograph 10: Rumpus rooms A and B, south and east elevations, camera facing northwest, August 3, 2016.



Photograph 11: Rumpus room B, north elevation, camera facing southeast, August 3, 2016.



Photograph 12: Rumpus room B, south elevation, camera facing northeast, August 3, 2016.



Photograph 13: Rumpus Room B: South and east elevations, camera facing northwest, August 3, 2016.

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PRIMARY RECORD

Primary # _____

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Trinomial _____

NRHP Status Code _____

Other Listings _____

Review Code _____ Reviewer _____ Date _____

Page 1 of 2

*Resource Name or # (Assigned by recorder) 31063 and 31067 Watkins Street

P1. Other Identifier: 31063 and 31067 Watkins Street

***P2. Location:** ☐ Not for Publication ☒ Unrestricted

***a. County** Alameda

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad** Newark **Date** 2015 T; **R** _____; **¼ of Sec** _____; **B.M.** _____

c. Address 31063 and 31067 Watkins Street **City** Union City **Zip** 94587

d. UTM: (give more than one for large and/or linear resources) **Zone** 10; **581291.97 mE/** 4161348.55 mN

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate) Assessor Parcel Number 483-10-39

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

31063 and 31067 Watkins Street are part of a larger property that was developed by the Santos Family during the first half of the twentieth century. The Minimal Traditional duplex is cross-gabled with a composition shingle roof. Rectangular in plan, its primary façade is at the east. Cladding is stucco at the south and east (primary) with horizontal board siding at the west (rear) and north facades. Fenestration consists of a combination of horizontal and vertical aluminum sliders, vinyl replacement windows, and occasional original double-hung wood sash. The two units are mirrored with single garages at the center of the building, each with a wooden garage door. Primary entrances are located in projecting front-gabled volumes with partial-width entry porches, each supported by a single square wooden post. The duplex rests on a concrete location. Each unit consists of a kitchen, living room, single bedroom, and bathroom, and has a low brick wall enclosing its front yard. A 5' tall board fence screens the duplex from the vacant portion of the lot to the south. Similar lower fences are between the units and separate the duplex from the house at 31088 Vallejo Street.

***P3b. Resource Attributes:** (List attributes and codes) HP3: Multiple family property

***P4. Resources Present:** ☒ Building ☐ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)



P5b. Description of Photo: (View, date, accession #) Photograph 1: East (main) and north elevations, camera facing southwest, photograph taken August 3, 2016.

***P6. Date Constructed/Age and Sources:**

☒ Historic ☐ Prehistoric ☐ Both

c1945, Sanborn Maps and aerial photographs

***P7. Owner and Address:**

Jing Jiang

31063 Watkins Street

Union City, CA 94587

***P8. Recorded by:** (Name, affiliation, address)

Kara Brunzell

1613 B Street

Napa, California 94559

***P9. Date Recorded:** August 3, 2016

***P10. Survey Type:** (Describe) Intensive

***P11. Report Citation:** (Cite survey report and

other sources, or enter "none.") Historical Evaluation of the Santos Property, Union City, California

***Attachments:** ☐ NONE ☒ Location Map ☐ Sketch Map ☒ Continuation Sheet ☒ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other (list) _____

Page 2 of 2 *Resource Name or # (Assigned by recorder) 31063 and 31067 Watkins Street
*Recorded by Kara Brunzell *Date: August 3, 2016 ☒ Continuation ☐ Update



Photograph 2: West and south elevations, camera facing northeast, August 3, 2016.



Photograph 2: South and east elevations, camera facing northwest, August 3, 2016.



Photograph 3: East elevation, camera facing west, August 3, 2016.



Photograph 4: East and north elevations, camera facing southwest, August 3, 2016.

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DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary # _____

HRI # _____

Trinomial _____

NRHP Status Code _____

Other Listings _____

Review Code _____ Reviewer _____ Date _____

Page 1 of 2

*Resource Name or # (Assigned by recorder) Silver Dollar Café and Tavern

P1. Other Identifier: Silver Dollar Café and Tavern

***P2. Location:** ☐ Not for Publication ☒ Unrestricted

***a. County** Alameda

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad** Newark **Date** 2015 T; **R** _____; **¼ of Sec** _____; **B.M.** _____

c. Address 31150 Horner Street City Union City Zip 94587

d. UTM: (give more than one for large and/or linear resources) **Zone** 10; 581265.35 mE/ 4161316.55 mN

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate) Assessor Parcel Number 483-10-39

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

The Silver Dollar Café and Tavern is a commercial building with a flat roof and an unusual trapezoidal plan that conforms to Horner Street (Alvarado Boulevard). Its main façade is on the southwest. It is clad in stucco except for its rear (north) elevation, which is horizontal wood siding. Hexagonal mirrored windows are fitted with metal security grates, and the front door is recessed slightly. The wood panel door was originally topped by a transom and flanked by slanting sidelights, but all have been boarded up. Its only decorative features are metal molding on the west and southwest elevations above the windows and simple coping at the roofline parapet. There is a small backyard enclosed with a tall wooden fence. The original Silver Dollar neon sign above the door has been removed, as has a second neon sign dating from the bar's first decade of operation. Its upper walls are painted with the words "Silver Dollar" and "cocktails" in large decorative script, as well as images of cocktail glasses.

***P3b. Resource Attributes:** (List attributes and codes) HP6: 1-3 story commercial building

***P4. Resources Present:** ☒ Building ☐ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)



P5b. Description of Photo: (View, date, accession #) Photograph 1: Southwest (main) and west elevations, camera facing east, photograph taken August 3, 2016.

***P6. Date Constructed/Age and Sources:**

☒ Historic ☐ Prehistoric ☐ Both

1937, Alameda County Building Record

***P7. Owner and Address:**

Jing Jiang

31063 Watkins Street

Union City, CA 94587

***P8. Recorded by:** (Name, affiliation, address)

Kara Brunzell

1613 B Street

Napa, California 94559

***P9. Date Recorded:** August 3, 2016

***P10. Survey Type:** (Describe) Intensive

***P11. Report Citation:** (Cite survey report and

other sources, or enter "none.") Historical Evaluation of the Santos Property, Union City, California

***Attachments:** ☐ NONE ☒ Location Map ☐ Sketch Map ☒ Continuation Sheet ☒ Building, Structure, and Object Record ☐ Archaeological Record

☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record

☐ Other (list) _____

Page 2 of 2 *Resource Name or # (Assigned by recorder) Silver Dollar Café and Tavern

*Recorded by Kara Brunzell

*Date: August 3, 2016 ☒ Continuation ☐ Update



Photograph 2: West and southwest elevations, camera facing northeast, August 3, 2016.



Photograph 3: Southwest and east elevations, camera facing northwest, August 3, 2016.



Photograph 4: Detail, east elevation, camera facing northwest, August 3, 2016.



Photograph 5: East and north elevations, camera facing west, August 3, 2016.



Photograph 6: East and north elevations, camera facing southwest, August 3, 2016.

APPENDIX D

GEOTECHNICAL INVESTIGATION



Project No. 3880
26 June 2017

Mohammad Shaiq
Real Estate Development Group
325 Walnut Avenue
Fremont, California

Subject: **GEOTECHNICAL INVESTIGATION**
Proposed 3-Story Townhouses and Condominium
APN:483-0010-039
31063 Watkins Street
Union City, California

- References:
1. Guidelines for Evaluating and Mitigating Seismic Hazards in California
Special Publication 117A, Division of Mines and Geology, 2008
 2. Recommendation Procedures for Implementation of
DMG Special Publication 117, Guidelines for Analyzing
Landslide Hazards in California
By ASCE Los Angeles Section Geotechnical Group
Dated June 2002
 3. Seismic Hazard Zone Report 090 for the Newark 7.5 Minute Quadrangle,
Alameda County, California, 2003

Dear Mr. Shaiq:

In accordance with your authorization, **Wayne Ting & Associates, Inc. (WTAI)** has completed a geotechnical investigation for the proposed development at the subject site. The purpose of this study was to investigate the site conditions and to obtain geotechnical data for use in the design and construction of the proposed development. The scope of this investigation included the following:

- a. Site and area reconnaissance by the Project Engineer.
- b. Three Cone Penetration Tests (CPT) to 45 feet were performed by Middle Earth Geo Testing Inc. and one boring to 45 feet using drilling truck
- c. Surface soil sampling and laboratory testing of selected soil samples.
- d. Analysis of soil samples and information obtained.
- e. Preparation and writing of this report which presents our findings, conclusions, and recommendations.

Our findings indicate that the proposed development is feasible from a geotechnical engineering standpoint provided the recommendations in this report are carefully followed.

SITE LOCATION AND DESCRIPTION

The subject lot is vacant and relatively flat is covered with asphaltic pavements. It is located at 31063 Watkins Street, Union City, with Horner Street as the closet cross street. It is bounded to the west by Watkins Street, north by a vacant lot, west by commercial building and the south by Horner Street.

PLANNED DEVELOPMENT

We anticipate that the proposed development will be 3-story townhouses and 2 retail stores which will utilize wood frame construction. Light to moderate building loads are typically associated with this type of construction.

FIELD INVESTIGATION

WTAI conducted the field investigation on 14 and 15 of June 2017. The field investigation consisted of a site reconnaissance by the Project Engineer and an excavation of one exploratory boring to 45.0 feet below the existing ground surface. The boring was excavated using a truck mounted drill-rig with 6.0-inch hollow-stem auger. An additional three 45-foot CPTs were also performed by Middle Earth Geo Testing Inc.

Soils encountered during the excavation operations were continuously logged in the field. Relatively undisturbed samples were obtained by dynamically driving 18 inches using a 3.0-inch outside diameter Modified California Sampler with a 140-pound hammer free falling 30 inches. Blow counts were recorded for every 6-inch penetration interval, and reported corresponding to the last 12 inches of penetration. These samples were then sealed and returned to the laboratory for testing. The classifications, descriptions, natural moisture contents, dry densities and depths from which the samples were obtained, are shown in the Boring Log, Figure 2 of Appendix A. CPT logs are also provided in Appendix A.

LABORATORY TESTING

CLASSIFICATION

The field classifications of the samples were visually verified in the laboratory in accordance with the Unified Soil Classification System.

MOISTURE-DENSITY

The natural moisture contents and/or dry weights were determined for selected samples obtained during our field investigation. The data are presented in the aforementioned Boring Log.

ATTERBERG LIMITS

The Atterberg Limits Test was determined for the selected soil sample to classify, as well as to obtain an indication of the expansion and shrinkage potential with respect to moisture content variations. The test results are summarized as follows:

<i>Sample</i>	<i>Depth</i>	<i>Classification</i>	<i>Liquid Limit</i>	<i>Plasticity Index</i>
1-1	6 feet	Medium brown silty clay	32%	13
1-2	11 feet	Medium brown silty clay	30%	12

The Atterberg Limits tests indicate that a representative sample of the soil is of low plasticity. The expansion potentials for these soils are thus low.

SUBSURFACE SOIL CONDITIONS

The following soil descriptions were derived from our site reconnaissance and the information obtained from our boring and CPTs'. Detailed description of the materials encountered are presented in the boring and CPTs logs.

Boring 1 encountered 4 feet of brown silty to gravelly sand followed by medium brown silty clay, soft and very moist to saturated, to the maximum explored depth 45 feet below the ground surface.

Based on our CPT 1 sounding, subsurface soil consisted mostly of silty clay to clayey silt (soil behavior types) to the maximum depth explored of 45.0 feet below the existing ground surface (BGS). Lenses and layers of sandy silty to silty sand lie intermittently in between from 0 to 45 feet. For specific thickness and location of the layers and lenses, refer to CPT 1 in Appendix A for more information.

Based on our CPT 2 sounding, subsurface soil consisted mostly of silty clay to clayey silt (soil behavior types) to the maximum depth explored of 45.0 feet below the existing ground surface (BGS). Lenses and layers of sandy silty to silty sand lie intermittently in between from 0 to 3 feet, 3.5 to 6.5 feet, 8 to 17 feet, 18 to 18.5 feet, 22.5 to 23.5 feet, and at 28 to 30 feet.

Based on our CPT 3 sounding, subsurface soil consisted mostly of silty clay to clayey silt (soil behavior types) to the maximum depth explored of 45.0 feet below the existing ground surface (BGS). Lenses of sandy silty to silty sand lie intermittently in between from 0 to 45 feet, with 2 thick layers at 0 to 2.5 feet and at 42 to 45 feet. For specific thickness and location of the lenses, refer to CPT 3 in Appendix A for more information.

Groundwater was encountered at 8.0 feet below the ground surface at the time of the field study in the boring log and at 5 feet during the CPT tests. However, according to the ground water data presented on Plate 1.2 of Reference 3, the historic ground water may be approximately 3.0 feet below the ground surface. It is noted that fluctuations in the groundwater table are anticipated to vary with respect to seasonal rainfall. Ground water at 3.0 feet will be used for the following liquefaction analysis.

QUANTITATIVE LIQUEFACTION ANALYSIS USING CPT

Soil liquefaction is a phenomenon in which saturated (submerged) cohesionless soils can be subjected to a temporary loss of strength due to the buildup pore water pressures, especially as a result of cyclic loadings such as induced by earthquakes. In the process, the soil acquires a mobility sufficient to permit both horizontal and vertical deformations, if not confined. Soils that are most susceptible to liquefaction are clean, loose, saturated, uniformly graded, fine sands.

Our liquefaction analysis followed the methods presented by the 1998 NCEER Workshops (Youd et al., 2001) in accordance with guidelines set forth in the CGS Special Publication 117A (2008). The NCEER methods for CPT analysis update simplified procedures presented by Seed and Idriss (1971). These methods are used to calculate a factor of safety against liquefaction triggering by comparing the resistance of the soil to cyclic shaking to the seismic demand that can be caused during seismic events.

The resistance to cyclic shaking is quantified by the Cyclic Resistance Ratio (CRR), which is a function of soil density, layer depth, ground water depth, earthquake magnitude, and soil behavior. Our CPT tip pressures were corrected for the overburden and fine content. The CPT method utilizes the soil behavior type index (I_c) and the exponential factor, n , applied to the Normalized Cone Resistance, Q , to evaluate how plastic the soil behaves. The Cyclic Stress Ratio (CSR) is used to quantify the stresses that are anticipated to develop during cyclic shaking. The formula for CSR is shown below:

$$CSR = 0.65 (a_{max}/g)(s_{vo}/s'_{vo})r_d$$

Where a_{max} is the peak horizontal acceleration at the ground surface generated by an earthquake, g , is the acceleration of gravity, s_{vo} and s'_{vo} are total and effective overburden stresses, respectively, and r_d is a stress reduction coefficient. We evaluated the liquefaction potential of the sand strata encountered below the assumed ground water depth. Ground water depth of 5 feet was encountered during CPTs' exploration operation. It is noted that according to Plate 1.2 of Reference 3, the depth to historic high ground water at the site is reportedly to be on the order of 3.0 feet. In addition, a peak ground acceleration, PGAm, of 0.665g from USGS (PSHA, 2% exceedance in 50 years) and magnitudes of 7.9 were obtained from Reference 3 for analysis.

The factor of safety (FS) against liquefaction can be expressed as the ratio of the CRR to CSR. $FS = CRR/CSR$. If the FS for a soil layer is less than 1.0, the soil layer is considered liquefiable during

a moderate to a large seismic event. If $CRR/0.665 (1.0a_{max}/g)(s_{vo}/s_{vo})r_d$ is 1.0 or larger, the soil layer can be considered to non-liquefiable.

We analyze the site liquefaction potential utilizing a computer program call GeoSuite by GeoAdvanced; this program is based on the most recent publications of NCEER Workshop and procedure outline in SP117A Implementation.

Based on our analysis using Idriss & Boulanger (2008) and the factor of safety 1.0, the settlement results of the liquefaction analysis are presented in following Table 1 and in Appendix A.

TABLE 1

<i>CPT Boring No.</i>	<i>Ground Water Depth</i>	<i>Dry Settlement (inches)</i>	<i>Saturated Settlement (inches)</i>	<i>Total Settlement (inches)</i>	<i>Differential Settlement</i>
1	3.0 feet	0.0	3.04	3.04	1.52
2	3.0 feet	0.0	7.05	7.05	3.53
3	3.0 feet	0.0	1.94	1.94	0.97

Total Settlement: Saturated settlement plus dry settlement

Estimates of volumetric change for dry settlement were made by Yi (2010). Estimates of volumetric change for saturated settlement were made by Idriss & Boulanger (2008). As discussed in the Southern California Earthquake Center report (SCEC, 1999), differential movement for level ground, deep soil sites, will be on the order of half the total estimated settlement

LIQUEFACTION MITIGATION

Liquefaction mitigation measures generally falls into two categories. The first approach is to combine ground improvement with shallow foundation. Ground improvement using compaction grouting is considered feasible for the soil type and depth of improvement. Compaction grouting involves the use of low slumps, motar-type grout pumped under pressure to densify loose soils by displacement. Compaction grouting pipes are typically installed by drilling or driving steel pipes of 2-inch or more in diameter at 5 feet maximum center to center spacings. Then, cement grout is injected with pressures generally ranging from 100 to 300 pounds per square inch (PSI). Once the loose sand deposit is densified, shallow footing foundation can be constructed to support the structures.

Prior to the grading operation, we recommend that the soils between 5.0 feet and 20.0 feet below the existing ground surface under the entire townhouse building and southeast retail building areas and extending 5.0 feet from the building perimeter (if possible) should be mitigated by compaction grouting. At entire retail building located at southwest of the site, we recommend that the soils between 18.0 feet and 33.0 feet below the existing ground surface be grouted. It is noted that due to pressure of compaction grouting, the upper 5 feet of soil may not properly be treated.

It is recommended that before the entire site be mitigated with compaction grouting, a localized area should be set aside to test the performance of compaction grouting. The test area should be near to CPT 2. The test area should be a minimum of 3 by 3 injection points and extend down to 20 feet below existing ground surfaces. Spacing of the injection points should be 5 feet by 5 feet maximum. After the test area has been grouted, a Cone Penetration Test (CPT) or Standard Penetration Test (SPT) will need to be performed at the center of the test area for verification regarding the density of underlaying soil as well as to analyze the magnitude of liquefaction-induced settlement after mitigation. If the testing should fail, additional grouting may be needed and another round of testing will be performed. If compaction grouting does not mitigate liquefaction settlement, further recommendation will be provided at that time, such as drill displace piers.

SEISMIC CONSIDERATIONS

According to the published maps by International Conference of Building Officials (I.C.B.O.), in February 1998, the controlling nearest active fault to the subject site is the Hayward Fault which is located approximately 5.5 kilometers to the northeast. Therefore, the potential for surface fault trace rupture is considered to be negligible.

CALIFORNIA BUILDING CODE SITE CHARACTERIZATION

The following design values are base on the geologic information, longitude and latitude of the site, and the USGS computer program. Furthermore, in according with Chapter 16 of the 2016 California Building Code (CBC), the site seismic design values are provided as follow:

<u>CBC Category/Coefficient</u>	<u>2010 ASCE 7 (with March 2013 errata)</u>	<u>Design Value</u>
Short-Period MCE at 0.2s, S_s		1.723
1.0s Period MCE, S_1		0.682
Soil Profile Type, Site Class		D
$S_{MS} = F_a \times S_s$ Spectral Response Accelerations		1.723
$S_{M1} = F_v \times S_1$ Spectral Response Accelerations		1.024
$S_{DS} = 2/3 \times S_{MS}$ Design Spectral Response Accelerations		1.148
$S_{D1} = 2/3 \times S_{M1}$ Design Spectral Response Accelerations		0.682
** Latitude: 37.59596 Longitude: -122.07893		

DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

1. Based on the results of our investigation, WTAI concludes that the subject site is geotechnically suitable for the proposed development. The proposed building can be constructed provided the recommendations presented in this report are incorporated into the project plans and specifications.
2. It is recommended that WTAI should review the foundation plans and specifications so that comments can be made regarding the interpretation and implementation of our geotechnical recommendations in the design and specifications.
3. It is further recommended that WTAI be retained for testing and observation during grading and foundation construction phases to help determine that the design requirements are fulfilled. Our firm should be notified at least two working days prior to grading and/or foundation operations on the property. Any work related to the grading and/or foundation operations performed without the direct observation of WTAI will invalidate the recommendations of this report.
4. The recommendations given in this report are applicable only for the design of the previously described structure and only at the location indicated on the site plan. They should not be used for any other purpose.

SITE PREPARATION AND GRADING

5. Prior to grading, the existing pavement should be removed. The proposed structure and driveway areas should be cleared of all obstructions and deleterious materials, including stripping of all organic topsoil. It is estimated that stripping depths of 4 to 6 inches may be necessary. The predominantly organic material from the stripping should be removed from the site.
6. After clearing, the proposed building pad and driveway areas can be graded. In addition, due to on site loose silty sand to sandy silt, the upper 4 feet should be over-excavated and extending a minimum 5 feet offset (if applicable).
7. After completion of the overexcavation, the top 10 inches of exposed ground should be watered or aerated as necessary to bring the soils to a moisture content 2.0 percent above the optimum moisture amount. The subgrade should then be recompact to a minimum degree of relative compaction of 90 percent of the maximum dry density as determined by ASTM D1557 latest version Laboratory Test Procedure.
8. Following the recompaction of the native subgrade soils, the site may be filled to the desired finished grade using baserock or suitable on-site soil consisting mainly of sandy silt to silty sand as determined by WTAI in the field. All fills should be placed in lifts not exceeding 8 inches in uncompacted thickness and compacted to the above requirements.
9. Should select import material be used to establish the proper grading for the proposed development, the import material should (a) be free of organic material; (b) have a Plasticity Index

between four (4) and twelve (12); (c) be no more than 15% passing the No. 200 Sieve; and (d) not contain rocks or lumps over 6 inches in greatest dimension. The import fill should be approved by WTAI before it is transported to the site. This fill should be placed in lifts not exceeding 8 inches in uncompacted thickness and should be compacted to a minimum relative compaction of 90 percent, at 2% above optimum moisture content. Each layer shall be spread evenly and thoroughly and shall be bladed mixed to provide uniformity of the soil in each layer. Compaction of each layer shall be continuous over the entire fill area and continued until the required density is obtained.

FOUNDATION RECOMMENDATIONS

10. After the completion of compaction grouting, the proposed townhouse and retail buildings can satisfactorily be supported on a mat slab foundation system provided that the site is prepared as previously recommended.

11. The proposed structure should be supported on a mat slab. Slabs should be designed for allowable bearing pressures of 1,000 p.s.f. due to dead loads plus design live loads, with maximum localized bearing pressures of 1,500 p.s.f. at column or wall loads. Allowable bearing pressures can be increased by one-third for all loads including wind or seismic. The edges of the mat slabs should be deepened to a minimum 5.0 inches below the bottom of the proposed crushed rock. The reinforcement should be determined by the Project Structural Engineer.

12. Modulus of subgrade reaction of 40 k.c.f. may be used in the mat slab foundation design. Reinforcement should be determined by the project structural engineers. Sliding resistance between the base of the slab and the underlying soil may be taken as a friction value of 0.3.

13. After the liquefaction mitigation is completed, movements under the anticipated building loads and potential settlement from liquefaction are expected to be within tolerable limits for the proposed structure. We estimate that the total movement will be less than 2.0-inch, and post-construction differential settlements across the building should not exceed approximately 1.0-inch during the life of the building following construction.

CONCRETE SLAB-ON-GRADE

14. Concrete slabs-on-grade should be underlain by at least 4.0 inches of 3/4-inch crushed rock. A plastic membrane of 15-mil minimum thickness, serving as a vapor retarder, should be placed on top of the crushed rock. It is recommended that a better impermeable membrane of such as, Buthteme, Paraseal or equal should be used under the concrete slabs at living areas according to the instruction of the manufacture and the specification of a foundation plan. It is noted design for waterproofing is not within the purview of WTAI. Waterproofing should be designed by a professional waterproofing designer.

TRENCH BACKFILL

15. Backfilling and compaction of utility trenches must meet the requirements published by the City of Union City, Department of Public Works. All trench backfill under pavement areas must be backfilled with suitable native or imported soil and compacted to at least 95% relative compaction as determined by ASTM D1557 latest Laboratory Test Procedure. The top 12 inches of the subgrade should be compacted to at least 95%.

16. The backfill of utility trenches extending under the building and landscaping area should be properly compacted to ensure against water migration underneath the structure.

17. Specific excavation considerations are beyond the scope of this report. However, stable excavations over 5 feet deep for utility construction will require a temporary stable cut slope and/or proper shoring. Proper shoring and stable cut slope construction should be in accordance with the Occupational Safety and Health Administration (OSHA) requirements, as well as other applicable building code requirements.

PROPOSED DRIVEWAY

18. Prior to the beginning of any paving construction, the upper 10 inches of the subgrade soil should be scarified and recompact to 95% of the maximum dry density at 2% above the optimum moisture value as defined by ASTM D1557 Latest Edition Test Procedure.

19. Aggregate Base: Following compaction of subgrade, all aggregate base material should then be placed and compacted to a minimum of 95% relative compaction. Aggregate base material should conform to the requirements for Caltrans Class II Aggregate Base.

20. Pavement Sections: 3.0 asphaltic concrete and 12.0 inches of Class II baserock should be used.

21. It is noted that the above recommendations are not for the potential liquefaction settlement.

GENERAL CONSTRUCTION REQUIREMENTS

22. All finish grading must be adjusted to provide positive drainage away from the building structure to prevent ponding of water in or near the building.

23. Roof drainage should be collected by a system of gutters and downspouts and discharged by adequate piping to carry storm water away from the building structure.

24. Planted areas should be avoided immediately adjacent to the structure. If planting adjacent to the residence is desired, the use of watertight planter boxes with controlled discharge, or use of plants that require little moisture is recommended. Sprinkler systems should not be installed where they may cause ponding or saturation of foundation soils. Such ponding or saturation could result in undesirable soil swell, loss of compaction, and/or subsequent foundation and slab movement. Irrigation of landscape areas should be limited strictly to that necessary for plant growth. Excessive

irrigation could result in saturation, weakening and possible swelling of the foundation soils. The Landscape Architect and prospective owners should be informed of the grading and surface drainage requirements included in this report.

LIMITATIONS AND UNIFORMITY OF CONDITIONS

25. Our professional services, findings, and recommendations were prepared in accordance with generally accepted engineering principles and practices. No other warranty, expressed or implied, is made.

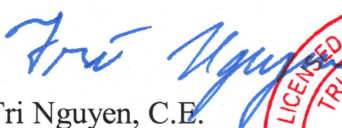
26. The conclusions and recommendations contained in this report will not be considered valid after a period of two years unless the changes are reviewed, and the conclusions of this report are modified or verified in writing.

27. This report is issued with the understanding that it is the responsibility of the owner or his representative, to ensure the information and recommendations contained in this report are brought to the attention of the architect, engineer, and contractor. In all cases, the contractor shall retain responsibility for the quality of the work and for repairing defects regardless of when they are found. It is also the responsibility of the contractor for conforming to the project plans and specifications.

Should you have any questions relating to the contents of this report, please contact our office at your convenience.

Very truly yours,

WAYNE TING & ASSOCIATES, INC.


Tri Nguyen, C.E.
Project Engineer

Copy: 1 to Mr. Shaiq

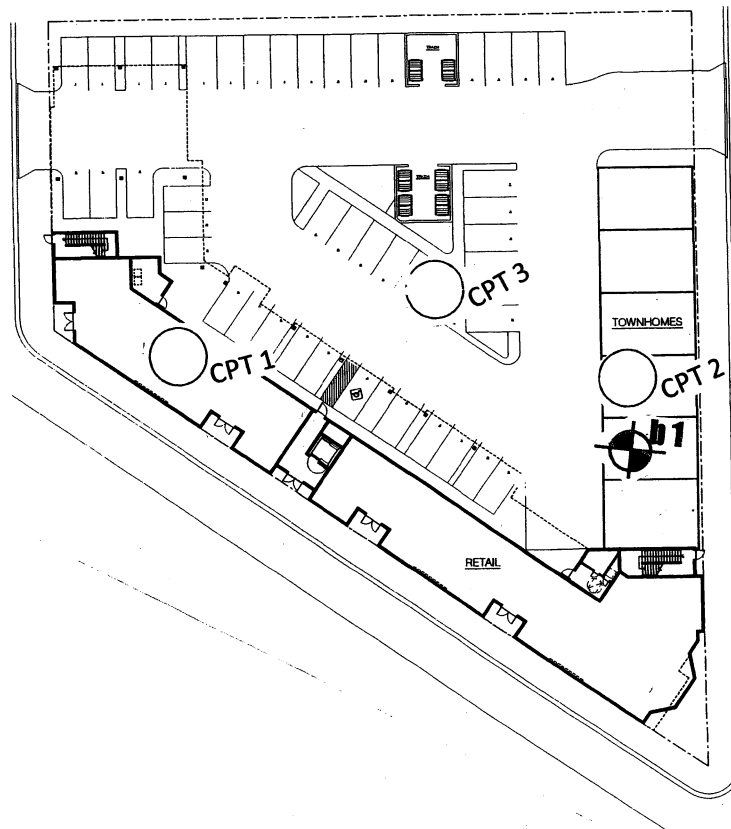


APPENDIX A

Site Plan, Figure 1

Boring Log, Figure 2

CPTs' Output




WAYNE TING & ASSOCIATES, INC.

SITE PLAN*Figure No. 1*

GEOTECHNICAL CONSULTANTS

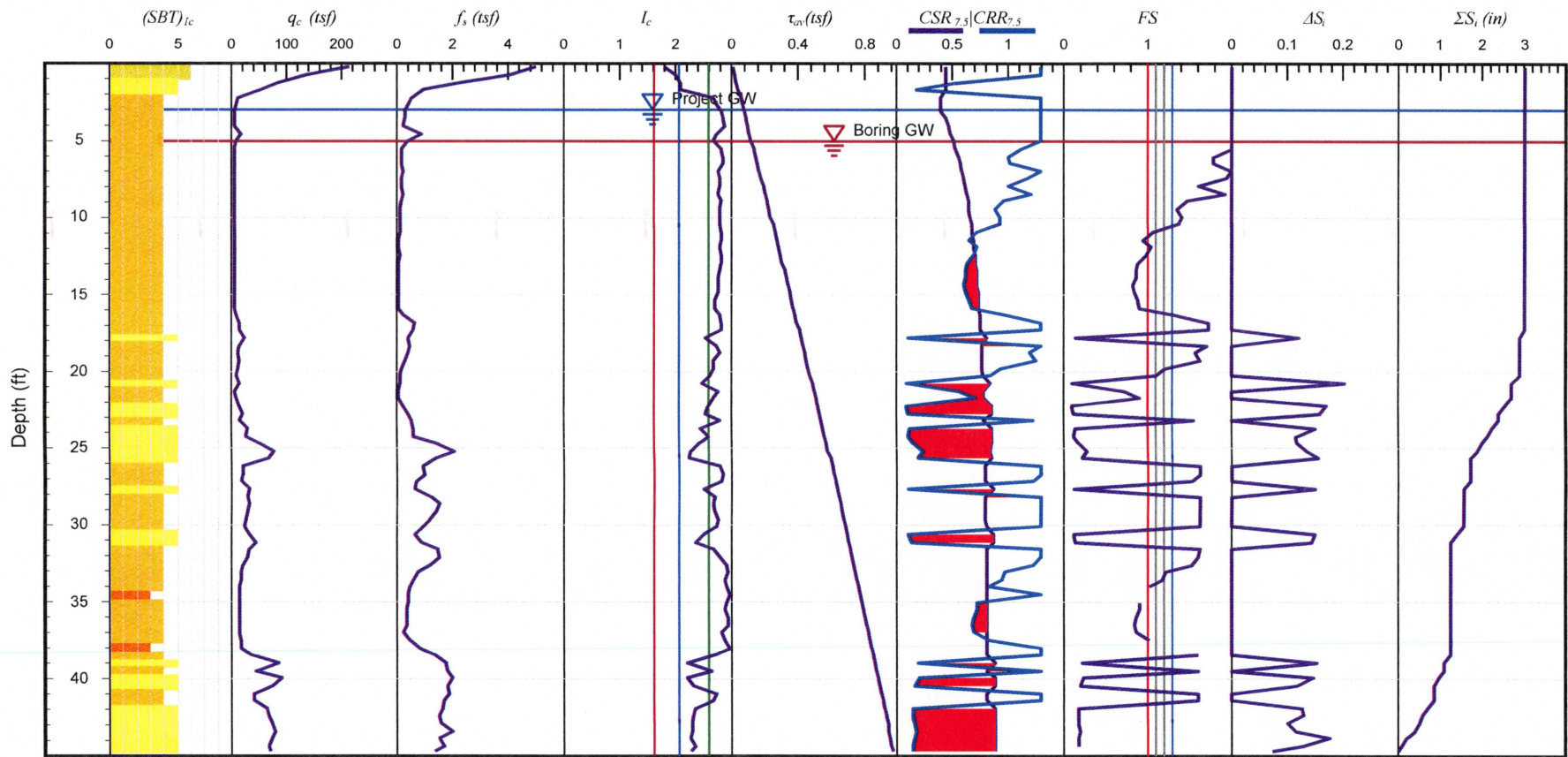
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Page No. 12

Depth (Feet)	Description	Sample No.	Unified Soil Classification	Blows/Foot (350 Ft.-Lbs)	Dry Density (P.C.F)	Moisture (% Dry Density)	Pocket Penet. (T.S.F)	Remarks
1	6-inch concrete pavement							
1	Brown silty to gravelly sand		SW					
2								
3								
4	Medium brown silty clay, soft and very moist		CL					
5								
6		1-1		6	93.1	26.4	1	LL = 32% PI = 13
7								
8	 (water at 8.0 feet)							
9								
10								
11		1-2		3	86.6	33.1	0.5	LL = 30% PI = 12 Wc/LL=33.1/30=1.10 susceptible to liquefaction
12								
13								
14								
15	becomes more clayey							
16	saturated	1-3		4	68.3	56.3	0.5	
17								
18								
19								
20	becomes more silty							
21		1-4		6	97.4	25.3	0.5	
22								
23								
24								
25								
WAYNE TING & ASSOCIATES, INC.		BORING LOG NO. 1						Figure No. 2
GEOTECHNICAL CONSULTANTS		Date Drilled: 15 June 2017 By: TB						Page No. 13

Depth (Feet)	Description	Sample No.	Unified Soil Classification	Blows/Foot (350 Ft.-Lbs)	Dry Density (P.C.F)	Moisture (% Dry Density)	Pocket Penet. (T.S.F)	Remarks	
26	Medium brown silty clay, soft and very moist becomes more clayey firm		CL						
27									
28									
29									
30									
31		1-5		22	115	17	4.5		
32									
33									
34									
35									
36									
37									
38									
39									
40									
41		1-6		11			1		63% passing Sieve No. 200
42									
43									
44									
45	Boring terminated at 45 feet. Ground water encountered at 8 feet.								
46									
47									
48									
49									
50									
WAYNE TING & ASSOCIATES, INC.		BORING LOG NO. 1 (cont')						Figure No. 2	
GEOTECHNICAL CONSULTANTS		Date Drilled: 15 June 2017 By: TB						Page No. 14	

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- Sensitive fine grained
- Organic soils - peats
- Clay to silty clay
- Silty clay to clayey silt
- Sandy silt to silty sand
- Silty sand to clean sand
- Dense sand to gravelly sand
- Clayey sand to very stiff sand

- Very stiff fine grained *
- * Overconsolidated or cemented

Earthquake & Groundwater Information:
Magnitude = 7.9
Max. Acceleration = 0.665 g
Project GW = 3 ft
Maximum Settlement = 3.04 in
Settlement at Bottom of Footing = 3.04 in

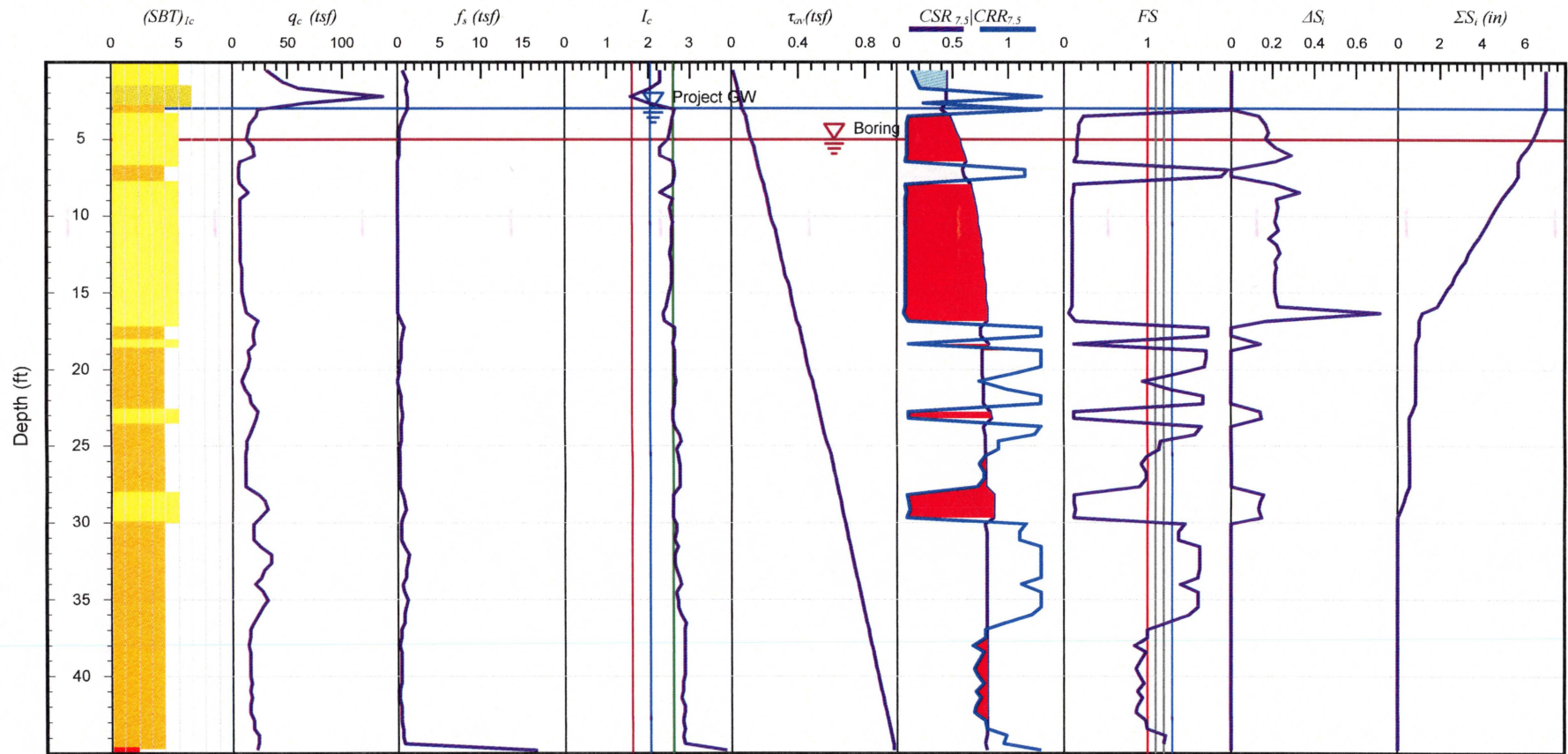
Liquefaction: Idriss & Boulanger (2008)
Settl.: [dry] Yi (2010); [sat] Idriss & Boulanger (2008)
Lateral spreading: Idriss & Boulanger (2008)
M correction: [Sand; Clay] Boulanger & Idriss(2004)
ov correction: Idriss & Boulanger (2008)
Stress reduction: Idriss & Boulanger (2008)

GeoSuite©

Liquefaction Potential - CPT Data

Project:	watkins street				
Location:	union city				
Job Number:	3880	CPT No.:	1	Enclosure:	1

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- Sensitive fine grained
- Organic soils - peats
- Clay to silty clay
- Silty clay to clayey silt
- Sandy silt to silty sand
- Silty sand to clean sand
- Dense sand to gravelly sand
- Clayey sand to very stiff sand

- Very stiff fine grained *
- * Overconsolidated or cemented

Earthquake & Groundwater Information:
Magnitude = 7.9
Max. Acceleration = 0.665 g
Project GW = 3 ft
Maximum Settlement = 7.05 in
Settlement at Bottom of Footing = 7.05 in

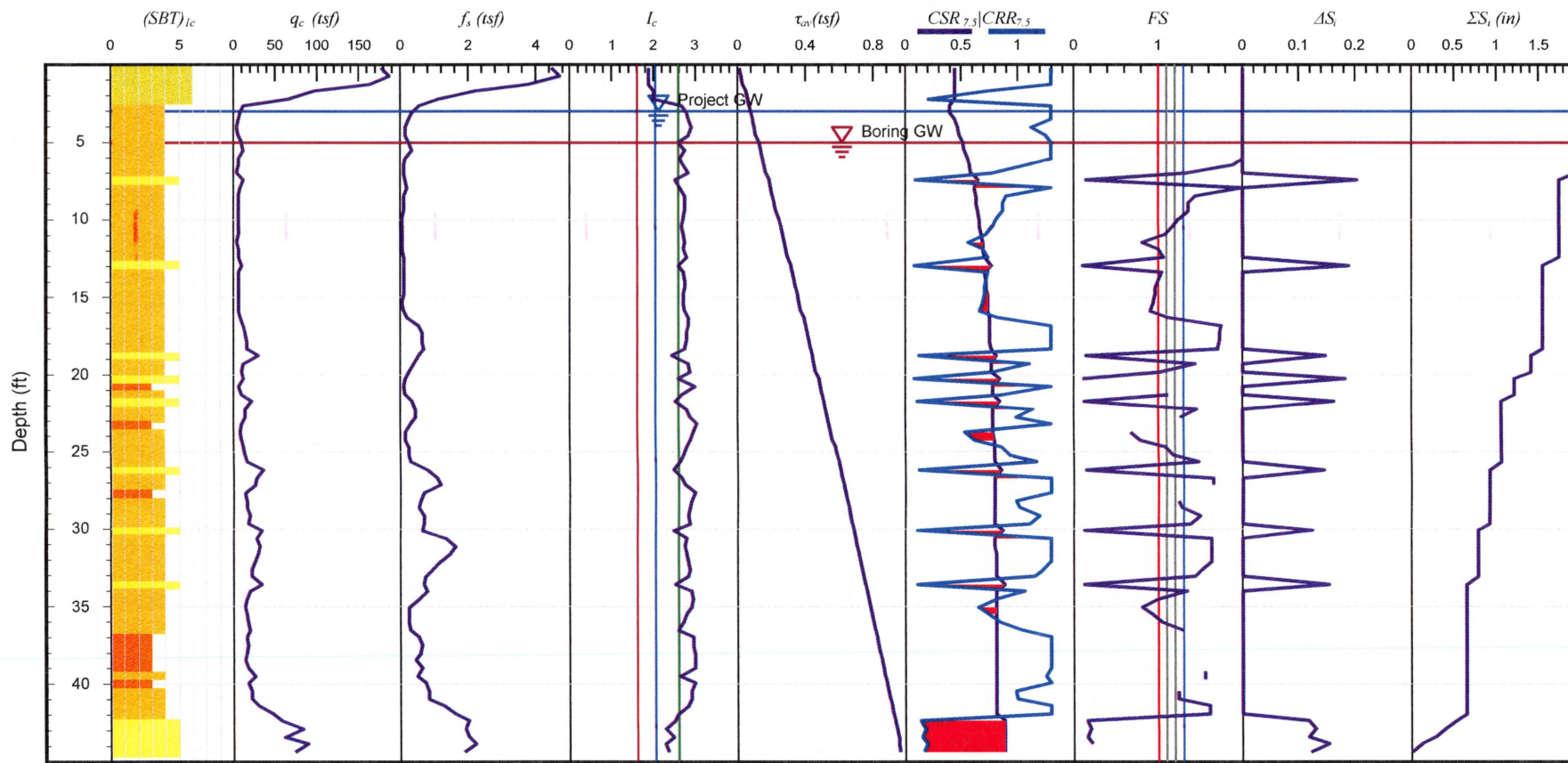
Liquefaction: Idriss & Boulanger (2008)
Settl.: [dry] Yi (2010); [sat] Idriss & Boulanger (2008)
Lateral spreading: Idriss & Boulanger (2008)
M correction: [Sand; Clay] Boulanger & Idriss(2004)
ov correction: Idriss & Boulanger (2008)
Stress reduction: Idriss & Boulanger (2008)

GeoSuite©

Liquefaction Potential - CPT Data

Project:	watkins street				
Location:	union city				
Job Number:	3880	CPT No.:	2	Enclosure:	2

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- | | |
|---------------------------------------|--|
| <div></div> Sensitive fine grained | <div></div> Sandy silt to silty sand |
| <div></div> Organic soils - peats | <div></div> Silty sand to clean sand |
| <div></div> Clay to silty clay | <div></div> Dense sand to gravelly sand |
| <div></div> Silty clay to clayey silt | <div></div> Clayey sand to very stiff sand |

- Very stiff fine grained *
- * Overconsolidated or cemented

Earthquake & Groundwater Information:
Magnitude = 7.9
Max. Acceleration = 0.665 g
Project GW = 3 ft
Maximum Settlement = 1.94 in
Settlement at Bottom of Footing = 1.94 in

Liquefaction: Idriss & Boulanger (2008)
Settl.: [dry] Yi (2010); [sat] Idriss & Boulanger (2008)
Lateral spreading: Idriss & Boulanger (2008)
M correction: [Sand; Clay] Boulanger & Idriss(2004)
 σ_v correction: Idriss & Boulanger (2008)
Stress reduction: Idriss & Boulanger (2008)

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Liquefaction Potential - CPT Data

Project:	watkins street				
Location:	union city				
Job Number:	3880	CPT No.:	3	Enclosure:	3

APPENDIX E
PHASE I ENVIRONMENTAL
SITE ASSESSMENT



PHASE1ASSESSMENTS.COM

PROVIDING ENVIRONMENTAL CONSULTING FOR YOUR BUSINESS

EXECUTIVE SUMMARY

May 20, 2018

Mr. Vakili was retained by Mr. Mohammad Shaiq of 537 Morrison Canyon Road, Fremont, California to prepare the revised Phase I Environmental Site Assessment Report (Report) dated May 19, 2018 on the residential homes/office located at 31063 Watkins Street, 31112 Horner Street, and 31082 & 31098 Vallejo Street in Union City, Alameda County, California (Subject Property).

Subject Property Description

The Subject Property is comprised of multi-family homes/office and vacant land. The structures were approximately 4,763 square foot of multi-family homes on approximately 0.89 acre lot and features 8 bedrooms and 4 bathrooms in the four structures. The structures were built in 1929 and 1950s.

Findings

This Report has been performed in accordance with the Scope of Work pursuant to the requirements of the American Society for Testing and Materials (ASTM) Standards 2247-16 for environmental site assessments for rural lands over 120 acres. This practice is intended for use on a voluntary basis by parties who wish to assess the environmental condition of forestland or rural property taking into account commonly known and reasonably ascertainable information. Recognized Environmental Conditions are defined by the Standard Practice ASTM 1527-13 as the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: 1) due to any release to the environment, 2) under conditions indicative of a release to the environment; or 3) under conditions that pose a material threat of a future release to the environment. De minimis conditions are not recognized environmental conditions. A release of any hazardous substance or petroleum product shall have the same meaning as the definition of "release" in CERCLA 42 U.S.C. § 9601(22). This assessment has revealed no evidence of existing Recognized Environmental Conditions in connection with the Subject Property.

Historical Recognized Environmental Conditions

ASTM 1527-13 defines a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted residential use criteria established by a regulatory authority, without subjecting the property to any required controls (for example, property use restrictions, activity and use limitations, institutional controls or engineering controls). Before calling the past release a historical recognized environmental condition, the Environmental Professional must determine whether the past release is a recognized environmental condition at the time the Phase I Environmental Site Assessment (ESA) is conducted. If the Environmental Professional considers the past release to be a recognized environmental condition at the time the Phase I ESA is conducted, the condition shall be included in the conclusions section of the report as a recognized environmental condition. The Report revealed no evidence of historical Recognized Environmental Conditions in connection with the Subject Property.

There used to be two 5000-gallon underground storage tanks inside the property at 31112 Horner Street which installed in approximately in 1940s and removed in approximately 1985. There were four soil samples analyzed at 15 feet below ground surface taken from the area where the underground tanks used to be existing which showed low volatile hydrocarbon compounds. Mr. Vakili reviewed the results and determine that the area where the underground storage tanks existed at 31112 Horner Street in the past considered to be an environmental concern. Therefore, Mr. Vakili contacted Mr. Andy Block, Environmental Programs Manager for the City of Union City. Mr. Block indicated that the sampling analysis and the handwritten No Further Action Letter was very typical at the time of the underground tanks removal in 1985. Mr. Block added that the sampling depth was adequate to determine contamination, if any. After the conversation with Mr. Block, Mr. Vakili determined that there was no additional environmental concern at the Subject Property. Please see Attachment 5 for the information obtained from the City of Union City, California.

Environmental issues

Environmental issues include environmental concerns identified by Mr. Vakili that warrant discussion but do not qualify as Recognized Environmental Conditions, as defined by the ASTM Standard Practice ASTM 1527-13. Mr. Vakili did not find environmental issues at the Subject Property.

Recommendations

We have performed the Report in conformance with the scope and limitations of ASTM 1527-13 for the Subject Property. Any exceptions to, or deletions from this practice are described in Section 1 of the Report. The Report revealed that no additional investigation is necessary at the Subject Property.



Farshad Vakili, P.E.
Environmental Engineer
273 Canyon Falls Drive
Folsom, California 95630



**REVISED PHASE I ENVIRONMENTAL SITE
ASSESSMENT REPORT**

**RESIDENTIAL HOMES/OFFICE
VACANT LAND
31063 WATKINS STREET
31112 HORNER STREET
31082 & 31098 VALLEJO STREET
UNION CITY, ALAMEDA COUNTY,
CALIFORNIA**

MAY 19, 2018

**PREPARED BY:
FARSHAD T. VAKILI, P.E.
PRINCIPLE ENGINEER
273 CANYON FALLS DRIVE
FOLSOM, CALIFORNIA 95630**

**PREPARED FOR:
MR. MOHAMMAD SHAIQ
537 MORRISON CANYON ROAD
FREMONT, CALIFORNIA 94536**

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ATTACHMENTS

1. INTRODUCTION

This report presents the results of a revised Phase I Environmental Site Assessment Report (Report) performed by Farshad Vakili, P.E., an independent environmental assessor/engineer on the residential homes/office located at 31063 Watkins Street, 31112 Horner Street, and 31082 & 31098 Vallejo Street in Union City, Alameda County, California (Subject Property).

This Report reveals the results from the review of regulatory agencies files, interview of appropriate people and site inspection of the Subject Property on May 26, 2017.

1.1 Purpose

The objectives of this Report is to evaluate whether there is evidence of an environmental impact to any of the environmental receptors such as human and/or wild life; or any environmental impacts to any environmental pathways such as surface, water, air, groundwater, and subsurface gas generation. Any potential environmental impacts resulted from past or present activities at the Subject Property or surrounding businesses, have been considered in this Report. All the extensive regulatory agencies files search which provide information on all the past, present and to some extent future impacts to the Subject Property and the surrounding area are noted in the Report.

1.2 Scope of Application

This Report is submitted to Mr. Mohammad Shaiq of 537 Morrison Canyon Road, Fremont, California for distribution. The scope of the application is to determine any Recognized Environmental Conditions at the Subject Property.

1.3 Limitation and Exception

Mr. Vakili renders no opinion as to the Subject Property condition at un-surveyed and/or inaccessible portions of the Property, which are described below. Mr. Vakili relies completely on the information, whether written, graphic or verbal, provided by the Subject Property contact or as shown on any documents reviewed or received from the Subject Property contacts, owners or agents, or municipal sources, and assumes that information to be true and correct. The observations in this Report are valid on the date of the survey. Where access to portions of the Subject Property or to structures on the Subject Property was unavailable or limited, Mr. Vakili renders no opinion as to the presence of petroleum products or hazardous substances in that portion of the Subject Property or structure. In addition, Mr. Vakili renders no opinion as to the presence of, or indirect evidence relating to, petroleum products or hazardous substances where direct observation of the interior walls, floor, or ceiling of a structure was obstructed by objects or coverings on or over these surfaces. The

conclusions provided by Mr. Vakili are based on the information obtained by visual survey of the Subject Property, and information provided by agents representing the Subject Property, or agents of the owner. In addition, Mr. Vakili has relied on certain information provided by state and other referenced parties, and on information contained in the files of federal, state and/or local agencies available to Mr. Vakili at the time of the assessment. Although there may have been some degree of overlap in the information provided by these various sources, Mr. Vakili did not attempt to independently verify the accuracy or completeness of all information reviewed or received during the course of these Environmental Services. CERCLA Requirements Other Than All Appropriate Inquiry (ASTM Standard Practice E1527-13 1.1.3) - This practice does not address whether requirements in addition to All Appropriate Inquiries have been met in order to qualify for the LLPs (specified in 42 U.S.C. §9607(b)(3)(a) and (b) including the continuing obligation not to impede the integrity and effectiveness of Activity and Use Limitations), or the duty to take reasonable steps to prevent releases, or the duty to comply with legally required release reporting obligations).

It is acknowledged that Mr. Vakili's judgments shall not be based on scientific or technical tests or procedures beyond the Scope of Services or beyond the time and budgetary constraints imposed by the Client. It is acknowledged further that Mr. Vakili's conclusions shall not rest on pure science but on such considerations as economic feasibility and available alternatives. The Client also acknowledges that, because geologic and soil formations are inherently random, variable, and indeterminate in nature, the conclusions and opinion of this Report are not guaranteed to be a representation of actual conditions on the Subject Property, which are also subject to change with time as a result of natural or man-made processes, including water permeation. In performing the Services, Mr. Vakili shall use that the degree of care and skill ordinarily exercised by environmental consultants or engineers performing similar services in the same or similar locality. The standard of care shall be determined solely at the time the Services are rendered and not according to standards utilized or in effect at a later date. The Services shall be rendered without any other warranty, expressed or implied, including, without limitation, the warranty of merchantability and the warranty of fitness for a particular purpose. It should be noted that certain conditions may not have been reasonably identifiable or ascertainable from the available information during the course of this Report.

Mr. Vakili assumes that information obtained from the record review and the interviews concerning the Property is reliable. However, Mr. Vakili cannot and does not warrant or guarantee that the information provided by these other sources is accurate or correct. Some of the information provided in this Report is based upon personal interviews, and research of available documents, records, and maps held by the appropriate government and private agencies. This Report is subject to the limitations of historical documentation, availability, and accuracy of the pertinent records and the personal recollections of those persons contacted. This practice does not address requirements of any state or local laws or of any federal laws other than the all appropriate inquiry provisions of the LLPs.

Furthermore, this Report does not intend to address all of the health and safety concerns, if any, associated with the Subject Property.

The assessment was conducted in a manner consistent with the level of care and skill ordinarily exercised by members of the profession, and in accordance with generally accepted practices of other consultants currently practicing in the same locality under similar conditions. No other representation, expressed or implied, and no warranty or guarantee is included or intended. The Report speaks only as of its date, in the absence of a specific written update of the Report, signed and delivered by Mr. Vakili.

This Report has been prepared in accordance with generally accepted environmental methodologies referred to in ASTM 1527-13, and contains all of the limitations inherent in these methodologies. No other warranties, expressed or implied, are made as to the professional services provided under the terms of our contract and included in this Report. The conclusions of this Report are based in part, on the information provided by others. The possibility remains that unexpected environmental conditions may be encountered at the site in locations not specifically investigated. Should such an event occur, Mr. Vakili must be notified in order that he may determine if modifications are necessary. The services performed and outlined in this Report were based, in part, upon visual observations of the site and attendant structures. Our opinion cannot be extended to portions of the site that were unavailable for direct observation, reasonably beyond the control of Mr. Vakili. The objective of this report was to assess environ regulations within the applicable jurisdiction. Evaluating compliance of past or future owners with applicable local, provincial and federal government laws and regulations was not included in our contract for services. Our observations relating to the condition of environmental media at the site are described in this Report. It should be noted that com mental conditions at the site, within the context of our contract and existing environmental pounds or materials other than those described could be present in the site environment.

1.4 Qualification

Mr. Vakili is a registered professional engineer in the State of California. Mr. Vakili has thirty three years of experience working for regulatory agencies and manufacturing facilities conducting complex environmental assessment, characterization and remediation projects. Mr. Vakili also conducted assessment projects for regulatory agencies preparing Resource Conservation and Recovery Act (RCRA) facility assessments reports for various industries throughout California in compliance with the California Department of Toxic Substances Control (DTSC) and United States Environmental Protection Agency laws and regulations. Mr. Vakili is currently a retired Senior Hazardous Substances Engineer from DTSC dated March 1, 2016. Mr. Vakili has also conducted phase I environmental site assessment projects for residential, commercial as well as industrial properties in California. Please see Attachment 1, Figure 1 for Mr. Vakili's Statement of Qualification and Insurance Liability.

2. SCOPE OF WORK

The scope of work for this Report is to provide information regarding the past and present activities at the Subject Property and the vicinity area. This Report has been performed in accordance with the Scope of Work pursuant to the requirements of the American Society for Testing and Materials (ASTM) Standards 1527-13 for environmental site assessments, and the United States Environmental Protection Agency's (USEPA) Resource Conservation and Recovery Act (RCRA) Facility Assessment for corrective action.

On Wednesday, November 6, 2013, ASTM International announced that it has officially approved and published the latest revision of its Phase I Environmental Site Assessment Protocol, E 1527-13, and Standard Practice for Environmental Assessments: Phase I Environmental Site Assessment Process. As reported in a prior post, United States Environmental Protection Agency (USEPA) issued both a direct final rule and a backup proposed rule on August 15, 2013, that would add a reference to the expected ASTM E 1527-13 in USEPA's All Appropriate Inquiries (AAI) regulations at 40 CFR 312.11(c). Approximately forty comments were submitted, including adverse comments and therefore, on October 29, 2013, USEPA officially withdrew the direct final rule. USEPA expects the final rule incorporating a reference to the new version to be issued by the end of 2013. It should be noted that E 1527-13 is not officially recognized by USEPA as sufficient to meet AAI until USEPA issues its final rule. However, we are going use ASTM 1527-13 in this Report regardless per the request from the client. It will be prudent to require using E 1527-13 in phase I assessments once the USEPA rule change goes final. USEPA said conflicting things in the materials associated with the rule, for example it emphasized that approval of an additional version of the ASTM Standard would add flexibility (an additional option to E 1527-05), but it also made references to the greater "validity" of the new version of the standard. E 1527-05 will remain in the AAI Rule as acceptable, but there is a view that E 1527-13 is a clarification by ASTM of what ASTM intended in E 1527-05 all along, and, therefore, that compliance with E 1527-05 might be evaluated in the future by a court (in the inherently-after-the-fact determination characteristic of AAI and the landowner liability protections) through the lens of the more explicit language of E 1527-13.

After months of delays, rumors and speculation, the US EPA finally acknowledged that the newly revised ASTM Environmental Site Assessment standard, known as E1527-13, is consistent with the All Appropriate Inquires (AAI) rule. As described in the December 30, 2013 Federal Register announcement, the US EPA amended the AAI rule to reference ASTM E1527-13 as compliant with the standards and practices required to qualify for certain CERCLA liability protections as well as Brownfields grants. In fact, the US EPA now “strongly encourages” and “recommends that environmental professionals and prospective purchasers” use ASTM E1527-13 when conducting AAI compliant Phase I Environmental Site Assessments to identify releases and threatened releases of hazardous substances at commercial and industrial properties.

It is worth noting that while the newly amended AAI rule does not remove reference to the previous ASTM standard (E1527-05), “the Agency’s intent will be to promote the use of the current industry standard and reduce confusion associated with the regulatory reference to a standard no longer recognized as current by ASTM International and no longer marketed by the standards development organization.” The US EPA will publish an additional proposed rulemaking to remove the reference to the ASTM E1527-05 standard in the AAI rule sometime in the near future. Therefor this Report will be in compliance with ASTM 1527-13.

This work includes visual site inspection, interview of the responsible parties, review of the regulatory agencies’ files and preparing this site assessment report. The regulatory agencies files include but not limited to:

- Review of Alameda County Health Department and City of Union City Building and Fire Department
- Review of the California Department of Toxic Substances Control’s Envirostor
- Review of California Regional Water Quality Control Board
- Review of California Department of Resource Conservation and Recycling (CalRecycle), List of Active and Inactive Landfills, and Used Oil Recycling Program
- Review of USEPA’s RCRA info List for federal hazardous waste generators

3. SITE DESCRIPTION

3.1 Location

The Subject Property consists of four structures including three residential homes and one office building located at 31063 Watkins Street, and 31082 & 31098 Vallejo Street, and a vacant land at 31112 Horner Street in Union City, Alameda County, California; east of Union City Boulevard and Union Sanitary District; west of Casa Verde Park and Highway 880; north of Alvarado Plaza Shopping Center. Attachment 1, Figure 1 is Statement Qualification and Insurance Liability. Attachment 1, Figure 2 is Alameda County Assessor's Parcel Map and Sanborn Maps. Attachment 1, Figure 3 is the Overview Map. Attachment 1, Figure 4 is the Historical Photographs from 1939, 1946, 1948, 1958, 1963, 1966, 1974, 1982, 1993, 1998, 2005, 2006, 2009, 2010 and 2012.

3.2 Adjacent Properties Current Use

The Subject Property is located at 31063 Watkins Street, and 31082 and 31098 Vallejo Street in Union City, Alameda County, California. The Subject Property is surrounded by Finezi Computer Consultant at 31080 Union City Boulevard, Purple Monkey Yoga at 3961 Horner Street and Vallejo Street to the west; Watkins Street, Masjid Al-Huda at 3880 Smith Street and residential homes at Watkins Street to the east; a series of residential homes to the north; and Horner Street to the south.

3.3 Current Use of the Subject Property

The Subject Property currently occupies by residential tenants and a small office tenant. The 31112 Horner Street lot is a vacant land.

3.4 Site Description

The Subject Property is comprised of multi-family homes/office and land. The structures were approximately 4,763 square foot of multi-family homes on approximately 0.89 acre lot and features 8 bedrooms and 4 bathrooms in the four structures. The structures were built in 1929 and 1950s.

The land referred to herein below is situated in the City of Union City, County of Alameda, State of California and is described as follows:

Beginning at a point on the Western Line of Watkins Street distant thereon 250 feet southerly from the point of intersection thereof with the southern line of Smith Street as said streets are shown on that certain map entitled "Map of Alvarado the County Seat of Alameda", filed March 10, 1860, in Book 17 of maps, Page 4, Alameda County Records; running thence westerly at right angles to said line of Watkins Street 216 feet to the eastern line of Vallejo Street as shown on said map; thence at right angles southerly along said line of Vallejo Street 110 feet more or less to the north eastern line of county road from Centerville to Alvarado, County Road 397; thence southeasterly along said line of said county road 250 feet more or less to the western line of Watkins Street extended, thence northerly along said line of Watkins Street 250 feet more or less to the point of beginning. The Alameda County assessor's Parcel Number is 483-0010-039.

4. USER PROVIDED INFORMATION

4.1 Title Records/Environmental Liens

Mr. Vakili reviewed the Preliminary Title Report dated June 16, 2015 prepared by Chicago Title Company and is not aware of any environmental cleanup liens against the Subject Property that are filed or recorded under federal, tribal, state or local law. Mr. Vakili is not aware of any AULs, such as engineering controls, land use restrictions or institutional controls that are in place at the site and/or have been filed or recorded in a registry.

4.2 Owner and Property Manager Information

The owner of the Subject Property is Jing Jiang, a single woman.

4.3 Specialized Knowledge of the User

Mr. Vakili's research did not find any recognized environmental conditions in connections with the property prior to the site reconnaissance.

4.4 Actual Knowledge of the Uses

Mr. Vakili did not find any environmental liens in connection with the property.

4.5 Reason for Significantly Lower Purchase Price

Mr. Vakili did not find any evidence to identify lower price which does not reasonably reflect fair market value.

4.6 Commonly Known or Reasonably Ascertainable Information

Mr. Vakili is not aware of any commonly known or reasonably ascertainable information within local community about the property that is material to recognized environmental conditions.

5. RECORD REVIEW

5.1 Geologic Conditions

The Subject Property is located in the City of Union City, Alameda County, California. The Hayward fault is one of the most hazardous faults in the United States, because of its high slip rate, its demonstrated ability to generate a large earthquake and, importantly, its location through the highly urbanized eastern San Francisco Bay area. The Hayward fault is of particular significance to the City of Hayward nearby the Subject Property because it traverses the most intensively developed portions the Union City and because it has generated a large, surface rupturing earthquake in historic time. The Hayward fault lies along the southwestern margin of the East Bay Hills and extends from the Warm Springs district of Fremont on the south to San Pablo Bay on the north. Please see Attachment 2 for more information.

5.2 General Hydrogeology

The Niles Basin consists of a series of five aquifers; shallow perched water-bearing zone, the Network Aquifer, the Centerville Aquifer, the Fremont Aquifer, and the "deeper" Aquifer. The aquifers range in depth from approximately 0 to 60 feet, 35 to 175 feet, 190 to 240 feet, 250 to 300 feet, and more than 300 feet, respectively, separated by thick aquicludes. The groundwater fluctuates from approximately 3.8 feet to 9.5 feet below ground surface. The groundwater flow generally flows to the west to southwest.

5.3 Radon, Asbestos Containing Materials, Lead-Based Paint and Naturally Occurring Asbestos (NOA)

Radon gas is a radioactive gas found throughout the United States that cannot be seen, tasted or smelled. It can move up through the ground and into a home through cracks and holes in the foundation and can build up to high levels. Radon also can get into indoor air when released from water. Radon entering the home through tap water, in most cases, is small source in indoor air compared to radon entering home from soil. USEPA has determined that radon is a known human carcinogen and breathing air-containing radon may cause increased risk of stomach cancer. No evidence of radon gas detected at levels of concern (greater than 4.0 pCi/L) per any investigation at the Alameda County. Most homes in the Alameda County do not have basements.

Asbestos is the common name for a group of silicate minerals that are made of thin, strong fibers. It occurs naturally in certain geologic settings in California, most commonly in ultrabasic and ultramafic rock, including serpentine rock. These rocks are commonly found in the Sierra Foothills, the Klamath Mountains, Coast Ranges, and along some faults. While asbestos is more likely found in these rock formations, its presence is not certain. Because asbestos is a mineral, asbestos fibers are generally stable in the natural environment. The fibers will not evaporate into the air. Some naturally occurring asbestos can become friable or crushed into a powder. This may occur when vehicles drive over unpaved roads or driveways that are surfaced with ultrabasic, ultramafic or serpentine rock, when land is graded for building purposes, or at quarrying operations. Weathering and erosion may also naturally release asbestos. Friable asbestos can become suspended in the air, and under these conditions, asbestos fibers represent a significant risk to human health. Asbestos is a known carcinogen, and inhalation of asbestos may result in the development of lung cancer. Disclosure Source recommends that the transferee visit the California Department of Conservation, Division of Mines and Geology website for further information. Geologic maps prepared by the California Geologic Survey show areas of higher probability for asbestos containing rocks within the broad zone of faults that follows the low foothills and lay in a south-east to north-west band. There are some isolated areas of higher probability for the presence of NOA within Tahoe National Forest and El Dorado Hills. No asbestos stone was observed at the property during May 26, 2017 inspection.

Due to the age of the Subject Property building, there is a potential that asbestos containing materials (ACMs) are present. All observed suspect ACMs were in good condition and are not expected to pose a health and safety concern to the occupants of the Subject Property at this time. In the event that building renovation or demolition activities are planned, an asbestos survey adhering to Asbestos Hazard Emergency Response Act (AHERA) sampling protocol should be performed prior to demolition or renovation activities that may disturb suspect ACMs.

Due to the age of the Subject Property building, there is a potential that lead-based paint (LBP) is present. All observed painted surfaces were in good condition and are not expected to pose a health and safety concern to the occupants of the subject property at this time. Local regulations may apply to lead-based paint in association with building demolition/renovations and worker/occupant protection. Actual material samples would need to be collected or an X-Ray Fluorescence (XRF) survey performed in order to determine if LBP is present. It should be noted that construction activities that disturb materials or paints containing any amount of lead may be subject to certain requirements of the Occupational Safety and Health Administration (OSHA) lead standard contained in 29 CFR 1910.1025 and 1926.62.

The Subject Property was historically used for agricultural purposes. There is a potential that agricultural related chemicals such as pesticides, herbicides, and fertilizers, may have been used and stored onsite. The Subject Property is either paved over or covered by building structures that minimize direct contact to any potential remaining concentrations in the soil. Additionally, during previous site development activities, near surface soils (where residual agricultural chemical concentrations would have most likely been present, if at all) were generally mixed with fill material or disturbed during grading. Also, it is common that engineered fill material is placed over underlying soils as part of the development activities. Furthermore, it is likely that residual agricultural chemicals (if any) would have likely degraded since the site was last utilized for agricultural purposes. These additional variables serve to further reduce the potential for exposure to residual agricultural chemicals (if any). Based on these reasons, Mr. Vakili concludes that the possible former use of agricultural chemicals is not expected to represent a significant environmental concern at this time.

5.4 Regional Conditions

The Subject Property is located in a business and residential area of the City of Union City, County of Alameda, California. Land in the vicinity area is not mined for natural resources. There are commercial businesses on Smith Street and Union City Boulevard while there residential neighborhoods on Watkins Street, Horner Street, Kimberly Court, and Fredi Street.

5.5 Historical Use

Sanborn Map Company maps were created for insurance underwriters from 1890 to present, and often contain information regarding the uses of individual structures, and the locations of fuel and/or chemical storage tanks that may have been on a particular property. In 1996, the entire Sanborn Map Company collection was acquired by Environmental Data Resources, Inc. (EDR). Mr. Vakili subcontracted with EDR to provide copies of Sanborn Map Company Maps for the Subject Property and vicinity. EDR responded that Sanborn Map Company fire insurance maps were drawn for the Property or surrounding vicinity. Sanborn Maps from 1887, 1890, 1896, 1901, and 1908 showed that the Subject Property was a vacant land while there were residential neighborhoods to the northwest and north of the Subject Property. Sanborn Map from 1925 showed that the Subject Property was developed as a parcel with no structures while the Horner Street was constructed to the south. Sanborn Maps from 1929 and 1944 showed that there were two residential structures and a gas station constructed inside the Subject Property. Please see Attachment 1, Figure 2 for the Sanborn Maps. Please also see the Overview Map in the Attachment 1, Figure 3.

Historical Aerial Photographs from 1939, 1946 and 1949 showed the Subject Property had two residential structures while the City of Union City was being established with all farm land surrounding the city. Historical Aerial Photographs from 1946 and 1949 showed the Subject Property was an agricultural land while there were new residential neighborhoods to the north and west of the Subject Property. Historical Aerial Photographs from 1958, 1963, 1966, 1974 and 1982 revealed that the Subject Property had the four commercial and residential structures while there were additional residential homes in the nearby areas, and some industrial warehouses to the north. Historical Aerial Photographs from 1993, 1998, 2005, 2006, 2009, 2010 and 2012 showed that the Subject Property had the four existing residential and commercial structures while there were new residential homes in the vicinity area, and all the farm lands were converted into residential neighborhoods. Please see Attachment 1, Figure 4 for all the historical photographs.

EDR City Directory stated that there were residential dwelling on the Subject Property from 1929 to the present time.

5.6 File Review

Environmental Data Resources, Inc., Radius Map Report and regulatory agencies file review include in this Report for the Subject Property and the vicinity area (Attachment 4) which included review of:

Department of Resource Conservation and Recycling (CalRecycle), Solid Waste Information System (SWIS) and Used Oil Recycling Program

According to the CalRecycle, there are no facilities within 0.5 miles of the Subject.

Environmental Protection Agency, Department of Toxic Substances Control (DTSC), Envirostor

DTSC Envirostor identified five facilities within 1 mile of the Subject Property including Horner Street Site (North of Horner Street, other agency, no immediate impact), R J Chase Company (4000 Tara Court, No Further Action), Seabreeze Legacy (Tidewater Drive, No Further Action), Campbell Cooper Tool (30070 Union City Boulevard, No Further Action), and Fanuc USA Corporation (29700 Kohoutek Way, needs evaluation, no immediate impact).

There are also no other hazardous waste storage, disposal or treatment facilities in the vicinity of the Subject Property.

DTSC's database revealed that there are no RCRA hazardous wastes generators within 0.25 miles radius of the Subject Property. Regardless, generators of hazardous wastes pose no risk to the Subject Property because they are small quantity generators and the hazardous wastes are sent for recycling and treatment or disposal to different facilities.

California Regional Water Quality Control Board (RWQCB), Leaking Underground Fuel Tank Report (LUFT), SLIC, Underground Storage Tank and Geo Tracker

There are facilities on the Regional Water Quality Control Board list containing LUFT and SLIC which are within 0.5 miles of the Subject Property in higher elevation including J & G Union City Glass (3992 Horner Street, case closed), New Haven USD Corporation (3636 Smith Street, preliminary site assessment underway, no immediate impact), Randy's Frozen Meats (30593 Union City Boulevard, case closed), Sysco Avar/Continent (30315 Union City Boulevard, case closed), A & H Truck Repair (30319 Union City Boulevard, site assessment, no immediate impact), Recycling Center (30685 Union City Boulevard, case closed), and Bettencourt Property (4300 Bettencourt Way, case closed).

There are no registered underground and aboveground storage tanks within 0.25 miles of the Subject Property.

Alameda County Health Department

This agency refers all the potential contaminated sites to the state agencies. This agency has a list known as contaminated sites which identified no additional facilities within 1.0 mile of the Subject Property.

City of Union City

There used to be two 5000-gallon underground storage tanks inside the property at 31112 Horner Street which installed in approximately in 1940s and removed in approximately 1985. There were four soil samples analyzed at 15 feet below ground surface taken from the area where the underground tanks used to be existing which showed low volatile hydrocarbon compounds. Mr. Vakili reviewed the results and determine that the area where the underground storage tanks existed at 31112 Horner Street in the past considered to be an environmental concern. Therefore, Mr. Vakili contacted Mr. Andy Block, Environmental Programs Manager for the City of Union City. Mr. Block indicated that the sampling analysis and the handwritten No Further Action Letter was very typical at the time of the underground tanks removal in 1985. Mr. Block added that the sampling depth was adequate to determine contamination, if any. After the conversation with Mr. Block, Mr. Vakili determined that there was no additional environmental concern at the Subject Property. Please see Attachment 5 for the information obtained from the Union City Fire Department.

6. SITE RECONNAISSANCE AND INTERVIEWS

6.1 Site Inspection and Interview

Mr. Vakili inspected the Subject Property on May 26, 2017. The Subject Property included four structures and land. The structures were approximately 4,763 square foot (total) of multi-family homes on approximately 0.89 acre lot which featured 8 bedrooms and 4 bathrooms in the four structures. The structures were built in 1929 and 1950s. Mr. Vakili inspected the entire area inside the Subject Property which was located on Watkins and Vallejo Streets. The buildings were made of wooden structures with dirt and hard graveled yards surrounding them. No sign of distressed vegetation was noticed at the completely fenced yards. Mr. Vakili did not inspect the interior of the structures at the time of the inspection because of the existing tenants living inside the homes. Mr. Vakili inspected the exterior of the Subject Property and did not observe Recognized Environmental Conditions.

There are possibilities of asbestos containing materials and lead based paints at the structures since there were constructed in 1929 and 1950s at the Subject Property. Mr. Vakili strongly recommends ACM and LBP inspections when the structures are demolished or renovated in the future. The Subject Property was not on regulatory agencies' database.

Roads

No road was inside the Subject Property during the inspection of May 26, 2017.

Potable Water Supply

Potable water was observed on the Subject Property during the May 26, 2017 inspection.

Sewage

Sewage system was noticed at the Subject Property during the inspection of May 26, 2017.

Hazardous Substances and Petroleum Products in Connection with Identified Uses

No hazardous substances or petroleum products were observed to be stored or used on the Subject Property during the inspection of May 26, 2017.

Storage Tanks

Determining the presence of Aboveground Storage Tanks (ASTs) and underground storage Tanks (USTs) is considered essential in assessing potential contamination sources. Visual inspection and the review of tank registration are used to determine the possible existence of past and present storage tanks in the area of the Subject Property. It must be noted however, that the absence of certain site conditions or lack of records may restrict or prevent the determination of the number and contents of storage tanks on the Subject Property. No aboveground storage tanks or underground storage tanks connections were observed on the Subject Property during the inspection of May 26, 2017.

Odors

No strong, pungent or noxious odors were observed at the Subject Property during May 26, 2017 inspection.

Pools of Liquid

No vernal pools and seasonal wet lands were observed at the Subject Property during May 26, 2017 inspection.

Drums

No drums or containers of hazardous wastes or materials were observed at the Subject Property during May 26, 2017 inspection.

Hazardous Substances and Petroleum Products Containers

No containers with hazardous materials or petroleum products that might represent a recognized environmental condition were observed on the Subject Property during May 26, 2017 inspection.

Unidentified Substance Containers

No open or damaged containers containing unidentified substances suspected of being hazardous substances or petroleum products were observed on the Subject Property during May 26, 2017 inspection.

Heating/Cooling

Heating or cooling equipment was noticed at the structures during May 26, 2017 inspection.

Stains or Corrosion

There were no stains or corrosion on the ground observed at the Subject Property during the inspection of May 26, 2017.

Drains and Sumps

Storm drains but no sumps were observed inside Watkins Street during May 26, 2017 inspection. No concern was noted.

Pits, Ponds, or Lagoons

No pits, ponds or lagoons were observed at the Subject Property and the neighboring properties during May 26, 2017 inspection.

Stained Soil or Pavement

No areas of stained soil were observed inside the Subject Property during May 26, 2017 inspection.

Stressed Vegetation

No areas of stressed vegetation were observed on the Subject Property during May 26, 2017 inspection.

Solid Waste

No areas, mounds, or depressions that may be filled or graded by non-natural causes or filled with fill of unknown origin suggesting trash or other solid waste disposal were observed on the Subject Property during May 26, 2017 inspection.

Waste Water

There was no wastewater or other liquids being discharged into a drain, ditch, underground injection system, or stream on or adjacent to the Subject Property during May 26, 2017 inspection.

Wells

No wells were observed on the Subject Property during May 26, 2017 inspection.

Septic Systems

No septic systems or cesspools was observed on the Subject Property during May 26, 2017 inspection.

6.2 Site Vicinity

The Subject Property is located in a residential and commercial area of the City of Union City, Alameda County, California. Union City is a city located approximately 20 miles south of Oakland, 30 miles southeast of San Francisco, and 20 miles north of San Jose. The City was incorporated on January 13, 1959, combining the communities of Alvarado, New Haven, and Decoto. Union City has over 72,000 residents today and very diverse population. Alvarado is a California Historical Landmark. The City celebrated its 50th Anniversary in 2009. The Cities of Fremont, Newark, and Union City make up the Tri-City Area to the south. The larger City of Hayward surrounds the city to the north.

7. FINDINGS, OPINION AND RECOMMENDATION

At the request of Mr. Mohammad Shaiq; Mr. Vakili completed this Report on the Subject Property. The Subject Property is comprised of multi-family homes/office and land. The structures were approximately 4,763 square foot of multi-family homes and commercial businesses on approximately 0.89 acre lot and features 8 bedrooms and 4 bathrooms in the four structures. The structures were built in 1929 and 1950s. The assessment of the Subject Property included review of the regulatory agencies files relevant to any releases to the environment, conducting visual site inspection on May 26, 2017, interview of appropriate people, surveillance of the surrounding area, and providing the findings in this Report.

No direct evidence was discovered to indicate that soil, groundwater or surface water contamination is present, or likely to be present beneath the Subject Property as result of operations of the existing or former tenants at the Subject Property or other businesses in the neighborhood. Also, during the visual site inspection of May 26, 2017, no vegetation distress was observed (Please see Photographs of the Subject Property). The Subject Property is not on regulatory agencies' database. We did not observe any condition that raises concern. No Recognized Environmental Conditions are presently found at the Subject Property.

There used to be two 5000-gallon underground storage tanks inside the property at 31112 Horner Street which installed in approximately in 1940s and removed in approximately 1985. There were four soil samples analyzed at 15 feet below ground surface taken from the area where the underground tanks used to be existing which showed low volatile hydrocarbon compounds. Mr. Vakili reviewed the results and determine that the area where the underground storage tanks existed at 31112 Horner Street in the past considered to be an environmental concern. Therefore, Mr. Vakili contacted Mr. Andy Block, Environmental Programs Manager for the City of Union City. Mr. Block indicated that the sampling analysis and the handwritten No Further Action Letter was very typical at the time of the underground tanks removal in 1985. Mr. Block added that the sampling depth was adequate to determine contamination, if any. After the conversation with Mr. Block, Mr. Vakili determined that there was no additional environmental concern at the Subject Property. Please see Attachment 5 for the information obtained from the Union City Fire Department.

The new Standard indicates the need to clarify that the potential for vapor migration must be considered in the Phase I report. The definition of "migrate" now expressly includes releases that migrate in the subsurface as vapor. Mr. Vakili does not believe that there is a need to assess possible indoor air quality impacts from vapor intrusion pathways because the subsurface soil may not have been impacted by the former underground storage tanks inside 31112 Horner Street.

There are possibilities of ACM and LBP due to the fact that the structures at the Subject Property were constructed prior to 1980. No electrical transformers were observed on the Subject Property during the May 26, 2017.

The following documents, maps, or other publications may have been used in the preparation of this Report.

- American Society for Testing and Materials Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process (ASTM E1527-13)
- American Society for Testing and Materials Guide for Environmental Site Assessments: Transaction Screen Process (ASTM E1528)
- Comprehensive Environmental Response, Compensation, and Liability Act of 1980 ("CERCLA" or "Superfund"), as amended by Superfund Amendments and Reauthorization Act of 1986 ("SARA") and Small Business Liability Relief and Brownfields Revitalization Act of 2002 ("Brownfield Amendments"), 42 U.S.C. §§9601, et. seq.
- Resource Conservation and Recovery Act, as amended ("RCRA"), 42 U.S.C. §6901, et. seq.
- Federal Emergency Management Agency, National Flood Insurance Program, Flood Insurance Maps
- United States Department of Agriculture, Soil Conservation Service, Soil Surveys
- United States Geological Survey, Topographic Maps
- United States Department of the Interior, Fish and Wildlife Service, National Wetlands Inventory Map
- RWQCB Geotracker
- DTSC Envirostor
- EDR Report, May 30, 2017
- Transmittal Package for Former Mobil Bulk Plant 99UCB located at 30995 Union City Boulevard, Union City, dated October 3, 2012 prepared by Cardno ERI located at 601 N. McDowell Boulevard, Petaluma, California

8. CONCLUSION AND CERTIFICATION

Mr. Vakili has performed this Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E1527 for the Subject Property. Any exceptions to, or deletions from, this practice are described in Section 1 of this Report. This assessment has revealed no evidence of existing or historical Recognized Environmental Conditions in connection with the Subject Property. There used to be two 5000-gallon underground storage tanks inside the property at 31112 Horner Street which installed in approximately in 1940s and removed in approximately 1985. There were four soil samples analyzed at 15 feet below ground surface taken from the area where the underground tanks used to be existing which showed low volatile hydrocarbon compounds. Mr. Vakili reviewed the results and determine that the area where the underground storage tanks existed at 31112 Horner Street in the past considered to be an environmental concern. Therefore, Mr. Vakili contacted Mr. Andy Block, Environmental Programs Manager for the City of Union City. Mr. Block indicated that the sampling analysis and the handwritten No Further Action Letter was very typical at the time of the underground tanks removal in 1985. Mr. Block added that the sampling depth was adequate to determine contamination, if any. After the conversation with Mr. Block, Mr. Vakili determined that there was no additional environmental concern at the Subject Property. Please see Attachment 5 for the information obtained from the Union City Fire Department.

Except for the limitations and exceptions discussed in Section 1.3, this Report complies with the ASTM Standard 1527-13. No additional services beyond the scope of the ASTM Standard 1527-13 were conducted as part of this Report.

This is to certify that based on the assessment of the Subject Property, review of all regulatory agencies files, interview of appropriate people, and a visual site inspection; we hereby recommend no further action at the Subject Property. This means that no additional assessment or investigation is necessary at this time.

Data failure occurs when all the standard historical sources that are reasonably ascertainable and likely to be useful have been reviewed and yet the objectives have not been met. If the data failure represents a significant data gap, the report shall comment on the impact of the data gap on the ability of the environmental professional to identify recognized environmental conditions. Mr. Vakili did not find any significant data failure that would impact of the data gap on the ability of Mr. Vakili to identify recognized environmental conditions.

The recommendation is based on the review of the regulatory agencies files, the inspection of the area around the Subject Property, the understanding of the status of nearby known or potentially contaminated sites, the distance from the known or potentially contaminated sites to the Subject Property, and the hydrogeological conditions of the subsurface soil and groundwater. Although there is no evidence of soil or groundwater contamination at the Subject Property at this time, it should be noted that there is always a potential of contamination from sources unknown to the regulatory agencies and Mr. Vakili at the time of this Report.

We declare that, to the best of our professional knowledge and belief, we meet the definition of Environmental Professional as defined in §312.10 of 40 CFR 312. We have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the Subject Property. We have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.



Farshad Vakili, P.E.
Principal Engineer
273 Canyon Falls Drive
Folsom, California 95630

5-20-2018

Date:



Revised Phase I Environmental Site Assessment Report
Residential homes/office and Vacant Land
31063 Watkins Street, 31112 Homer Street and 31082 & 31098 Vallejo Street, Union City, Alameda County, California
May 19, 2018

ATTACHMENT 1 FIGURES

**FIGURE 1
STATEMENT OF QUALIFICATION
INSURANCE LIABILITY**

COMMON POLICY DECLARATIONS

Policy No.

ENVP005894-05

Renewal of Number

ENVP005894-04

INSURANCE IS PROVIDED BY

ROCKHILL INSURANCE COMPANY

KANSAS CITY, MISSOURI

Named Insured and Mailing Address

Farshad Vakili, PE

273 Canyon Falls Drive
Folsom, CA 95630

Agent

Hull & Company, Inc.
3247 West March Lane
Suite 110
Stockton, CA 95219

Policy Period: From 11/09/2017 To 11/09/2018

12:01 A.M. Standard Time at your Mailing address shown above.
(Unless otherwise Endorsed)

Business Description: Environmental Operations

Form of Business: Corporation - private

IN RETURN FOR THE PAYMENT OF THE PREMIUM, AND SUBJECT TO ALL OF THE TERMS OF THIS POLICY, WE AGREE WITH YOU TO PROVIDE THE INSURANCE STATED IN THIS POLICY.

THIS POLICY CONSISTS OF THE FOLLOWING COVERAGE PARTS FOR WHICH A PREMIUM IS INDICATED. THIS PREMIUM MAY BE SUBJECT TO ADJUSTMENT.

COVERAGE PART	LIMITS OF INSURANCE:	COVERAGE PART (FORM NUMBER)
<u>Commercial General Liability</u>		CG 00 01 12/04
General Aggregate Limit:	1,000,000	
Products/Completed Operations Aggregate Limit:	1,000,000	
Personal and Advertising Injury Limit:	1,000,000	
Each Occurrence Limit:	1,000,000	
Damage to Premises Rented to You Limit:	50,000	
Medical Expense Limit:	5,000	
<u>Contractors Pollution Liability Occurrence</u>		RHIC 6201 01/11
Aggregate Limit:	2,000,000	
Each Contractors Pollution Condition Limit:	1,000,000	
<u>Professional Liability</u>		RHIC 6101 01/11
Aggregate Limit:	2,000,000	
Each Professional Services Incident Limit:	1,000,000	
<i>Covered Professional Services: "Professional Services" performed by the named insured for others for a fee.</i>		

Broker Fee \$150.00
CA SL Tax(3%) \$68.25
Stamping Fee(0.2%) \$4.55

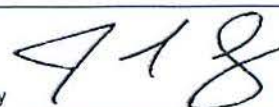
Premium shown is payable: at inception		PREMIUM
	(25 % MINIMUM EARNED PREMIUM)	\$2,275.00
	TERRORISM (IF PURCHASED IS 100% MINIMUM EARNED)	\$569.00
	TOTAL MINIMUM & DEPOSIT PREMIUM	N/A
		\$2,275.00

Additional Form(s) and Endorsement(s) that are made a part of this policy at time of issue and that add, change, exclude or limit coverage are listed below.

*Omits applicable Forms and Endorsements if shown in specific Coverage Part/Coverage Form Declarations.

Date of Issue: 10/09/2017

Countersigned By



AUTHORIZED REPRESENTATIVE

THESE DECLARATIONS TOGETHER WITH THE COMMON POLICY CONDITIONS, COVERAGE PART DECLARATIONS, COVERAGE PART COVERAGE FORM(S) AND FORMS AND ENDORSEMENTS, IF ANY, ISSUED TO FORM A PART THEREOF, COMPLETE THE ABOVE NUMBERED POLICY.

RHIC 6000 (8/11)

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Page 1 of 3

STATEMENT OF QUALIFICATIONS

phase1assessments.com

Farshad Vakili, PE

phase1assessments.com

273 Canyon Fall Drive,
Folsom California 95630
Mobile: 916-804-6232
Fax: 916-988-6639

www.phase1assessments.com

COMPANY PROFILE

Phase1assessments.com is an environmental consulting firm providing services to banks, contractors, commercial brokers and investors, residential developers, real estate agents, attorneys, mortgage companies, property owners, prospective buyers, property sellers and development companies associated with real estate transactions, commercial or industrial loans and business leases.

Our company is fully insured and conducts Phase I and II Environmental Site Assessments as well as Limited Environmental Screen Reports for property transactions and initial environmental investigations. Our Company has been serving the Northern California area since 2006. All assignments are conducted by registered Professional Engineers in California, and meet ASTM Standards.

As a professional engineer, Mr. Farshad Vakili founded the company and has been doing business as the President and Principal Engineer since 2006. Mr. Vakili has experience in dealing with all the phases of federal, state and local environmental issues. Mr. Vakili's extensive knowledge of the local, state and federal regulatory process is attributed to his 30 plus years working as an Environmental Engineer and Supervising Manager for California Department of Toxic Substances Control, California Department of Health Services in Sacramento, California as well as a Fairchild Semi-Conductor Company in San Rafael, California. Mr. Vakili retired from California Department of Toxic Substances Control after 30 plus years of environmental engineering service on March 1, 2016. Mr. Vakili has also completed over 300 plus Phase I and Phase II Reports, California Environmental Quality Act (CEQA) Initial Study documents for local banks and prospective buyers since 2006.

Limited Environmental Screening Reports

Reliance Letter (SBA) / Read & Rely Letter (Banks) / Transition Screening Assessment

Not all circumstances require a full Phase I Environmental Site Assessment (ESA). A limited scope environmental report can be successful at screening for high environmental risk properties. These reports or letters inform if there are any known environmental liabilities at the property and/or if there is a need to conduct a full Phase I ESA Report should you decide to go forward.

If the purchase is completed for one of the Limited Environmental Screening Reports and the decision is to have a full Phase I ESA Report within three months, we will apply the payment for the initial report toward the cost of the Phase I ESA Report.

Phase I Environmental Site Assessment Report

Our Phase I ESA reports adhere to and exceed the American Society of Testing & Materials E-1527-13 Standards and are normally performed for commercial structures, residential developments, agricultural lands and industrial properties, and are usually required by banks for real estate purchase loans or refinancing. The scope of the report includes a site visit, historical research, geology and hydrogeology review, regulatory agency search and interviews.

Phase II Environmental Site Assessment Report

The purpose of a Phase II ESA Report is to determine the presence of petroleum products or hazardous constituents in the subsurface area of a particular site. Our Phase II ESA Reports are conducted according to the ASTM Standard Guidelines for investigation at contaminated sites or to meet a client's specific needs.

Farshad Vakili PE., President, and Principal Engineer (phase1assessment.com)

Mr. Vakili has over 30 years of experience in all phases of federal, state and local hazardous waste permitting and regulatory agency activities. Mr. Vakili founded phase1Assessments.com and has been conducting business as the President and Principal Engineer since 2006. Mr. Vakili's knowledge of the local, state and federal regulatory process is attributed to his 30 plus years working as the Chief of Permitting Storage and Treatment Branch for the California Department of Toxic Substances Control (DTSC). During his tenure over the past 27 years with DTSC, Mr. Vakili was responsible for permitting hazardous waste facilities; providing corrective action remediation solutions; assisting enforcement of the laws; approving closure verification; reviewing groundwater monitoring data interpretation; assigning project manager roles and responsibilities; supervising project managers' tasks; holding public meetings/hearings; reviewing and approving California Environmental Protection Agency (CEQA) documents including Initial Studies, Negative Declarations and Environmental Impact Reports, and drafting consent agreements for remediation activities. As a Waste Management Engineer for the California Department of Health Services (DHS) in 1986-1990, Mr. Vakili successfully established a program to initiate new law for used oil handlers and recyclers in the State of California and providing technical support to treatment storage and disposal facilities across the State. The activities included issuing variances from permitting requirements and overseeing the corrective action at contaminated facilities. Mr. Vakili was the contributing author in Used Oil Regulations and the author of the widely used manual on How to Obtain State Permits. Mr. Vakili served as DHS Subject Matter Expert in adopting USEPA regulations, and representing DHS in the industry.

As an Environmental Health and Safety Manager for Fairchild Semi-Conductor in San Rafael, California Mr. Vakili was responsible for the health and safety of all corporate staff and ensuring company compliance with local, state and federal laws. This included corporate regulation compliance, development and enforcement of all personnel health and safety policies including the disaster recovery plan for air, water and soil contamination and/or exposure and managing the emergency coordination plan in the event of a catastrophe. Mr. Vakili was rewarded with greatly reducing the air pollution produced by the Facility through a project he managed and implemented consisting of evaluating alternative chemicals used in production and compliance with Bay Area Air Pollution Control District.

Professional Engineer in Mechanical Engineering in the State of California (M29991)

FIGURE 2
SANBORN MAPS
ALAMEDA COUNTY ASSESSOR'S PARCEL MAP

ASSESSOR'S MAP 483

Code Area Nos. 15-019 15-051

W

10

Rancho Potrero de los Cerritos
(Pat. Bk A, Pg 217)

Rancho Arroyo de la Alameda
(Pat. Bk A, Pg 70)

Map of Alvarado (Bk 17 Pg 54)

PM 2885113/56

5

Scale 1"=100'

1.237 Acres

Dist. 28-30-30 E.M.
Rm. 12-27-30-30 0-2-14 BY
S. 12-27-30-30
S. 12-27-30-30
S. 12-27-30-30

0-00-0011.0
0-00-0011.0
0-00-0011.0

Prop. Co. 185; Dist. 1853

482

BOOK

UNION CITY BOULEVARD

MAIDEN LAKE

KORNER ST

BOULEVARD

UNION CITY

SMITH STREET

VALLEJO STREET

(ALVARADO) KORNER ST. 3 (BOULEVARD)
(Alvarado - Centerville Highway)

STREET (CO. RD. 5881)

7th AVENUE
(CO. RD. 7664)

(CO. RD. 7763)

(CO. RD. 7663)

(CO. RD. 7663)

117

15

15

99

A.C.M. 29

Ref. RS 100 (RS. Bk. 7 Pg. 62), R/W MAP 73 Pg. 67,
RS 353 Amend (RS. Bk. 9 Pg. 62) D.S. 1927 11/17

N-150

Residential Homes
31063 Watkins Street
Union City, CA 94587

Inquiry Number: 4950409.3
May 30, 2017

Certified Sanborn® Map Report



6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

05/30/17

Site Name:

Residential Homes
31063 Watkins Street
Union City, CA 94587
EDR Inquiry # 4950409.3

Client Name:

Farshad Vakili, P.E., Phase 1 Assessment
273 Canyon Falls Drive
Folsom, CA 95630
Contact: Farshad Vakili, P.E.



The Sanborn Library has been searched by EDR and maps covering the target property location as provided by Farshad Vakili, P.E., Phase 1 Assessment 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 # AFEE-4CC0-AEE3

PO # NA

Project NA

Maps Provided:

1944
1929
1925
1908
1901
1896
1890
1887



Sanborn® Library search results

Certification #: AFEE-4CC0-AEE3

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™

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Sanborn Sheet Key

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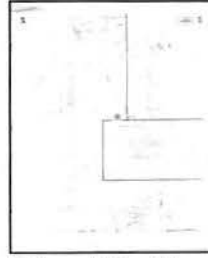
1944 Source Sheets



Volume 1, Sheet 2

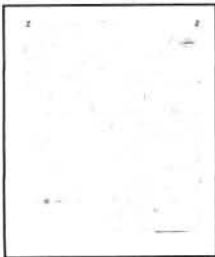


Volume 1, Sheet 3



Volume 1, Sheet 5

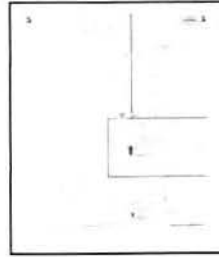
1929 Source Sheets



Volume 1, Sheet 2



Volume 1, Sheet 3



Volume 1, Sheet 5

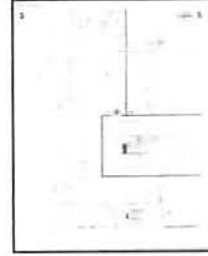
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Volume 1, Sheet 2



Volume 1, Sheet 3

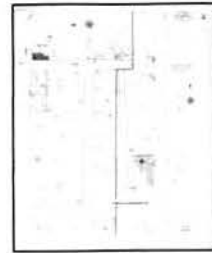


Volume 1, Sheet 5

1908 Source Sheets



Volume 1, Sheet 2



Volume 1, Sheet 3

Sanborn Sheet Key

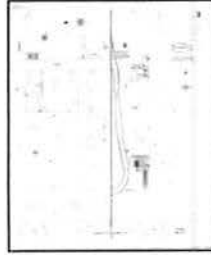
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1901 Source Sheets



Volume 1, Sheet 2



Volume 1, Sheet 3

1896 Source Sheets

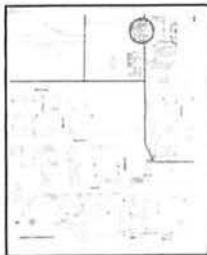


Volume 1, Sheet 2



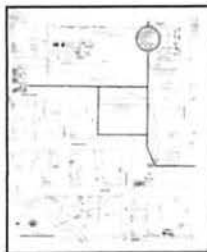
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1890 Source Sheets

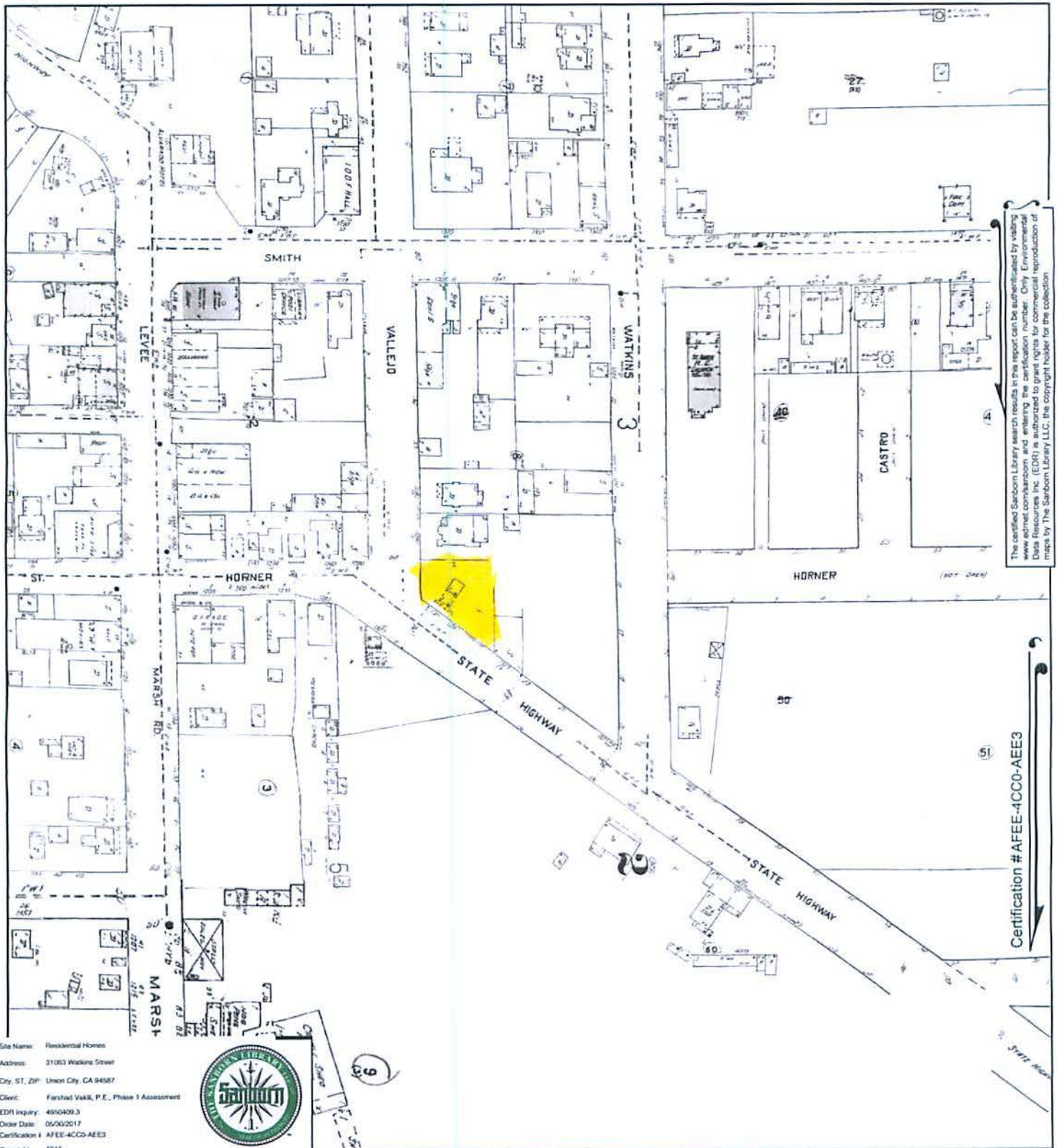


Volume 1, Sheet 1

1887 Source Sheets



Volume 1, Sheet xxxx



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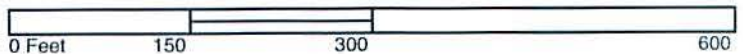
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 Address: 31063 Watkins Street
 City, ST, ZIP: Union City, CA 94587
 Client: Farshad Vakil, P.E., Phase 1 Assessment
 EDR Inquiry: 4950409.3
 Order Date: 05/03/2017
 Certification: AFEE-4CC0-AEE3
 Copyright: 1944

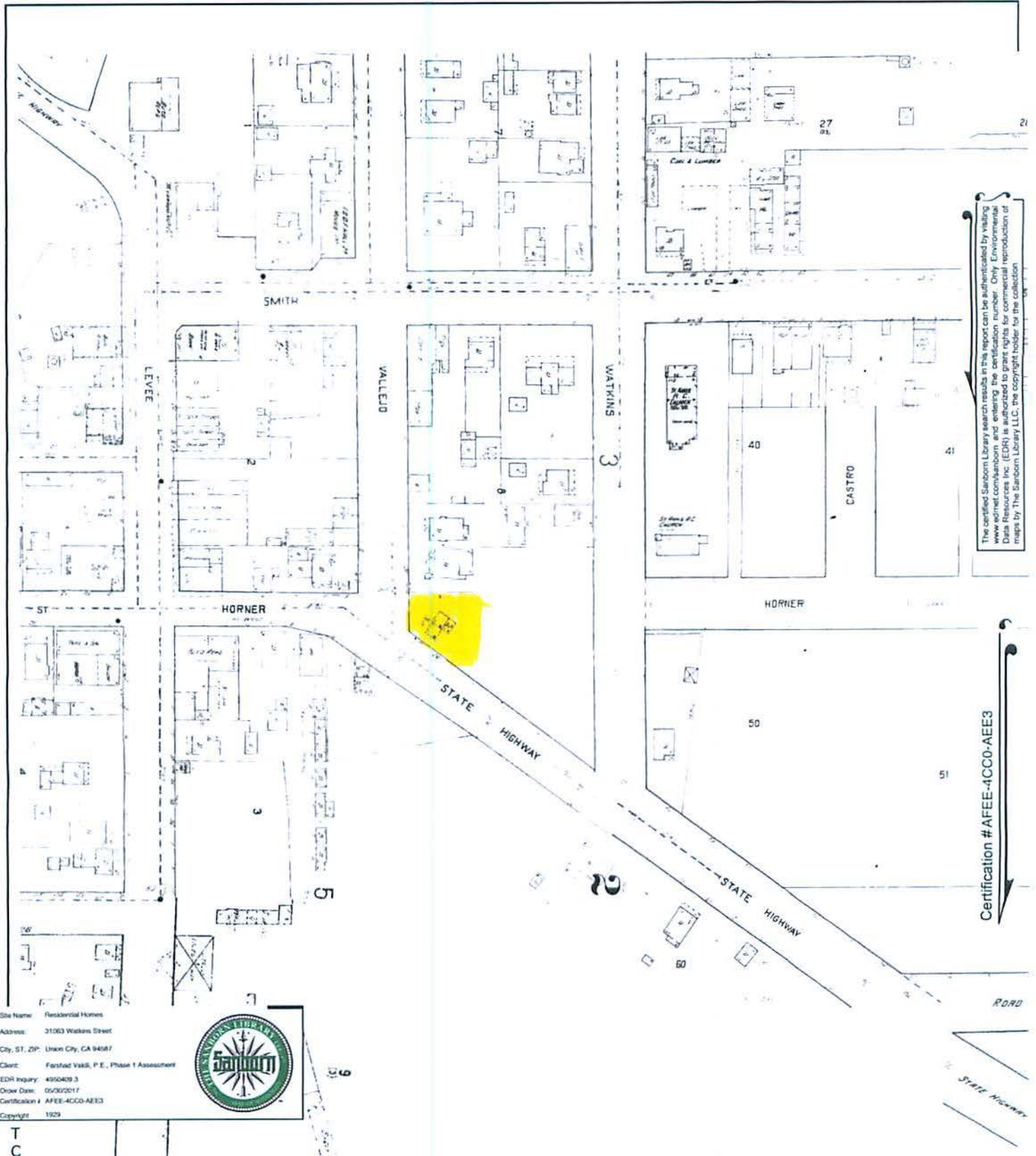


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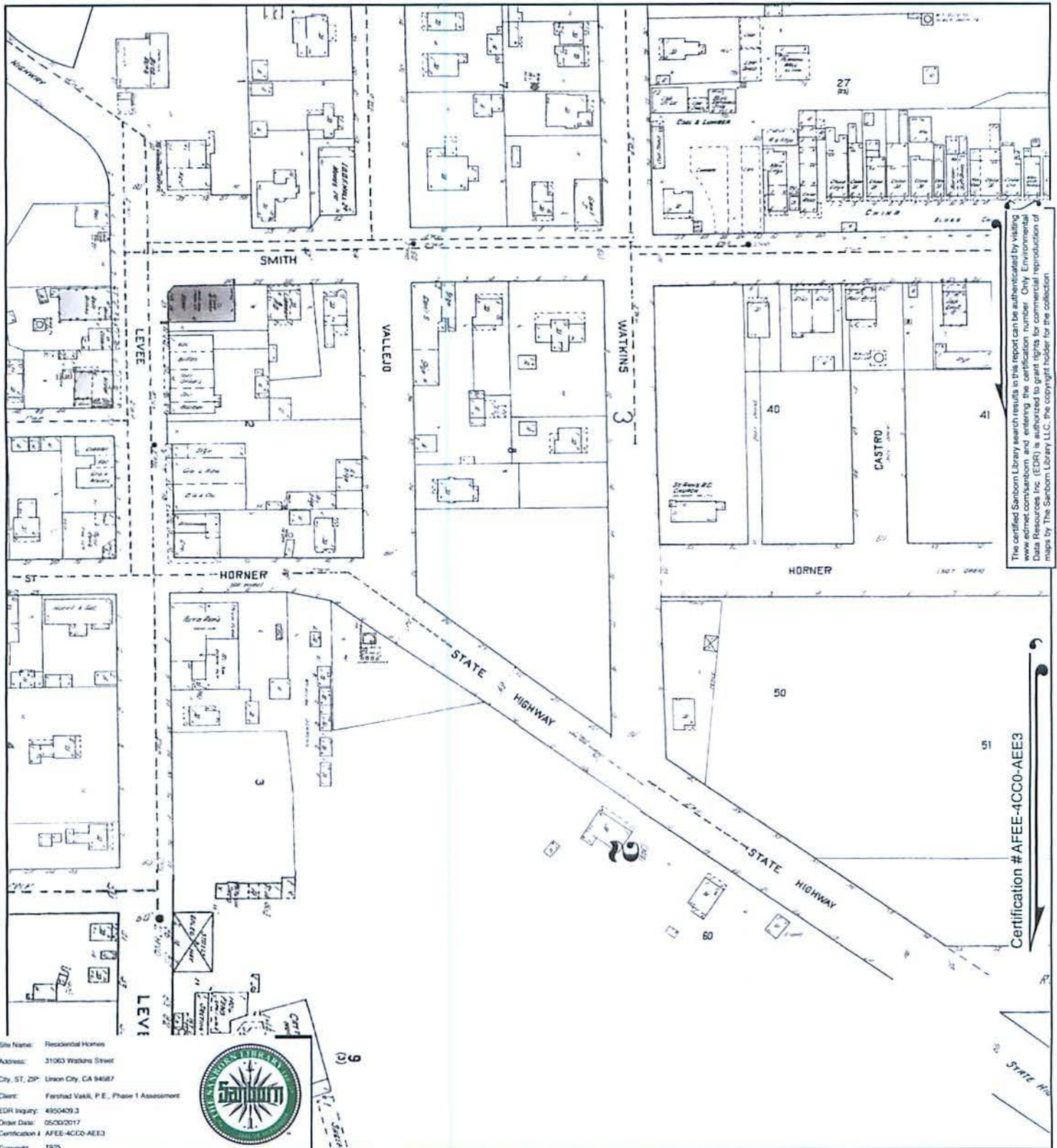
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 Volume 1, Sheet 3
 Volume 1, Sheet 2





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Site Name: Residential Homes
 Address: 31063 Watkins Street
 City, ST, ZIP: Union City, CA 94587
 Client: Farhad Vakil, P.E., Phase 1 Assessment
 EDR Inquiry: 4950409.3
 Order Date: 05/02/2017
 Certification: AFEE-4CCO-AEE3
 Copyright: 1925



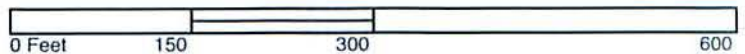
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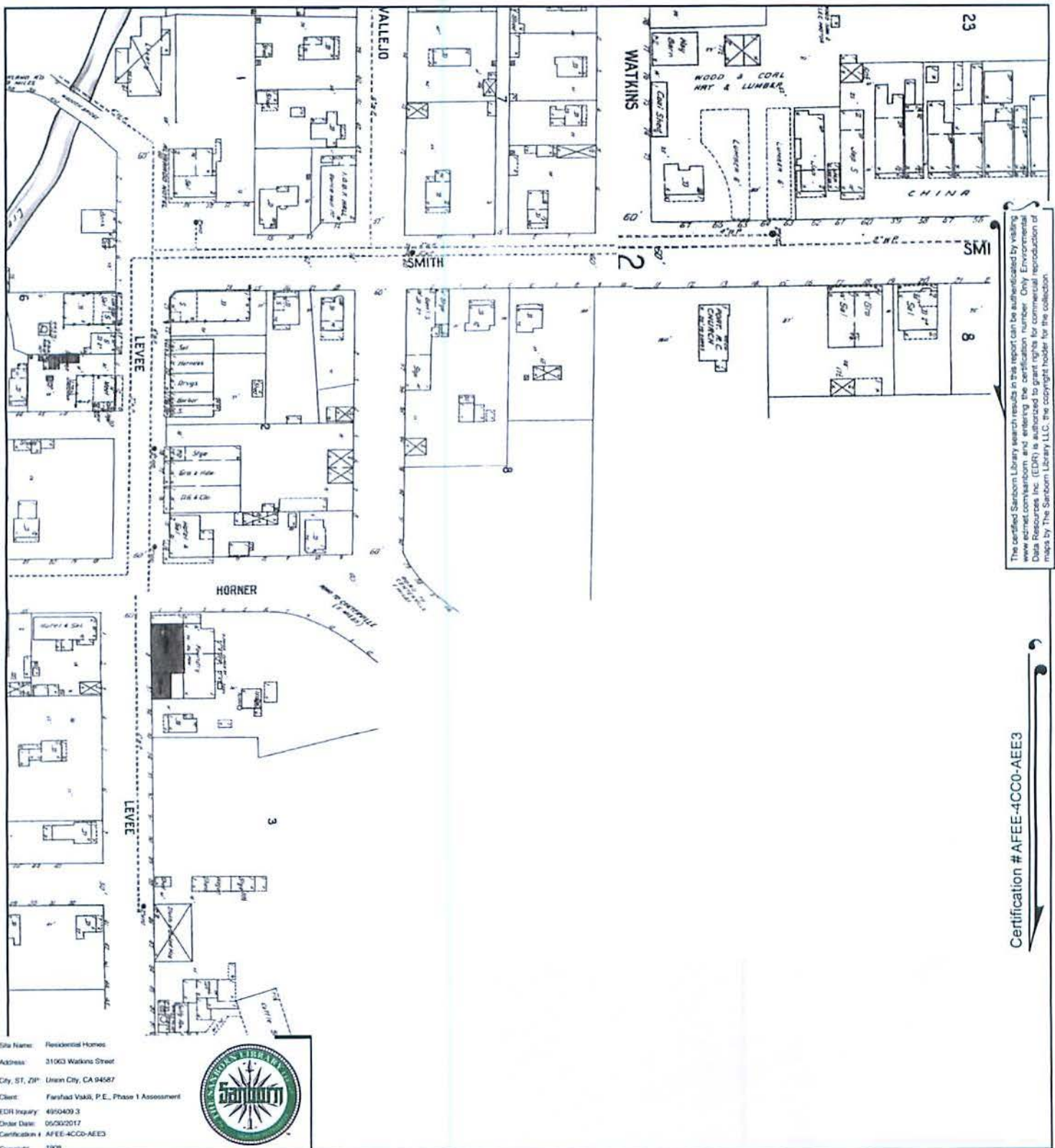
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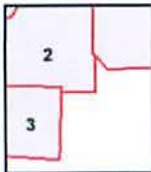
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Certification #AFEE-4CC0-AEE3

Site Name: Residential Homes
Address: 31003 Watkins Street
City, ST, ZIP: Urem City, CA 94587
Client: Farhad Vakil, P.E., Phase 1 Assessment
EDR Inquiry: 4950409.3
Order Date: 06/30/2017
Certification: AFEE-4CC0-AEE3
Copyright: 1908



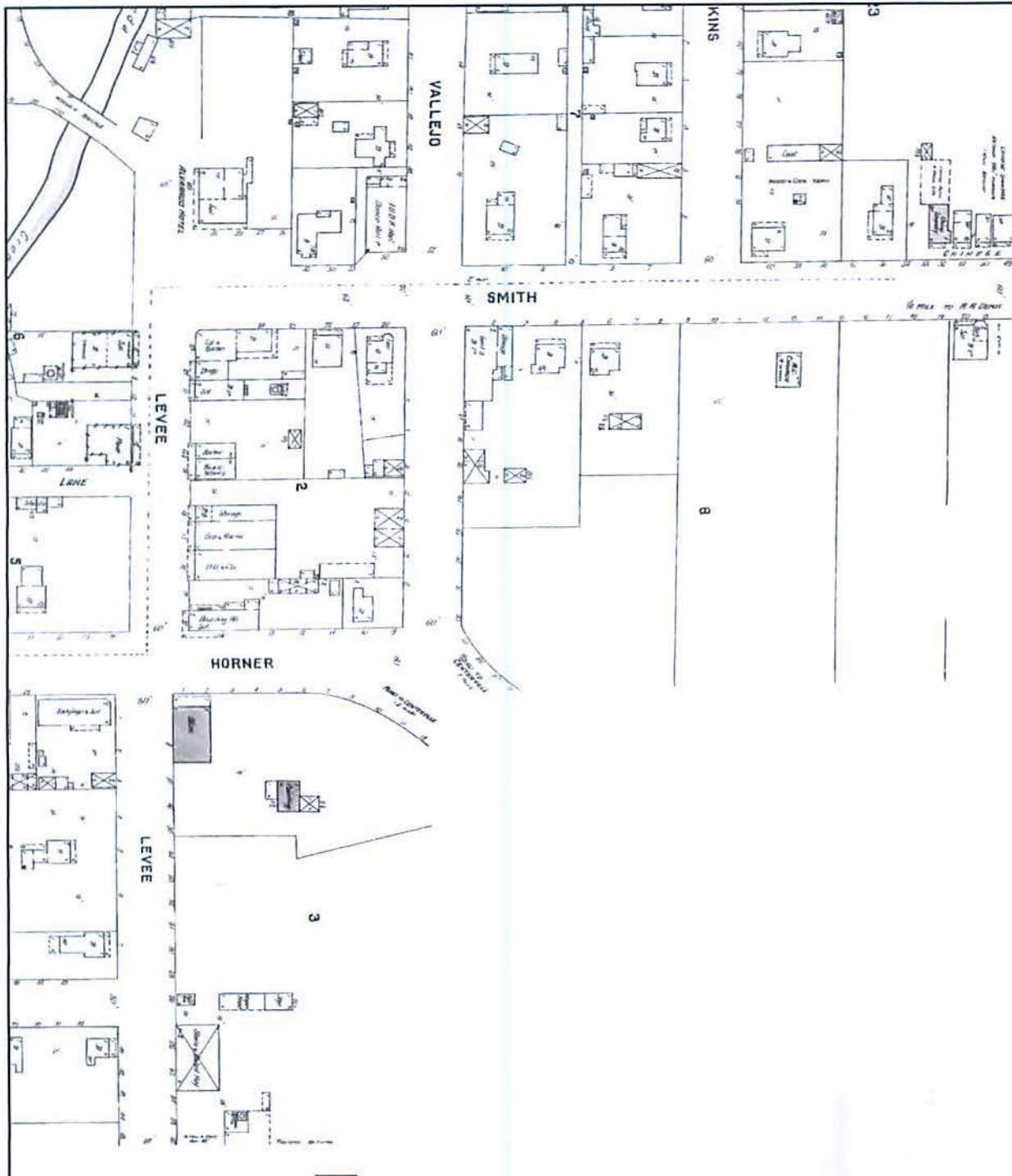
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0 Feet 150 300 600

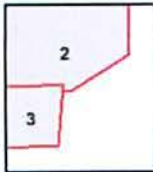




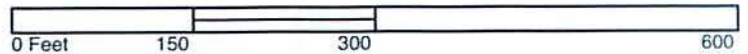
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 City, ST, ZIP: Union City, CA 94587
 Client: Farhad Vakil, P.E., Phase 1 Assessment
 EDR Inquiry: 4950409.3
 Order Date: 05/03/2017
 Certification: AFEE-4CC0-AEE3
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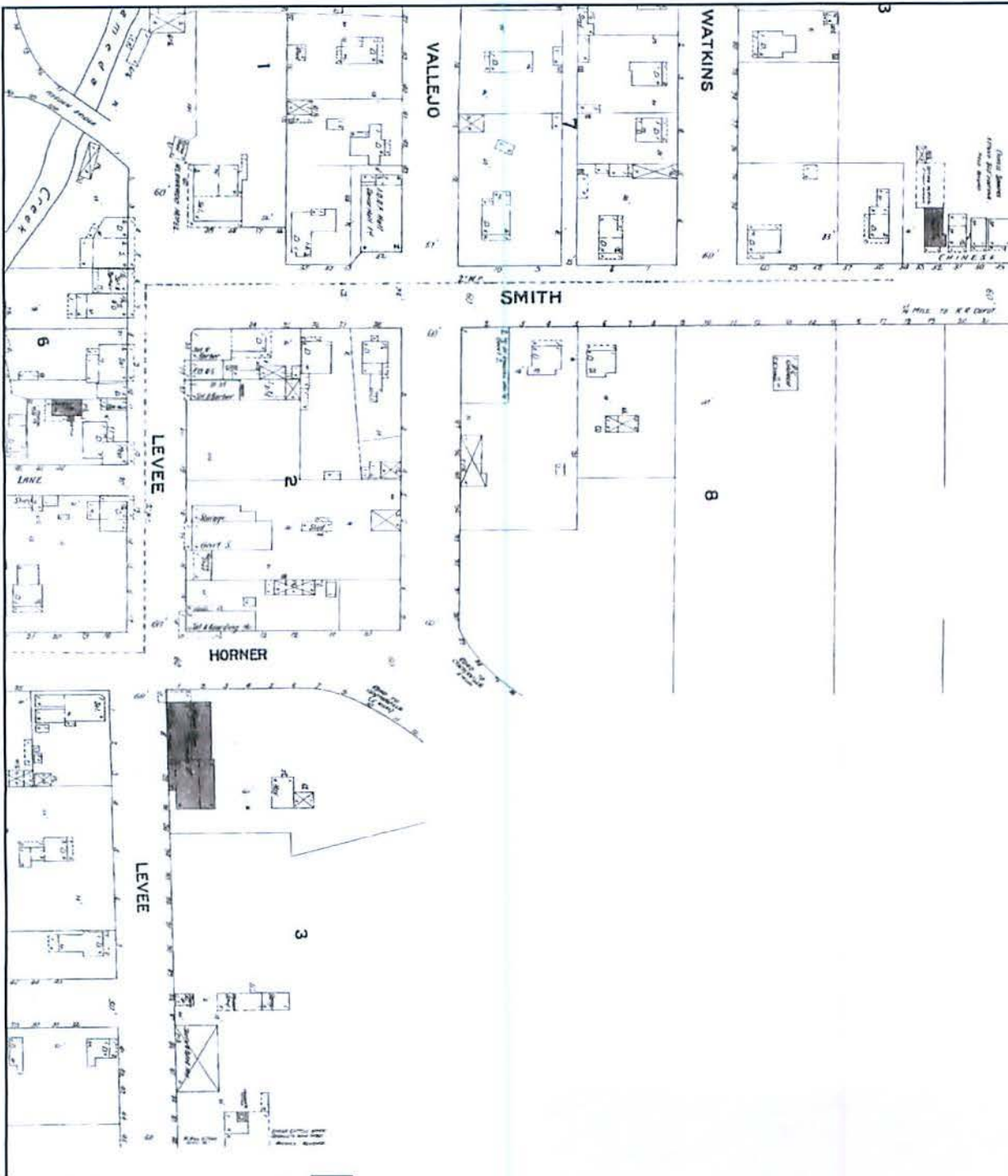


Volume 1, Sheet 3
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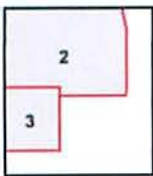
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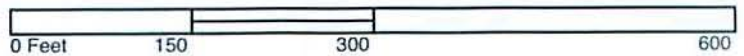
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 Address: 31063 Watkins Street
 City, ST, ZIP: Union City, CA 94587
 Client: Farshad Vakili, P.E., Phase 1 Assessment
 EDR Inquiry: 4950409.3
 Order Date: 05/30/2017
 Certification #: AFEE-4CC0-AEE3
 Copyright: 1896

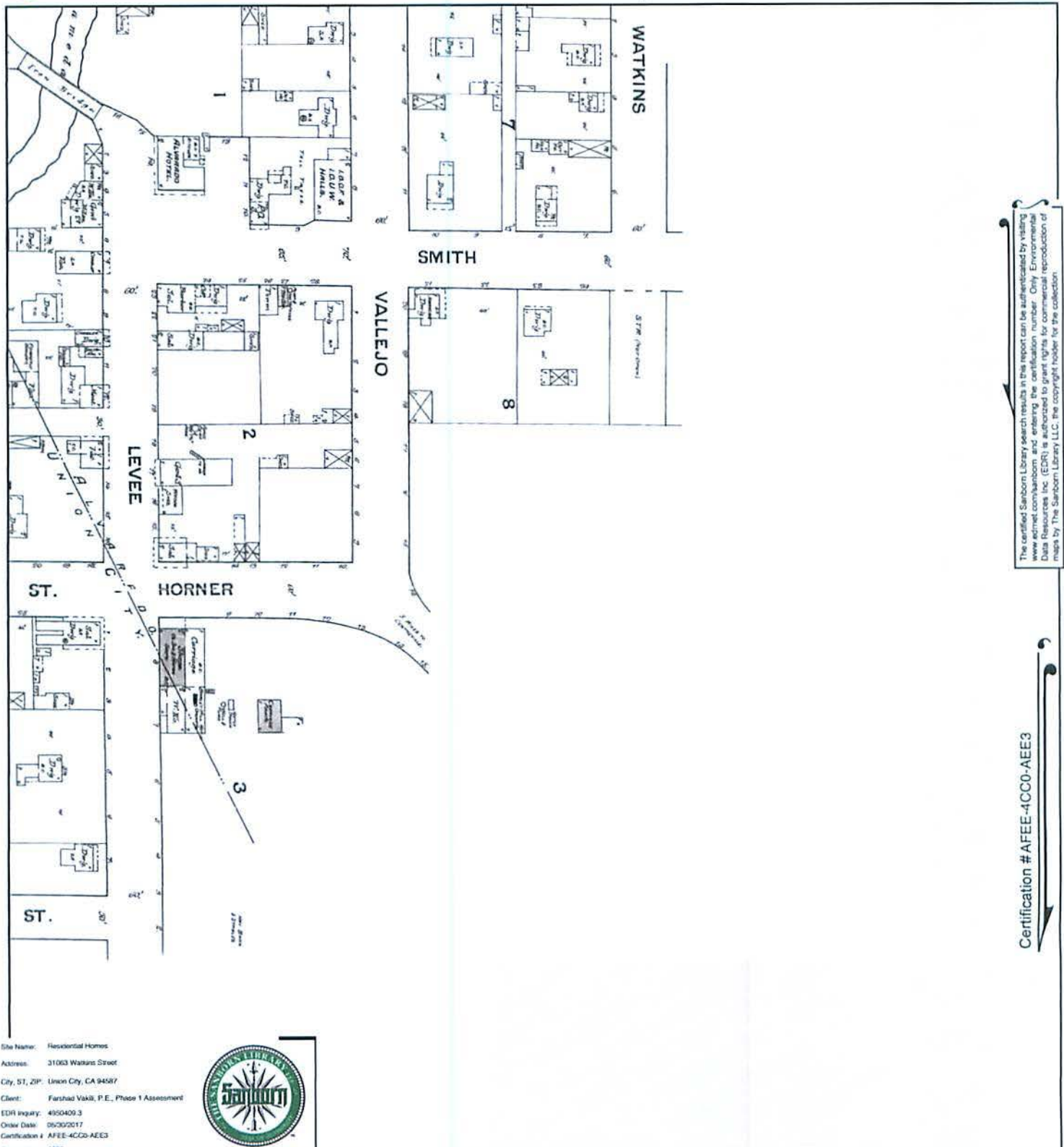


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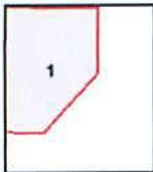




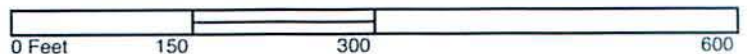
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 Address: 31063 Watkins Street
 City, ST, ZIP: Union City, CA 94587
 Client: Farshad Vakil, P.E., Phase 1 Assessment
 EDR Inquiry: 4950409.3
 Order Date: 05/20/2017
 Certification: AFEE-4CC0-AEE3
 Copyright: 1890

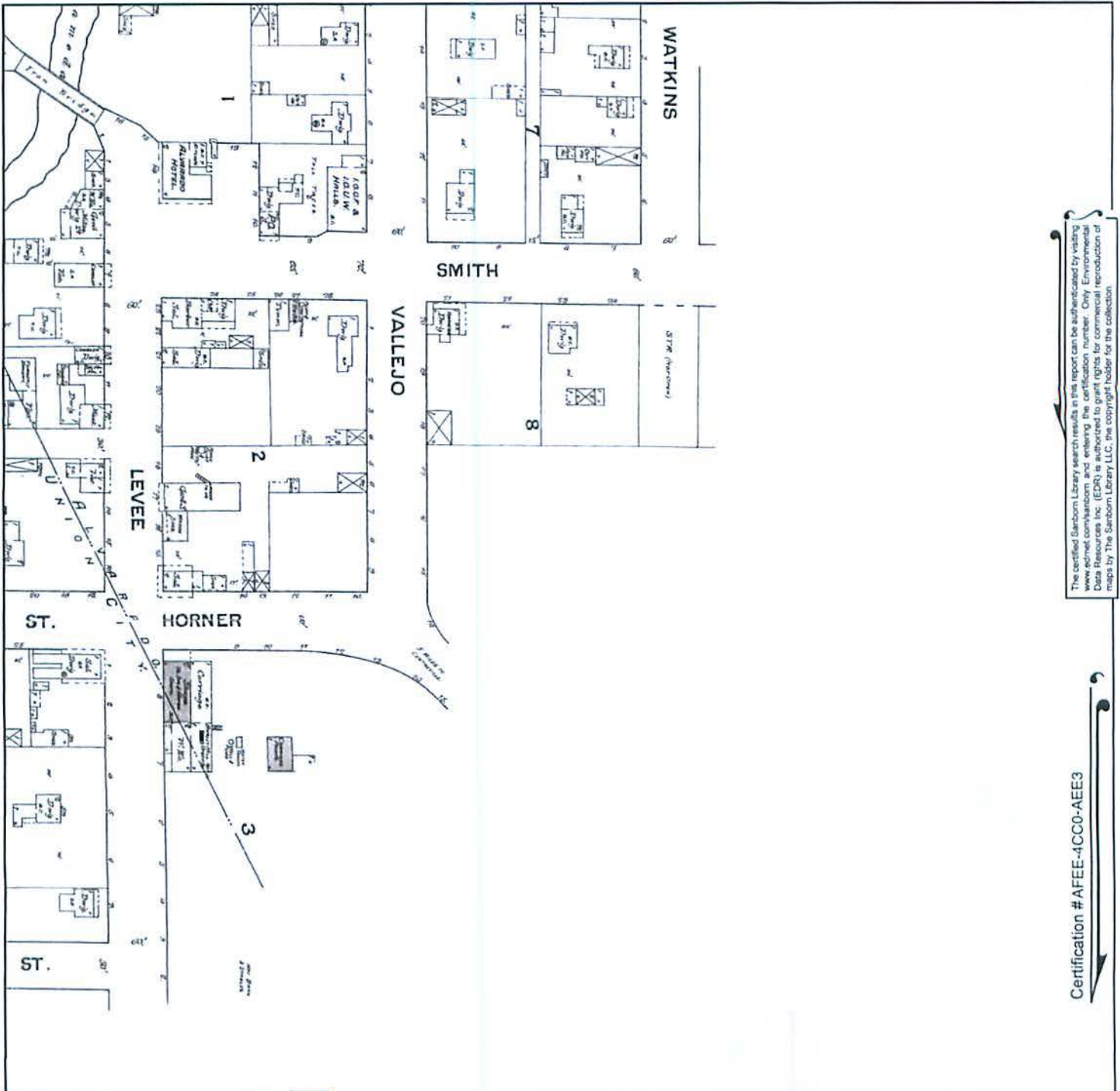


This Certified Sanborn Map combines the following sheets.
 Outlined areas indicate map sheets within the collection.



Volume 1, Sheet 1





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Certification #AFEE-4CC0-AEE3

Site Name: Residential Homes
Address: 31063 Watkins Street
City, ST, ZIP: Union City, CA 94587
Client: Farshad Vakil, P.E., Phase 1 Assessment
EDR Inquiry: 4950409.3
Order Date: 06/30/2017
Certification: AFEE-4CC0-AEE3
Copyright: 1887



This Certified Sanborn Map combines the following sheets.
Outlined areas indicate map sheets within the collection.

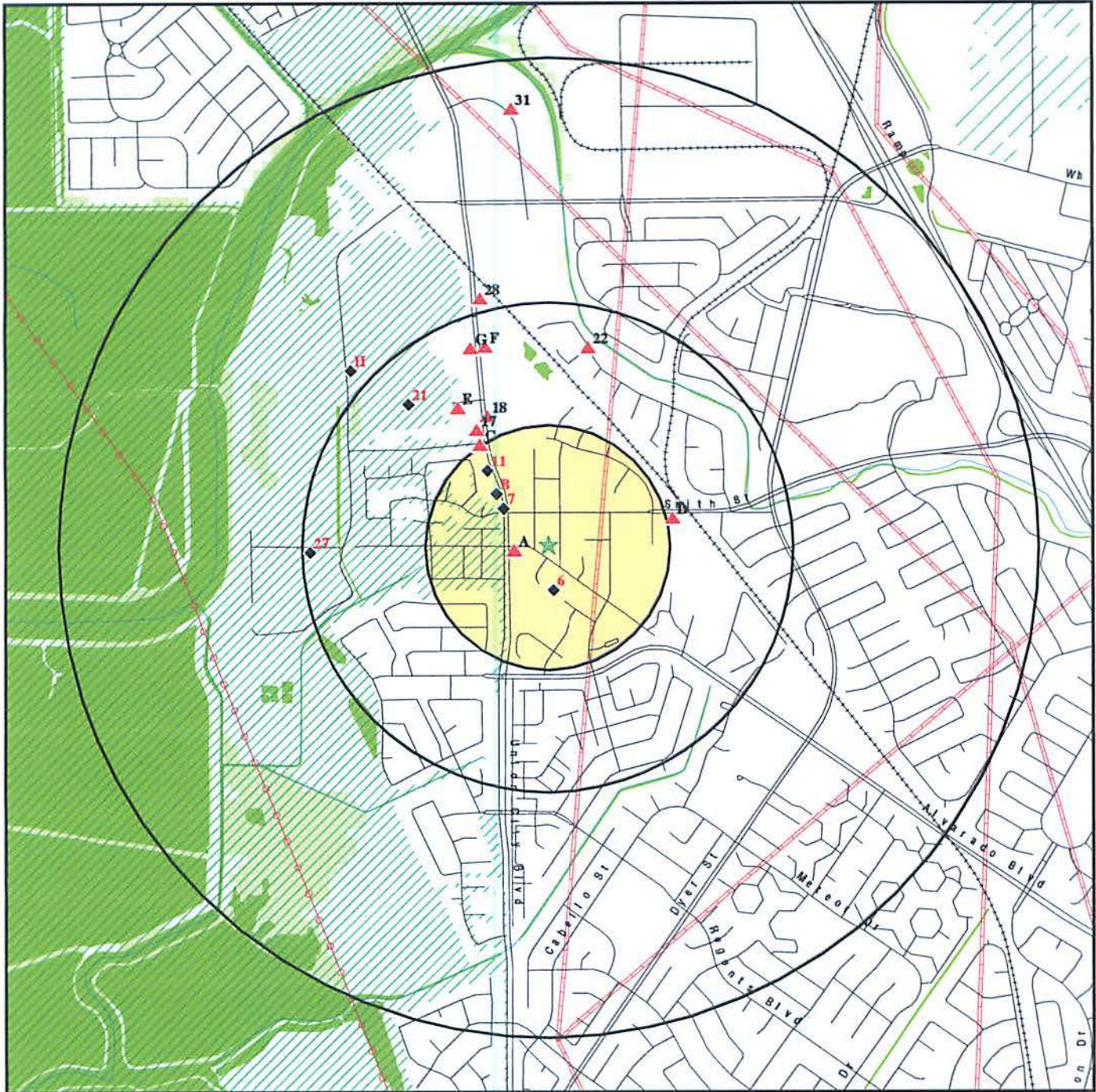


Volume 1, Sheet xxxx



**FIGURE 3
OVERVIEW MAP**

OVERVIEW MAP - 4950409.2S



- ★ 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
- Pipelines
- 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: Residential Homes
 ADDRESS: 31063 Watkins Street
 Union City CA 94587
 LAT/LONG: 37.595455 / 122.079331

CLIENT: Farshad Vakili, P.E., Phase 1 Assessment
 CONTACT: Farshad Vakili, P.E.
 INQUIRY #: 4950409.2s
 DATE: May 30, 2017 1:36 pm

**FIGURE 4
HISTORICAL AERIAL PHOTOGRAPHS**



Residential Homes
31063 Watkins Street
Union City, CA 94587

Inquiry Number: 4950409.5
May 31, 2017

The EDR Aerial Photo Decade Package



6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

05/31/17

Site Name:

Residential Homes
31063 Watkins Street
Union City, CA 94587
EDR Inquiry # 4950409.5

Client Name:

Farshad Vakili, P.E., Phase 1 Assessme
273 Canyon Falls Drive
Folsom, CA 95630
Contact: Farshad Vakili, P.E.



Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

Search Results:

<u>Year</u>	<u>Scale</u>	<u>Details</u>	<u>Source</u>
2012	1"=500'	Flight Year: 2012	USDA/NAIP
2010	1"=500'	Flight Year: 2010	USDA/NAIP
2009	1"=500'	Flight Year: 2009	USDA/NAIP
2006	1"=500'	Flight Year: 2006	USDA/NAIP
2005	1"=500'	Flight Year: 2005	USDA/NAIP
1998	1"=500'	Flight Date: August 27, 1998	USDA
1993	1"=500'	Acquisition Date: July 10, 1993	USGS/DOQQ
1982	1"=500'	Flight Date: July 05, 1982	USDA
1974	1"=500'	Flight Date: October 14, 1974	USGS
1966	1"=500'	Flight Date: May 16, 1966	USDA
1963	1"=500'	Flight Date: June 23, 1963	USGS
1958	1"=500'	Flight Date: July 21, 1958	USGS
1948	1"=500'	Flight Date: September 26, 1948	USDA
1946	1"=500'	Flight Date: July 29, 1946	USGS
1939	1"=500'	Flight Date: July 26, 1939	USDA

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INQUIRY #: 4950409.5

YEAR: 2012

— = 500'





INQUIRY #: 4950409.5

YEAR: 2010

— = 500'





INQUIRY #: 4950409.5

YEAR: 2009

— = 500'





INQUIRY #: 4950409.5

YEAR: 2006

 = 500'





INQUIRY #: 4950409.5

YEAR: 2005

— = 500'





INQUIRY #: 4950409.5

YEAR: 1998

— = 500'





INQUIRY #: 4950409.5

YEAR: 1993

— = 500'





INQUIRY #: 4950409.5

YEAR: 1982

— = 500'





INQUIRY #: 4950409.5

YEAR: 1974

— = 500'





INQUIRY #: 4950409.5

YEAR: 1966

— = 500'



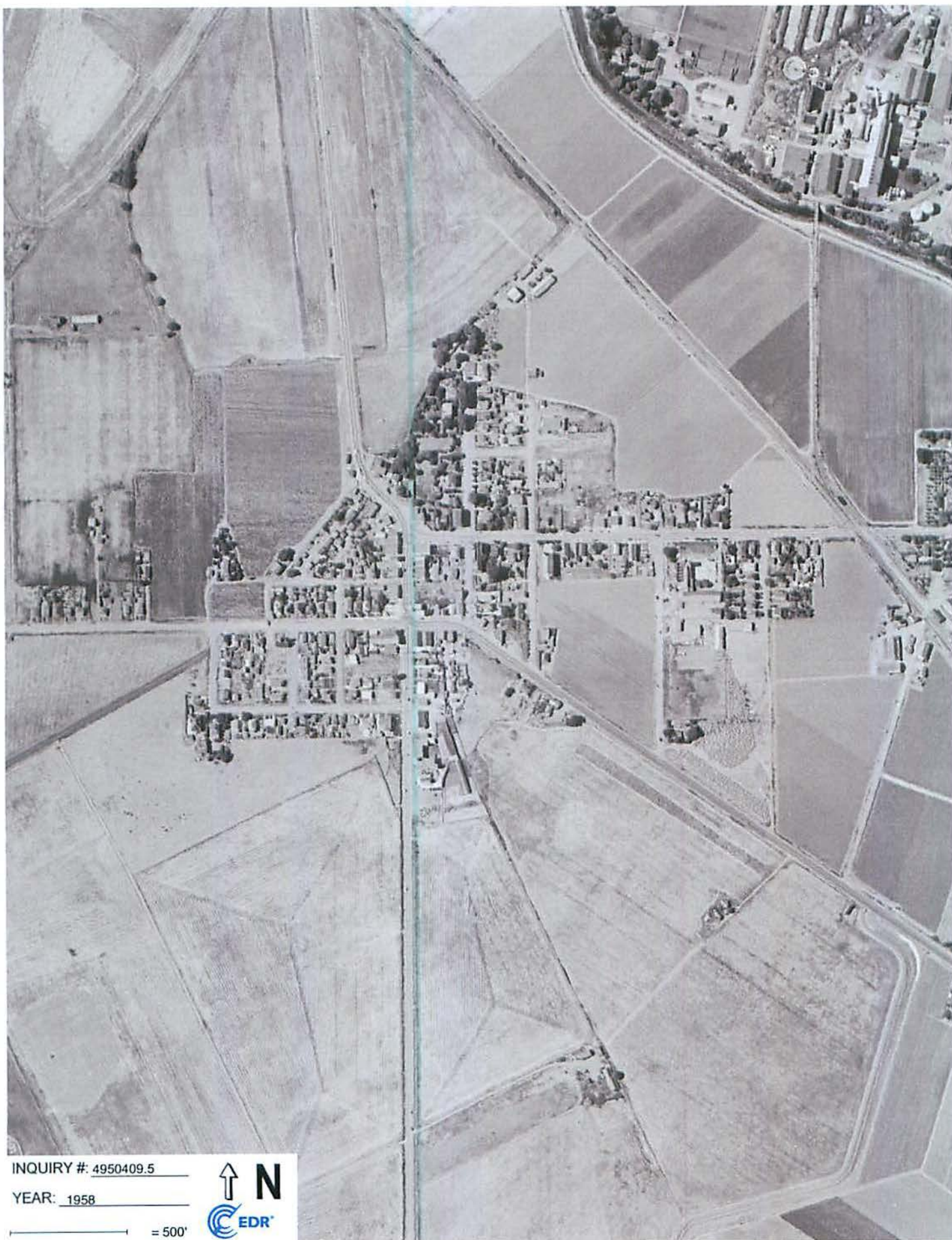


INQUIRY #: 4950409.5

YEAR: 1963

— = 500'



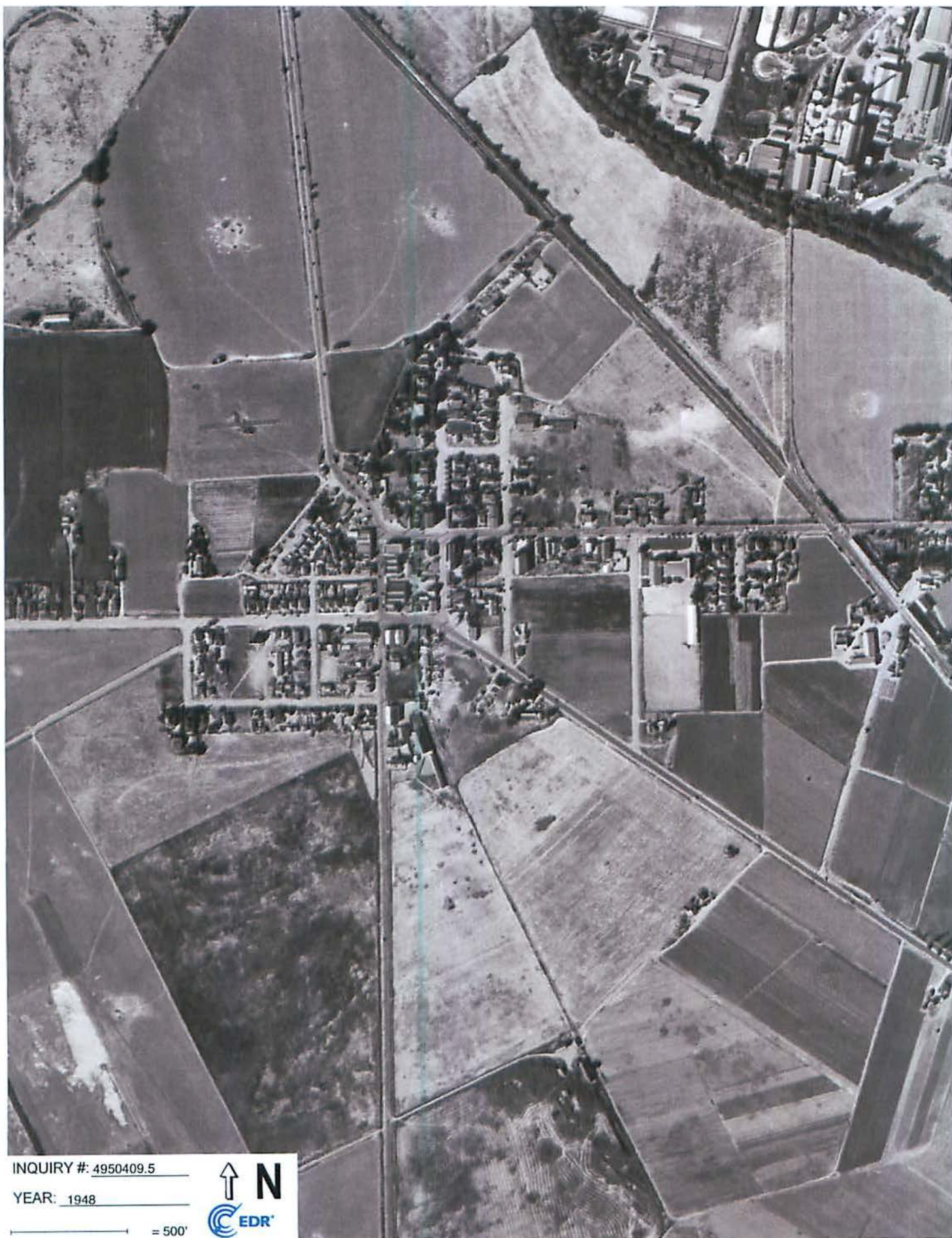


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YEAR: 1958

— = 500'



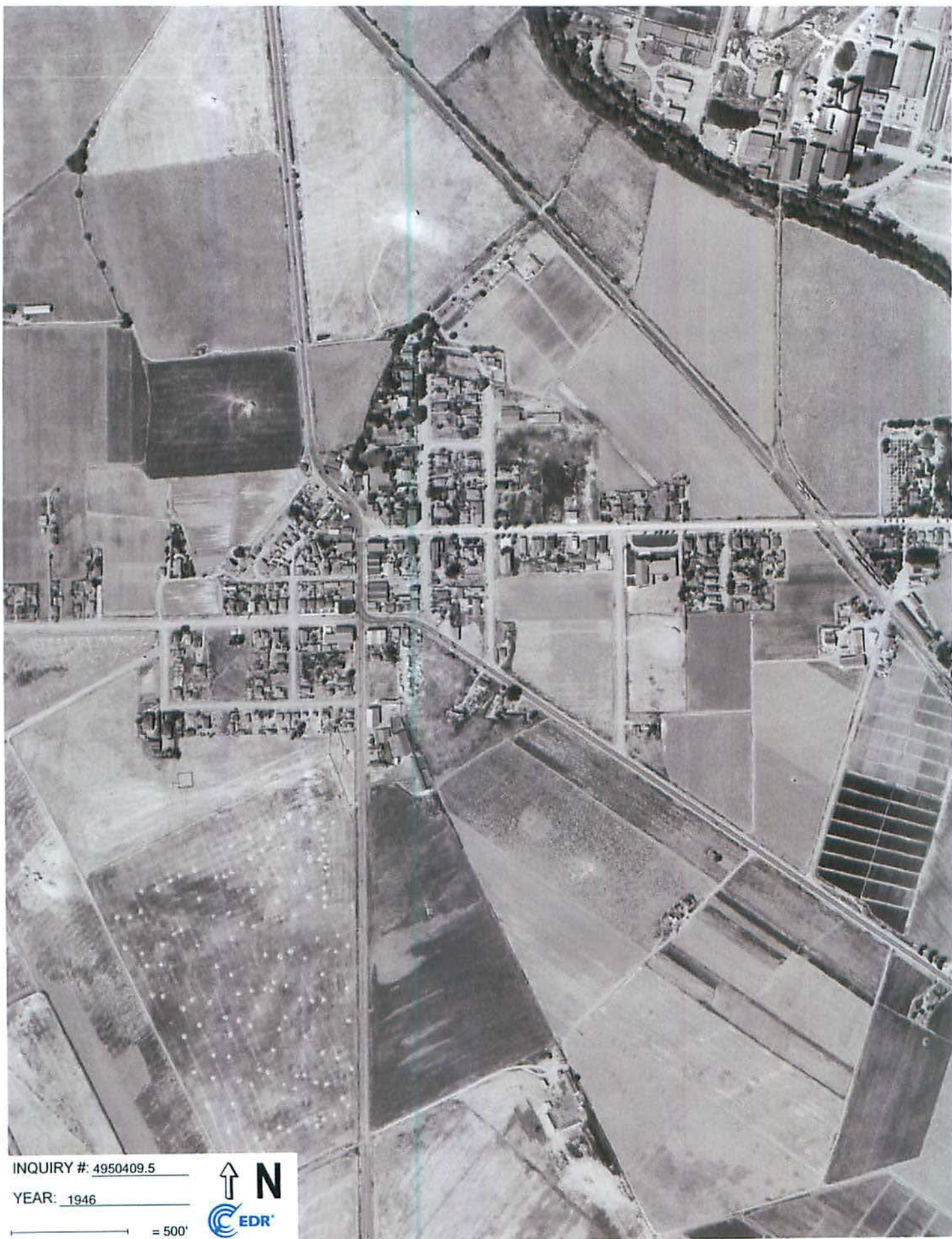


INQUIRY #: 4950409.5

YEAR: 1948

— = 500'





INQUIRY #: 4950409.5

YEAR: 1946

— = 500'





INQUIRY #: 4950409.5

YEAR: 1939

— = 500'



**Revised Phase I Environmental Site Assessment Report
Residential homes/office and Vacant Land
31063 Watkins Street, 31112 Horner Street and 31082 & 31098 Vallejo Street, Union City, Alameda County, California
May 19, 2018**

**ATTACHMENT 2
SOIL, GROUNDWATER AND RADON GAS REPORT**

GEOCHECK®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

RESIDENTIAL HOMES
31063 WATKINS STREET
UNION CITY, CA 94587

TARGET PROPERTY COORDINATES

Latitude (North):	37.595455 - 37° 35' 43.64"
Longitude (West):	122.079331 - 122° 4' 45.59"
Universal Transverse Mercator:	Zone 10
UTM X (Meters):	581277.2
UTM Y (Meters):	4161125.2
Elevation:	11 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	5641108 NEWARK, CA
Version Date:	2012

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principal investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

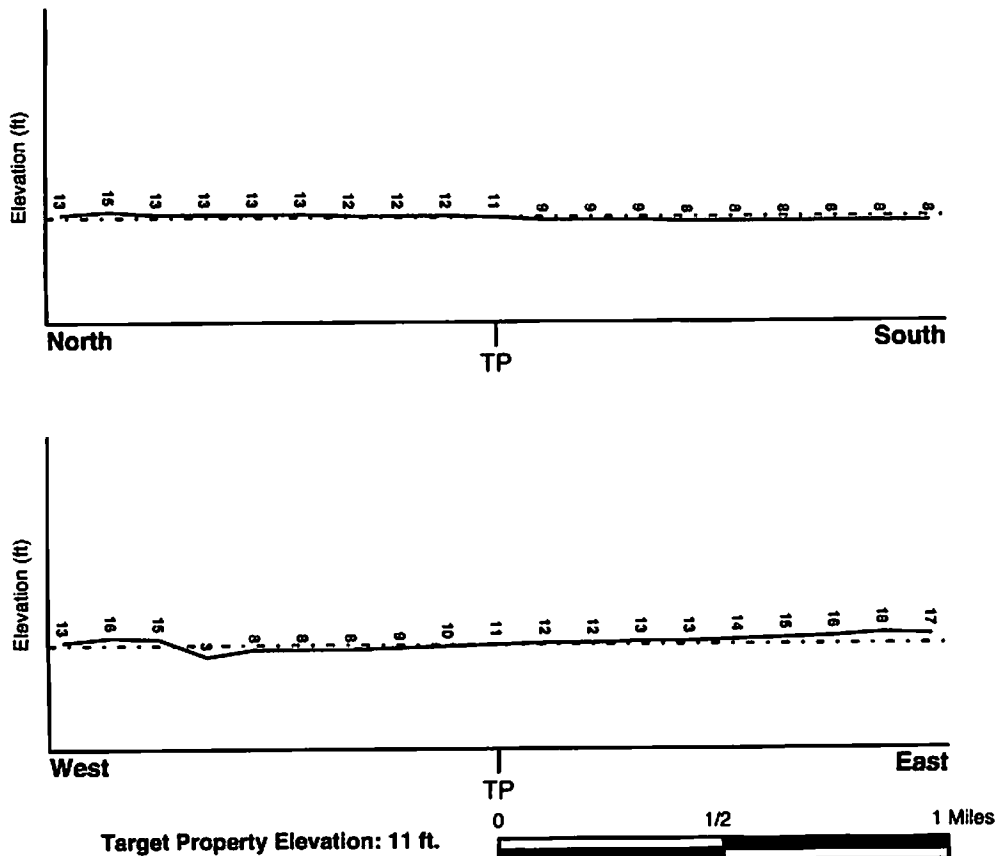
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General SW

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

<u>Flood Plain Panel at Target Property</u>	<u>FEMA Source Type</u>
06001C0427G	FEMA FIRM Flood data
<u>Additional Panels in search area:</u>	<u>FEMA Source Type</u>
06001C0426G	FEMA FIRM Flood data
06001C0431G	FEMA FIRM Flood data
06001C0428G	FEMA FIRM Flood data
06001C0429G	FEMA FIRM Flood data
06001C0433G	FEMA FIRM Flood data

NATIONAL WETLAND INVENTORY

<u>NWI Quad at Target Property</u>	<u>NWI Electronic Data Coverage</u>
NEWARK	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.

<u>MAP ID</u>	<u>LOCATION FROM TP</u>	<u>GENERAL DIRECTION GROUNDWATER FLOW</u>
1	0 - 1/8 Mile WSW	NW
2	0 - 1/8 Mile NW	SE
3	1/8 - 1/4 Mile West	W
4	1/4 - 1/2 Mile SE	S

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

<u>MAP ID</u>	<u>LOCATION FROM TP</u>	<u>GENERAL DIRECTION GROUNDWATER FLOW</u>
6	1/4 - 1/2 Mile NNW	W
A7	1/2 - 1 Mile NNW	SSW
A8	1/2 - 1 Mile NNW	Varies
9	1/2 - 1 Mile NNW	SSW
B10	1/2 - 1 Mile WSW	Not Reported
B11	1/2 - 1 Mile WSW	Not Reported
B12	1/2 - 1 Mile WSW	Not Reported
B13	1/2 - 1 Mile WSW	Not Reported
B14	1/2 - 1 Mile WSW	WSW
15	1/2 - 1 Mile ESE	NW
C16	1/2 - 1 Mile NNW	NW
C17	1/2 - 1 Mile NNW	SSE
18	1/2 - 1 Mile SSE	SE, NW
19	1/2 - 1 Mile NE	Varies
D20	1/2 - 1 Mile NNE	SW
E21	1/2 - 1 Mile ENE	SW,NW,N,NE
E22	1/2 - 1 Mile ENE	WSW
D23	1/2 - 1 Mile North	SW
24	1/2 - 1 Mile NE	WSW
25	1/2 - 1 Mile NNE	Varies

For additional site information, refer to Physical Setting Source Map Findings.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

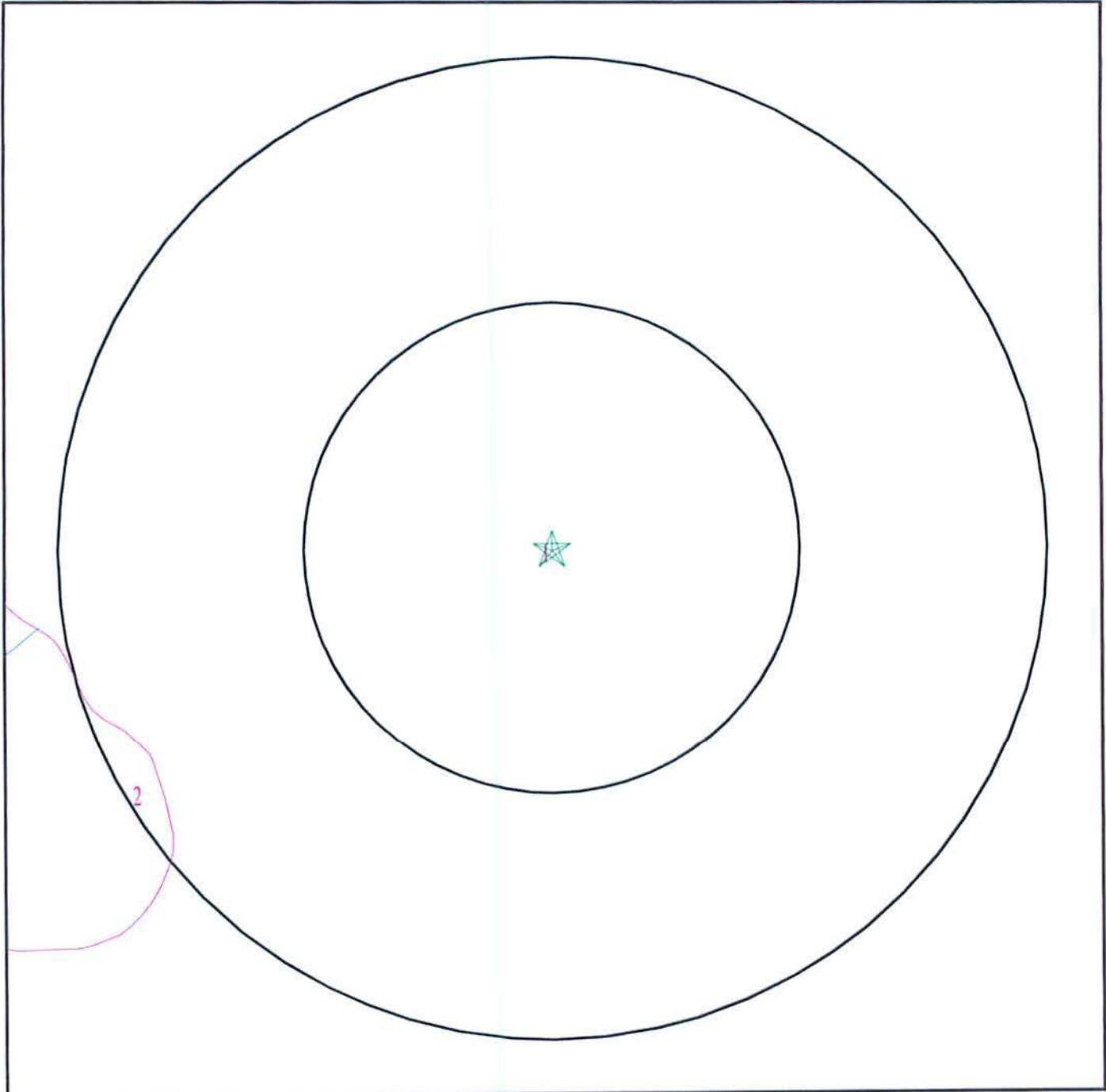
Era:	Cenozoic
System:	Quaternary
Series:	Quaternary
Code:	Q (decoded above as Era, System & Series)

GEOLOGIC AGE IDENTIFICATION

Category: Stratified Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 4950409.2s



- ★ Target Property
- ∕ SSURGO Soil
- ∕ Water



SITE NAME: Residential Homes
ADDRESS: 31063 Watkins Street
Union City CA 94587
LAT/LONG: 37.595455 / 122.079331

CLIENT: Farshad Vakili, P.E., Phase 1 Assessment
CONTACT: Farshad Vakili, P.E.
INQUIRY #: 4950409.2s
DATE: May 30, 2017 1:41 pm

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: Sycamore

Soil Surface Texture: silt loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class:
Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	18 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 8.4 Min: 6.6
2	18 inches	59 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 8.4 Min: 6.6

Soil Map ID: 2

Soil Component Name: Omni

Soil Surface Texture: silty clay loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class:

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 168 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	5 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 8.4 Min: 7.4
2	5 inches	51 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 1.4 Min: 0.42	Max: 8.4 Min: 7.9
3	51 inches	59 inches	stratified clay loam to silty clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 1.4 Min: 0.42	Max: 8.4 Min: 7.9

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

<u>DATABASE</u>	<u>SEARCH DISTANCE (miles)</u>
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

FEDERAL USGS WELL INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
5	USGS40000184018	1/4 - 1/2 Mile NE

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
No Wells Found		

PHYSICAL SETTING SOURCE MAP - 4950409.2s



- 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
- Indeterminate Groundwater Flow at Location
- Groundwater Flow Varies at Location
- Closest Hydrogeological Data
- Oil, gas or related wells

SITE NAME: Residential Homes
 ADDRESS: 31063 Watkins Street
 Union City CA 94587
 LAT/LONG: 37.595455 / 122.079331

CLIENT: Farshad Vakili, P.E., Phase 1 Assessment
 CONTACT: Farshad Vakili, P.E.
 INQUIRY #: 4950409.2s
 DATE: May 30, 2017 1:41 pm

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database EDR ID Number

1 WSW 0 - 1/8 Mile Higher	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	0063 NW 4.79 5.02 Not Reported 08/15/1996	AQUIFLOW	69245
------------------------------------	---	--	----------	-------

2 NW 0 - 1/8 Mile Higher	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	0322 SE Not Reported Not Reported 5.93' 07/15/1998	AQUIFLOW	69256
-----------------------------------	---	---	----------	-------

3 West 1/8 - 1/4 Mile Lower	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	0140 W Not Reported Not Reported 3' 03/21/1995	AQUIFLOW	69571
--------------------------------------	---	---	----------	-------

4 SE 1/4 - 1/2 Mile Higher	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	0035 S 3.43 10.00 Not Reported 03/01/1999	AQUIFLOW	50744
-------------------------------------	---	--	----------	-------

5 NE 1/4 - 1/2 Mile Higher			FED USGS	USGS40000184018
-------------------------------------	--	--	----------	-----------------

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-373601122042901		
Monloc name:	004S002W10E004M		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	Not Reported	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	37.6001389
Longitude:	-122.0748333	Sourcemap scale:	24000
Horiz Acc measure:	.1	Horiz Acc measure units:	seconds
Horiz Collection method:	Differentially corrected Global Positioning System (DGPS)		
Horiz coord refs:	NAD83	Vert measure val:	14.5
Vert measure units:	feet	Vertacc measure val:	.2
Vert accmeasure units:	feet		
Vertcollection method:	Differential Global Positioning System (GPS)r		
Vert coord refs:	NGVD29	Countrycode:	US
Aquifername:	California Coastal Basin aquifers		
Formation type:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Aquifer type:	Confined single aquifer	
Construction date:	20020427	Welldepth: 440
Welldepth units:	ft	Wellholedepth: 450
Wellholedepth units:	ft	

Ground-water levels, Number of Measurements: 2

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
2002-11-04	18.63		2002-07-25	26.55	

6 NNW 1/4 - 1/2 Mile Higher	Site ID: 0153 Groundwater Flow: W Shallow Water Depth: 2-3' Deep Water Depth: 9-10' Average Water Depth: Not Reported Date: 05/27/1998	AQUIFLOW 69257
--	---	-----------------------

A7 NNW 1/2 - 1 Mile Higher	Site ID: 0135 Groundwater Flow: SSW Shallow Water Depth: 1.94 Deep Water Depth: 6.21 Average Water Depth: Not Reported Date: 07/10/1997	AQUIFLOW 69238
---	--	-----------------------

A8 NNW 1/2 - 1 Mile Higher	Site ID: 01-0982 Groundwater Flow: Varies Shallow Water Depth: Not Reported Deep Water Depth: Not Reported Average Water Depth: 17 Date: 04/1989	AQUIFLOW 38233
---	---	-----------------------

9 NNW 1/2 - 1 Mile Higher	Site ID: 0012 Groundwater Flow: SSW Shallow Water Depth: 1.80' Deep Water Depth: 5.47' Average Water Depth: Not Reported Date: 05/17/1996	AQUIFLOW 69251
--	--	-----------------------

B10 WSW 1/2 - 1 Mile Lower	Site ID: 0287 Groundwater Flow: Not Reported Shallow Water Depth: Not Reported Deep Water Depth: Not Reported Average Water Depth: 5' Date: 11/09/1995	AQUIFLOW 69541
---	---	-----------------------

B11 WSW 1/2 - 1 Mile Lower	Site ID: 0287 Groundwater Flow: Not Reported Shallow Water Depth: Not Reported Deep Water Depth: Not Reported Average Water Depth: 5' Date: 11/09/1995	AQUIFLOW 69542
---	---	-----------------------

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation			Database	EDR ID Number
B12 WSW 1/2 - 1 Mile Lower	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	0428 Not Reported 6.34 8.27 Not Reported 03/22/1996	AQUIFLOW	50740
B13 WSW 1/2 - 1 Mile Lower	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	Not Reported Not Reported 6.34 8.27 Not Reported 03/22/1996	AQUIFLOW	50741
B14 WSW 1/2 - 1 Mile Lower	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	0193 WSW 4' 6' Not Reported 07/11/1996	AQUIFLOW	69249
15 ESE 1/2 - 1 Mile Higher	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	0272 NW 5.17' 5.45' Not Reported 07/13/1997	AQUIFLOW	69231
C16 NNW 1/2 - 1 Mile Higher	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-0815 NW Not Reported Not Reported 25 09/09/1993	AQUIFLOW	65456
C17 NNW 1/2 - 1 Mile Higher	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	0196 SSE Not Reported Not Reported 7'bgs 08/28/1997	AQUIFLOW	69240
18 SSE 1/2 - 1 Mile Lower	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-1212 SE, NW Not Reported Not Reported 8-11 08/08/1989	AQUIFLOW	65478

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database EDR ID Number

19 NE 1/2 - 1 Mile Higher	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	0061 Varies 4.75 5.40 Not Reported 03/30/1999	AQUIFLOW	50745
D20 NNE 1/2 - 1 Mile Higher	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	Not Reported SW 3.23 6.10 Not Reported 10/17/1997	AQUIFLOW	50746
E21 ENE 1/2 - 1 Mile Higher	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	0155 SW,NW,N,NE Not Reported Not Reported Not Reported 05/25/1999	AQUIFLOW	69235
E22 ENE 1/2 - 1 Mile Higher	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	0078 WSW 4.00 11.92 Not Reported 03/01/1999	AQUIFLOW	69254
D23 North 1/2 - 1 Mile Higher	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	0151 SW 3.23 6.10 Not Reported 10/17/1997	AQUIFLOW	50747
24 NE 1/2 - 1 Mile Higher	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	0334 WSW Not Reported Not Reported 6' 10/06/1998	AQUIFLOW	69663
25 NNE 1/2 - 1 Mile Higher	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	0147 Varies 3.99 9.05 Not Reported 10/23/1996	AQUIFLOW	50749

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

RADON

AREA RADON INFORMATION

State Database: CA Radon

Radon Test Results

Zipcode	Num Tests	> 4 pCi/L
94587	17	0

Federal EPA Radon Zone for ALAMEDA County: 2

Note: Zone 1 indoor average level > 4 pCi/L.

: Zone 2 indoor average level \geq 2 pCi/L and \leq 4 pCi/L.

: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for Zip Code: 94587

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 & Game

Telephone: 916-445-0411

HYDROGEOLOGIC INFORMATION

AQUIFLOW^R Information System

Source: EDR proprietary database of groundwater flow information

EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit

Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)

The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)

Telephone: 800-672-5559

SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)

This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Water Well Database

Source: Department of Water Resources

Telephone: 916-651-9648

California Drinking Water Quality Database

Source: Department of Public Health

Telephone: 916-324-2319

The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

OTHER STATE DATABASE INFORMATION

California Oil and Gas Well Locations

Source: Department of Conservation

Telephone: 916-323-1779

Oil and Gas well locations in the state.

RADON

State Database: CA Radon

Source: Department of Health Services

Telephone: 916-324-2208

Radon Database for California

Area Radon Information

Source: USGS

Telephone: 703-356-4020

The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones

Source: EPA

Telephone: 703-356-4020

Sections 307 & 309 of IRRA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

STREET AND ADDRESS INFORMATION

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Revised Phase I Environmental Site Assessment Report
Residential homes/office and Vacant Land
31063 Watkins Street, 31112 Horner Street and 31082 & 31098 Vallejo Street, Union City, Alameda County, California
May 19, 2018

ATTACHMENT 3 PHOTOGRAPHS



Photo 1: Looking south at Watkins Street



Photo 2: Looking west at the residential home at the Subject Property



Photo 3: Looking west at the yard next to the residential home



Photo 4: Looking south at the side of the Subject Property



Photo 5: Looking at the storm drain on Watkins Street



Photo 6: Looking northwest at the graveled yard inside the property



Photo 7: Looking at the street drain at Horner Street next to the property



Photo 8: Looking north at the Subject Property



Photo 9: Looking north at the homes and the yards at the Subject Property



Photo 10: Looking at the sewer line on Watkins Street



Photo 11: Looking north at the residential homes on the Subject Property



Photo 12: Looking west at the residential homes on the Subject Property

**Revised Phase I Environmental Site Assessment Report
Residential homes/office and Vacant Land
31063 Watkins Street, 31112 Horner Street and 31082 & 31098 Vallejo Street, Union City, Alameda County, California
May 19, 2018**

**ATTACHMENT 4
EDR RADIUS MAP REPORT**

Residential Homes

31063 Watkins Street
Union City, CA 94587

Inquiry Number: 4950409.2s
May 30, 2017

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) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

31063 WATKINS STREET
UNION CITY, CA 94587

COORDINATES

Latitude (North):	37.5954550 - 37° 35' 43.63"
Longitude (West):	122.0793310 - 122° 4' 45.59"
Universal Transverse Mercator:	Zone 10
UTM X (Meters):	581277.2
UTM Y (Meters):	4161125.2
Elevation:	11 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	5641108 NEWARK, CA
Version Date:	2012

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20140606, 20140608
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
31063 WATKINS STREET
UNION CITY, CA 94587

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.)
					DIRECTION
A1	HORNER STREET SITE	N OF HORNER ST & WES	ENVIROSTOR	Higher	346, 0.066, WSW
A2	GEORGE L A MOBIL DIS	3992 HORNER	EDR Hist Auto	Higher	357, 0.068, West
A3	J & G UNION CITY GLA	3992 HORNER ST	LUST, HIST CORTESE	Higher	357, 0.068, West
A4	J & G UNION CITY GLA	3992 HORNER ST	LUST	Higher	357, 0.068, West
A5	MOBILE OIL CO	3996 HORNER ST	EDR Hist Auto	Higher	369, 0.070, West
6	QUIK-STOP MARKET 036	3900 HORNER ST APT 1	EDR Hist Auto	Lower	462, 0.087, South
7	MOBIL BULK PLANT	30995 UNION CITY BOU	LUST	Lower	639, 0.121, NW
B8	LOYOLA'S HI TECH AUT	30957 UNION CITY BOU	LUST	Lower	801, 0.152, NW
B9	LOYOLA'S HI TECH AUT	30957 UNION CITY BOU	LUST, HIST CORTESE	Lower	801, 0.152, NW
B10	MOBIL BULK PLANT	30963 UNION CITY	HIST CORTESE	Lower	801, 0.152, NW
11	MOBILE HYDRAULIC EQU	30639 UNION CITY BLV	LUST	Lower	1056, 0.200, NW
C12	RECYCLING CENTER/PIN	30685 UNION CITY BOU	SLIC	Higher	1206, 0.228, NW
C13	RECYCLING CENTER/PIN	30685 UNION CITY BOU	SLIC	Higher	1206, 0.228, NW
C14	BETTENCOURT PROPERTY	4300 BETTENCOURT WAY	SLIC	Higher	1326, 0.251, NNW
D15	NEW HAVEN USD CORPOR	3636 SMITH ST	LUST	Higher	1390, 0.263, ENE
D16	NEW HAVEN USD CORPOR	3636 SMITH ST	LUST, HIST CORTESE	Higher	1390, 0.263, ENE
17	RANDY'S FROZEN MEATS	30593 UNION CITY BLV	LUST, HIST CORTESE	Higher	1480, 0.280, NNW
18	BX SERVICE STATION	30542 UNION CITY	HIST CORTESE	Higher	1556, 0.295, NNW
E19	R. J. CHASE COMPANY,	4000 TARA COURT	SEMS-ARCHIVE	Higher	1787, 0.338, NNW
E20	R J CHASE COMPANY	4000 TARA COURT	RESPONSE, ENVIROSTOR, EMI	Higher	1787, 0.338, NNW
21	CHEMSECO	1 TARA COURT	SLIC	Lower	2152, 0.408, NW
22	SEABREEZE LEGACY	TIDEWATER DRIVE & MI	ENVIROSTOR, VCP	Higher	2199, 0.416, NNE
F23	BEMIS COMPANY, INC	30300 UNION CITY BLV	EMI, HIST CORTESE, WDS	Higher	2263, 0.429, NNW
F24	SYSCO AVARD/CONTINEN	30315 UNION CITY	LUST, HIST CORTESE	Higher	2264, 0.429, NNW
G25	A & H TRUCK REPAIR	30319 UNION CITY BOU	LUST, HIST CORTESE	Higher	2301, 0.436, NNW
G26	A & H TRUCK REPAIR	30319 UNION CITY BOU	LUST	Higher	2301, 0.436, NNW
27	VEASY AND HORNER DEV	4700 HORNER STREET	RCRA-SQG, LUST, SLIC, SWEEPS UST, HIST UST, FINDS,...	Lower	2553, 0.484, West
28	CAMPBELL COOPER TOOL	30070 UNION CITY BLV	RCRA-SQG, ENVIROSTOR, LUST, HIST UST, FINDS, ECHO	Higher	2779, 0.526, NNW
H29	BOHANNA & PEARCE/LIN	30460 WHIPPLE ROAD	Notify 65	Lower	2848, 0.539, NW
H30	LINCOLN/BOHANNA & PE	30460 WHIPPLE ROAD	Notify 65	Lower	2848, 0.539, NW
31	FANUC USA CORP BERKE	29700 KOHOUTEK WAY	RCRA-SQG, ENVIROSTOR, CHMIRS	Higher	4738, 0.897, North

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 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

EXECUTIVE SUMMARY

State and tribal landfill and/or solid waste disposal site lists

SWF/LF..... Solid Waste Information System

State and tribal leaking storage tank lists

INDIAN LUST..... Leaking Underground Storage Tanks on Indian Land

Alameda County CS..... Contaminated Sites

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

State and tribal Brownfields sites

BROWNFIELDS..... Considered Brownfields Sites Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS..... A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT..... Waste Management Unit Database

SWRCY..... Recycler Database

HAULERS..... Registered Waste Tire Haulers Listing

INDIAN ODI..... Report on the Status of Open Dumps on Indian Lands

DEBRIS REGION 9..... Torres Martinez Reservation Illegal Dump Site Locations

ODI..... Open Dump Inventory

IHS OPEN DUMPS..... Open Dumps on Indian Land

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL..... Delisted National Clandestine Laboratory Register

HIST Cal-Sites..... Historical Calsites Database

SCH..... School Property Evaluation Program

CDL..... Clandestine Drug Labs

Toxic Pits..... Toxic Pits Cleanup Act Sites

US CDL..... National Clandestine Laboratory Register

Local Lists of Registered Storage Tanks

SWEEPS UST..... SWEEPS UST Listing

HIST UST..... Hazardous Substance Storage Container Database

EXECUTIVE SUMMARY

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

EXECUTIVE SUMMARY

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
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
UIC.....	UIC Listing
WASTEWATER PITS.....	Oil Wastewater Pits Listing
WDS.....	Waste Discharge System
WIP.....	Well Investigation Program Case List

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP.....	EDR Proprietary Manufactured Gas Plants
EDR Hist Cleaner.....	EDR Exclusive Historic Dry Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF.....	Recovered Government Archive Solid Waste Facilities List
RGA LUST.....	Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property. Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

EXECUTIVE SUMMARY

STANDARD ENVIRONMENTAL RECORDS

Federal CERCLIS NFRAP site list

SEMS-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.

A review of the SEMS-ARCHIVE list, as provided by EDR, and dated 02/07/2017 has revealed that there is 1 SEMS-ARCHIVE site within approximately 0.5 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
R. J. CHASE COMPANY,	4000 TARA COURT	NNW 1/4 - 1/2 (0.338 mi.)	E19	28

State- and tribal - equivalent NPL

RESPONSE: Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

A review of the RESPONSE list, as provided by EDR, has revealed that there is 1 RESPONSE site within approximately 1 mile of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
R J CHASE COMPANY Database: RESPONSE, Date of Government Version: 01/30/2017 Status: No Further Action Facility Id: 1290003	4000 TARA COURT	NNW 1/4 - 1/2 (0.338 mi.)	E20	29

State- and tribal - equivalent CERCLIS

ENVIROSTOR: The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifies sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

A review of the ENVIROSTOR list, as provided by EDR, and dated 01/30/2017 has revealed that there are

EXECUTIVE SUMMARY

5 ENVIROSTOR sites within approximately 1 mile of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
HORNER STREET SITE Facility Id: 1230002 Status: Refer: Other Agency	N OF HORNER ST & WES	WSW 0 - 1/8 (0.066 mi.)	A1	8
R J CHASE COMPANY Facility Id: 1290003 Status: No Further Action	4000 TARA COURT	NNW 1/4 - 1/2 (0.338 mi.)	E20	29
SEABREEZE LEGACY Facility Id: 1010008 Status: No Further Action	TIDEWATER DRIVE & MI	NNE 1/4 - 1/2 (0.416 mi.)	22	37
CAMPBELL COOPER TOOL Facility Id: 1330006 Status: No Further Action	30070 UNION CITY BLV	NNW 1/2 - 1 (0.526 mi.)	28	55
FANUC USA CORP BERKE Facility Id: 71003476 Status: Inactive - Needs Evaluation	29700 KOHOUTEK WAY	N 1/2 - 1 (0.897 mi.)	31	61

State and tribal leaking storage tank lists

LUST: Leaking Underground Storage Tank (LUST) Sites included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

A review of the LUST list, as provided by EDR, has revealed that there are 13 LUST sites within approximately 0.5 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
J & G UNION CITY GLA Database: LUST, Date of Government Version: 03/13/2017 Status: Completed - Case Closed Global Id: T0600100740	3992 HORNER ST	W 0 - 1/8 (0.068 mi.)	A3	9
J & G UNION CITY GLA Database: LUST REG 2, Date of Government Version: 09/30/2004 Facility Id: 01-0804 Facility Status: Remediation Plan	3992 HORNER ST	W 0 - 1/8 (0.068 mi.)	A4	12
NEW HAVEN USD CORPOR Database: LUST REG 2, Date of Government Version: 09/30/2004 Facility Id: 01-1040 Facility Status: Preliminary site assessment underway	3636 SMITH ST	ENE 1/4 - 1/2 (0.263 mi.)	D15	23
NEW HAVEN USD CORPOR Database: LUST, Date of Government Version: 03/13/2017 Status: Open - Site Assessment Global Id: T0600100960	3636 SMITH ST	ENE 1/4 - 1/2 (0.263 mi.)	D16	23
RANDY'S FROZEN MEATS Database: LUST REG 2, Date of Government Version: 09/30/2004 Database: LUST, Date of Government Version: 03/13/2017 Status: Completed - Case Closed	30593 UNION CITY BLV	NNW 1/4 - 1/2 (0.280 mi.)	17	26

EXECUTIVE SUMMARY

Facility Id: 01-2325
 Facility Status: Case Closed
 Global Id: T0600102138
 date9: 6/9/1998

SYSKO AVARD/CONTINEN **30315 UNION CITY** **NNW 1/4 - 1/2 (0.429 mi.) F24 43**
 Database: LUST REG 2, Date of Government Version: 09/30/2004
 Database: LUST, Date of Government Version: 03/13/2017
 Status: Completed - Case Closed
 Facility Id: 01-0299
 Facility Status: Preliminary site assessment underway
 Global Id: T0600100277

A & H TRUCK REPAIR **30319 UNION CITY BOU** **NNW 1/4 - 1/2 (0.436 mi.) G25 47**
 Database: LUST, Date of Government Version: 03/13/2017
 Status: Open - Site Assessment
 Global Id: T0600100571

A & H TRUCK REPAIR **30319 UNION CITY BOU** **NNW 1/4 - 1/2 (0.436 mi.) G26 49**
 Database: LUST REG 2, Date of Government Version: 09/30/2004
 Facility Id: 01-0620
 Facility Status: Leak being confirmed

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
MOBIL BULK PLANT Database: LUST REG 2, Date of Government Version: 09/30/2004 Database: LUST, Date of Government Version: 03/13/2017 Status: Open - Site Assessment Facility Id: 01-0995 Facility Status: Pollution Characterization Global Id: T0600100918	30995 UNION CITY BOU	NW 0 - 1/8 (0.121 mi.)	7	13
LOYOLA'S HI TECH AUT Database: LUST REG 2, Date of Government Version: 09/30/2004 Facility Id: 01-2252 Facility Status: Leak being confirmed	30957 UNION CITY BOU	NW 1/8 - 1/4 (0.152 mi.)	B8	16
LOYOLA'S HI TECH AUT Database: LUST, Date of Government Version: 03/13/2017 Status: Completed - Case Closed Global Id: T0600102068	30957 UNION CITY BOU	NW 1/8 - 1/4 (0.152 mi.)	B9	17
MOBILE HYDRAULIC EQU Database: LUST REG 2, Date of Government Version: 09/30/2004 Database: LUST, Date of Government Version: 03/13/2017 Status: Completed - Case Closed Facility Id: 01-2518 Facility Status: Case Closed Global Id: T0600192788 date9: 12/6/2000	30639 UNION CITY BLV	NW 1/8 - 1/4 (0.200 mi.)	11	20
VEASY AND HORNER DEV Database: LUST REG 2, Date of Government Version: 09/30/2004 Database: LUST, Date of Government Version: 03/13/2017 Status: Completed - Case Closed Facility Id: 01-0647 Facility Status: Case Closed Global Id: T0600100597	4700 HORNER STREET	W 1/4 - 1/2 (0.484 mi.)	27	49

EXECUTIVE SUMMARY

date9: 3/29/1995

SLIC: Cleanup Program Sites (CPS; also known as Site Cleanups [SC] and formerly known as Spills, Leaks, Investigations, and Cleanups [SLIC] sites) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

A review of the SLIC list, as provided by EDR, has revealed that there are 5 SLIC sites within approximately 0.5 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
RECYCLING CENTER/PIN Database: SLIC REG 2, Date of Government Version: 09/30/2004 Database: SLIC, Date of Government Version: 03/13/2017 Facility Status: Completed - Case Closed Facility Id: SLT2O348238 Global Id: SL0600162954	30685 UNION CITY BOU	NW 1/8 - 1/4 (0.228 mi.)	C12	21
RECYCLING CENTER/PIN Database: SLIC REG 2, Date of Government Version: 09/30/2004	30685 UNION CITY BOU	NW 1/8 - 1/4 (0.228 mi.)	C13	22
BETTENCOURT PROPERTY Database: SLIC REG 2, Date of Government Version: 09/30/2004 Database: SLIC, Date of Government Version: 03/13/2017 Facility Status: Completed - Case Closed Global Id: SL0600166284	4300 BETTENCOURT WAY	NNW 1/4 - 1/2 (0.251 mi.)	C14	22
<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
CHEMSECO Database: SLIC REG 2, Date of Government Version: 09/30/2004 Database: SLIC, Date of Government Version: 03/13/2017 Facility Status: Open - Verification Monitoring Global Id: SL0600135858	1 TARA COURT	NW 1/4 - 1/2 (0.408 mi.)	21	36
VEASY AND HORNER DEV Database: SLIC REG 2, Date of Government Version: 09/30/2004 Database: SLIC, Date of Government Version: 03/13/2017 Facility Status: Open - Site Assessment Global Id: SL0600165055	4700 HORNER STREET	W 1/4 - 1/2 (0.484 mi.)	27	49

State and tribal voluntary cleanup sites

VCP: 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.

A review of the VCP list, as provided by EDR, and dated 01/30/2017 has revealed that there is 1 VCP site within approximately 0.5 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
SEABREEZE LEGACY	TIDEWATER DRIVE & MI	NNE 1/4 - 1/2 (0.416 mi.)	22	37

EXECUTIVE SUMMARY

Status: No Further Action
Facility Id: 1010008

ADDITIONAL ENVIRONMENTAL RECORDS

Other Ascertainable Records

HIST CORTESE: The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

A review of the HIST CORTESE list, as provided by EDR, and dated 04/01/2001 has revealed that there are 10 HIST CORTESE sites within approximately 0.5 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
J & G UNION CITY GLA Reg Id: 01-0804	3992 HORNER ST	W 0 - 1/8 (0.068 mi.)	A3	9
NEW HAVEN USD CORPOR Reg Id: 01-1040	3636 SMITH ST	ENE 1/4 - 1/2 (0.263 mi.)	D16	23
RANDY'S FROZEN MEATS Reg Id: 01-2325	30593 UNION CITY BLV	NNW 1/4 - 1/2 (0.280 mi.)	17	26
BX SERVICE STATION Reg Id: 3203	30542 UNION CITY	NNW 1/4 - 1/2 (0.295 mi.)	18	28
BEMIS COMPANY, INC Reg Id: 01-0182	30300 UNION CITY BLV	NNW 1/4 - 1/2 (0.429 mi.)	F23	39
SYSCO AVARD/CONTINEN Reg Id: 01-0299	30315 UNION CITY	NNW 1/4 - 1/2 (0.429 mi.)	F24	43
A & H TRUCK REPAIR Reg Id: 01-0620	30319 UNION CITY BOU	NNW 1/4 - 1/2 (0.436 mi.)	G25	47
<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
LOYOLA'S HI TECH AUT Reg Id: 01-2252	30957 UNION CITY BOU	NW 1/8 - 1/4 (0.152 mi.)	B9	17
MOBIL BULK PLANT Reg Id: 01-0995	30963 UNION CITY	NW 1/8 - 1/4 (0.152 mi.)	B10	19
VEASY AND HORNER DEV Reg Id: 01-0647	4700 HORNER STREET	W 1/4 - 1/2 (0.484 mi.)	27	49

Notify 65: Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

A review of the Notify 65 list, as provided by EDR, and dated 12/16/2016 has revealed that there are 2 Notify 65 sites within approximately 1 mile of the target property.

EXECUTIVE SUMMARY

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
BOHANNA & PEARCE/LIN	30460 WHIPPLE ROAD	NW 1/2 - 1 (0.539 mi.)	H29	60
LINCOLN/BOHANNA & PE	30460 WHIPPLE ROAD	NW 1/2 - 1 (0.539 mi.)	H30	60

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR Hist Auto: EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

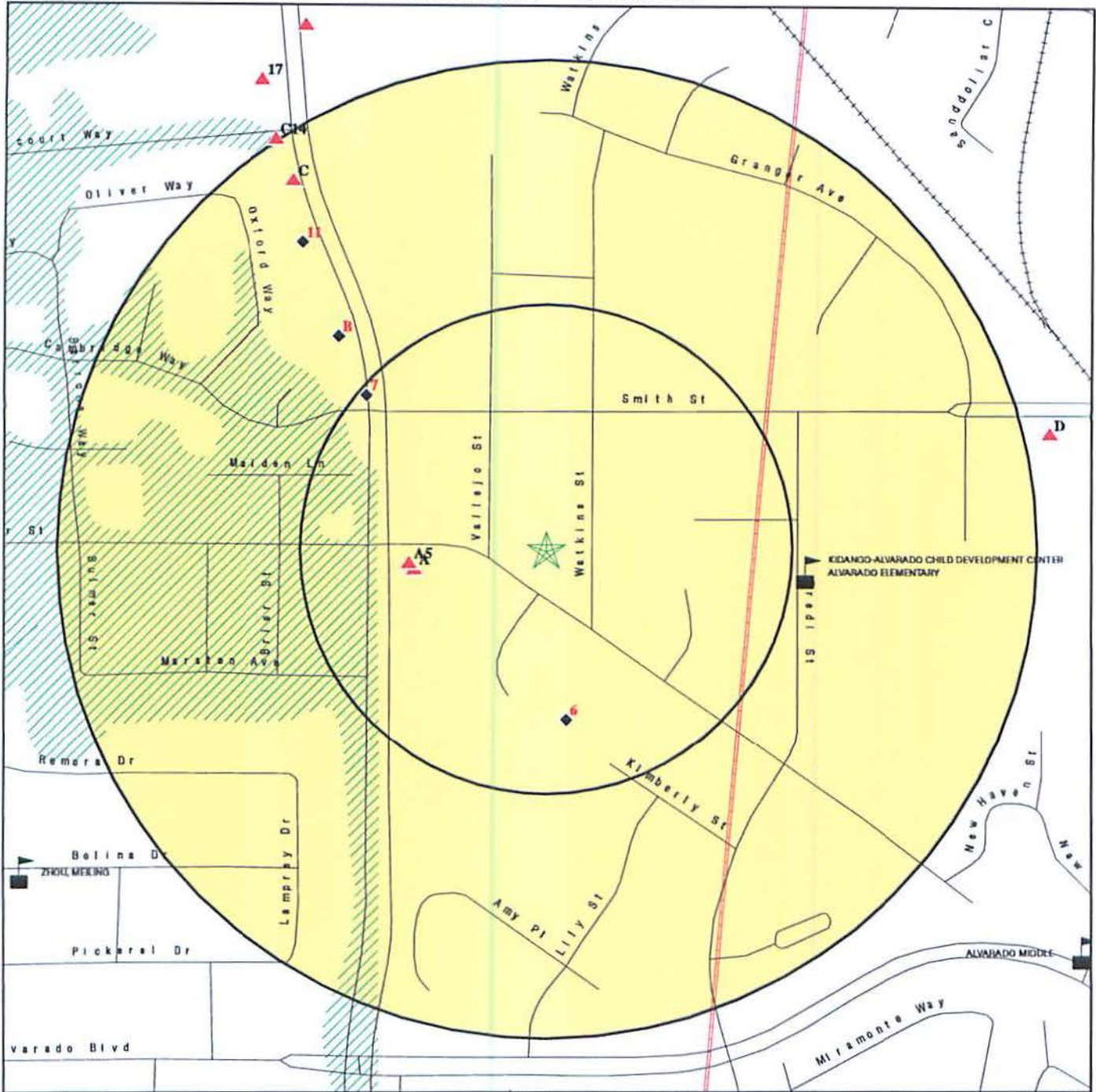
A review of the EDR Hist Auto list, as provided by EDR, has revealed that there are 3 EDR Hist Auto sites within approximately 0.125 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
GEORGE L A MOBIL DIS	3992 HORNER	W 0 - 1/8 (0.068 mi.)	A2	9
MOBILE OIL CO	3996 HORNER ST	W 0 - 1/8 (0.070 mi.)	A5	12
<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
QUIK-STOP MARKET 036	3900 HORNER ST APT 1	S 0 - 1/8 (0.087 mi.)	6	13

EXECUTIVE SUMMARY

There were no unmapped sites in this report.

DETAIL MAP - 4950409.2S



- ★ Target Property
- ▲ Sites at elevations higher than or equal to the target property
- ◆ Sites at elevations lower than the target property
- ▲ Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites

- Indian Reservations BIA
- Pipelines
- 100-year flood zone
- 500-year flood zone

- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Residential Homes
 ADDRESS: 31063 Watkins Street
 Union City CA 94587
 LAT/LONG: 37.595455 / 122.079331

CLIENT: Farshad Vakili, P.E., Phase 1 Assessment
 CONTACT: Farshad Vakili, P.E.
 INQUIRY #: 4950409.2s
 DATE: May 30, 2017 1:39 pm

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
<u>STANDARD ENVIRONMENTAL RECORDS</u>								
<i>Federal NPL site list</i>								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	TP		NR	NR	NR	NR	NR	0
<i>Federal Delisted NPL site list</i>								
Delisted NPL	1.000		0	0	0	0	NR	0
<i>Federal CERCLIS list</i>								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
<i>Federal CERCLIS NFRAP site list</i>								
SEMS-ARCHIVE	0.500		0	0	1	NR	NR	1
<i>Federal RCRA CORRACTS facilities list</i>								
CORRACTS	1.000		0	0	0	0	NR	0
<i>Federal RCRA non-CORRACTS TSD facilities list</i>								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
<i>Federal RCRA generators list</i>								
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
<i>Federal institutional controls / engineering controls registries</i>								
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
<i>Federal ERNS list</i>								
ERNS	TP		NR	NR	NR	NR	NR	0
<i>State- and tribal - equivalent NPL</i>								
RESPONSE	1.000		0	0	1	0	NR	1
<i>State- and tribal - equivalent CERCLIS</i>								
ENVIROSTOR	1.000		1	0	2	2	NR	5
<i>State and tribal landfill and/or solid waste disposal site lists</i>								
SWF/LF	0.500		0	0	0	NR	NR	0
<i>State and tribal leaking storage tank lists</i>								
LUST	0.500		3	3	7	NR	NR	13

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN LUST	0.500		0	0	0	NR	NR	0
SLIC	0.500		0	2	3	NR	NR	5
Alameda County CS	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								
VCP	0.500		0	0	1	NR	NR	1
INDIAN VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
WMUDS/SWAT	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
HAULERS	TP		NR	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	TP		NR	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	TP		NR	NR	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
US CDL	TP		NR	NR	NR	NR	NR	0
Local Lists of Registered Storage Tanks								
SWEEPS UST	0.250		0	0	NR	NR	NR	0
HIST UST	0.250		0	0	NR	NR	NR	0
CA FID UST	0.250		0	0	NR	NR	NR	0
Local Land Records								
LIENS	TP		NR	NR	NR	NR	NR	0
LIENS 2	TP		NR	NR	NR	NR	NR	0
DEED	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
Records of Emergency Release Reports								
HMIRS	TP		NR	NR	NR	NR	NR	0
CHMIRS	TP		NR	NR	NR	NR	NR	0
LDS	TP		NR	NR	NR	NR	NR	0
MCS	TP		NR	NR	NR	NR	NR	0
SPILLS 90	TP		NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	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	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
DOT OPS	TP		NR	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
US AIRS	TP		NR	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.500		0	0	0	NR	NR	0
FINDS	TP		NR	NR	NR	NR	NR	0
DOCKET HWC	TP		NR	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
ECHO	TP		NR	NR	NR	NR	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
Cortese	0.500		0	0	0	NR	NR	0
CUPA Listings	0.250		0	0	NR	NR	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
EMI	TP		NR	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
ENF	TP		NR	NR	NR	NR	NR	0
Financial Assurance	TP		NR	NR	NR	NR	NR	0
HAZNET	TP		NR	NR	NR	NR	NR	0
ICE	TP		NR	NR	NR	NR	NR	0
HIST CORTESE	0.500		1	2	7	NR	NR	10
HWP	1.000		0	0	0	0	NR	0
HWT	0.250		0	0	NR	NR	NR	0
MINES	TP		NR	NR	NR	NR	NR	0
MWMP	0.250		0	0	NR	NR	NR	0
NPDES	TP		NR	NR	NR	NR	NR	0
PEST LIC	TP		NR	NR	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
Notify 65	1.000		0	0	0	2	NR	2
UIC	TP		NR	NR	NR	NR	NR	0
WASTEWATER PITS	0.500		0	0	0	NR	NR	0
WDS	TP		NR	NR	NR	NR	NR	0
WIP	0.250		0	0	NR	NR	NR	0

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		3	NR	NR	NR	NR	3
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF	TP		NR	NR	NR	NR	NR	0
RGA LUST	TP		NR	NR	NR	NR	NR	0

- Totals --		0	8	7	22	4	0	41
-------------	--	---	---	---	----	---	---	----

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

A1 HORNER STREET SITE
WSW N OF HORNER ST & WEST OF UNION CITY BLVD
< 1/8 UNION CITY, CA 94587

ENVIROSTOR S116165209
N/A

0.066 mi.
346 ft.

Site 1 of 5 in cluster A

Relative:
Higher

ENVIROSTOR:

Facility ID: 1230002

Status: Refer: Other Agency

Actual:
11 ft.

Status Date: 03/14/1995

Site Code: Not reported

Site Type: Historical

Site Type Detailed: * Historical

Acres: Not reported

NPL: NO

Regulatory Agencies: NONE SPECIFIED

Lead Agency: NONE SPECIFIED

Program Manager: Not reported

Supervisor: Referred - Not Assigned

Division Branch: Cleanup Berkeley

Assembly: 20

Senate: 10

Special Program: Not reported

Restricted Use: NO

Site Mgmt Req: NONE SPECIFIED

Funding: Not reported

Latitude: 37.59527

Longitude: -122.0805

APN: NONE SPECIFIED

Past Use: NONE SPECIFIED

Potential COC: * HALOGENATED SOLVENTS * ORGANIC LIQUIDS WITH METALS * CONTAMINATED
SOIL * ACID SOLUTION 2>PH WITH METALS * UNSPECIFIED ACID SOLUTION *
UNSPECIFIED ORGANIC LIQUID MIXTURE

Confirmed COC: NONE SPECIFIED

Potential Description: NONE SPECIFIED

Alias Name: Not reported

Alias Type: Not reported

Completed Info:

Completed Area Name: Not reported

Completed Sub Area Name: Not reported

Completed Document Type: Not reported

Completed Date: Not reported

Comments: Not reported

Future Area Name: Not reported

Future Sub Area Name: Not reported

Future Document Type: Not reported

Future Due Date: Not reported

Schedule Area Name: Not reported

Schedule Sub Area Name: Not reported

Schedule Document Type: Not reported

Schedule Due Date: Not reported

Schedule Revised Date: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site Database(s) EDR ID Number
EPA ID Number

A2 GEORGE L A MOBIL DISTRIBUTOR EDR Hist Auto 1020535891
West 3992 HORNER N/A
< 1/8 UNION CITY, CA 94587
0.068 mi.
357 ft. Site 2 of 5 in cluster A
Relative: EDR Hist Auto
Higher
Year: Name: Type:
Actual: 1987 GEORGE L A MOBIL DISTRIBUTOR Petroleum Bulk Stations And Terminals
11 ft.

A3 J & G UNION CITY GLASS LUST S100223628
West 3992 HORNER ST HIST CORTESE N/A
< 1/8 UNION CITY, CA 94587
0.068 mi.
357 ft. Site 3 of 5 in cluster A
Relative: LUST:
Higher Region: STATE
Global Id: T0600100740
Actual: Latitude: 37.5953066
11 ft. Longitude: -122.0806284
Case Type: LUST Cleanup Site
Status: Completed - Case Closed
Status Date: 09/28/2016
Lead Agency: SAN FRANCISCO BAY RWQCB (REGION 2)
Case Worker: EC
Local Agency: ALAMEDA COUNTY WATER DISTRICT
RB Case Number: 01-0804
LOC Case Number: TT0063
File Location: All Files are on GeoTracker or in the Local Agency Database
Potential Media Affect: Other Groundwater (uses other than drinking water)
Potential Contaminants of Concern: Gasoline
Site History: The subject property (Site) is a fully-developed city parcel surrounded by single-family housing residential with a few commercial properties within the vicinity. A large, multi-story building on Site houses a training facility (Roots Kickboxing) and is situated on the southwestern corner of Horner Street and Union City Blvd in Union City, Ca. The case was inactive for 10+ years following some remedial activities of unknown disclosure. During 1987, a former underground storage tank (UST) of unknown capacity and purpose was removed and subsequent monitoring wells were advanced on Site. The case has been recommended for closure with the caveat of well destruction after a clearance of current water and soil analyses were complete. No known recorded levels of contamination are reported and the RP (responsible party) has been issued a 13267 Requirement for a Technical Report to verify possible contamination, well locations, and if any, plume extent.

[Click here to access the California GeoTracker records for this facility:](#)

Contact:
Global Id: T0600100740
Contact Type: Regional Board Caseworker
Contact Name: DAVID TANOUYE
Organization Name: SAN FRANCISCO BAY RWQCB (REGION 2)
Address: 1515 Clay St # 1400
City: OAKLAND
Email: david.tanouye@waterboards.ca.gov
Phone Number: 5106222360

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

J & G UNION CITY GLASS (Continued)

S100223628

Global Id: T0600100740
Contact Type: Local Agency Caseworker
Contact Name: EILEEN CHEN
Organization Name: ALAMEDA COUNTY WATER DISTRICT
Address: 43885 SOUTH GRIMMER BLVD.
City: FREMONT
Email: eileen.chen@acwd.com
Phone Number: Not reported

Status History:

Global Id: T0600100740
Status: Completed - Case Closed
Status Date: 09/28/2016

Global Id: T0600100740
Status: Open - Case Begin Date
Status Date: 10/20/1986

Global Id: T0600100740
Status: Open - Eligible for Closure
Status Date: 07/18/1990

Global Id: T0600100740
Status: Open - Eligible for Closure
Status Date: 11/09/2011

Global Id: T0600100740
Status: Open - Remediation
Status Date: 07/18/1990

Global Id: T0600100740
Status: Open - Site Assessment
Status Date: 10/20/1986

Global Id: T0600100740
Status: Open - Site Assessment
Status Date: 08/07/1987

Global Id: T0600100740
Status: Open - Site Assessment
Status Date: 10/19/1988

Regulatory Activities:

Global Id: T0600100740
Action Type: ENFORCEMENT
Date: 05/03/2012
Action: Technical Correspondence / Assistance / Other

Global Id: T0600100740
Action Type: ENFORCEMENT
Date: 05/12/2010
Action: Technical Correspondence / Assistance / Other

Global Id: T0600100740
Action Type: ENFORCEMENT
Date: 11/26/2008

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

J & G UNION CITY GLASS (Continued)

S100223628

Action: Technical Correspondence / Assistance / Other

Global Id: T0600100740
Action Type: ENFORCEMENT
Date: 09/28/2016
Action: Closure/No Further Action Letter

Global Id: T0600100740
Action Type: ENFORCEMENT
Date: 06/25/2014
Action: File review

Global Id: T0600100740
Action Type: Other
Date: 10/07/1987
Action: Leak Reported

Global Id: T0600100740
Action Type: Other
Date: 10/07/1987
Action: Leak Stopped

Global Id: T0600100740
Action Type: ENFORCEMENT
Date: 04/20/1992
Action: Technical Correspondence / Assistance / Other

Global Id: T0600100740
Action Type: Other
Date: 10/07/1987
Action: Leak Discovery

Global Id: T0600100740
Action Type: ENFORCEMENT
Date: 02/18/2015
Action: 13267 Requirement

Global Id: T0600100740
Action Type: RESPONSE
Date: 06/27/2011
Action: Clean Up Fund - 5-Year Review Summary

Global Id: T0600100740
Action Type: ENFORCEMENT
Date: 11/09/2011
Action: Notification - Fee Title Owners Notice

Global Id: T0600100740
Action Type: ENFORCEMENT
Date: 04/15/2013
Action: Technical Correspondence / Assistance / Other

Global Id: T0600100740
Action Type: RESPONSE
Date: 05/15/2015
Action: Well Destruction Report

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

J & G UNION CITY GLASS (Continued)

S100223628

Global Id: T0600100740
Action Type: REMEDIATION
Date: 06/06/1994
Action: Excavation

Global Id: T0600100740
Action Type: REMEDIATION
Date: 11/10/1993
Action: Excavation

HIST CORTESE:

Region: CORTESE
Facility County Code: 1
Reg By: LTNKA
Reg Id: 01-0804

A4
West
< 1/8
0.068 mi.
357 ft.

J & G UNION CITY GLASS
3992 HORNER ST
UNION CITY, CA 94587

LUST S103472451
N/A

Site 4 of 5 in cluster A

Relative:
Higher

LUST REG 2:

Region: 2
Facility Id: 01-0804
Facility Status: Remediation Plan
Case Number: 0063
How Discovered: Tank Closure
Leak Cause: Structure Failure
Leak Source: Tank
Date Leak Confirmed: 10/20/1986
Oversight Program: LUST

Actual:
11 ft.

Prelim. Site Assessment Workplan Submitted: Not reported
Preliminary Site Assessment Began: 8/7/1987
Pollution Characterization Began: 10/19/1988
Pollution Remediation Plan Submitted: 7/18/1990
Date Remediation Action Underway: Not reported
Date Post Remedial Action Monitoring Began: Not reported

A5
West
< 1/8
0.070 mi.
369 ft.

MOBILE OIL CO
3996 HORNER ST
UNION CITY, CA 94587

EDR Hist Auto 1020274640
N/A

Site 5 of 5 in cluster A

Relative:
Higher

EDR Hist Auto

Actual:
11 ft.

Year: Name:
1991 MOBILE OIL CO
1992 MOBILE OIL CO

Type:
Gasoline Service Stations
Gasoline Service Stations

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

6
South
< 1/8
0.087 mi.
462 ft.

QUIK-STOP MARKET 036
3900 HORNER ST APT 140
UNION CITY, CA 94587

EDR Hist Auto 1022063897
N/A

Relative:
Lower

EDR Hist Auto

Actual:
10 ft.

Year: Name:
2002 QUIK-STOP MARKET 036
2003 QUIK-STOP MARKET 036
2004 QUIK-STOP MARKET 036

Type:
Gasoline Service Stations, NEC
Gasoline Service Stations, NEC
Convenience Stores

7
NW
< 1/8
0.121 mi.
639 ft.

MOBIL BULK PLANT
30995 UNION CITY BOULEVARD
UNION CITY, CA 94587

LUST S106229847
N/A

Relative:
Lower

LUST:

Actual:
10 ft.

Region: STATE
Global Id: T0600100918
Latitude: 37.5965563
Longitude: -122.0810342
Case Type: LUST Cleanup Site
Status: Open - Site Assessment
Status Date: 03/03/1993
Lead Agency: SAN FRANCISCO BAY RWQCB (REGION 2)
Case Worker: RS
Local Agency: ALAMEDA COUNTY WATER DISTRICT
RB Case Number: 01-0995
LOC Case Number: TT0322
File Location: Not reported
Potential Media Affect: Other Groundwater (uses other than drinking water)
Potential Contaminants of Concern: Gasoline
Site History: Former Mobil Bulk Plant 99UCB is located at 30995 Union City Boulevard, on the northwestern corner of the intersection of Union City Boulevard. This site was operated as a bulk oil plant and service station by general petroleum corporation from 1937 to 1982. Currently, the site is included within a development consisting of mixed use commercial/residential. The development consists of four mixed use buildings and two exclusively residential buildings. Two of the six buildings in the development are located at the site. Building 1A is mixed use and Building 3 is residential. (11/16/2015 Soil Vapor Well Installation Work Plan)

[Click here to access the California GeoTracker records for this facility:](#)

Contact:

Global Id: T0600100918
Contact Type: Local Agency Caseworker
Contact Name: RANGARAJAN SAMPATH
Organization Name: ALAMEDA COUNTY WATER DISTRICT
Address: 43885 SOUTH GRIMMER BLVD
City: FREMONT
Email: rangarajan.sampath@acwd.com
Phone Number: Not reported

Status History:

Global Id: T0600100918

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MOBIL BULK PLANT (Continued)

S106229847

Status: Open - Case Begin Date
Status Date: 08/19/1991

Global Id: T0600100918
Status: Open - Site Assessment
Status Date: 08/19/1991

Global Id: T0600100918
Status: Open - Site Assessment
Status Date: 03/03/1993

Regulatory Activities:

Global Id: T0600100918
Action Type: ENFORCEMENT
Date: 11/27/2012
Action: Technical Correspondence / Assistance / Other

Global Id: T0600100918
Action Type: ENFORCEMENT
Date: 12/07/2016
Action: Technical Correspondence / Assistance / Other

Global Id: T0600100918
Action Type: ENFORCEMENT
Date: 08/18/2014
Action: Technical Correspondence / Assistance / Other

Global Id: T0600100918
Action Type: RESPONSE
Date: 09/09/2014
Action: Other Report / Document

Global Id: T0600100918
Action Type: ENFORCEMENT
Date: 06/19/2014
Action: Technical Correspondence / Assistance / Other

Global Id: T0600100918
Action Type: ENFORCEMENT
Date: 06/02/2015
Action: File review

Global Id: T0600100918
Action Type: ENFORCEMENT
Date: 07/30/2009
Action: Technical Correspondence / Assistance / Other

Global Id: T0600100918
Action Type: ENFORCEMENT
Date: 10/29/2015
Action: Technical Correspondence / Assistance / Other

Global Id: T0600100918
Action Type: Other
Date: 06/11/1992
Action: Leak Discovery

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MOBIL BULK PLANT (Continued)

S106229847

Global Id:	T0600100918
Action Type:	ENFORCEMENT
Date:	10/02/2007
Action:	Technical Correspondence / Assistance / Other
Global Id:	T0600100918
Action Type:	ENFORCEMENT
Date:	11/10/2011
Action:	File review
Global Id:	T0600100918
Action Type:	ENFORCEMENT
Date:	04/07/2015
Action:	Email Correspondence
Global Id:	T0600100918
Action Type:	Other
Date:	06/11/1992
Action:	Leak Reported
Global Id:	T0600100918
Action Type:	Other
Date:	06/11/1992
Action:	Leak Stopped
Global Id:	T0600100918
Action Type:	RESPONSE
Date:	01/10/2013
Action:	Site Investigation Workplan - Regulator Responded
Global Id:	T0600100918
Action Type:	RESPONSE
Date:	03/29/2013
Action:	Soil and Water Investigation Workplan - Addendum - Regulator Responded
Global Id:	T0600100918
Action Type:	RESPONSE
Date:	08/15/2013
Action:	Site Investigation Workplan - Regulator Responded
Global Id:	T0600100918
Action Type:	RESPONSE
Date:	08/30/2013
Action:	Soil and Water Investigation Workplan - Addendum - Regulator Responded
Global Id:	T0600100918
Action Type:	RESPONSE
Date:	01/15/2014
Action:	Request for Closure - Regulator Responded
Global Id:	T0600100918
Action Type:	ENFORCEMENT
Date:	06/11/2014
Action:	Technical Correspondence / Assistance / Other
Global Id:	T0600100918
Action Type:	RESPONSE

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MOBIL BULK PLANT (Continued)

S106229847

Date: 11/17/2015
Action: Well Installation Workplan - Regulator Responded

Global Id: T0600100918
Action Type: RESPONSE
Date: 11/17/2015
Action: Well Installation Workplan - Regulator Responded

Global Id: T0600100918
Action Type: RESPONSE
Date: 11/30/2016
Action: Pilot Study / Treatability Workplan - Regulator Responded

LUST REG 2:

Region: 2
Facility Id: 01-0995
Facility Status: Pollution Characterization
Case Number: 0322
How Discovered: Tank Closure
Leak Cause: Structure Failure
Leak Source: Tank
Date Leak Confirmed: 8/19/1991
Oversight Program: LUST
Prelim. Site Assessment Workplan Submitted: Not reported
Preliminary Site Assessment Began: Not reported
Pollution Characterization Began: 3/3/1993
Pollution Remediation Plan Submitted: Not reported
Date Remediation Action Underway: Not reported
Date Post Remedial Action Monitoring Began: Not reported

**B8
NW
1/8-1/4
0.152 ml.
801 ft.**

**LOYOLA'S HI TECH AUTO CENTER
30957 UNION CITY BOULEVARD
UNION CITY, CA 94587**

**LUST S106229866
N/A**

Site 1 of 3 in cluster B

**Relative:
Lower**

LUST REG 2:

**Actual:
10 ft.**

Region: 2
Facility Id: 01-2252
Facility Status: Leak being confirmed
Case Number: 0417
How Discovered: Tank Closure
Leak Cause: UNK
Leak Source: UNK
Date Leak Confirmed: 12/2/1997
Oversight Program: LUST
Prelim. Site Assessment Workplan Submitted: Not reported
Preliminary Site Assessment Began: Not reported
Pollution Characterization Began: Not reported
Pollution Remediation Plan Submitted: Not reported
Date Remediation Action Underway: Not reported
Date Post Remedial Action Monitoring Began: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

B9
NW
1/8-1/4
0.152 ml.
801 ft.

LOYOLA'S HI TECH AUTO CENTER
30957 UNION CITY BOULEVARD
UNION CITY, CA 94587

LUST
HIST CORTESE
S103651556
N/A

Site 2 of 3 in cluster B

Relative:
Lower

LUST:

Actual:
10 ft.

Region: STATE
Global Id: T0600102068
Latitude: 37.5969772
Longitude: -122.0811089
Case Type: LUST Cleanup Site
Status: Completed - Case Closed
Status Date: 04/21/2015
Lead Agency: SAN FRANCISCO BAY RWQCB (REGION 2)
Case Worker: RS
Local Agency: ALAMEDA COUNTY WATER DISTRICT
RB Case Number: 01-2252
LOC Case Number: TT0417
File Location: Local Agency
Potential Media Affect: Aquifer used for drinking water supply
Potential Contaminants of Concern: Gasoline
Site History: Not reported

[Click here to access the California GeoTracker records for this facility:](#)

Contact:

Global Id: T0600102068
Contact Type: Regional Board Caseworker
Contact Name: BARBARA SIEMINSKI
Organization Name: SAN FRANCISCO BAY RWQCB (REGION 2)
Address: 1515 CLAY STREET, SUITE 1400
City: OAKLAND
Email: bsieminski@waterboards.ca.gov
Phone Number: Not reported

Global Id: T0600102068
Contact Type: Local Agency Caseworker
Contact Name: RANGARAJAN SAMPATH
Organization Name: ALAMEDA COUNTY WATER DISTRICT
Address: 43885 SOUTH GRIMMER BLVD
City: FREMONT
Email: rangarajan.sampath@acwd.com
Phone Number: Not reported

Status History:

Global Id: T0600102068
Status: Completed - Case Closed
Status Date: 04/21/2015

Global Id: T0600102068
Status: Open - Case Begin Date
Status Date: 06/15/1997

Global Id: T0600102068
Status: Open - Eligible for Closure
Status Date: 07/31/2013

Global Id: T0600102068

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

LOYOLA'S HI TECH AUTO CENTER (Continued)

S103651556

Status: Open - Site Assessment
Status Date: 12/02/1997

Regulatory Activities:

Global Id: T0600102068
Action Type: ENFORCEMENT
Date: 11/20/2012
Action: Technical Correspondence / Assistance / Other

Global Id: T0600102068
Action Type: ENFORCEMENT
Date: 10/28/2004
Action: Technical Correspondence / Assistance / Other

Global Id: T0600102068
Action Type: ENFORCEMENT
Date: 01/04/2012
Action: Technical Correspondence / Assistance / Other

Global Id: T0600102068
Action Type: ENFORCEMENT
Date: 04/07/2010
Action: File review

Global Id: T0600102068
Action Type: ENFORCEMENT
Date: 08/26/2014
Action: File Review - Closure

Global Id: T0600102068
Action Type: RESPONSE
Date: 05/04/2015
Action: Well Destruction Report

Global Id: T0600102068
Action Type: ENFORCEMENT
Date: 02/15/2001
Action: Meeting

Global Id: T0600102068
Action Type: ENFORCEMENT
Date: 04/21/2015
Action: Closure/No Further Action Letter

Global Id: T0600102068
Action Type: Other
Date: 06/15/1997
Action: Leak Discovery

Global Id: T0600102068
Action Type: Other
Date: 06/15/1997
Action: Leak Reported

Global Id: T0600102068
Action Type: RESPONSE
Date: 11/18/2011

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

LOYOLA'S HI TECH AUTO CENTER (Continued)

S103651556

Action: Clean Up Fund - 5-Year Review Summary

Global Id: T0600102068

Action Type: Other

Date: 06/15/1997

Action: Leak Stopped

Global Id: T0600102068

Action Type: RESPONSE

Date: 01/31/2013

Action: Monitoring Report - Other

Global Id: T0600102068

Action Type: ENFORCEMENT

Date: 02/06/2015

Action: 13267 Requirement

Global Id: T0600102068

Action Type: ENFORCEMENT

Date: 11/07/2014

Action: Notification - Public Notice of Case Closure

Global Id: T0600102068

Action Type: ENFORCEMENT

Date: 04/14/2015

Action: LOP Case Closure Summary to RB

Global Id: T0600102068

Action Type: RESPONSE

Date: 01/08/2015

Action: Email Correspondence

HIST CORTESE:

Region: CORTESE

Facility County Code: 1

Reg By: LTNKA

Reg Id: 01-2252

B10
NW
1/8-1/4
0.152 mi.
801 ft.

MOBIL BULK PLANT
30963 UNION CITY
UNION CITY, CA 94587
Site 3 of 3 in cluster B

HIST CORTESE S105027161
N/A

Relative:
Lower

HIST CORTESE:

Region: CORTESE

Facility County Code: 1

Reg By: LTNKA

Reg Id: 01-0995

Actual:
10 ft.

Map ID
Direction
Distance
Elevation

MAP FINDINGS

11
NW
1/8-1/4
0.200 mi.
1056 ft.

MOBILE HYDRAULIC EQUIPMENT COMPANY
30639 UNION CITY BLVD
UNION CITY, CA 94587

Database(s) EDR ID Number
EPA ID Number

LUST S100868348
N/A

Relative:
Lower

Actual:
10 ft.

LUST:
Region: STATE
Global Id: T0600192788
Latitude: 37.5987799
Longitude: -122.0817924
Case Type: LUST Cleanup Site
Status: Completed - Case Closed
Status Date: 12/06/2000
Lead Agency: ALAMEDA COUNTY WATER DISTRICT
Case Worker: Not reported
Local Agency: Not reported
RB Case Number: 01-2518
LOC Case Number: 0208
File Location: Not reported
Potential Media Affect: Other Groundwater (uses other than drinking water)
Potential Contaminants of Concern: Gasoline
Site History: Not reported

[Click here to access the California GeoTracker records for this facility:](#)

Contact:

Global Id: T0600192788
Contact Type: Regional Board Caseworker
Contact Name: Regional Water Board
Organization Name: SAN FRANCISCO BAY RWQCB (REGION 2)
Address: 1515 CLAY ST SUITE 1400
City: OAKLAND
Email: Not reported
Phone Number: Not reported

Status History:

Global Id: T0600192788
Status: Completed - Case Closed
Status Date: 12/06/2000

Global Id: T0600192788
Status: Open - Case Begin Date
Status Date: 11/13/2000

Global Id: T0600192788
Status: Open - Site Assessment
Status Date: 11/13/2000

Regulatory Activities:

Global Id: T0600192788
Action Type: Other
Date: 11/13/2000
Action: Leak Reported

LUST REG 2:

Region: 2

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

MOBILE HYDRAULIC EQUIPMENT COMPANY (Continued)

S100868348

Facility Id: 01-2518
Facility Status: Case Closed
Case Number: 0208
How Discovered: Tank Closure
Leak Cause: UNK
Leak Source: UNK
Date Leak Confirmed: 11/13/2000
Oversight Program: LUST
Prelim. Site Assessment Workplan Submitted: Not reported
Preliminary Site Assessment Began: Not reported
Pollution Characterization Began: Not reported
Pollution Remediation Plan Submitted: Not reported
Date Remediation Action Underway: Not reported
Date Post Remedial Action Monitoring Began: Not reported

C12
NW
1/8-1/4
0.228 mi.
1206 ft.

**RECYCLING CENTER/PINN BROS. CONST.
30685 UNION CITY BOULEVARD
UNION CITY, CA 94587**

**SLIC S100808891
N/A**

Site 1 of 3 in cluster C

Relative:
Higher

SLIC:

Actual:
11 ft.

Region: STATE
Facility Status: Completed - Case Closed
Status Date: 12/01/1989
Global Id: SL0600162954
Lead Agency: ALAMEDA COUNTY WATER DISTRICT
Lead Agency Case Number: 0523
Latitude: 37.5986189
Longitude: -122.0817734
Case Type: Cleanup Program Site
Case Worker: SZ
Local Agency: ALAMEDA COUNTY WATER DISTRICT
RB Case Number: 01S0214
File Location: Local Agency
Potential Media Affected: Not reported
Potential Contaminants of Concern: Not reported
Site History: Not reported

[Click here to access the California GeoTracker records for this facility:](#)

SLIC REG 2:

Region: 2
Facility ID: SLT20348238
Facility Status: Leak being confirmed
Date Closed: Not reported
Local Case #: Not reported
How Discovered: Not reported
Leak Cause: Not reported
Leak Source: Not reported
Date Confirmed: Not reported
Date Prelim Site Assmnt Workplan Submitted: Not reported
Date Preliminary Site Assessment Began: Not reported
Date Pollution Characterization Began: Not reported
Date Remediation Plan Submitted: Not reported
Date Remedial Action Underway: Not reported
Date Post Remedial Action Monitoring Began: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site Database(s) EDR ID Number
EPA ID Number

C13 **RECYCLING CENTER/PINN BROS. CONST.**
NW **30685 UNION CITY BOULEVARD**
1/8-1/4 **UNION CITY, CA 94587**
0.228 mi.
1206 ft. **Site 2 of 3 in cluster C**

SLIC **S106446518**
N/A

Relative: **SLIC REG 2:**
Higher **Region:** **2**
Facility ID: **Not reported**
Actual: **Facility Status:** **Not reported**
11 ft. **Date Closed:** **Not reported**
Local Case #: **Not reported**
How Discovered: **Not reported**
Leak Cause: **Not reported**
Leak Source: **Not reported**
Date Confirmed: **Not reported**
Date Prelim Site Assmnt Workplan Submitted: **Not reported**
Date Preliminary Site Assessment Began: **Not reported**
Date Pollution Characterization Began: **Not reported**
Date Remediation Plan Submitted: **Not reported**
Date Remedial Action Underway: **Not reported**
Date Post Remedial Action Monitoring Began: **Not reported**

C14 **BETTENCOURT PROPERTY**
NNW **4300 BETTENCOURT WAY**
1/4-1/2 **UNION CITY, CA 94587**
0.251 mi.
1326 ft. **Site 3 of 3 in cluster C**

SLIC **S106234801**
N/A

Relative: **SLIC:**
Higher **Region:** **STATE**
Facility Status: **Completed - Case Closed**
Actual: **Status Date:** **01/13/1999**
11 ft. **Global Id:** **SL0600166284**
Lead Agency: **ALAMEDA COUNTY WATER DISTRICT**
Lead Agency Case Number: **0621**
Latitude: **37.5985402**
Longitude: **-122.0817959**
Case Type: **Cleanup Program Site**
Case Worker: **SZ**
Local Agency: **ALAMEDA COUNTY WATER DISTRICT**
RB Case Number: **01S0517**
File Location: **Not reported**
Potential Media Affected: **Not reported**
Potential Contaminants of Concern: **Not reported**
Site History: **Not reported**

[Click here to access the California GeoTracker records for this facility:](#)

SLIC REG 2:
Region: **2**
Facility ID: **Not reported**
Facility Status: **Case Closed**
Date Closed: **Not reported**
Local Case #: **Not reported**
How Discovered: **Not reported**
Leak Cause: **Not reported**
Leak Source: **Not reported**
Date Confirmed: **Not reported**

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

BETTENCOURT PROPERTY (Continued)

S106234801

Date Prelim Site Assmnt Workplan Submitted: Not reported
Date Preliminary Site Assessment Began: Not reported
Date Pollution Characterization Began: Not reported
Date Remediation Plan Submitted: Not reported
Date Remedial Action Underway: Not reported
Date Post Remedial Action Monitoring Began: Not reported

D15 NEW HAVEN USD CORPORATION YARD
ENE 3636 SMITH ST
1/4-1/2 UNION CITY, CA 94587
0.263 mi.
1390 ft.

LUST S103472456
N/A

Site 1 of 2 in cluster D

Relative: LUST REG 2:
Higher Region: 2
Facility Id: 01-1040
Actual: Facility Status: Preliminary site assessment underway
13 ft. Case Number: 0148
How Discovered: Tank Closure
Leak Cause: Structure Failure
Leak Source: Tank
Date Leak Confirmed: 1/9/1985
Oversight Program: LUST
Prelim. Site Assessment Workplan Submitted: Not reported
Preliminary Site Assessment Began: 4/1/1985
Pollution Characterization Began: Not reported
Pollution Remediation Plan Submitted: Not reported
Date Remediation Action Underway: Not reported
Date Post Remedial Action Monitoring Began: Not reported

D16 NEW HAVEN USD CORPORATION YARD
ENE 3636 SMITH ST
1/4-1/2 UNION CITY, CA 94587
0.263 mi.
1390 ft.

LUST S101306825
HIST CORTESE N/A

Site 2 of 2 in cluster D

Relative: LUST:
Higher Region: STATE
Global Id: T0600100960
Actual: Latitude: 37.5964501
13 ft. Longitude: -122.0742399
Case Type: LUST Cleanup Site
Status: Open - Site Assessment
Status Date: 04/01/1985
Lead Agency: SAN FRANCISCO BAY RWQCB (REGION 2)
Case Worker: DY
Local Agency: ALAMEDA COUNTY WATER DISTRICT
RB Case Number: 01-1040
LOC Case Number: TT0148
File Location: Not reported
Potential Media Affect: Other Groundwater (uses other than drinking water)
Potential Contaminants of Concern: Gasoline
Site History: The subject property (Site) is a New Haven Unified School District (USD) maintenance (corporation) yard composed of several structures, including a large parking garage with multiple entrance bays, a re-fueling canopy, office buildings, and a warehouse on the southern

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

NEW HAVEN USD CORPORATION YARD (Continued)

S101306825

end of the parcel, paved asphalt cover with little plant cover throughout. The Site is bordered on the east side by the rail lines, Smith Street to the north, with the school property to the south and west sides of the parcel. The Site has had a former waste-oil tank (WOT) that was located on the eastern border near the rail tracks and the east/south end of the main vehicle parking garage (largest building on Site). An underground storage tank (UST) for refueling vehicles on Site is located under the canopy structure on the west side of the Site. The Site is an existing and former corporation yard used for maintenance and refueling of vehicles (mostly school buses, trucks, and service type machinery), vehicle storage, cleaning, and general equipment storage yard. Various petroleum contaminants have been reported on Site in soil and groundwater. Concentrations of total petroleum hydrocarbons as gasoline (TPHg), methyl tert butyl ether (MTBE), total petroleum hydrocarbons as diesel (TPHd), oil & grease (OG), and BTEX (benzene toluene ethylene and xylenes) compounds. The Site has had quarterly ongoing monitoring since 2006.

[Click here to access the California GeoTracker records for this facility:](#)

Contact:

Global Id: T0600100960
Contact Type: Regional Board Caseworker
Contact Name: DAVID TANOUYE
Organization Name: SAN FRANCISCO BAY RWQCB (REGION 2)
Address: 1515 Clay St # 1400
City: OAKLAND
Email: david.tanouye@waterboards.ca.gov
Phone Number: 5106222360

Global Id: T0600100960
Contact Type: Local Agency Caseworker
Contact Name: DOUG YOUNG
Organization Name: ALAMEDA COUNTY WATER DISTRICT
Address: 43885 SOUTH GRIMMER BLVD
City: FREMONT
Email: douglas.young@acwd.com
Phone Number: Not reported

Status History:

Global Id: T0600100960
Status: Open - Case Begin Date
Status Date: 01/09/1985

Global Id: T0600100960
Status: Open - Site Assessment
Status Date: 01/09/1985

Global Id: T0600100960
Status: Open - Site Assessment
Status Date: 04/01/1985

Regulatory Activities:

Global Id: T0600100960
Action Type: ENFORCEMENT
Date: 05/21/2009
Action: Technical Correspondence / Assistance / Other

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

NEW HAVEN USD CORPORATION YARD (Continued)

S101306825

Global Id:	T0600100960
Action Type:	ENFORCEMENT
Date:	04/11/2008
Action:	Technical Correspondence / Assistance / Other
Global Id:	T0600100960
Action Type:	ENFORCEMENT
Date:	04/06/2010
Action:	File review
Global Id:	T0600100960
Action Type:	ENFORCEMENT
Date:	12/09/2014
Action:	Technical Correspondence / Assistance / Other
Global Id:	T0600100960
Action Type:	Other
Date:	03/18/1985
Action:	Leak Reported
Global Id:	T0600100960
Action Type:	Other
Date:	03/18/1985
Action:	Leak Stopped
Global Id:	T0600100960
Action Type:	ENFORCEMENT
Date:	06/30/2016
Action:	File review
Global Id:	T0600100960
Action Type:	ENFORCEMENT
Date:	07/30/2009
Action:	Technical Correspondence / Assistance / Other
Global Id:	T0600100960
Action Type:	RESPONSE
Date:	12/05/2013
Action:	Interim Remedial Action Plan - Regulator Responded
Global Id:	T0600100960
Action Type:	ENFORCEMENT
Date:	08/13/2013
Action:	Technical Correspondence / Assistance / Other
Global Id:	T0600100960
Action Type:	Other
Date:	03/18/1985
Action:	Leak Discovery
Global Id:	T0600100960
Action Type:	ENFORCEMENT
Date:	03/19/2009
Action:	Technical Correspondence / Assistance / Other

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

NEW HAVEN USD CORPORATION YARD (Continued)

S101306825

HIST CORTESE:

Region: CORTESE
Facility County Code: 1
Reg By: LTNKA
Reg Id: 01-1040

17
NNW
1/4-1/2
0.280 ml.
1480 ft.

RANDY'S FROZEN MEATS
30593 UNION CITY BLVD
UNION CITY, CA 94587

LUST
HIST CORTESE S103651370
N/A

Relative:
Higher

LUST:

Region: STATE
Global Id: T0600102138
Latitude: 37.598898
Longitude: -122.082392
Case Type: LUST Cleanup Site
Status: Completed - Case Closed
Status Date: 06/09/1998
Lead Agency: ALAMEDA COUNTY WATER DISTRICT
Case Worker: SDI
Local Agency: ALAMEDA COUNTY WATER DISTRICT
RB Case Number: 01-2325
LOC Case Number: 0153
File Location: Not reported
Potential Media Affect: Other Groundwater (uses other than drinking water)
Potential Contaminants of Concern: Gasoline
Site History: Not reported

Actual:
11 ft.

[Click here to access the California GeoTracker records for this facility:](#)

Contact:

Global Id: T0600102138
Contact Type: Regional Board Caseworker
Contact Name: Regional Water Board
Organization Name: SAN FRANCISCO BAY RWQCB (REGION 2)
Address: 1515 CLAY ST SUITE 1400
City: OAKLAND
Email: Not reported
Phone Number: Not reported

Global Id: T0600102138
Contact Type: Local Agency Caseworker
Contact Name: STEVEN D. INN
Organization Name: ALAMEDA COUNTY WATER DISTRICT
Address: 43885 SOUTH GRIMMER BOULEVARD
City: FREMONT
Email: steven.inn@acwd.com
Phone Number: Not reported

Status History:

Global Id: T0600102138
Status: Completed - Case Closed
Status Date: 06/09/1998

Global Id: T0600102138

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

RANDY'S FROZEN MEATS (Continued)

S103651370

Status: Open - Case Begin Date
Status Date: 09/09/1984

Global Id: T0600102138
Status: Open - Site Assessment
Status Date: 09/09/1984

Global Id: T0600102138
Status: Open - Site Assessment
Status Date: 03/04/1985

Global Id: T0600102138
Status: Open - Site Assessment
Status Date: 03/21/1985

Regulatory Activities:

Global Id: T0600102138
Action Type: Other
Date: 05/07/1985
Action: Leak Reported

Global Id: T0600102138
Action Type: ENFORCEMENT
Date: 06/09/1998
Action: Closure/No Further Action Letter

Global Id: T0600102138
Action Type: Other
Date: 05/07/1985
Action: Leak Discovery

Global Id: T0600102138
Action Type: ENFORCEMENT
Date: 06/09/1998
Action: Closure/No Further Action Letter

Global Id: T0600102138
Action Type: Other
Date: 05/07/1985
Action: Leak Stopped

Global Id: T0600102138
Action Type: REMEDIATION
Date: 12/05/1997
Action: Pump & Treat (P&T) Groundwater

Global Id: T0600102138
Action Type: REMEDIATION
Date: 01/06/1998
Action: Excavation

Global Id: T0600102138
Action Type: REMEDIATION
Date: 12/04/1997
Action: Excavation

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

RANDY'S FROZEN MEATS (Continued)

S103651370

LUST REG 2:

Region: 2
Facility Id: 01-2325
Facility Status: Case Closed
Case Number: 0153
How Discovered: Tank Closure
Leak Cause: Structure Failure
Leak Source: Tank
Date Leak Confirmed: 3/4/1985
Oversight Program: LUST
Prelim. Site Assessment Workplan Submitted: 9/9/1984
Preliminary Site Assessment Began: 3/21/1985
Pollution Characterization Began: Not reported
Pollution Remediation Plan Submitted: Not reported
Date Remediation Action Underway: Not reported
Date Post Remedial Action Monitoring Began: Not reported

HIST CORTESE:

Region: CORTESE
Facility County Code: 1
Reg By: LTNKA
Reg Id: 01-2325

18
NNW
1/4-1/2
0.295 mi.
1556 ft.

**BX SERVICE STATION
30542 UNION CITY
UNION CITY, CA 94587**

**HIST CORTESE 1001610866
N/A**

**Relative:
Higher**

HIST CORTESE:

Region: CORTESE
Facility County Code: 1
Reg By: LTNKA
Reg Id: 3203

**Actual:
11 ft.**

E19
NNW
1/4-1/2
0.338 mi.
1787 ft.

**R. J. CHASE COMPANY, INC
4000 TARA COURT
UNION CITY, CA 94587**

**SEMS-ARCHIVE 1002851253
CAD981394729**

**Relative:
Higher**

SEMS-ARCHIVE:

Site ID: 905827
EPA ID: CAD981394729
Federal Facility: N
NPL: Not on the NPL
Non NPL Status: NFRAP-Site does not qualify for the NPL based on existing information

**Actual:
11 ft.**

Map ID
Direction
Distance
Elevation

MAP FINDINGS

E20
NNW
1/4-1/2
0.338 mi.
1787 ft.

R J CHASE COMPANY
4000 TARA COURT
UNION CITY, CA 94587

Site 2 of 2 in cluster E

RESPONSE
ENVIROSTOR
EMI

1001614010
N/A

Relative:
Higher

Actual:
11 ft.

RESPONSE:

Facility ID: 1290003
Site Type: State Response
Site Type Detail: State Response or NPL
Acres: 0.5
National Priorities List: NO
Cleanup Oversight Agencies: SMBRP
Lead Agency Description: DTSC - Site Cleanup Program
Project Manager: Tom Price
Supervisor: Karen Toth
Division Branch: Cleanup Berkeley
Site Code: 201518
Site Mgmt. Req.: NONE SPECIFIED
Assembly: 20
Senate: 10
Special Program Status: EPA - PASI
Status: No Further Action
Status Date: 06/28/2012
Restricted Use: NO
Funding: EPA Grant
Latitude: 37.59941
Longitude: -122.0826
APN: 482-6-8
Past Use: METAL FINISHING
Potential COC : * Metals - Other Inorganic Solid Waste Total Chromium (1:6 ratio Cr VI:Cr III Lead Chromium VI Cobalt Thallium and compounds
Confirmed COC: Thallium and compounds Chromium VI Cobalt 10034-NO Total Chromium (1:6 ratio Cr VI:Cr III Lead
Potential Description: SOIL
Alias Name: Not reported
Alias Type: Not reported

Completed Info:

Completed Area Name: Not reported
Completed Sub Area Name: Not reported
Completed Document Type: Not reported
Completed Date: Not reported
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

ENVIROSTOR:

Facility ID: 1290003
Status: No Further Action
Status Date: 06/28/2012

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

R J CHASE COMPANY (Continued)

1001614010

Site Code: 201518
Site Type: State Response
Site Type Detailed: State Response or NPL
Acres: 0.5
NPL: NO
Regulatory Agencies: SMBRP
Lead Agency: SMBRP
Program Manager: Tom Price
Supervisor: Karen Toth
Division Branch: Cleanup Berkeley
Assembly: 20
Senate: 10
Special Program: EPA - PASI
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: EPA Grant
Latitude: 37.59941
Longitude: -122.0826
APN: 482-6-8
Past Use: METAL FINISHING
Potential COC: * Metals - Other Inorganic Solid Waste Total Chromium (1:6 ratio Cr VI:Cr III Lead Chromium VI Cobalt Thallium and compounds
Confirmed COC: Thallium and compounds Chromium VI Cobalt 10034-NO Total Chromium (1:6 ratio Cr VI:Cr III Lead
Potential Description: SOIL
Alias Name: Not reported
Alias Type: Not reported
Completed Info:
Completed Area Name: Not reported
Completed Sub Area Name: Not reported
Completed Document Type: Not reported
Completed Date: Not reported
Comments: Not reported
Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

EMI:

Year: 1987
County Code: 1
Air Basin: SF
Facility ID: 1241
Air District Name: BA
SIC Code: 3479
Air District Name: BAY AREA AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 1
Reactive Organic Gases Tons/Yr: 0

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

R J CHASE COMPANY (Continued)

1001614010

Carbon Monoxide Emissions Tons/Yr: 0
NOX - Oxides of Nitrogen Tons/Yr: 0
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers and Smllr Tons/Yr:0

Year: 1990
County Code: 1
Air Basin: SF
Facility ID: 1241
Air District Name: BA
SIC Code: 3479
Air District Name: BAY AREA AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 1
Reactive Organic Gases Tons/Yr: 1
Carbon Monoxide Emissions Tons/Yr: 0
NOX - Oxides of Nitrogen Tons/Yr: 0
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers and Smllr Tons/Yr:0

Year: 1996
County Code: 1
Air Basin: SF
Facility ID: 1241
Air District Name: BA
SIC Code: 3479
Air District Name: BAY AREA AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 0
Reactive Organic Gases Tons/Yr: 0
Carbon Monoxide Emissions Tons/Yr: 0
NOX - Oxides of Nitrogen Tons/Yr: 0
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers and Smllr Tons/Yr:0

Year: 1997
County Code: 1
Air Basin: SF
Facility ID: 1241
Air District Name: BA
SIC Code: 3479
Air District Name: BAY AREA AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 0
Reactive Organic Gases Tons/Yr: 0
Carbon Monoxide Emissions Tons/Yr: 0
NOX - Oxides of Nitrogen Tons/Yr: 0
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers and Smllr Tons/Yr:0

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

R J CHASE COMPANY (Continued)

1001614010

Year: 1998
County Code: 1
Air Basin: SF
Facility ID: 1241
Air District Name: BA
SIC Code: 3479
Air District Name: BAY AREA AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 0
Reactive Organic Gases Tons/Yr: 0
Carbon Monoxide Emissions Tons/Yr: 0
NOX - Oxides of Nitrogen Tons/Yr: 0
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers and Smllr Tons/Yr:0

Year: 1999
County Code: 1
Air Basin: SF
Facility ID: 1241
Air District Name: BA
SIC Code: 3479
Air District Name: BAY AREA AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 0
Reactive Organic Gases Tons/Yr: 0
Carbon Monoxide Emissions Tons/Yr: 0
NOX - Oxides of Nitrogen Tons/Yr: 0
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers and Smllr Tons/Yr:0

Year: 2000
County Code: 1
Air Basin: SF
Facility ID: 1241
Air District Name: BA
SIC Code: 3479
Air District Name: BAY AREA AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 0
Reactive Organic Gases Tons/Yr: 0
Carbon Monoxide Emissions Tons/Yr: 0
NOX - Oxides of Nitrogen Tons/Yr: 0
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers and Smllr Tons/Yr:0

Year: 2002
County Code: 1
Air Basin: SF
Facility ID: 1241
Air District Name: BA
SIC Code: 3479

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

R J CHASE COMPANY (Continued)

1001614010

Air District Name: BAY AREA AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 0
Reactive Organic Gases Tons/Yr: 0
Carbon Monoxide Emissions Tons/Yr: 0
NOX - Oxides of Nitrogen Tons/Yr: 0
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers and Smlr Tons/Yr: 0

Year: 2003
County Code: 1
Air Basin: SF
Facility ID: 1241
Air District Name: BA
SIC Code: 3479
Air District Name: BAY AREA AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 0
Reactive Organic Gases Tons/Yr: 0
Carbon Monoxide Emissions Tons/Yr: 0
NOX - Oxides of Nitrogen Tons/Yr: 0
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers and Smlr Tons/Yr: 0

Year: 2004
County Code: 1
Air Basin: SF
Facility ID: 1241
Air District Name: BA
SIC Code: 3479
Air District Name: BAY AREA AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 0.169
Reactive Organic Gases Tons/Yr: 0.1667977
Carbon Monoxide Emissions Tons/Yr: 0.005
NOX - Oxides of Nitrogen Tons/Yr: 0.018
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers and Smlr Tons/Yr: 0

Year: 2005
County Code: 1
Air Basin: SF
Facility ID: 1241
Air District Name: BA
SIC Code: 3479
Air District Name: BAY AREA AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: .175
Reactive Organic Gases Tons/Yr: .1727251
Carbon Monoxide Emissions Tons/Yr: .007

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

R J CHASE COMPANY (Continued)

1001614010

NOX - Oxides of Nitrogen Tons/Yr: .026
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers and Smllr Tons/Yr:0

Year: 2006
County Code: 1
Air Basin: SF
Facility ID: 1241
Air District Name: BA
SIC Code: 3479
Air District Name: BAY AREA AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: .173
Reactive Organic Gases Tons/Yr: .1707493
Carbon Monoxide Emissions Tons/Yr: .005
NOX - Oxides of Nitrogen Tons/Yr: .022
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers and Smllr Tons/Yr:0

Year: 2007
County Code: 1
Air Basin: SF
Facility ID: 1241
Air District Name: BA
SIC Code: 3479
Air District Name: BAY AREA AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: .178
Reactive Organic Gases Tons/Yr: .1756888
Carbon Monoxide Emissions Tons/Yr: .007
NOX - Oxides of Nitrogen Tons/Yr: .028
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers and Smllr Tons/Yr:0

Year: 2008
County Code: 1
Air Basin: SF
Facility ID: 1241
Air District Name: BA
SIC Code: 3479
Air District Name: BAY AREA AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: .238
Reactive Organic Gases Tons/Yr: .2349628
Carbon Monoxide Emissions Tons/Yr: .006
NOX - Oxides of Nitrogen Tons/Yr: .026
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers and Smllr Tons/Yr:0

Year: 2009

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

R J CHASE COMPANY (Continued)

1001614010

County Code: 1
Air Basin: SF
Facility ID: 1241
Air District Name: BA
SIC Code: 3479
Air District Name: BAY AREA AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 0.378
Reactive Organic Gases Tons/Yr: 0.373268800000000001
Carbon Monoxide Emissions Tons/Yr: 7.0000000000000001E-3
NOX - Oxides of Nitrogen Tons/Yr: 2.5999999999999999E-2
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers and Smllr Tons/Yr:0

Year: 2010
County Code: 1
Air Basin: SF
Facility ID: 1241
Air District Name: BA
SIC Code: 3479
Air District Name: BAY AREA AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 0.245
Reactive Organic Gases Tons/Yr: 0.241878100000000001
Carbon Monoxide Emissions Tons/Yr: 7.0000000000000001E-3
NOX - Oxides of Nitrogen Tons/Yr: 2.9999999999999999E-2
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0.00174216027874564
Part. Matter 10 Micrometers and Smllr Tons/Yr:0.001

Year: 2011
County Code: 1
Air Basin: SF
Facility ID: 1241
Air District Name: BA
SIC Code: 3479
Air District Name: BAY AREA AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 0.395
Reactive Organic Gases Tons/Yr: 0.3900631
Carbon Monoxide Emissions Tons/Yr: 0.006
NOX - Oxides of Nitrogen Tons/Yr: 0.023
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers and Smllr Tons/Yr:0

Year: 2012
County Code: 1
Air Basin: SF
Facility ID: 1241
Air District Name: BA
SIC Code: 3479
Air District Name: BAY AREA AQMD

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

R J CHASE COMPANY (Continued)

1001614010

Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 0.374
Reactive Organic Gases Tons/Yr: 0.3693172
Carbon Monoxide Emissions Tons/Yr: 0.006
NOX - Oxides of Nitrogen Tons/Yr: 0.024
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers and Smllr Tons/Yr:0

Year: 2013
County Code: 1
Air Basin: SF
Facility ID: 1241
Air District Name: BA
SIC Code: 3479
Air District Name: BAY AREA AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 0.314
Reactive Organic Gases Tons/Yr: 0.3100432
Carbon Monoxide Emissions Tons/Yr: 0.005
NOX - Oxides of Nitrogen Tons/Yr: 0.022
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers and Smllr Tons/Yr:0

Year: 2014
County Code: 1
Air Basin: SF
Facility ID: 1241
Air District Name: BA
SIC Code: 3479
Air District Name: BAY AREA AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 0.217278415
Reactive Organic Gases Tons/Yr: 0
Carbon Monoxide Emissions Tons/Yr: 0.004628334
NOX - Oxides of Nitrogen Tons/Yr: 0.018543879
SOX - Oxides of Sulphur Tons/Yr: 7.5144e-005
Particulate Matter Tons/Yr: 0.000396714
Part. Matter 10 Micrometers and Smllr Tons/Yr:0.000396714

21
NW
1/4-1/2
0.408 mi.
2152 ft.

CHEMSECO
1 TARA COURT
UNION CITY, CA 94587

SLIC S101642022
N/A

Relative:
Lower

SLIC:

Actual:
10 ft.

Region: STATE
Facility Status: Open - Verification Monitoring
Status Date: 08/07/2003
Global Id: SL0600135858
Lead Agency: ALAMEDA COUNTY WATER DISTRICT
Lead Agency Case Number: 0032
Latitude: 37.599693

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CHEMSECO (Continued)

S101642022

Longitude: -122.084464
Case Type: Cleanup Program Site
Case Worker: TB
Local Agency: ALAMEDA COUNTY WATER DISTRICT
RB Case Number: 01S0091
File Location: Not reported
Potential Media Affected: Other Groundwater (uses other than drinking water), Soil Vapor
Potential Contaminants of Concern: Not reported
Site History: Not reported

[Click here to access the California GeoTracker records for this facility:](#)

SLIC REG 2:

Region: 2
Facility ID: Not reported
Facility Status: Not reported
Date Closed: Not reported
Local Case #: Not reported
How Discovered: Not reported
Leak Cause: Not reported
Leak Source: Not reported
Date Confirmed: Not reported
Date Prelim Site Assmnt Workplan Submitted: Not reported
Date Preliminary Site Assessment Began: Not reported
Date Pollution Characterization Began: Not reported
Date Remediation Plan Submitted: Not reported
Date Remedial Action Underway: Not reported
Date Post Remedial Action Monitoring Began: Not reported

22
NNE
1/4-1/2
0.416 mi.
2199 ft.

SEABREEZE LEGACY
TIDEWATER DRIVE & MILLER COURT
UNION CITY, CA 94587

ENVIROSTOR **S116165207**
VCP **N/A**

Relative:
Higher

ENVIROSTOR:

Actual:
14 ft.

Facility ID: 1010008
Status: No Further Action
Status Date: 06/07/2001
Site Code: 201376
Site Type: Voluntary Cleanup
Site Type Detailed: Voluntary Cleanup
Acres: 9
NPL: NO
Regulatory Agencies: SMBRP, CITY OF UNION CITY
Lead Agency: CITY OF UNION CITY
Program Manager: Denise Tsuji
Supervisor: Denise Tsuji
Division Branch: Cleanup Berkeley
Assembly: 20
Senate: 10
Special Program: Voluntary Cleanup Program
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: Responsible Party
Latitude: 37.6012
Longitude: -122.0778

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SEABREEZE LEGACY (Continued)

S116165207

APN: 463-0090-023-01, 463-0090-024-02, 463-0090-024-03
Past Use: AGRICULTURAL - ROW CROPS
Potential COC: NONE SPECIFIED No Contaminants found
Confirmed COC: 31000-NO
Potential Description: NMA
Alias Name: Not reported
Alias Type: Not reported

Completed Info:

Completed Area Name: Not reported
Completed Sub Area Name: Not reported
Completed Document Type: Not reported
Completed Date: Not reported
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

VCP:

Facility ID: 1010008
Site Type: Voluntary Cleanup
Site Type Detail: Voluntary Cleanup
Site Mgmt. Req.: NONE SPECIFIED
Acres: 9
National Priorities List: NO
Cleanup Oversight Agencies: SMBRP, CITY OF UNION CITY
Lead Agency: CITY OF UNION CITY
Lead Agency Description: UNION CITY, CITY OF
Project Manager: Denise Tsuji
Supervisor: Denise Tsuji
Division Branch: Cleanup Berkeley
Site Code: 201376
Assembly: 20
Senate: 10
Special Programs Code: Voluntary Cleanup Program
Status: No Further Action
Status Date: 06/07/2001
Restricted Use: NO
Funding: Responsible Party
Lat/Long: 37.6012 / -122.0778
APN: 463-0090-023-01, 463-0090-024-02, 463-0090-024-03
Past Use: AGRICULTURAL - ROW CROPS
Potential COC: NONE SPECIFIED,31000
Confirmed COC: 31000-NO
Potential Description: NMA
Alias Name: Not reported
Alias Type: Not reported

Completed Info:

Completed Area Name: Not reported
Completed Sub Area Name: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SEABREEZE LEGACY (Continued)

S116165207

Completed Document Type: Not reported
Completed Date: Not reported
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

F23 BEMIS COMPANY, INC
NNW 30300 UNION CITY BLVD
1/4-1/2 UNION CITY, CA 94587
0.429 mi.
2263 ft. Site 1 of 2 in cluster F

EMI S100930653
HIST CORTESE N/A
WDS

Relative:
Higher

EMI:
Year: 1993
County Code: 1
Air Basin: SF
Facility ID: 400
Air District Name: BA
SIC Code: 2671
Air District Name: BAY AREA AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 1
Reactive Organic Gases Tons/Yr: 1
Carbon Monoxide Emissions Tons/Yr: 0
NOX - Oxides of Nitrogen Tons/Yr: 0
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers and Smllr Tons/Yr:0

Actual:
12 ft.

Year: 1995
County Code: 1
Air Basin: SF
Facility ID: 400
Air District Name: BA
SIC Code: 2671
Air District Name: BAY AREA AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 1
Reactive Organic Gases Tons/Yr: 1
Carbon Monoxide Emissions Tons/Yr: 0
NOX - Oxides of Nitrogen Tons/Yr: 0
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers and Smllr Tons/Yr:0

Year: 1996
County Code: 1
Air Basin: SF

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

BEMIS COMPANY, INC (Continued)

S100930653

Facility ID: 400
Air District Name: BA
SIC Code: 2671
Air District Name: BAY AREA AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 1
Reactive Organic Gases Tons/Yr: 1
Carbon Monoxide Emissions Tons/Yr: 0
NOX - Oxides of Nitrogen Tons/Yr: 0
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers and Smllr Tons/Yr:0

Year: 1997
County Code: 1
Air Basin: SF
Facility ID: 400
Air District Name: BA
SIC Code: 2671
Air District Name: BAY AREA AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 1
Reactive Organic Gases Tons/Yr: 1
Carbon Monoxide Emissions Tons/Yr: 0
NOX - Oxides of Nitrogen Tons/Yr: 0
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers and Smllr Tons/Yr:0

Year: 1998
County Code: 1
Air Basin: SF
Facility ID: 400
Air District Name: BA
SIC Code: 2671
Air District Name: BAY AREA AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 1
Reactive Organic Gases Tons/Yr: 1
Carbon Monoxide Emissions Tons/Yr: 0
NOX - Oxides of Nitrogen Tons/Yr: 0
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers and Smllr Tons/Yr:0

Year: 1999
County Code: 1
Air Basin: SF
Facility ID: 400
Air District Name: BA
SIC Code: 2759
Air District Name: BAY AREA AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

BEMIS COMPANY, INC (Continued)

S100930653

Total Organic Hydrocarbon Gases Tons/Yr: 1
Reactive Organic Gases Tons/Yr: 1
Carbon Monoxide Emissions Tons/Yr: 0
NOX - Oxides of Nitrogen Tons/Yr: 0
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers and Smlr Tons/Yr:0

Year: 2000
County Code: 1
Air Basin: SF
Facility ID: 400
Air District Name: BA
SIC Code: 2759
Air District Name: BAY AREA AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 1
Reactive Organic Gases Tons/Yr: 1
Carbon Monoxide Emissions Tons/Yr: 0
NOX - Oxides of Nitrogen Tons/Yr: 0
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers and Smlr Tons/Yr:0

Year: 2001
County Code: 1
Air Basin: SF
Facility ID: 400
Air District Name: BA
SIC Code: 2759
Air District Name: BAY AREA AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 1
Reactive Organic Gases Tons/Yr: 1
Carbon Monoxide Emissions Tons/Yr: 0
NOX - Oxides of Nitrogen Tons/Yr: 0
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers and Smlr Tons/Yr:0

Year: 2002
County Code: 1
Air Basin: SF
Facility ID: 400
Air District Name: BA
SIC Code: 2671
Air District Name: BAY AREA AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 1
Reactive Organic Gases Tons/Yr: 1
Carbon Monoxide Emissions Tons/Yr: 0
NOX - Oxides of Nitrogen Tons/Yr: 0
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

BEMIS COMPANY, INC (Continued)

S100930653

Part. Matter 10 Micrometers and Smllr Tons/Yr:0

Year: 2003
County Code: 1
Air Basin: SF
Facility ID: 400
Air District Name: BA
SIC Code: 2671
Air District Name: BAY AREA AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 1
Reactive Organic Gases Tons/Yr: 1
Carbon Monoxide Emissions Tons/Yr: 0
NOX - Oxides of Nitrogen Tons/Yr: 0
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers and Smllr Tons/Yr:0

HIST CORTESE:

Region: CORTESE
Facility County Code: 1
Reg By: LTNKA
Reg Id: 01-0182

WDS:

Facility ID: San Francisco Bay 011004761
Facility Type: Industrial - Facility that treats and/or disposes of liquid or semisolid wastes from any servicing, producing, manufacturing or processing operation of whatever nature, including mining, gravel washing, geothermal operations, air conditioning, ship building and repairing, oil production, storage and disposal operations, water pumping.
Facility Status: Active - Any facility with a continuous or seasonal discharge that is under Waste Discharge Requirements.
NPDES Number: CAS000001 The 1st 2 characters designate the state. The remaining 7 are assigned by the Regional Board
Subregion: 2
Facility Telephone: 5104712811
Facility Contact: PETER LO
Agency Name: BEMIS CO
Agency Address: 30300 Union City Blvd
Agency City,St,Zip: Union City 945871502
Agency Contact: PETER LO
Agency Telephone: 5104712811
Agency Type: Private
SIC Code: 0
SIC Code 2: Not reported
Primary Waste Type: Not reported
Primary Waste: Not reported
Waste Type2: Not reported
Waste2: Not reported
Primary Waste Type: Not reported
Secondary Waste: Not reported
Secondary Waste Type: Not reported
Design Flow: 0

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

BEMIS COMPANY, INC (Continued)

S100930853

Baseline Flow: 0
Reclamation: Not reported
POTW: Not reported
Treat To Water: Minor Threat to Water Quality. A violation of a regional board order should cause a relatively minor impairment of beneficial uses compared to a major or minor threat. Not: All nurds without a TTWQ will be considered a minor threat to water quality unless coded at a higher Level. A Zero (0) may be used to code those NURDS that are found to represent no threat to water quality.
Complexity: Category C - Facilities having no waste treatment systems, such as cooling water dischargers or those who must comply through best management practices, facilities with passive waste treatment and disposal systems, such as septic systems with subsurface disposal, or dischargers having waste storage systems with land disposal such as dairy waste ponds.

F24
NNW
1/4-1/2
0.429 ml.
2264 ft.
SYSCO AVARD/CONTINENTAL
30315 UNION CITY
UNION CITY, CA 94587
Site 2 of 2 in cluster F

LUST
HIST CORTESE
S102438301
N/A

Relative: Higher
Actual: 12 ft.
LUST:
Region: STATE
Global Id: T0600100277
Latitude: 37.600627
Longitude: -122.084733
Case Type: LUST Cleanup Site
Status: Completed - Case Closed
Status Date: 06/12/2008
Lead Agency: ALAMEDA COUNTY WATER DISTRICT
Case Worker: TB
Local Agency: ALAMEDA COUNTY WATER DISTRICT
RB Case Number: 01-0299
LOC Case Number: 0135
File Location: Not reported
Potential Media Affect: Other Groundwater (uses other than drinking water)
Potential Contaminants of Concern: Diesel
Site History: Not reported

[Click here to access the California GeoTracker records for this facility:](#)

Contact:
Global Id: T0600100277
Contact Type: Regional Board Caseworker
Contact Name: Regional Water Board
Organization Name: SAN FRANCISCO BAY RWQCB (REGION 2)
Address: 1515 CLAY ST SUITE 1400
City: OAKLAND
Email: Not reported
Phone Number: Not reported

Global Id: T0600100277
Contact Type: Local Agency Caseworker
Contact Name: THOMAS J BERKINS
Organization Name: ALAMEDA COUNTY WATER DISTRICT
Address: 43885 SOUTH GRIMMER BLVD
City: FREMONT

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SYSCO AVARD/CONTINENTAL (Continued)

S102438301

Email: tom.berkins@acwd.com
Phone Number: 5106684442

Status History:

Global Id: T0600100277
Status: Completed - Case Closed
Status Date: 06/12/2008

Global Id: T0600100277
Status: Open - Case Begin Date
Status Date: 04/08/1985

Global Id: T0600100277
Status: Open - Site Assessment
Status Date: 05/05/1985

Global Id: T0600100277
Status: Open - Site Assessment
Status Date: 03/17/1989

Regulatory Activities:

Global Id: T0600100277
Action Type: ENFORCEMENT
Date: 06/23/2010
Action: Referral to Other State Agency

Global Id: T0600100277
Action Type: RESPONSE
Date: 10/20/2000
Action: Email Correspondence

Global Id: T0600100277
Action Type: RESPONSE
Date: 05/27/2008
Action: Other Report / Document

Global Id: T0600100277
Action Type: RESPONSE
Date: 02/08/2008
Action: Email Correspondence

Global Id: T0600100277
Action Type: ENFORCEMENT
Date: 06/18/2008
Action: File review

Global Id: T0600100277
Action Type: ENFORCEMENT
Date: 01/02/1996
Action: Closure/No Further Action Letter

Global Id: T0600100277
Action Type: RESPONSE
Date: 02/08/2008
Action: Email Correspondence

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SYSCO AVARD/CONTINENTAL (Continued)

S102438301

Global Id:	T0600100277
Action Type:	RESPONSE
Date:	02/20/2008
Action:	Email Correspondence
Global Id:	T0600100277
Action Type:	ENFORCEMENT
Date:	06/12/2008
Action:	Closure/No Further Action Letter - #01-0299
Global Id:	T0600100277
Action Type:	RESPONSE
Date:	02/08/2008
Action:	Request for Closure
Global Id:	T0600100277
Action Type:	RESPONSE
Date:	06/19/2008
Action:	Correspondence
Global Id:	T0600100277
Action Type:	RESPONSE
Date:	02/16/2001
Action:	Correspondence
Global Id:	T0600100277
Action Type:	RESPONSE
Date:	02/12/2000
Action:	Other Report / Document
Global Id:	T0600100277
Action Type:	RESPONSE
Date:	12/20/1999
Action:	Request for Closure
Global Id:	T0600100277
Action Type:	RESPONSE
Date:	03/01/2002
Action:	Correspondence
Global Id:	T0600100277
Action Type:	RESPONSE
Date:	05/27/2008
Action:	Other Report / Document
Global Id:	T0600100277
Action Type:	RESPONSE
Date:	09/12/2007
Action:	Other Report / Document
Global Id:	T0600100277
Action Type:	RESPONSE
Date:	01/30/2008
Action:	Email Correspondence
Global Id:	T0600100277
Action Type:	RESPONSE

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SYSCO AVARD/CONTINENTAL (Continued)

S102438301

Date: 05/09/2002
Action: Correspondence

Global Id: T0600100277
Action Type: Other
Date: 04/08/1985
Action: Leak Reported

Global Id: T0600100277
Action Type: Other
Date: 04/08/1985
Action: Leak Stopped

Global Id: T0600100277
Action Type: Other
Date: 04/08/1985
Action: Leak Discovery

Global Id: T0600100277
Action Type: ENFORCEMENT
Date: 06/11/2008
Action: Closure/No Further Action Letter

LUST REG 2:

Region: 2
Facility Id: 01-0299
Facility Status: Preliminary site assessment underway
Case Number: 0135
How Discovered: Tank Closure
Leak Cause: Structure Failure
Leak Source: Tank
Date Leak Confirmed: 5/5/1985
Oversight Program: LUST
Prelim. Site Assessment Workplan Submitted: Not reported
Preliminary Site Assessment Began: 3/17/1989
Pollution Characterization Began: Not reported
Pollution Remediation Plan Submitted: Not reported
Date Remediation Action Underway: Not reported
Date Post Remedial Action Monitoring Began: Not reported

HIST CORTESE:

Region: CORTESE
Facility County Code: 1
Reg By: LTNKA
Reg Id: 01-0299

Map ID
Direction
Distance
Elevation

MAP FINDINGS

G25
NNW
1/4-1/2
0.436 mi.
2301 ft.

A & H TRUCK REPAIR
30319 UNION CITY BOULEVARD
UNION CITY, CA 94587

Site 1 of 2 in cluster G

LUST
HIST CORTESE

EDR ID Number
EPA ID Number

S101306830
N/A

Relative:
Higher

Actual:
12 ft.

LUST:

Region: STATE
Global Id: T0600100571
Latitude: 37.601532
Longitude: -122.0821005
Case Type: LUST Cleanup Site
Status: Open - Site Assessment
Status Date: 11/14/1986
Lead Agency: SAN FRANCISCO BAY RWQCB (REGION 2)
Case Worker: RS
Local Agency: ALAMEDA COUNTY WATER DISTRICT
RB Case Number: 01-0620
LOC Case Number: TT0249
File Location: Local Agency
Potential Media Affect: Other Groundwater (uses other than drinking water)
Potential Contaminants of Concern: Gasoline
Site History: The Site has been, and is currently used as a truck repair facility. Another business shares the site under the name Nuts & Spice. Initial investigation work at the truck repair site indicated excessive levels of hydrocarbons in soil. Groundwater samples taken during tank removal contained up to 24,000 ppb volatile hydrocarbons, along with 20 ppb benzene, 130 ppb toluene, and 330 ppb xylenes. In May, 1998 one 550-gal UST waste oil tank (WOT) was removed by Bamer Construction.

[Click here to access the California GeoTracker records for this facility:](#)

Contact:

Global Id: T0600100571
Contact Type: Regional Board Caseworker
Contact Name: DAVID TANOUYE
Organization Name: SAN FRANCISCO BAY RWQCB (REGION 2)
Address: 1515 Clay St # 1400
City: OAKLAND
Email: david.tanouye@waterboards.ca.gov
Phone Number: 5106222360

Global Id: T0600100571
Contact Type: Local Agency Caseworker
Contact Name: RANGARAJAN SAMPATH
Organization Name: ALAMEDA COUNTY WATER DISTRICT
Address: 43885 SOUTH GRIMMER BLVD
City: FREMONT
Email: rangarajan.sampath@acwd.com
Phone Number: Not reported

Status History:

Global Id: T0600100571
Status: Open - Case Begin Date
Status Date: 11/14/1986

Global Id: T0600100571
Status: Open - Site Assessment

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

A & H TRUCK REPAIR (Continued)

S101306830

Status Date: 11/14/1986

Regulatory Activities:

Global Id: T0600100571
Action Type: ENFORCEMENT
Date: 06/01/2012
Action: File review

Global Id: T0600100571
Action Type: ENFORCEMENT
Date: 06/30/2010
Action: File review

Global Id: T0600100571
Action Type: ENFORCEMENT
Date: 06/26/2014
Action: File review

Global Id: T0600100571
Action Type: ENFORCEMENT
Date: 02/28/1991
Action: Technical Correspondence / Assistance / Other

Global Id: T0600100571
Action Type: Other
Date: 11/14/1986
Action: Leak Reported

Global Id: T0600100571
Action Type: Other
Date: 11/14/1986
Action: Leak Stopped

Global Id: T0600100571
Action Type: Other
Date: 11/14/1986
Action: Leak Discovery

Global Id: T0600100571
Action Type: ENFORCEMENT
Date: 09/28/2016
Action: File review

Global Id: T0600100571
Action Type: ENFORCEMENT
Date: 09/28/1998
Action: Technical Correspondence / Assistance / Other

Global Id: T0600100571
Action Type: REMEDIATION
Date: 04/05/2000
Action: Excavation

HIST CORTESE:

Region: CORTESE

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

A & H TRUCK REPAIR (Continued)

S101306830

Facility County Code: 1
Reg By: LTNKA
Reg Id: 01-0620

**G26
NNW
1/4-1/2
0.436 mi.
2301 ft.**

**A & H TRUCK REPAIR
30319 UNION CITY BOULEVARD
UNION CITY, CA 94587**

**LUST S106229840
N/A**

Site 2 of 2 in cluster G

**Relative:
Higher**

LUST REG 2:

Region: 2
Facility Id: 01-0620
Facility Status: Leak being confirmed
Case Number: 0249
How Discovered: Tank Closure
Leak Cause: Structure Failure
Leak Source: Tank
Date Leak Confirmed: 11/14/1986
Oversight Program: LUST

**Actual:
12 ft.**

Prelim. Site Assessment Workplan Submitted: Not reported
Preliminary Site Assessment Began: Not reported
Pollution Characterization Began: Not reported
Pollution Remediation Plan Submitted: Not reported
Date Remediation Action Underway: Not reported
Date Post Remedial Action Monitoring Began: Not reported

**27
West
1/4-1/2
0.484 mi.
2553 ft.**

**VEASY AND HORNER DEVELOPMENT LLC
4700 HORNER STREET
UNION CITY, CA 94587**

**RCRA-SQG 1000356612
LUST CAD981981251
SLIC
SWEEPS UST
HIST UST
FINDS
EMI
HIST CORTESE**

**Relative:
Lower**

**Actual:
8 ft.**

RCRA-SQG:

Date form received by agency: 06/22/2005
Facility name: VEASY AND HORNER DEVELOPMENT LLC
Facility address: 4700 HORNER STREET
UNION CITY, CA 94587
EPA ID: CAD981981251
Mailing address: PO BOX 1027
SOUTH SAN FRANCISCO, CA 94083 1027
Contact: ANA C LOPEZ WINTER
Contact address: PO BOX 1027
SOUTH SAN FRANCISCO, CA 94083 1027
Contact country: US
Contact telephone: 650-873-0120
Telephone ext.: 120
Contact email: CRISTINA@CONXO.COM
EPA Region: 09
Classification: Small Small Quantity Generator
Description: Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

VEASY AND HORNER DEVELOPMENT LLC (Continued)

1000356612

waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:

Owner/operator name: VEASY AND HORNER DEVELOPMENT LLC
Owner/operator address: PO BOX 1027
SOUTH SAN FRANCISCO, CA 94083
Owner/operator country: US
Owner/operator telephone: Not reported
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: 02/22/2002
Owner/Op end date: Not reported

Owner/operator name: CONXO INC
Owner/operator address: Not reported
Not reported
Owner/operator country: US
Owner/operator telephone: Not reported
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: 02/22/2002
Owner/Op end date: Not reported

Handler Activities Summary:

U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
Used oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D002
. Waste name: CORROSIVE WASTE

. Waste code: D008
. Waste name: LEAD

Historical Generators:

Date form received by agency: 04/08/1987
Site name: FLORESTONE PRODUCTS CO INC
Classification: Small Quantity Generator

Violation Status: No violations found

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

VEASY AND HORNER DEVELOPMENT LLC (Continued)

1000356612

LUST:

Region: STATE
Global Id: T0600100597
Latitude: 37.594989
Longitude: -122.089757
Case Type: LUST Cleanup Site
Status: Completed - Case Closed
Status Date: 03/29/1995
Lead Agency: ALAMEDA COUNTY WATER DISTRICT
Case Worker: SDI
Local Agency: ALAMEDA COUNTY WATER DISTRICT
RB Case Number: 01-0647
LOC Case Number: 0140
File Location: Not reported
Potential Media Affect: Other Groundwater (uses other than drinking water)
Potential Contaminants of Concern: Gasoline
Site History: Not reported

[Click here to access the California GeoTracker records for this facility:](#)

Contact:

Global Id: T0600100597
Contact Type: Regional Board Caseworker
Contact Name: Regional Water Board
Organization Name: SAN FRANCISCO BAY RWQCB (REGION 2)
Address: 1515 CLAY ST SUITE 1400
City: OAKLAND
Email: Not reported
Phone Number: Not reported

Global Id: T0600100597
Contact Type: Local Agency Caseworker
Contact Name: STEVEN D. INN
Organization Name: ALAMEDA COUNTY WATER DISTRICT
Address: 43885 SOUTH GRIMMER BOULEVARD
City: FREMONT
Email: steven.inn@acwd.com
Phone Number: Not reported

Status History:

Global Id: T0600100597
Status: Completed - Case Closed
Status Date: 03/29/1995

Global Id: T0600100597
Status: Open - Case Begin Date
Status Date: 05/21/1985

Global Id: T0600100597
Status: Open - Site Assessment
Status Date: 05/21/1985

Global Id: T0600100597
Status: Open - Site Assessment
Status Date: 09/15/1985

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

VEASY AND HORNER DEVELOPMENT LLC (Continued)

1000356612

Regulatory Activities:

Global Id:	T0600100597
Action Type:	Other
Date:	10/11/1985
Action:	Leak Reported
Global Id:	T0600100597
Action Type:	Other
Date:	10/11/1985
Action:	Leak Stopped
Global Id:	T0600100597
Action Type:	Other
Date:	10/11/1985
Action:	Leak Discovery
Global Id:	T0600100597
Action Type:	ENFORCEMENT
Date:	03/29/1995
Action:	Closure/No Further Action Letter
Global Id:	T0600100597
Action Type:	REMEDIATION
Date:	01/13/1994
Action:	Excavation
Global Id:	T0600100597
Action Type:	REMEDIATION
Date:	02/25/1994
Action:	Pump & Treat (P&T) Groundwater

LUST REG 2:

Region:	2
Facility Id:	01-0647
Facility Status:	Case Closed
Case Number:	0140
How Discovered:	Tank Closure
Leak Cause:	Structure Failure
Leak Source:	Tank
Date Leak Confirmed:	5/21/1985
Oversight Program:	LUST
Prelim. Site Assessment Workplan Submitted:	Not reported
Preliminary Site Assessment Began:	9/15/1985
Pollution Characterization Began:	Not reported
Pollution Remediation Plan Submitted:	Not reported
Date Remediation Action Underway:	Not reported
Date Post Remedial Action Monitoring Began:	Not reported

SLIC:

Region:	STATE
Facility Status:	Open - Site Assessment
Status Date:	08/07/2003
Global Id:	SL0600165055
Lead Agency:	ALAMEDA COUNTY WATER DISTRICT
Lead Agency Case Number:	0688

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

VEASY AND HORNER DEVELOPMENT LLC (Continued)

1000356612

Latitude: 37.594989
Longitude: -122.089757
Case Type: Cleanup Program Site
Case Worker: EC
Local Agency: ALAMEDA COUNTY WATER DISTRICT
RB Case Number: 01S0616
File Location: Not reported
Potential Media Affected: Not reported
Potential Contaminants of Concern: Not reported
Site History: Not reported

[Click here to access the California GeoTracker records for this facility:](#)

SLIC REG 2:

Region: 2
Facility ID: Not reported
Facility Status: Not reported
Date Closed: Not reported
Local Case #: Not reported
How Discovered: Not reported
Leak Cause: Not reported
Leak Source: Not reported
Date Confirmed: Not reported
Date Prelim Site Assmnt Workplan Submitted: Not reported
Date Preliminary Site Assessment Began: Not reported
Date Pollution Characterization Began: Not reported
Date Remediation Plan Submitted: Not reported
Date Remedial Action Underway: Not reported
Date Post Remedial Action Monitoring Began: Not reported

SWEEPS UST:

Status: Active
Comp Number: 7220
Number: 9
Board Of Equalization: 44-001393
Referral Date: 07-01-85
Action Date: Not reported
Created Date: 02-29-88
Owner Tank Id: 2
SWRCB Tank Id: 01-011-007220-000001
Tank Status: A
Capacity: 1000
Active Date: 07-01-85
Tank Use: M.V. FUEL
STG: P
Content: REG UNLEADED
Number Of Tanks: 2

Status: Active
Comp Number: 7220
Number: 9
Board Of Equalization: 44-001393
Referral Date: 07-01-85
Action Date: Not reported
Created Date: 02-29-88
Owner Tank Id: 1

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

VEASY AND HORNER DEVELOPMENT LLC (Continued)

1000356612

SWRCB Tank Id: 01-011-007220-000002
Tank Status: A
Capacity: 5000
Active Date: 07-01-85
Tank Use: M.V. FUEL
STG: P
Content: LEADED
Number Of Tanks: Not reported

HIST UST:

File Number: 00035FB7
URL: <http://geotracker.waterboards.ca.gov/ustpdfs/pdf/00035FB7.pdf>
Region: STATE
Facility ID: 00000007220
Facility Type: Other
Other Type: MANUFACTURING
Contact Name: RAYMOND R. FLORES
Telephone: 4154899290
Owner Name: FLORESTONE PRODUCTS CO. INC.
Owner Address: 4700 HORNER ST.
Owner City,St,Zip: UNION CITY, CA 94587
Total Tanks: 0002

Tank Num: 001
Container Num: 2
Year Installed: 1979
Tank Capacity: 00001000
Tank Used for: PRODUCT
Type of Fuel: UNLEADED
Container Construction Thickness: 1/4
Leak Detection: Stock Inventor

Tank Num: 002
Container Num: 1
Year Installed: 1979
Tank Capacity: 00005000
Tank Used for: PRODUCT
Type of Fuel: REGULAR
Container Construction Thickness: 1/4
Leak Detection: Stock Inventor

Click here for Geo Tracker PDF:

FINDS:

Registry ID: 110055762946

Environmental Interest/Information System
STATE MASTER

Click this hyperlink while viewing on your computer to access
additional FINDS: detail in the EDR Site Report.

EMI:

Year: 1987

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

VEASY AND HORNER DEVELOPMENT LLC (Continued)

1000356612

County Code: 1
Air Basin: SF
Facility ID: 2552
Air District Name: BA
SIC Code: 3229
Air District Name: BAY AREA AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 24
Reactive Organic Gases Tons/Yr: 21
Carbon Monoxide Emissions Tons/Yr: 0
NOX - Oxides of Nitrogen Tons/Yr: 0
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers and Smllr Tons/Yr:0

HIST CORTESE:

Region: CORTESE
Facility County Code: 1
Reg By: LTNKA
Reg Id: 01-0647

28
NNW
1/2-1
0.526 mi.
2779 ft.

CAMPBELL COOPER TOOLS
30070 UNION CITY BLVD
UNION CITY, CA 94587

RCRA-SQG 1000345678
ENVIROSTOR CAD009162223
LUST
HIST UST
FINDS
ECHO

Relative:
Higher

RCRA-SQG:

Actual:
13 ft.

Date form received by agency: 09/01/1996
Facility name: CAMPBELL CHAIN DIV MCGRAW-EDISON CO
Facility address: 30070 UNION CITY BLVD
UNION CITY, CA 94587
EPA ID: CAD009162223
Mailing address: P O BOX 336
UNION CITY, CA 94587
Contact: Not reported
Contact address: Not reported
Not reported
Contact country: US
Contact telephone: Not reported
Contact email: Not reported
EPA Region: 09
Classification: Small Small Quantity Generator
Description: Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:

Owner/operator name: CAMPBELL CHAIN DIV., MC GRAW-EDISON CO.
Owner/operator address: 30070 UNION CITY BLVD
CITY NOT REPORTED, CA 99999
Owner/operator country: Not reported
Owner/operator telephone: (415) 489-6000

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CAMPBELL COOPER TOOLS (Continued)

1000345678

Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Owner/operator name: CAMPBELL CHAIN DIV., MC GRAW-EDISON CO.
Owner/operator address: 30070 UNION CITY BLVD
UNION CITY, CA 94587

Owner/operator country: Not reported
Owner/operator telephone: (415) 489-6000
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Handler Activities Summary:

U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
Used oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Historical Generators:

Date form received by agency: 07/07/1980
Site name: CAMPBELL CHAIN DIV MCGRAW-EDISON CO
Classification: Large Quantity Generator

Violation Status: No violations found

ENVIROSTOR:

Facility ID: 1330006
Status: No Further Action
Status Date: 06/07/2001
Site Code: Not reported
Site Type: Evaluation
Site Type Detailed: Evaluation
Acres: 9
NPL: NO
Regulatory Agencies: SMBRP, CITY OF UNION CITY
Lead Agency: NONE SPECIFIED
Program Manager: Denise Tsuji
Supervisor: Denise Tsuji
Division Branch: Cleanup Berkeley
Assembly: 20
Senate: 10
Special Program: Not reported
Restricted Use: NO

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CAMPBELL COOPER TOOLS (Continued)

1000345678

Site Mgmt Req: NONE SPECIFIED
Funding: Responsible Party
Latitude: 37.60298
Longitude: -122.0817
APN: 483-0005-002-02
Past Use: MANUFACTURING - METAL
Potential COC: NONE SPECIFIED No Contaminants found
Confirmed COC: 31000-NO
Potential Description: NMA
Alias Name: Not reported
Alias Type: Not reported

Completed Info:

Completed Area Name: Not reported
Completed Sub Area Name: Not reported
Completed Document Type: Not reported
Completed Date: Not reported
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

LUST:

Region: STATE
Global Id: T10000000699
Latitude: 37.6027874
Longitude: -122.0819692
Case Type: LUST Cleanup Site
Status: Completed - Case Closed
Status Date: 09/18/1998
Lead Agency: SAN FRANCISCO BAY RWQCB (REGION 2)
Case Worker: Not reported
Local Agency: Not reported
RB Case Number: T10000000699
LOC Case Number: Not reported
File Location: Not reported
Potential Media Affect: Not reported
Potential Contaminants of Concern: Not reported
Site History: Not reported

[Click here to access the California GeoTracker records for this facility:](#)

Status History:

Global Id: T10000000699
Status: Completed - Case Closed
Status Date: 09/18/1998

Global Id: T10000000699
Status: Open - Case Begin Date
Status Date: 09/18/1998

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CAMPBELL COOPER TOOLS (Continued)

1000345678

HIST UST:

File Number: Not reported
URL: Not reported
Region: STATE
Facility ID: 0000054790
Facility Type: Other
Other Type: MANUFACTURING
Contact Name: FRED W. STEFFENER
Telephone: 4154896000
Owner Name: CAMPBELL CHAIN DIVISION, MCGRA
Owner Address: 3990 E. MARKET ST.
Owner City,St,Zip: YORK, PA 17402
Total Tanks: 0010

Tank Num: 001
Container Num: T-001
Year Installed: 1958
Tank Capacity: 00000500
Tank Used for: PRODUCT
Type of Fuel: REGULAR
Container Construction Thickness: Not reported
Leak Detection: Visual

Tank Num: 002
Container Num: P-001
Year Installed: 1958
Tank Capacity: 00006400
Tank Used for: PRODUCT
Type of Fuel: Not reported
Container Construction Thickness: 4
Leak Detection: Visual, Stock Inventor

Tank Num: 003
Container Num: P-002
Year Installed: 1958
Tank Capacity: 00001800
Tank Used for: PRODUCT
Type of Fuel: Not reported
Container Construction Thickness: 4
Leak Detection: Visual

Tank Num: 004
Container Num: P-003
Year Installed: 1958
Tank Capacity: 00013300
Tank Used for: WASTE
Type of Fuel: Not reported
Container Construction Thickness: 6
Leak Detection: Visual

Tank Num: 005
Container Num: P-004
Year Installed: 1958
Tank Capacity: 00000630
Tank Used for: WASTE
Type of Fuel: Not reported
Container Construction Thickness: 6

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CAMPBELL COOPER TOOLS (Continued)

1000345678

Leak Detection:	Visual
Tank Num:	006
Container Num:	P-005
Year Installed:	1958
Tank Capacity:	00000840
Tank Used for:	WASTE
Type of Fuel:	Not reported
Container Construction Thickness:	6
Leak Detection:	Visual
Tank Num:	007
Container Num:	S-001
Year Installed:	1958
Tank Capacity:	00000330
Tank Used for:	WASTE
Type of Fuel:	Not reported
Container Construction Thickness:	6
Leak Detection:	Visual
Tank Num:	008
Container Num:	S-002
Year Installed:	1958
Tank Capacity:	00001280
Tank Used for:	WASTE
Type of Fuel:	Not reported
Container Construction Thickness:	6
Leak Detection:	Visual
Tank Num:	009
Container Num:	S-003
Year Installed:	1958
Tank Capacity:	00000150
Tank Used for:	WASTE
Type of Fuel:	Not reported
Container Construction Thickness:	6
Leak Detection:	Visual
Tank Num:	010
Container Num:	S-004
Year Installed:	Not reported
Tank Capacity:	00000840
Tank Used for:	WASTE
Type of Fuel:	Not reported
Container Construction Thickness:	6
Leak Detection:	Visual

FINDS:

Registry ID: 110009529055

Environmental Interest/Information System

US EPA TRIS (Toxics Release Inventory System) contains information from facilities on the amounts of over 300 listed toxic chemicals that these facilities release directly to air, water, land, or that are transported off-site.

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CAMPBELL COOPER TOOLS (Continued)

1000345678

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

[Click this hyperlink](#) while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid: 1000345678
Registry ID: 110009529055
DFR URL: <http://echo.epa.gov/detailed-facility-report?lid=110009529055>

H29
NW
1/2-1
0.539 mi.
2848 ft.
BOHANNA & PEARCE/LINCOLN
30460 WHIPPLE ROAD
UNION CITY, CA 94587
Site 1 of 2 in cluster H

Notify 65 **S100562405**
N/A

Relative:
Lower

NOTIFY 65:

Date Reported: 19930430
Staff Initials: LF

Actual:
9 ft.

Board File Number: 002930001
Facility Type: soil

Discharge Date: Not reported
Issue Date: Not reported

Incident Description: Bohanna & Pearce leased a portion of Lincoln property at above. An open dip tank for paint coating was in the p

H30
NW
1/2-1
0.539 mi.
2848 ft.
LINCOLN/BOHANNA & PEARCE
30460 WHIPPLE ROAD
UNION CITY, CA 94587
Site 2 of 2 in cluster H

Notify 65 **S100562400**
N/A

Relative:
Lower

NOTIFY 65:

Date Reported: 19930426
Staff Initials: LF

Actual:
9 ft.

Board File Number: 002930000
Facility Type: soil

Discharge Date: Not reported
Issue Date: Not reported

Incident Description: Bohanna & Pearce leased a portion of a larger building from Lincoln Property. An open dip tank used to contain

Map ID
Direction
Distance
Elevation

MAP FINDINGS

31
North
1/2-1
0.897 mi.
4738 ft.

FANUC USA CORP BERKELEY LAB
29700 KOHOUTEK WAY
UNION CITY, CA 94587

RCRA-SQG
ENVIROSTOR
CHMIRS

EDR ID Number
EPA ID Number

1001217707
CAR000040550

Relative:
Higher

RCRA-SQG:

Date form received by agency: 06/09/1998

Facility name: FANUC USA CORP BERKELEY LAB

Facility address: 29700 KOHOUTEK WAY

UNION CITY, CA 94587

EPA ID: CAR000040550

Contact: KIRK BROWN

Contact address: 29700 KOHOUTEK WAY
UNION CITY, CA 94587

Contact country: US

Contact telephone: (510) 476-2256

Contact email: Not reported

EPA Region: 09

Classification: Small Small Quantity Generator

Description: Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:

Owner/operator name: FANUC USA CORP

Owner/operator address: 29700 KOHOUTEK WAY
UNION CITY, CA 94587

Owner/operator country: Not reported

Owner/operator telephone: (510) 576-2256

Legal status: Private

Owner/Operator Type: Owner

Owner/Op start date: Not reported

Owner/Op end date: Not reported

Handler Activities Summary:

U.S. importer of hazardous waste: No

Mixed waste (haz. and radioactive): No

Recycler of hazardous waste: No

Transporter of hazardous waste: No

Treater, storer or disposer of HW: No

Underground injection activity: No

On-site burner exemption: No

Furnace exemption: No

Used oil fuel burner: No

Used oil processor: No

Used oil refiner: No

Used oil fuel marketer to burner: No

Used oil Specification marketer: No

Used oil transfer facility: No

Used oil transporter: No

. Waste code: D001

. Waste name: IGNITABLE WASTE

. Waste code: D002

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FANUC USA CORP BERKELEY LAB (Continued)

1001217707

. Waste name: CORROSIVE WASTE

. Waste code: U002
. Waste name: 2-PROPANONE (I) (OR) ACETONE (I)

. Waste code: U134
. Waste name: HYDROFLUORIC ACID (C,T) (OR) HYDROGEN FLUORIDE (C,T)

. Waste code: U154
. Waste name: METHANOL (I) (OR) METHYL ALCOHOL (I)

Violation Status: No violations found

ENVIROSTOR:

Facility ID: 71003476
Status: Inactive - Needs Evaluation
Status Date: 05/04/2000
Site Code: Not reported
Site Type: Tiered Permit
Site Type Detailed: Tiered Permit
Acres: 1
NPL: NO
Regulatory Agencies: NONE SPECIFIED
Lead Agency: NONE SPECIFIED
Program Manager: Not reported
Supervisor: Karen Toth
Division Branch: Cleanup Berkeley
Assembly: 20
Senate: 10
Special Program: Not reported
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: Not reported
Latitude: 37.60719
Longitude: -122.0803
APN: NONE SPECIFIED
Past Use: NONE SPECIFIED
Potential COC: NONE SPECIFIED
Confirmed COC: NONE SPECIFIED
Potential Description: NONE SPECIFIED
Alias Name: CAR000040550
Alias Type: EPA Identification Number
Alias Name: 110019000169
Alias Type: EPA (FRS #)
Alias Name: 71003476
Alias Type: Envirostor ID Number

Completed Info:

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Phase 1 Non-Submittal
Completed Date: 10/27/2000
Comments: Drive by confirmed still in business. Settled for reimbursement of admin costs per legal opinion of materials presented during informal conference. Informal conference 11/20/00. NNS-2106.Stip and Order issued

Completed Area Name: PROJECT WIDE

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FANUC USA CORP BERKELEY LAB (Continued)

1001217707

Completed Sub Area Name: Not reported
Completed Document Type: Compliance Verification
Completed Date: 05/04/2000
Comments: Phase I Non-Submittal Drive By

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Phase 1
Completed Date: 09/28/2000
Comments: Phase 1 checklist indicates no further action. Document is incomplete and DTSC has not verified information.

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

CHMIRS:

OES Incident Number: 9-4097
OES notification: 09/27/1999
OES Date: Not reported
OES Time: Not reported
Date Completed: Not reported
Property Use: Not reported
Agency Id Number: Not reported
Agency Incident Number: Not reported
Time Notified: Not reported
Time Completed: Not reported
Surrounding Area: Not reported
Estimated Temperature: Not reported
Property Management: Not reported
More Than Two Substances Involved?: Not reported
Resp Agency Personnel # Of Decontaminated: Not reported
Responding Agency Personnel # Of Injuries: Not reported
Responding Agency Personnel # Of Fatalities: Not reported
Others Number Of Decontaminated: Not reported
Others Number Of Injuries: Not reported
Others Number Of Fatalities: Not reported
Vehicle Make/year: Not reported
Vehicle License Number: Not reported
Vehicle State: Not reported
Vehicle Id Number: Not reported
CA DOT PUC/ICC Number: Not reported
Company Name: Not reported
Reporting Officer Name/ID: Not reported
Report Date: Not reported
Facility Telephone: Not reported
Waterway Involved: No
Waterway: Not reported
Spill Site: Not reported
Cleanup By: Not required
Containment: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FANUC USA CORP BERKELEY LAB (Continued)

1001217707

What Happened:	Not reported
Type:	Not reported
Measure:	Not reported
Other:	Not reported
Date/Time:	Not reported
Year:	1999
Agency:	Fanuc Berkeley Lab.
Incident Date:	9/27/1999 12:00:00 AM
Admin Agency:	Union City Fire Department
Amount:	Not reported
Contained:	Yes
Site Type:	Industrial Plant
E Date:	Not reported
Substance:	dichlorofilane
Pounds:	3
Unknown:	0
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	0
Number of Injuries:	0
Number of Fatalities:	0
#1 Pipeline:	Not reported
#2 Pipeline:	Not reported
#3 Pipeline:	Not reported
#1 Vessel >= 300 Tons:	Not reported
#2 Vessel >= 300 Tons:	Not reported
#3 Vessel >= 300 Tons:	Not reported
Evacs:	Not reported
Injuries:	Not reported
Fatals:	Not reported
Comments:	Not reported
Description:	Was a potential leak from a cylinder. It did not leak, however CUPA of Union City told Kirk to make this report.

Count: 0 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
NO SITES FOUND					

Revised Phase I Environmental Site Assessment Report

Residential homes/office and Vacant Land

31063 Watkins Street, 31112 Horner Street and 31082 & 31098 Vallejo Street, Union City, Alameda County, California

May 19, 2018

ATTCAHMENT 5 UNDERGROUND STORAGE TANKS AT 31112 HORNER STREET

T
O

File
3112 Horner

OF UNION CITY
34009 ALVARADO/NILES ROAD
UNION CITY, CA 94587

SUBJECT

File Review + Determination

DATE

5/10/88

MESSAGE

I was asked to report to the file on this site.
Based on the information I've reviewed, the
site appears to be clean (under 100 ppm total fuel
hydrocarbons). No follow up action is required.
~~There~~ There is no record in the files of the actual
tank removal i.e. if there were holes in the tank not.

PLEASE REPLY TO → SIGNED

B

REPLY
BY

REPLY

5/31/88 Operation closed. A. Anderson

SIGNED

DATE

GBF 4A-73N

INSTRUCTIONS TO SENDER

1. KEEP YELLOW COPY. 2. SEND WHITE AND PINK COPIES INTACT

INSTRUCTIONS TO RECEIVER

1. WRITE REPLY. 2. DETACH STUB, KEEP PINK COPY, RETURN WHITE COPY TO SENDER



UNION
CITY

34009 Alvarado Niles Rd. • Union City, California 94587
(415) 471 3292

September 16, 1986

Brunes Shell
31112 Horner Street
Union City, CA. 94587

483-10-39

Gentlemen:

This is concerning the underground tank that was removed from your property.

The Fire Department's requirements for proper closure of the tanks are:

1. Obtain a Fire Department permit
2. Pay a fee for the permit of \$50/tank
3. Fill out a Closure Plan
4. Collect and analyze soil samples from the tank pit bottom to ensure that the tanks did not leak causing soil/groundwater contamination
5. Submit a soil's report to the Fire Department on the results of the soil's testing.

As of this date, September 16, 1986, we have not received the soil analysis report from you. This indicates that either samples were not taken or the report has not been forwarded to us.

Please submit to this office, no later than October 30, 1986, the Fire Department permit number and date the tank was removed. Also, please send in the soil analysis report or have a soil sample taken to verify that no contamination exists..

If you have any questions, please contact me at (415) 471-1424 extension 369.

Sincerely,

Chris Knoblock

Chris Knoblock
Hazardous Materials Program Manager
UNION CITY FIRE DEPARTMENT

CK:cs

TAL

DATE: 9/19/85

TAL NO.: 2910

CUSTOMER: Minter & Fahy

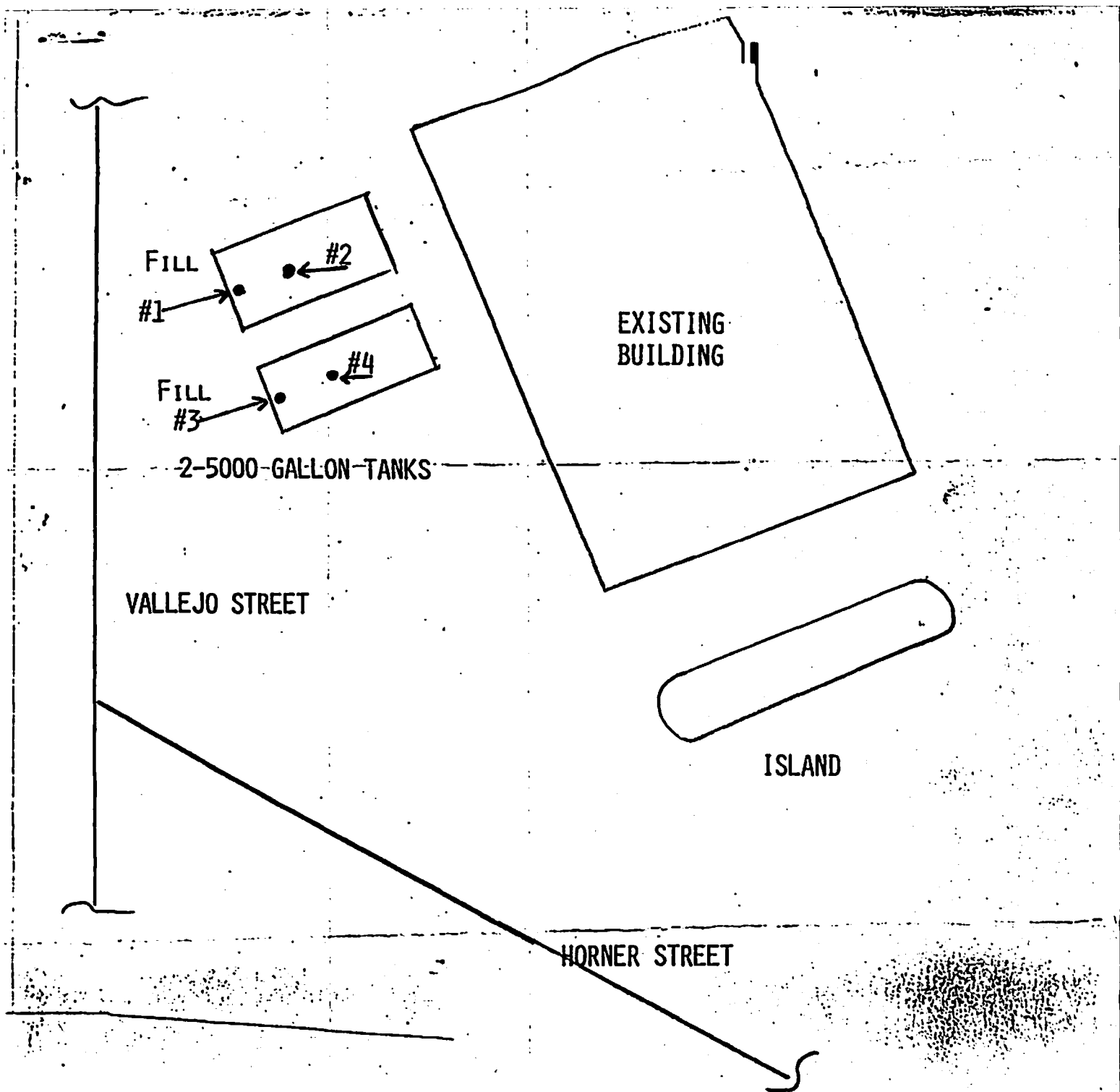
REQUESTER: Matt

PROJECT I.D.: Mae Santos

<u>Sample Type and I.D.</u>	<u>Predominant Constituent(s) Measured</u>	<u>Volatile Hydrocarbons mg/kg</u>
<u>Soil</u>		
Sample #1	Unknown	6.90
Sample #2	Unknown	6.28
Sample #3	Unknown	3.58
Sample #4	Gasoline	6.95

S. C. Furman
S. C. Furman, Ph.D.
Laboratory Director

SCF:df



SOIL SAMPLES LOCATION
MAE E. SANTOS
3112 HORNER
UNION CITY, CA 94587

#1a 15' BELOW GRADE
#2a 15' BELOW GRADE
#3a 15' BELOW GRADE
#4a 15' BELOW GRADE



UNION
CITY

34009 Alvarado Niles Rd. • Union City, California 94587
(415) 47-32

January 31, 1985

9
EXTENSION
to 9/12/85

Mrs. Mae E. Santos
P. O. Box 247
Union City, Ca. 94587

RE: Underground Storage Facility
31112 Horner St.
Brune's Shell

We have received your request for an extension of time to install monitoring for your underground storage facility. The City Council of the City of Union City has agreed to a six month extension.

Compliance with Section 80.114 of the Union City Fire Code is due on 7/12/85.

If you have any further questions, please do not hesitate to contact me at 471-3232, Extension 362.

Yours for a safer community,

Joseph M. Perry, III
Division Chief
UNION CITY FIRE DEPT.

JMP:maf

Union City, California
January 28, 1985

Union City Fire Department
Union City, California 94587

Attention: Division Chief Joe Perry

Dear Mr. Perry:

I am requesting a six month (6) extension on the removal of two (2) storage tanks located at 31112 Horner Street in Union City.

I will be waiting for your reply. Thank you.

Sincerely

Mrs. Mae E. Santos

Mrs. Mae E. Santos
P.O. Box 247
Union City, Calif. 94587

Telephone: 471- 1166



UNION
CITY

34009 Alvarado Niles Rd. • Union City, California 94587
(415) 471-3232

July 17, 1985

Mrs. Mae Santos
P. O. Box 247
Union City, Ca. 94587

Dear Mrs. Santos:

This letter is to notify you that the City of Union City has granted you an extension of two months to remove your underground storage tanks.

The underground tanks are to be removed by September 12, 1985.

If you need any assistance in locating an excavating company, please do not hesitate to contact me at 471-3232, extension 362.

Sincerely,

Joseph M. Perry, III
Division Chief
UNION CITY FIRE DEPT.

JMP:maf

Extension to 9/12/85

Union City, Ca.
May 15, 1985

Union City Fire Dept.
Union City, Ca. 94587

Attention: Joe Perry

Dear Sir:

I am requesting a 6 month
extension on the removal of 2 storage
tanks located at 31112 Norner Street.
I will be waiting for your reply.

Mrs. Mae E. Santos
31088 Valley St.
Union City, Ca. 94587

Phone: 471-1166

Mailing address: P. O. Box 247
Union City, Ca. 94587

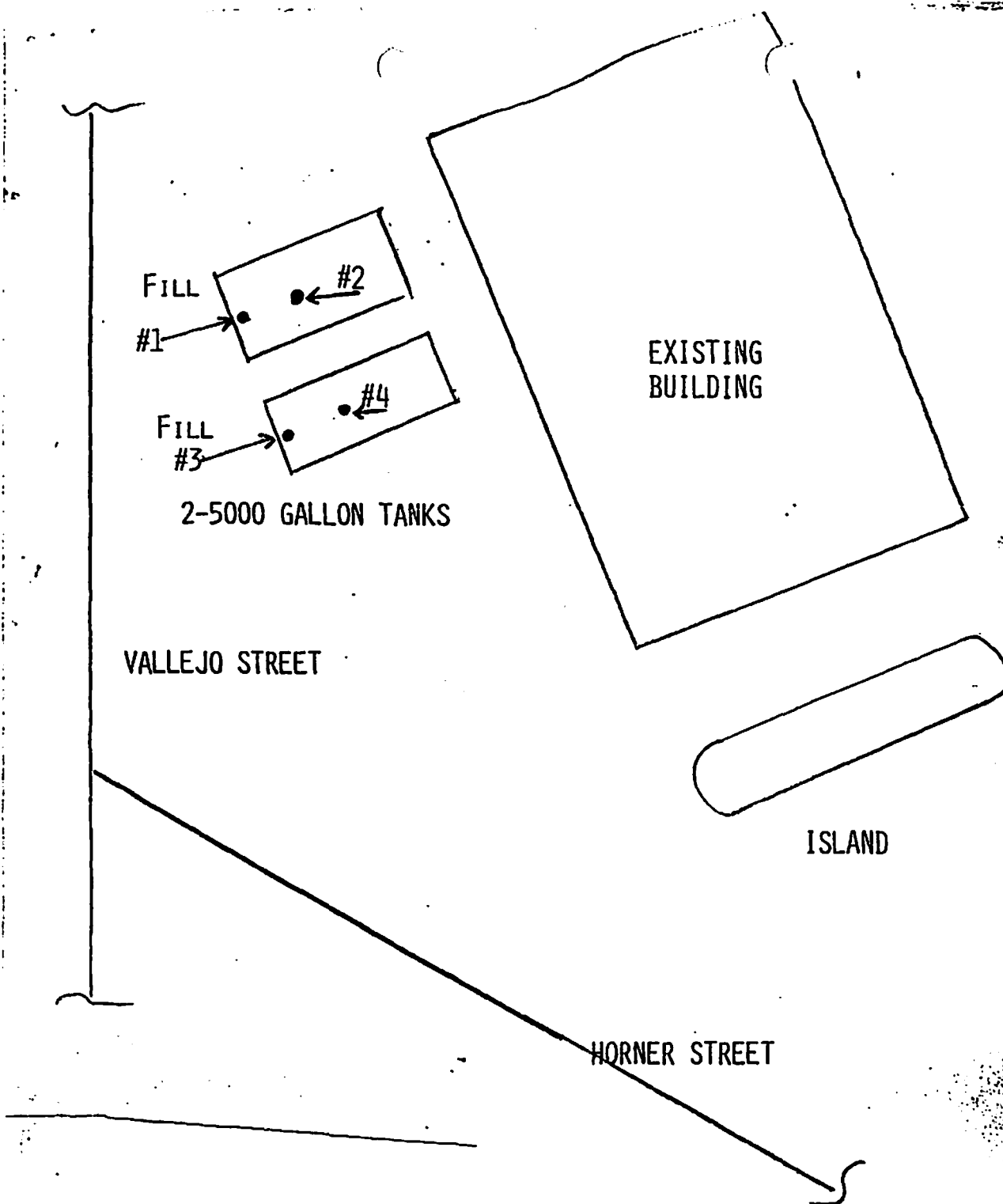
UNION CITY ENVIRONMENTAL PROGRAMS FILE REVIEW LOG

Facility Address:	31112 Harner St.	Site ID #
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Facility Address:	31112 Harner St.	Site ID #
-------------------	------------------	-----------

Company Name:	
---------------	--

[illegible]



SOIL SAMPLES LOCATION
MAE E. SANTOS
3112 HORNER
UNION CITY, CA 94587

#1@ 15' BELOW GRADE
#2@ 15' BELOW GRADE
#3@ 15' BELOW GRADE
#4@ 15' BELOW GRADE

APPENDIX F
TRAFFIC OPERATIONS REPORT



Memorandum

Date: July 3, 2018
To: Avalon Schultz, City of Union City
From: Brett Walinski, T.E.
Eric Tse, P.E.
Subject: Traffic Operations Report for 31063 Watkins Street Mixed Use Development

Hexagon Transportation Consultants, Inc. has completed this traffic operations report for the proposed mixed-use development at 31063 Watkins Street in Union City, California. The site location is shown on Figure 1. The project, as proposed, would construct 25 multi-family residential units, approximately 3,500 square feet of shopping center use, and approximately 3,500 square feet of restaurant use. The existing site includes one single-family house and one duplex that are currently occupied, and one vacant bar, all of which will be demolished. Access to the site is provided by two driveways, one on Vallejo Street and one on Watkins Street. The site plan is shown on Figure 2.

Scope of Study

The purpose of this study is to evaluate the operations at the site driveways and at key intersections near the site. The traffic study includes an analysis of AM and PM peak-hour traffic conditions at one signalized intersection, three unsignalized intersections, and the two site driveways. The study intersections and site driveways are identified below and shown on Figure 1.

- Union City Boulevard and Horner Street
- Horner Street and Vallejo Street (unsignalized)
- Horner Street and Watkins Street (unsignalized)
- Smith Street and Watkins Street (unsignalized)

The AM peak hour of traffic is the 60-minute peak period between 7:00 AM and 9:00 AM, and the PM peak hour is the 60-minute peak period between 4:00 PM and 6:00 PM. It is during these periods that the most congested traffic conditions occur on an average weekday. Traffic conditions were evaluated for the following scenarios:

Scenario 1: *Existing Conditions*. Existing conditions are represented by existing peak-hour traffic volumes on the existing roadway network. Existing traffic volumes were obtained from recent traffic counts conducted in May 2018.

Scenario 2: *Existing Plus Project Conditions*. Project-generated traffic volumes, minus traffic volumes due to existing residential units at the project site, were added to existing traffic volumes to estimate existing plus project conditions. Existing plus project conditions were evaluated relative to existing conditions in order to determine potential project impacts.

Scenario 3: *Cumulative Conditions*. Horizon year 2025 traffic volumes were estimated based on future forecasts published by the Alameda County Transportation Commission. The cumulative without project traffic volumes reflect traffic growth from future development in the city and the region.

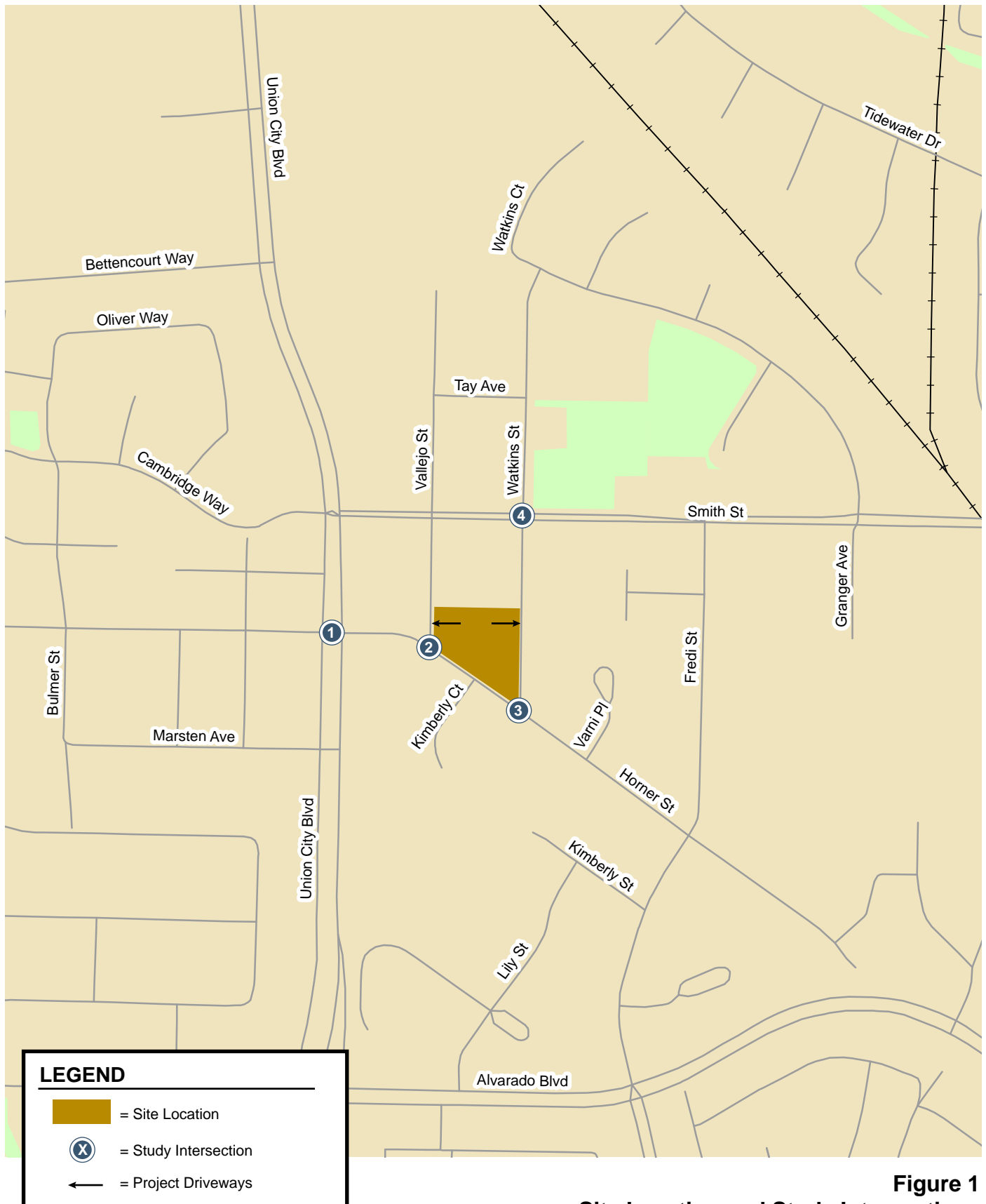


Figure 1
Site Location and Study Intersections

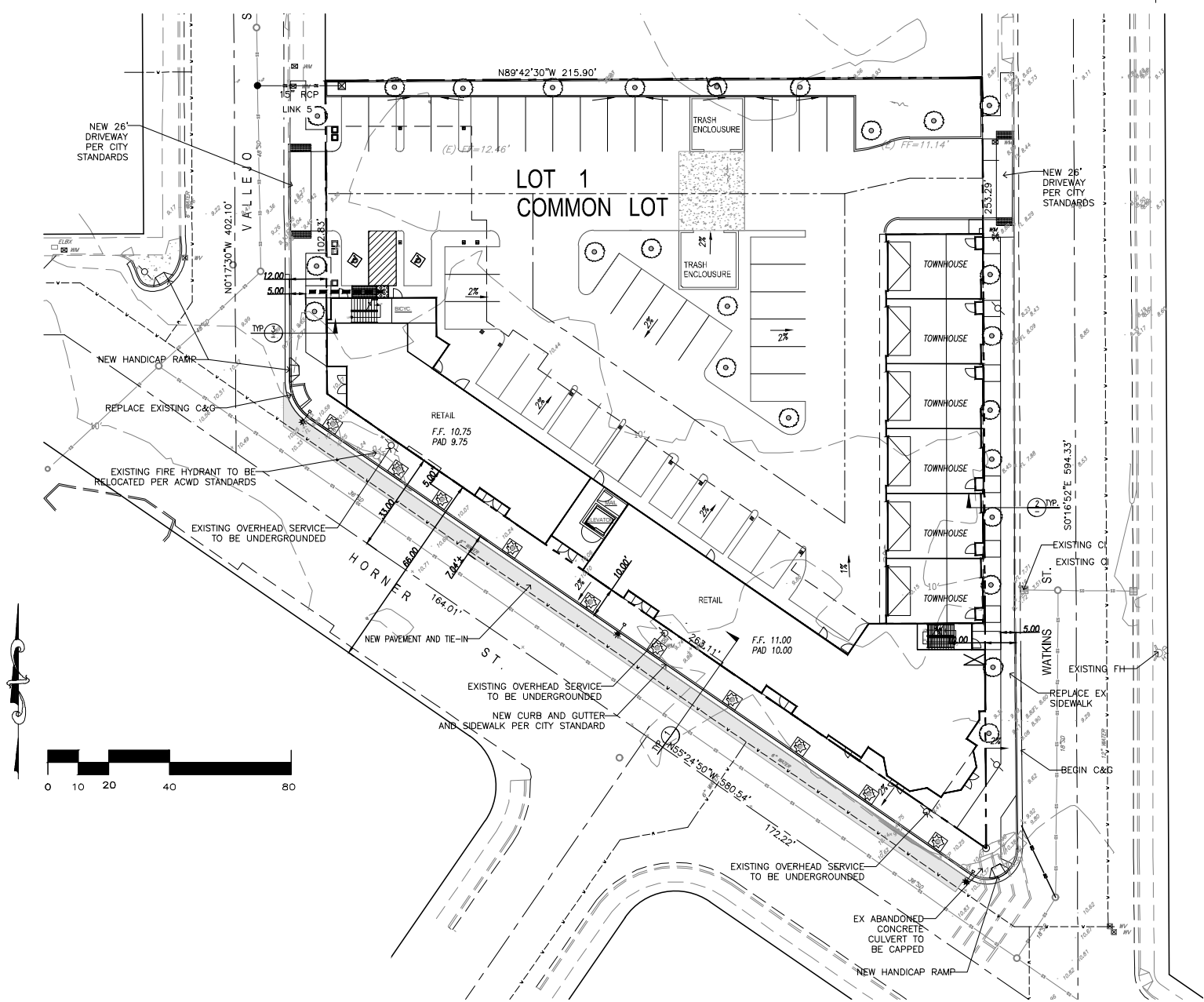


Figure 2
Site Plan

Scenario 4: *Cumulative Plus Project Conditions*. The cumulative plus project conditions were estimated by adding the traffic generated by the project to the cumulative without project traffic volumes. Cumulative with project conditions were evaluated relative to cumulative without project conditions in order to determine potential project impacts in horizon year 2025.

A Congestion Management Agency (CMA) analysis was not required because the project is estimated to generate fewer than 100 net peak-hour trips.

Intersection operations were evaluated using the 2010 Highway Capacity Manual (HCM) level of service methodology for the study intersections during the peak hours. Based on the existing intersection turning movement counts, field observations, and the relatively small number of project trips, it is not anticipated that the project would have a material effect on offsite vehicle queues (except where described in the site access section of this report).

Existing Transportation Setting

Roadways

Roadways that are in the vicinity of the project site are described below.

Union City Boulevard is a north-south primary arterial road which begins at Whipple Road in the north and ends at the southern city limit, where it becomes Ardenwood Boulevard. Near the project site, Union City Boulevard is primarily a four-lane roadway with turn pockets at intersections.

Smith Street is an east-west two-lane collector street that starts at Dyer Street in the east and ends at Union City Boulevard in the west. It is a continuation of Alvarado-Niles Road west of Dyer Street.

Horner Street is an east-west two-lane collector street that starts east of Fredi Street, continues through Union City Boulevard, and ends within a residential neighborhood in the west. It intersects with Watkins Street and Vallejo Street, which provide direct project site access.

Watkins Street is a two-lane local street that starts at Horner Street in the south and continues through Smith Street and ends at Granger Avenue in the north. It provides direct project site access.

Vallejo Street is a two-lane local street that starts at Horner Street in the south and continues through Smith Street and ends within a residential neighborhood in the north. It provides direct project site access.

The existing intersection lane geometrics are shown on Figure 3. Existing traffic volumes were obtained from peak-hour counts conducted in May 2018. Existing traffic volumes are shown on Figure 4. The count data are included in Appendix A.

Bicycle and Pedestrian Facilities

Existing bicycle access to the project vicinity is provided primarily via a network of nearby Class II bike lanes and Class III bike routes (bike routes are streets where bikes share the road with vehicular traffic). There are existing Class II bike lanes on the following roadways in the project vicinity: Union City Boulevard between Alvarado Boulevard and the city limits to the north, Alvarado Boulevard, and most of Alvarado-Niles Boulevard. A Class III bike route is present on Smith Street.

In the future, the *City of Union City Pedestrian and Bicycle Master Plan* shows future upgraded Class II bike lanes on existing bike lane gaps on Union City Boulevard. A Class III bike route is also planned on Horner Street between Alvarado Boulevard and Veasy Street, providing a direct connection to the proposed Bay Trail alignment.

Existing pedestrian facilities in the project area consist of sidewalks and crosswalks found along all previously-described roadways in the study area near the site. According to the *City of Union City Pedestrian and Bicycle Master Plan*, sections of Union City Boulevard, Smith Street, and Horner Street in the project vicinity are all designated Pedestrian Corridor Improvement Areas. These areas include improvements such as widened sidewalks, priority placements of pedestrian push buttons at signalized intersections, sidewalk furniture, enhanced bus stops, street trees, and pedestrian-scale lighting. An improved pedestrian crossing of the SPRR tracks at Smith Street, just east of Granger Avenue, would also be provided. Adjacent to the project site, the Pedestrian Corridor Improvement Area includes installation of sidewalks on both sides of Horner Street to close the sidewalk gap between Union City Boulevard and Watkins Street.

Transit service

Existing transit service in the project vicinity includes Alameda Contra Costa Transit District (AC Transit) bus lines 97 and SB. Route 97 operates along Alvarado-Niles Boulevard and Union City Boulevard between the Union City and Bay Fair BART stations on 15 to 20-minute headways during peak hours. Route SB operates between Newark and San Francisco on 20-minute headways during peak hours. The nearest bus stops are located on Union City Boulevard at Horner Street within close walking distance to the project site.

Union City Transit also provides bus service to the area. Union City Transit bus line 7 is a circulator route that interlinks a majority of residential areas within the city limits west of I-880. Line 8 provides service to the Union City BART station. Line 7 has a stop at the intersection of Union City Boulevard and Horner Street, while Line 8 has a stop at the intersection of Union City Boulevard and Smith Street. Both bus lines provide service to the Union Landing Transit Center.

Observed Existing Traffic Conditions

Traffic conditions in the field were observed in order to identify existing operational deficiencies and to confirm the accuracy of calculated levels of service. The purpose of this effort was (1) to identify any existing traffic problems that may not be directly related to intersection level of service, and (2) to identify any locations where the level of service calculation does not accurately reflect level of service in the field.

At Union City Boulevard and Horner Street during both the AM and PM peak hours, northbound through vehicles on Union City Boulevard intermittently queue back from the upstream intersection at Smith Street and beyond Horner Street, preventing through traffic from clearing the intersection (even though a green indication is activated). Occasionally, one or two vehicles in the northbound lanes block this intersection, adding delays to traffic entering from Horner Street. This issue is caused primarily by the relatively close traffic signal spacing between Smith Street and Horner Street (approximately 300 feet) and the lack of northbound signal timing coordination between the traffic signals. The northbound queueing issue occurs more frequently during the PM peak hour.

Watkins Street Mixed-Use

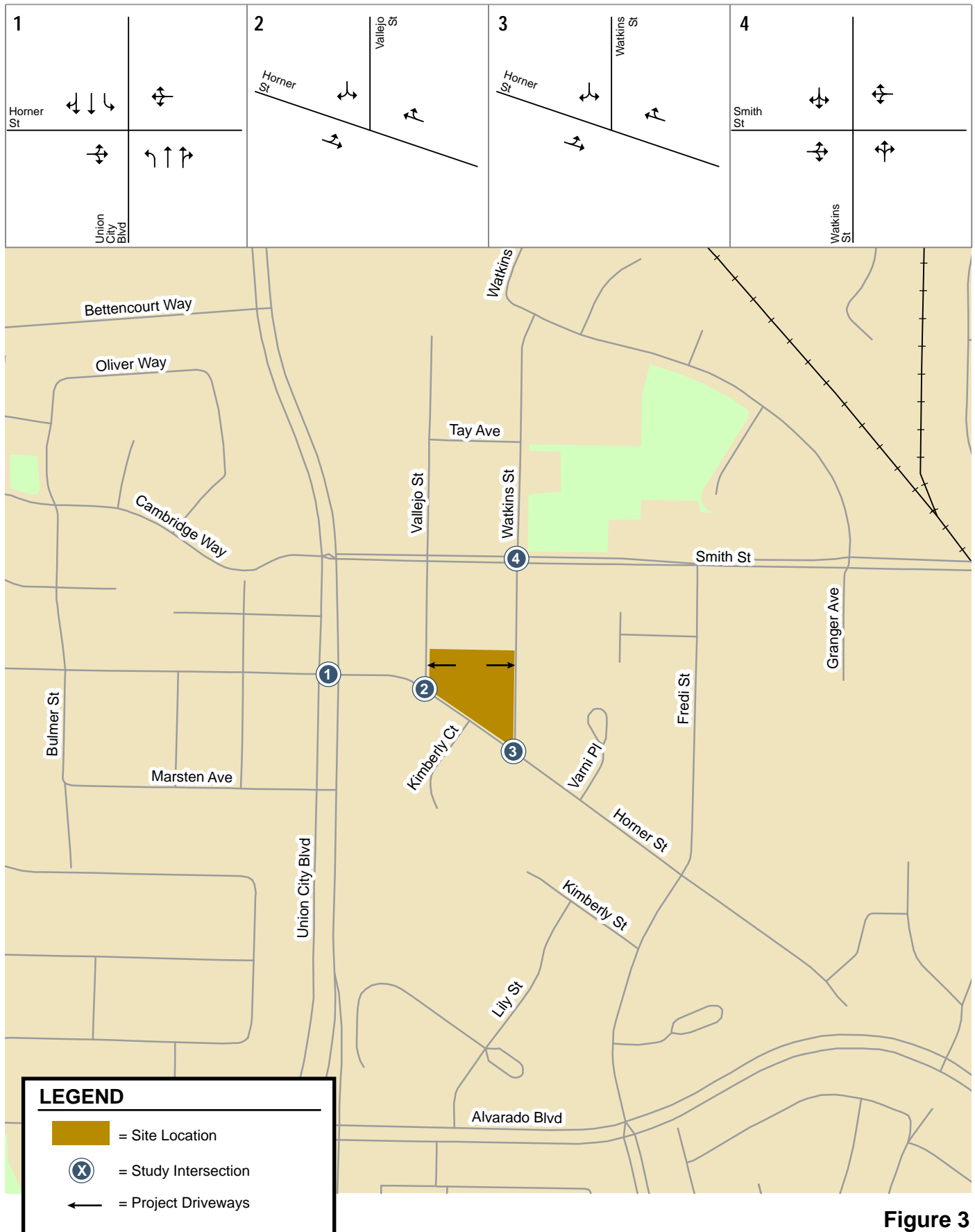


Figure 3
Existing Lane Configurations

Watkins Street Mixed-Use

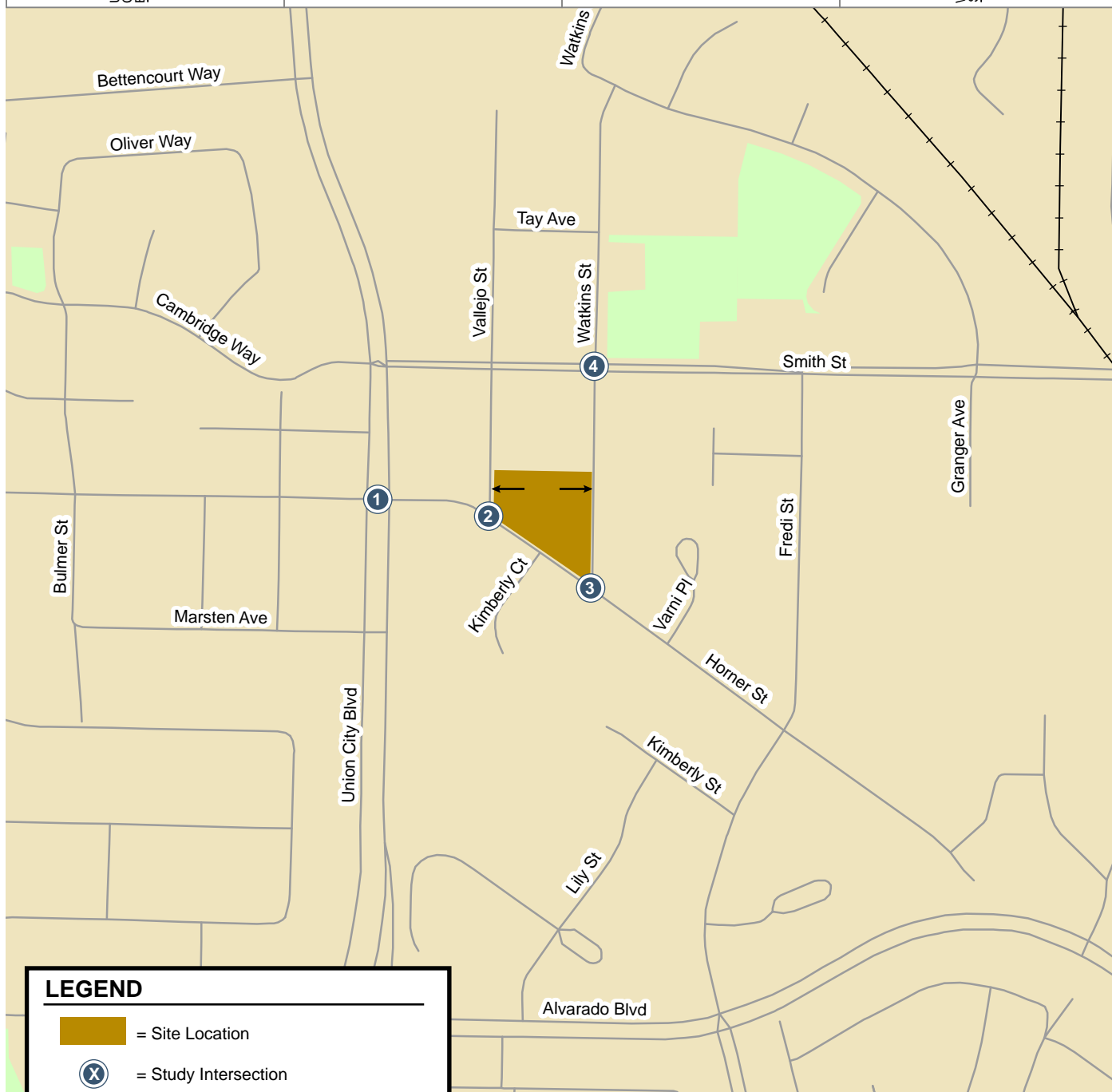
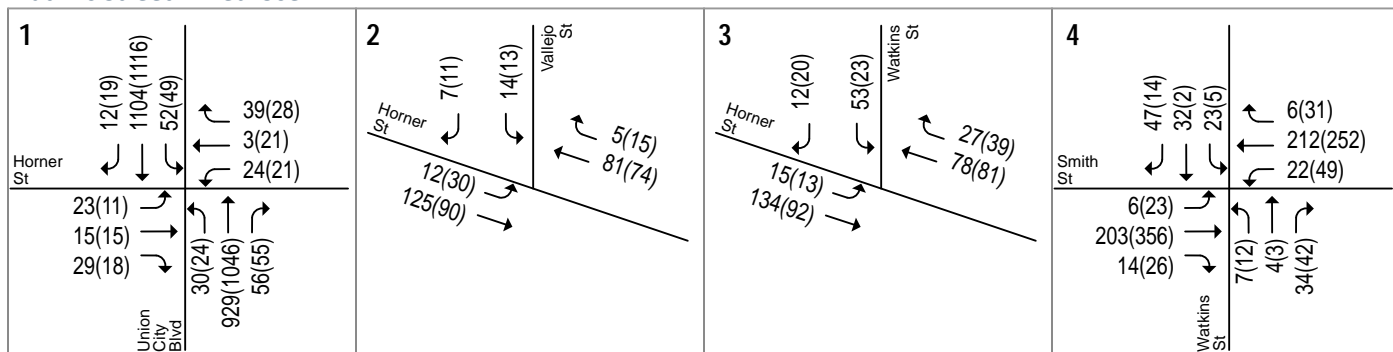


Figure 4
Existing Traffic Volumes

Project Traffic Estimates

The magnitude of traffic produced by a new development and the locations where that traffic would appear were estimated using a three-step process: (1) trip generation, (2) trip distribution, and (3) trip assignment. In determining project trip generation, the magnitude of traffic entering and exiting the site was estimated for the AM and PM peak hours. As part of the project trip distribution step, an estimate was made of the directions to and from which the project trips would travel. In the project trip assignment step, the project trips were assigned to specific streets and intersections in the study area. These procedures are described further in the following paragraphs.

Through empirical research, data has been collected that correlate to common land uses their propensity for producing traffic. Thus, for the most common land uses there are standard trip generation rates that can be applied to help predict the future traffic increases that would result from a new development. The trip generation estimates for the proposed project are based on rates obtained from the Institute of Transportation Engineers' (ITE) publication *Trip Generation*, 10th Edition. The number of gross project trips was estimated based on trip generation rates applicable to multi-family housing, shopping center, and restaurant uses. The site was given credit for the trips associated with the currently occupied single-family house and duplex to be removed as part of the project. When this is considered, it is estimated that the project would generate 584 net trips per day, with 16 net trips occurring during the AM peak hour and 52 net trips occurring during the PM peak hour. The project trip generation estimates are presented in Table 1.

The trip distribution pattern for the proposed uses was estimated based on forecasts from the travel demand forecast model developed for the Union City General Plan update. The project trip distribution and assignment are shown on Figure 5.

Table 1
Project Trip Generation Estimates

Project Trip Generation Estimates											
Land Use	Size	Daily Rate	Daily Trips	AM Peak Hour				PM Peak Hour			
				Rate	Total Trips	In	Out	Rate	Total Trips	In	Out
<u>Proposal Use</u>											
Residential ¹	25 units	7.32	183	0.46	12	3	9	0.56	14	9	5
Retail ²	3,500 SF	37.75	132	0.94	3	2	1	3.81	13	6	7
Quality Restaurant ³	3,500 SF	83.84	293	0.73	3	2	1	7.80	27	18	9
Primary Trips			608		18	7	11		54	33	21
<u>Existing Use</u>											
Single family home ⁴	1 unit	9.44	(9)	0.74	(1)	0	(1)	0.99	(1)	(1)	0
Duplex ¹	2 units	7.32	(15)	0.46	(1)	0	(1)	0.56	(1)	(1)	0
Existing Trips			(24)		(2)	0	(2)		(2)	(2)	0
Net Project Trips			584		16	7	9		52	31	21

¹ Rates based on ITE *Trip Generation*, 10th Edition, 2017 for Multi-family housing - low-rise (ITE 220).

² Rates based on ITE *Trip Generation*, 10th Edition, 2017 for Shopping Center (ITE 820).

³ Rates based on ITE *Trip Generation*, 10th Edition, 2017 for Quality Restaurant (ITE 931).

⁴ Rates based on ITE *Trip Generation*, 10th Edition, 2017 for Single-family detached housing (ITE 210).

Note: Above numbers may not add up due to rounding.

Watkins Street Mixed-Use

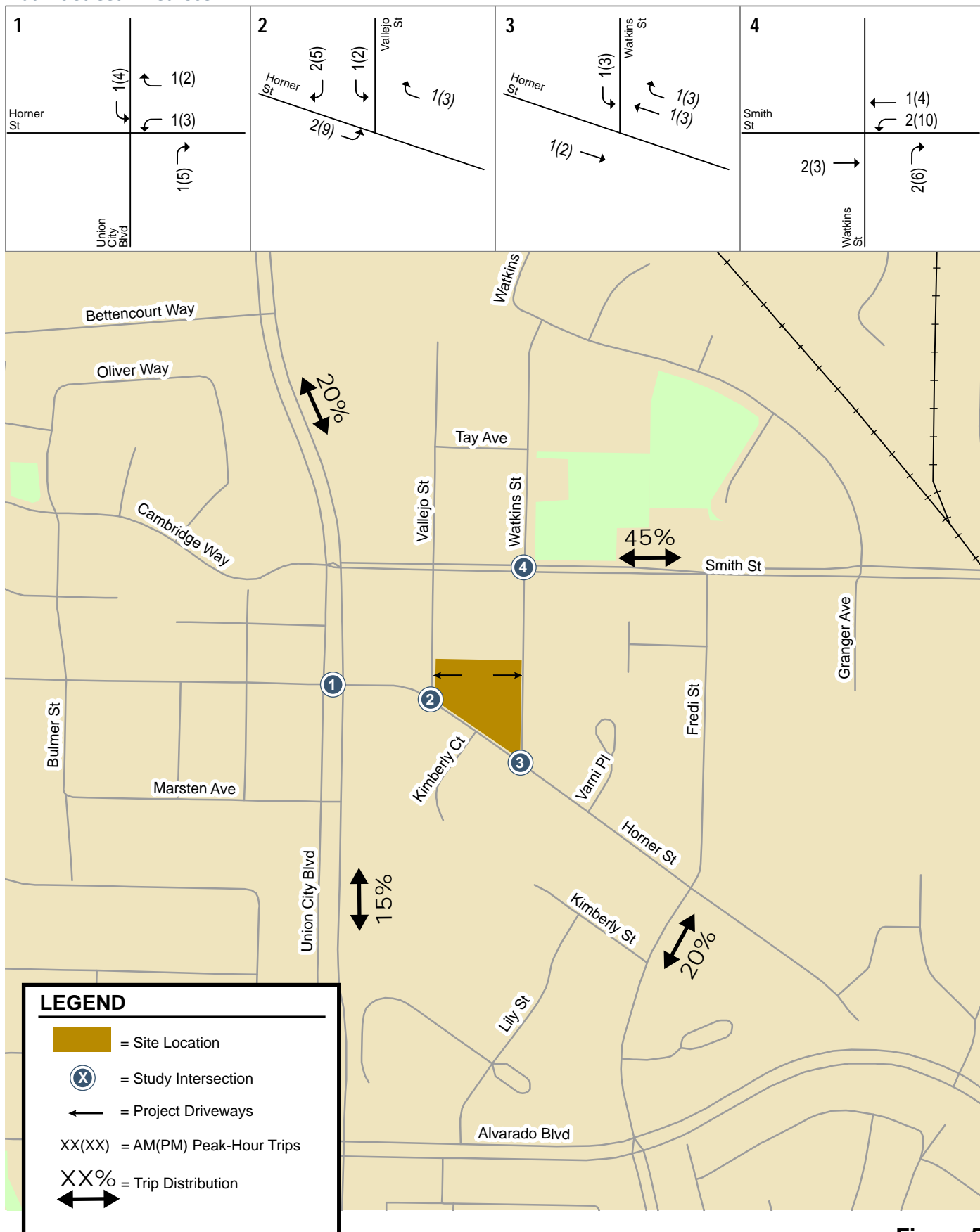


Figure 5

Project Trip Distribution and Net Project Trip Assignment

Signalized Intersection Level of Service Analysis

Existing plus project traffic conditions are represented by existing traffic volumes plus project trips on the existing roadway network. Existing plus project traffic volumes are shown on Figure 6. Traffic volumes for cumulative traffic conditions were estimated based on future forecasts published by the Alameda County Transportation Commission. Cumulative with project traffic conditions are represented by cumulative without project volumes plus project trips. Cumulative no project and cumulative with project traffic volumes are shown on Figures 7 and 8, respectively. Under cumulative conditions, the roadway network was assumed unchanged from the existing conditions.

Traffic conditions at the study intersections were evaluated using level of service (LOS). *Level of Service* is a qualitative description of operating conditions ranging from LOS A, or free-flow conditions with little or no delay, to LOS F, or jammed conditions with excessive delays. The City of Union City utilizes the Highway Capacity Manual (HCM) 2010 methodology to evaluate signalized intersection operations. The HCM methodology evaluates intersection operations on the basis of average control delay time for all vehicles at the intersection. This average delay can then be correlated to a level of service. SYNCHRO analysis software was used to calculate level of service.

The Union City General Plan identifies mid-range LOS D as the goal for the city's signalized intersections during peak commute hours, with the exception of intersections on major regional routes.

Intersection levels of service were calculated for existing, existing plus project, cumulative, and cumulative plus project conditions. The results of the intersection level of service analysis are summarized in Table 2. The level of service calculation sheets are shown in the attached Appendix B. The results show that the signalized study intersection at Union City Boulevard and Horner Street would operate at an acceptable LOS A under all study scenarios during both peak hours.

The results show that the three unsignalized intersections would operate at an acceptable LOS C or better under existing and cumulative conditions with or without the project.

Table 2
Level of Service Summary

No. Intersection	Traffic Control	Peak Hour	Existing		Existing + Project		Cumulative		Cumulative + Project	
			Avg. Delay	LOS	Avg. Delay	LOS	Avg. Delay	LOS	Avg. Delay	LOS
1 Union City Boulevard & Horner Street	Signal ¹	AM	7.3	A	7.4	A	7.8	A	7.8	A
		PM	6.9	A	7.2	A	7.4	A	7.7	A
2 Horner Street & Vallejo Street	SSSC ²	AM	10.4	B	10.4	B	10.6	B	10.6	B
		PM	9.8	A	9.9	A	10.0	B	10.0	B
3 Horner Street & Watkins Street	SSSC ²	AM	11.9	B	11.9	B	12.2	B	12.3	B
		PM	9.9	A	10.0	B	10.1	B	10.1	B
4 Smith Street & Watkins Street	SSSC ²	AM	13.4	B	13.5	B	14.2	B	14.3	B
		PM	14.6	B	14.7	B	15.7	C	15.9	C

¹ Signalized intersection level of service is based on the Highway Capacity Manual (HCM) 2010 methodology, using average control delay for the entire intersection.

² SSSC - Side Street Stop Control. SSSC intersection level of service and delay are reported for the side street approach.

Watkins Street Mixed-Use

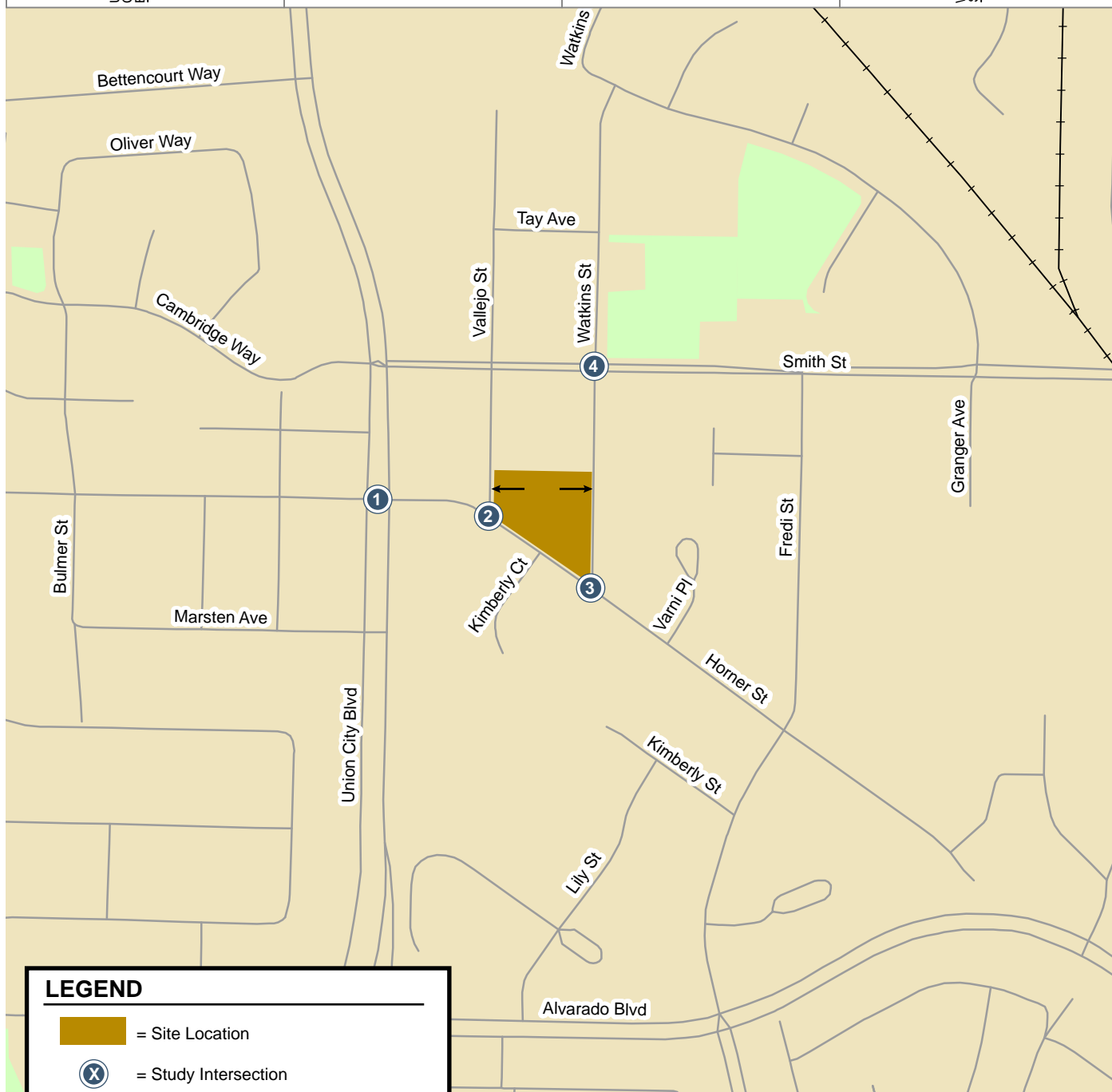
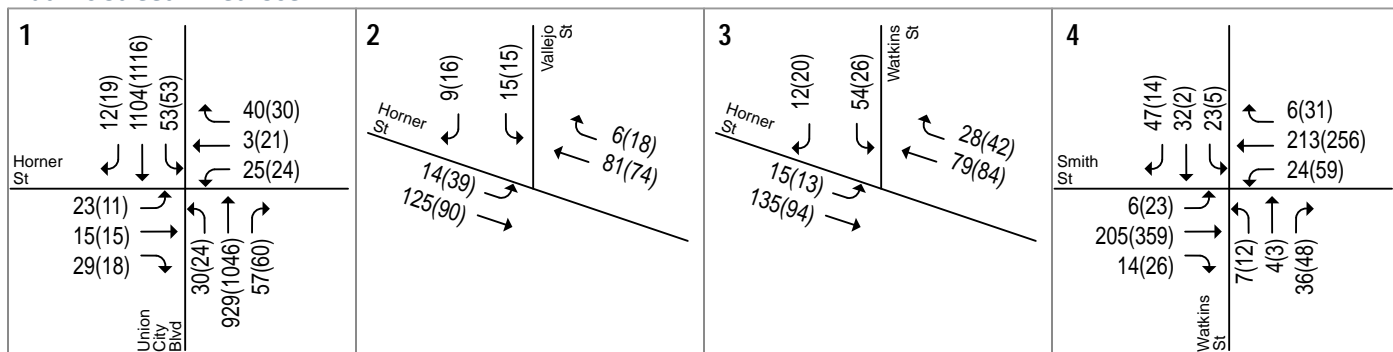


Figure 6
Existing Plus Project Traffic Volumes

Watkins Street Mixed-Use

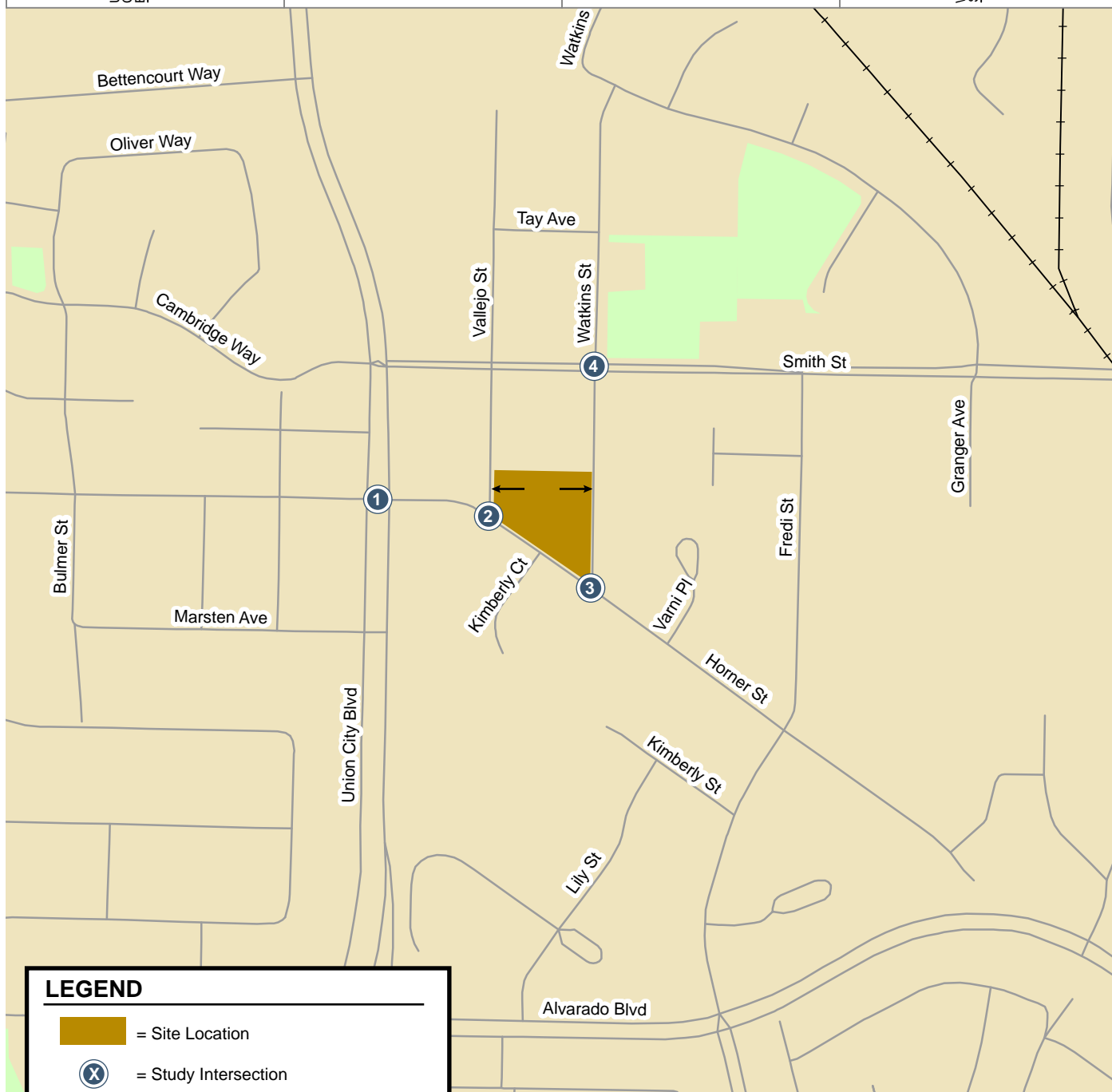
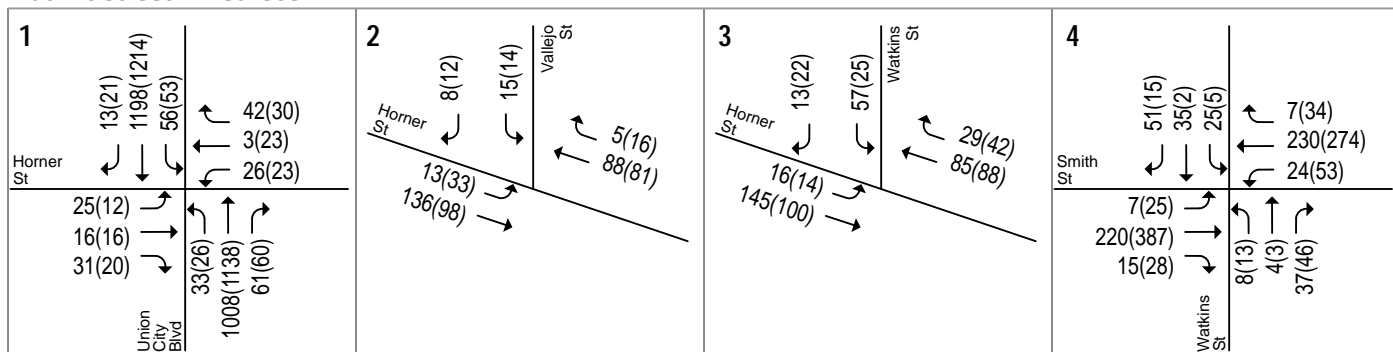
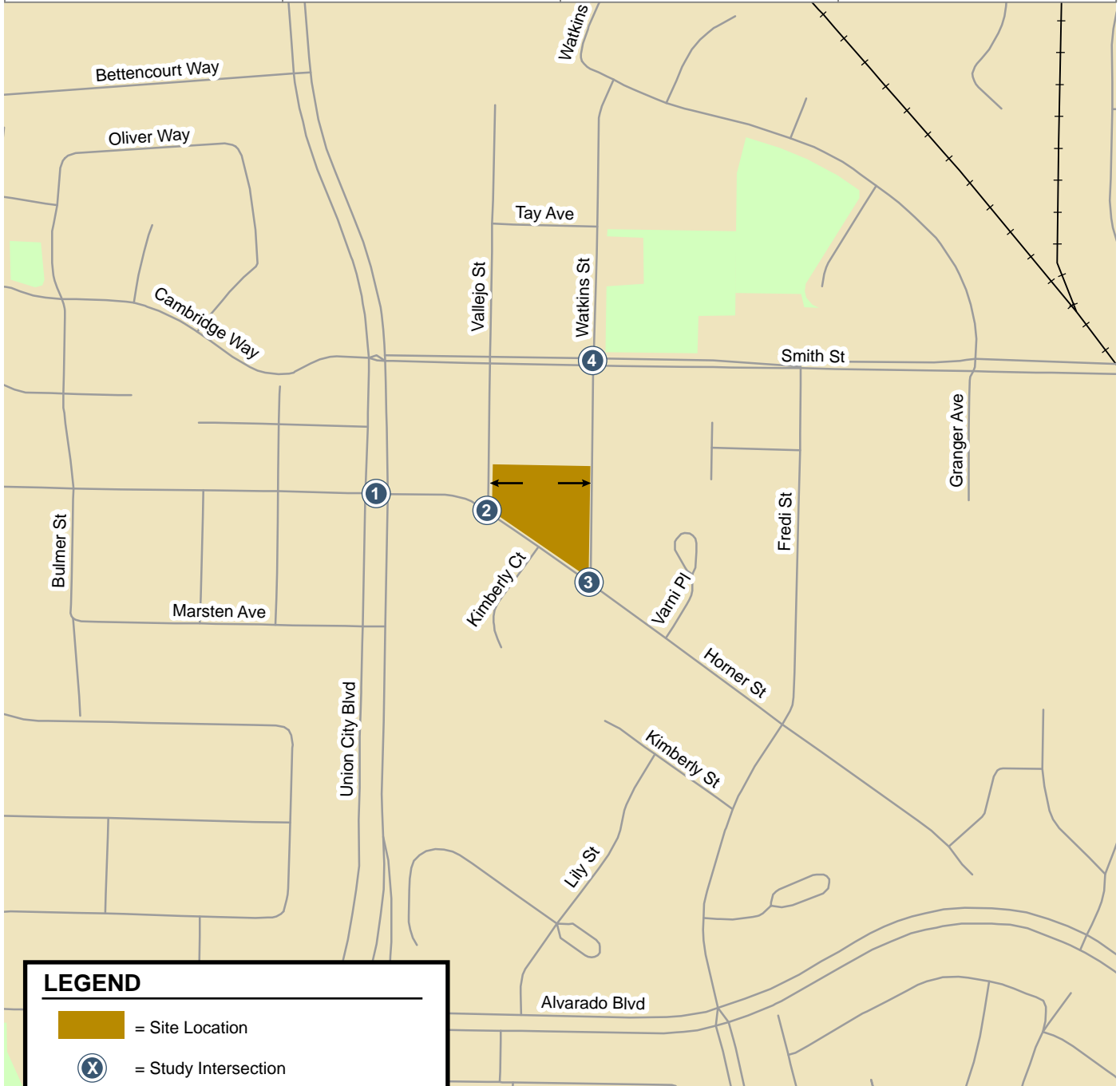
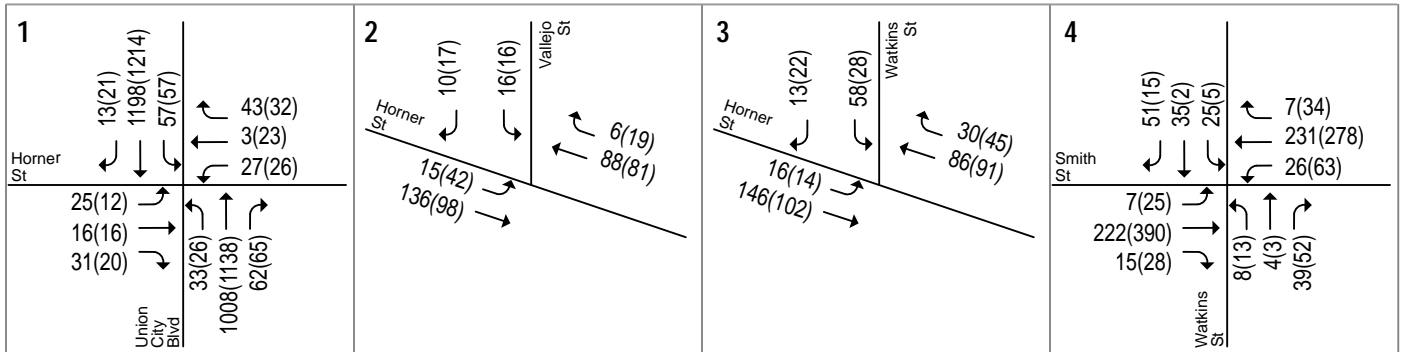


Figure 7
Cumulative Traffic Volumes

Watkins Street Mixed-Use



LEGEND

= Site Location

X = Study Intersection

← = Project Driveways

XX(XX) = AM(PM) Peak-Hour Traffic Volumes

Figure 8
Cumulative Plus Project Traffic Volumes

Impacts to Transit, Bikes, and Pedestrians

According to the U.S. Census, pedestrian trips comprise approximately one percent of the total commute mode share in the City of Union City. For the proposed project, assuming one percent of total commute trips would be walking trips, this would equate to one pedestrian trip during the AM peak hour and one pedestrian trip during the PM peak hour. Similarly, the U.S. Census data indicate that bicycle trips comprise less than one-half of one percent of the total commute mode share in the City of Union City. In addition to commute trips, there will be pedestrian and bike trips to nearby parks, shopping areas and bus stops. Overall, it is anticipated that the volume of pedestrian and bike trips generated by the project would not exceed the carrying capacity of the existing sidewalks, crosswalks, and bike facilities on streets surrounding the site.

Currently, there are no sidewalks along the project frontage on the north side of Horner Street and at the northwest corner of the intersection at Horner Street and Watkins Street. The proposed project site plan includes new sidewalks and wheelchair ramps along the project frontages on Horner Street, Vallejo Street, and Watkins Street, which will close the sidewalk gaps as identified in the *Union City Bicycle and Pedestrian Master Plan*.

Recommendation 1: To accommodate pedestrians, the project should provide striped crosswalks at the curb returns at the Vallejo Street/Horner Street and Watkins Street/Horner Street intersections.

The Alameda County Congestion Management Program (CMP) Transportation Impact Analysis Technical Guidelines state that a project would create an impact on pedestrian and bike circulation if: (1) its vehicle trips would present a barrier to bikes/pedestrians safely crossing roadways, or (2) it would reduce or sever existing or planned bike/pedestrian circulation in the area. Based on these criteria, the proposed project would not create an adverse impact to bike/pedestrian circulation in the area.

According to the U.S. Census, transit trips could comprise up to nine percent of the total commute traffic from the project site. For the proposed project, assuming nine percent of total commute trips would be transit trips, this would equate to 2 transit trips during the AM peak hour and 5 transit trips during the PM peak hour. In addition to commute-related transit trips, there will be additional bus trips to schools, parks and shopping areas. The existing bus service in the project vicinity has available capacity to accommodate the increase in transit usage from the proposed project. Therefore, no improvements to existing bus service frequencies would be necessary in conjunction with the proposed project.

According to the Alameda County Congestion Management Program (CMP) Transportation Impact Analysis Technical Guidelines, a project would create an impact on transit service if it: (1) causes vehicular congestion that would significantly degrade transit operations, (2) cause a ridership increase that would exceed existing transit capacity, or (3) conflict with existing transit service plans or preclude future transit service to the project area. Based on these criteria, the proposed project would not cause a significant impact to transit operations in the study area.

Site Access and Project Driveways

This site access and circulation review is based on the site plan dated February 19, 2018 (see Figure 2). The proposed project would have two site driveways, one on Vallejo Street and one on Watkins Street. The driveway on Vallejo Street is located approximately 30 feet north of Horner Street, and the driveway on Watkins Street is located approximately 200 feet north of Horner Street, measured from the edge of driveway to the stop bar. Both driveways are 26 feet wide and have one inbound and one outbound lane. They are internally linked within the project site.

The Vallejo Street driveway has a throat depth of less than one car's length, beyond which vehicle queues exiting the driveway would block the adjacent perpendicular parking spaces. Under project conditions, it is anticipated that this driveway would serve approximately 11 AM peak hour project trips and 31 PM peak hour trips. The Watkins Street driveway has a longer throat depth of approximately 40 feet (or two vehicles), beyond which there is a cross parking aisle providing access to garage parking stalls. Under project conditions, it is anticipated that this driveway would serve approximately 7 AM peak hour project trips and 23 PM peak hour trips.

According to the level of service and queuing calculations, both driveway approaches would operate at LOS A with 95th percentile queues of one vehicle during the AM and PM peak hours. The 95th-percentile maximum outbound vehicle queues at the Watkins Street driveway would not exceed its available storage capacity (the storage capacity being the distance from the curb at the street back to the first parking space or cross aisle). Therefore, the maximum vehicle queue would not block any parking spaces or cross traffic in the parking aisles on site. At the Vallejo Street driveway, although the available storage capacity is shorter than one car's length, it is anticipated that the blockage of the adjacent parking stalls by a vehicle queue would be brief because of very low ambient traffic on Vallejo Street.

There are multiple existing driveways on Watkins Street on opposite the project frontage. The Watkins Street driveway aligns adequately with the existing driveway on the east side of Watkins Street, which would allow safe and efficient traffic operations. The spacing of the project driveways, and their locations relative to existing driveways, are acceptable given the relatively low traffic volumes at the nearby driveways.

Left and right turns into the site at both driveways are uncontrolled, that is, vehicles do not need to stop. According to the level of service and queuing calculations, inbound left and right turn movements at both driveways would operate at LOS A with 95th percentile queues of one vehicle during the AM and PM peak hours due to the low ambient traffic volumes on both streets.

Because the Vallejo Street driveway is located only 30 feet from the existing stop bar at the Horner Street intersection, vehicles turning left from the driveway would have to come to a stop almost immediately after the turning movement. According to queuing calculations, the 95th percentile maximum southbound queue at Vallejo Street and Horner Street is only one vehicle. In addition, the volume of left turns from the driveway would be very low (approximately one vehicle every 8 minutes during the highest peak hour). Therefore, the storage distance between the Horner Street stop bar and the driveway would be sufficient to accommodate the anticipated queue on Vallejo Street without blocking the site driveway.

Based on field observation, the sight distance is restricted on the southbound Vallejo Street approach at Horner Street due to the location of the stop bar on Vallejo Street and the presence of on-street parking on Horner Street.

Recommendation 2: Curb extensions (or bulb-outs) should be installed at the northeast and northwest corners of the intersection. The benefits of this improvement are: (1) improved intersection sight distance for the Vallejo Street approach, (2) increased storage space between the stop bar and the Vallejo Street project driveway, (3) improved intersection safety by tightening the corner curb radius (thereby reducing the speed of vehicles negotiating the right turn from Horner Street to Vallejo Street), and (4) reduced crossing distance for pedestrians. A conceptual schematic of the curb extensions is included in the Appendix C.

Sight distance at the project driveways was reviewed in the field and determined to be adequate for full driveway access.

Site Circulation

The onsite circulation was reviewed in accordance with generally accepted traffic engineering standards. Onsite, parking would be provided at 90 degrees to the drive aisles. The parking area has a triangle-shaped layout with adequate internal vehicular circulation and no dead-end aisles. All onsite drive aisles are shown as 26 feet wide and provide for two-way traffic. Part of the parking area is covered with residential units above.

The site plan includes two trash enclosures. Garbage and small delivery trucks would be accommodated onsite, and the garage area of the site is designed such that garbage trucks and small delivery trucks would be able to travel onsite between Watkins Street and Vallejo Street. The site plan does not include designated loading areas for truck access for the retail buildings. Small trucks would most likely load and unload in the onsite drive aisles, which would block access to parking stalls and restrict drive aisle operation to one-way. While this is somewhat undesirable, it is common for small retail centers. Deliveries and garbage collection at small retail centers occur relatively infrequently, and most often during off peak hours. Larger trucks (such as moving trucks) would likely utilize the public streets for loading and unloading. Usually, large truck deliveries are infrequent and do not require special loading areas. However, should large truck deliveries prove frequent and problematic, an on-street loading area could be designated on Watkins Street.

Onsite, the volume and speed of vehicular traffic would be low enough such that shared use of the drive aisles between bikes and motor vehicles would be feasible. The site plan shows pedestrian access paths to the site from existing and proposed sidewalks along the project frontages on Horner Street, Vallejo Street, and Watkins Street.

Recommendation 3: Provisions for bike parking are not shown on the site plan. The project should provide onsite bicycle parking per General Plan Policy TR-C.2.7, which states that secure bicycle parking is required for all new or modified public and private developments.

Conclusion

The impacts of the proposed project were evaluated in accordance with the procedures and guidelines specified by the City of Union City. The project as proposed would have no significant level of service impacts at the study intersections. The study produced the following recommendations:

1. To accommodate pedestrians, the project should provide striped crosswalks at the curb returns at the Vallejo Street/Horner Street and Watkins Street/Horner Street intersections.
2. Curb extensions (or bulb-outs) should be installed at the northeast and northwest corners of the intersection. The benefits of this improvement are: (1) improved intersection sight distance for the Vallejo Street approach, (2) increased storage space between the stop bar and the Vallejo Street project driveway, (3) improved intersection safety by tightening the corner curb radius, and (4) reduced crossing distance for pedestrians.
3. Provisions for bike parking are not shown on the site plan. The project should provide onsite bicycle parking per General Plan Policy TR-C.2.7, which states that secure bicycle parking is required for all new or modified public and private developments.

Appendix A

Traffic Counts



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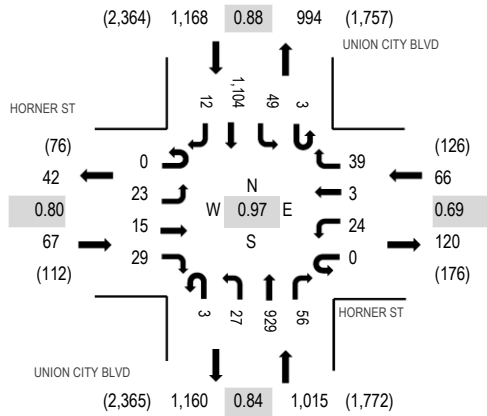
Location: 1 UNION CITY BLVD & HORNER ST AM

Date and Start Time: Thursday, May 17, 2018

Peak Hour: 07:15 AM - 08:15 AM

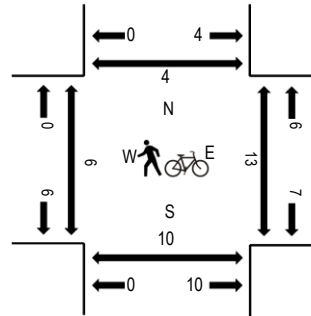
Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	HORNER ST Eastbound				HORNER ST Westbound				UNION CITY BLVD Northbound				UNION CITY BLVD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	5	1	3	0	2	3	2	1	5	131	4	1	4	360	7	529	2,287	5	3	5	4
7:15 AM	0	6	2	9	0	0	1	5	0	3	171	2	0	7	362	4	572	2,316	3	2	4	1
7:30 AM	0	6	1	14	0	6	0	6	1	6	221	5	1	13	306	2	588	2,272	0	2	0	0
7:45 AM	0	6	5	2	0	5	0	11	1	6	282	32	0	20	222	6	598	2,164	0	4	1	3
8:00 AM	0	5	7	4	0	13	2	17	1	12	255	17	2	9	214	0	558	2,087	3	5	5	0
8:15 AM	0	1	11	5	0	10	5	19	5	2	217	13	1	9	228	2	528		0	3	0	3
8:30 AM	0	4	1	5	1	1	1	6	1	1	160	3	0	2	290	4	480		2	0	0	0
8:45 AM	0	3	2	4	0	2	1	7	5	1	204	4	2	1	283	2	521		0	3	1	1

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	7
Lights	0	23	15	28	0	23	3	39	3	26	920	56	3	48	1,058	11	2,256
Mediums	0	0	0	1	0	1	0	0	0	1	9	0	0	1	39	1	53
Total	0	23	15	29	0	24	3	39	3	27	929	56	3	49	1,104	12	2,316



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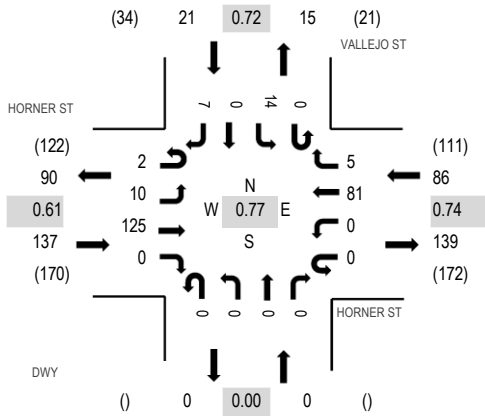
Location: 2 DWY & HORNER ST AM

Date and Start Time: Thursday, May 17, 2018

Peak Hour: 07:30 AM - 08:30 AM

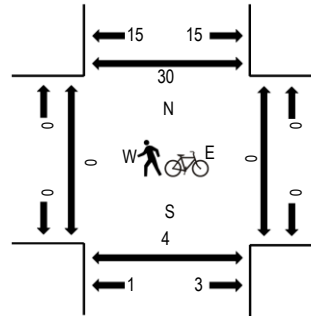
Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	HORNER ST Eastbound				HORNER ST Westbound				DWY Northbound				VALLEJO ST Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	1	8	0	0	0	0	4	0	0	0	0	0	0	0	1	14	141	0	0	2	0
7:15 AM	0	1	10	0	0	0	0	6	1	0	0	0	0	2	0	1	21	196	0	0	0	0
7:30 AM	0	0	17	0	0	0	0	9	0	0	0	0	0	1	0	0	27	244	0	0	0	2
7:45 AM	1	3	52	0	0	0	0	17	3	0	0	0	0	3	0	0	79	233	0	0	2	5
8:00 AM	1	3	28	0	0	0	0	27	1	0	0	0	0	5	0	4	69	174	0	0	0	21
8:15 AM	0	4	28	0	0	0	0	28	1	0	0	0	0	5	0	3	69		0	0	2	2
8:30 AM	0	1	5	0	0	0	0	6	0	0	0	0	0	1	0	3	16		0	0	1	0
8:45 AM	0	1	6	0	0	0	0	7	1	0	0	0	0	1	0	4	20		1	0	2	0

Peak Rolling Hour Flow Rates

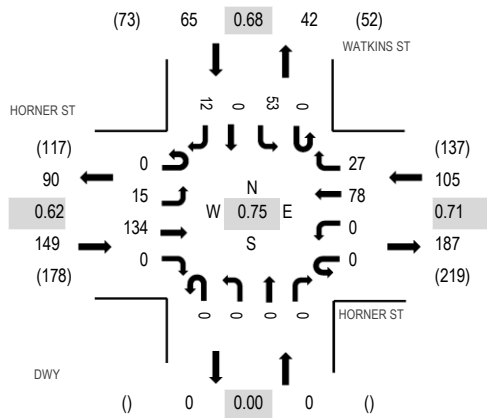
Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Lights	1	10	124	0	0	0	81	5	0	0	0	0	0	14	0	7	242
Mediums	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	2	10	125	0	0	0	81	5	0	0	0	0	0	14	0	7	244



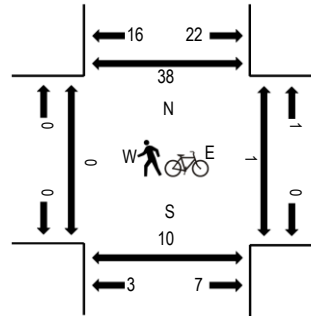
(303) 216-2439
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Location: 3 DWY & HORNER ST AM
Date and Start Time: Thursday, May 17, 2018
Peak Hour: 07:30 AM - 08:30 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour - All Vehicles



Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	HORNER ST Eastbound				HORNER ST Westbound				DWY Northbound				WATKINS ST Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	1	4	0	1	0	8	3	0	0	0	0	0	1	0	0	18	185	0	2	2	1
7:15 AM	0	2	7	0	0	0	5	0	0	0	0	0	0	2	0	1	17	249	0	1	0	0
7:30 AM	0	1	20	0	0	0	7	3	0	0	0	0	0	9	0	3	43	319	0	1	1	1
7:45 AM	0	7	53	0	0	0	16	7	0	0	0	0	0	19	0	5	107	294	0	0	3	6
8:00 AM	0	3	29	0	0	0	30	5	0	0	0	0	0	14	0	1	82	203	0	0	4	25
8:15 AM	0	4	32	0	0	0	25	12	0	0	0	0	0	11	0	3	87		0	0	2	5
8:30 AM	0	1	7	0	0	0	6	2	0	0	0	0	0	2	0	0	18		0	0	0	2
8:45 AM	0	0	7	0	0	0	6	1	0	0	0	0	0	1	0	1	16		0	0	1	0

Peak Rolling Hour Flow Rates

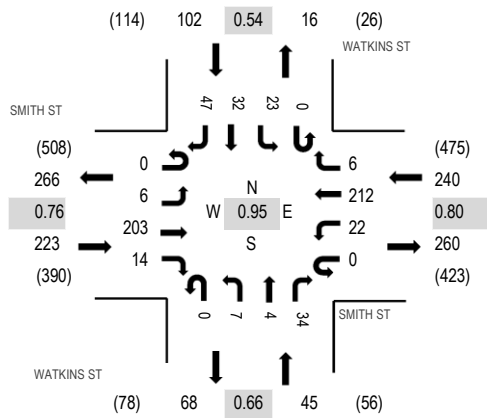
Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Lights	0	13	133	0	0	0	78	26	0	0	0	0	0	51	0	12	313
Mediums	0	2	0	0	0	0	0	1	0	0	0	0	0	2	0	0	5
Total	0	15	134	0	0	0	78	27	0	0	0	0	0	53	0	12	319



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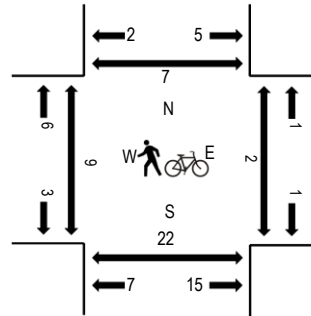
Location: 4 WATKINS ST & SMITH ST AM
Date and Start Time: Thursday, May 17, 2018
Peak Hour: 07:30 AM - 08:30 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	SMITH ST Eastbound				SMITH ST Westbound				WATKINS ST Northbound				WATKINS ST Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	0	41	0	0	0	48	0	0	1	1	3	0	0	0	1	95	517	2	1	0	2
7:15 AM	0	2	51	2	0	1	68	0	0	1	0	1	0	0	1	2	129	582	1	0	1	0
7:30 AM	0	1	69	7	0	3	33	0	0	2	0	5	0	5	5	3	133	610	1	1	4	0
7:45 AM	0	2	53	2	0	2	40	2	0	0	2	10	0	14	15	18	160	587	1	0	9	3
8:00 AM	0	1	43	2	0	8	63	2	0	3	0	6	0	4	10	18	160	518	2	1	9	1
8:15 AM	0	2	38	3	0	9	76	2	0	2	2	13	0	0	2	8	157		5	0	0	3
8:30 AM	0	3	33	1	0	2	62	1	0	0	0	3	0	1	0	4	110		0	5	7	2
8:45 AM	1	2	30	1	0	2	50	1	0	1	0	0	0	0	0	3	91		3	1	1	2

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Lights	0	6	199	14	0	22	205	6	0	7	4	31	0	23	30	47	594
Mediums	0	0	4	0	0	0	6	0	0	0	0	3	0	0	2	0	15
Total	0	6	203	14	0	22	212	6	0	7	4	34	0	23	32	47	610



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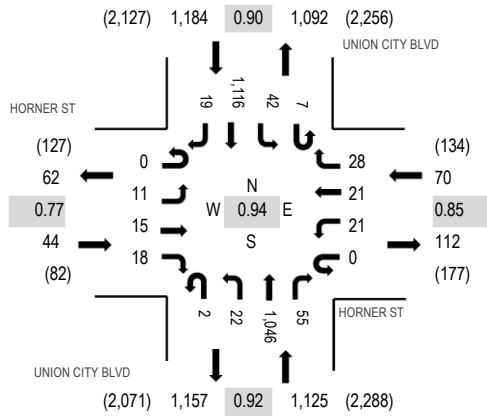
Location: 1 UNION CITY BLVD & HORNER ST PM

Date and Start Time: Thursday, May 17, 2018

Peak Hour: 04:45 PM - 05:45 PM

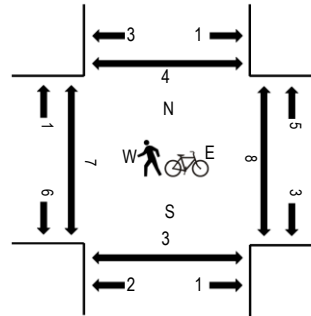
Peak 15-Minutes: 05:15 PM - 05:30 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	HORNER ST Eastbound				HORNER ST Westbound				UNION CITY BLVD Northbound				UNION CITY BLVD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	1	2	3	3	0	3	4	7	2	7	306	12	2	11	211	5	579	2,273	1	0	4	3
4:15 PM	0	7	2	1	0	6	2	9	1	3	278	4	2	4	200	11	530	2,247	0	1	0	0
4:30 PM	1	0	3	3	0	6	7	4	1	3	275	4	3	9	210	10	539	2,363	1	5	1	2
4:45 PM	0	0	4	3	0	4	4	7	0	6	314	13	1	5	263	1	625	2,423	0	2	0	2
5:00 PM	0	2	3	4	0	3	9	5	0	7	227	17	3	8	260	5	553	2,358	5	3	3	1
5:15 PM	0	4	2	6	0	7	4	6	0	8	264	17	2	18	301	7	646		0	1	0	0
5:30 PM	0	5	6	5	0	7	4	10	2	1	241	8	1	11	292	6	599		2	1	0	1
5:45 PM	0	2	3	7	0	4	3	9	3	5	255	4	3	6	253	3	560		0	0	0	2

Peak Rolling Hour Flow Rates

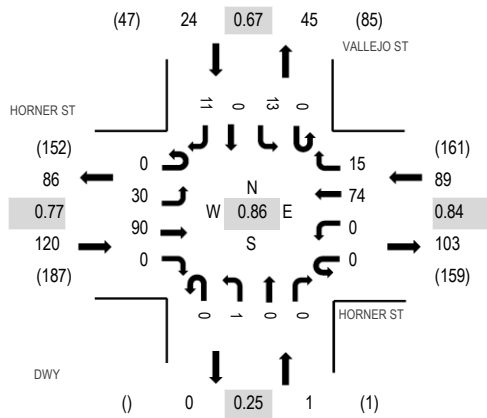
Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	5	0	0	0	4	0	9
Lights	0	11	15	17	0	21	21	28	2	21	999	54	7	41	1,096	19	2,352
Mediums	0	0	0	1	0	0	0	0	0	1	42	1	0	1	16	0	62
Total	0	11	15	18	0	21	21	28	2	22	1,046	55	7	42	1,116	19	2,423



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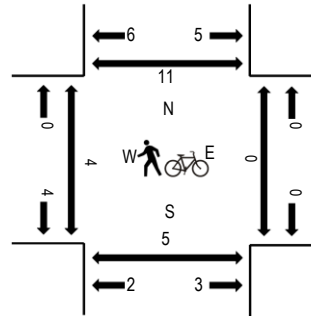
Location: 2 DWY & HORNER ST PM
Date and Start Time: Thursday, May 17, 2018
Peak Hour: 04:45 PM - 05:45 PM
Peak 15-Minutes: 05:15 PM - 05:30 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	HORNER ST				HORNER ST				DWY				VALLEJO ST				Total	Rolling Hour	Pedestrian Crossings			
	Eastbound				Westbound				Northbound				Southbound						West East South North			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	6	23	0	0	0	14	1	0	0	0	0	0	3	0	4	51	177	1	0	0	2
4:15 PM	0	3	7	0	0	0	9	9	0	0	0	0	0	4	0	5	37	192	0	0	0	0
4:30 PM	2	2	11	0	0	0	15	9	0	0	0	0	0	1	0	1	41	223	0	3	0	0
4:45 PM	0	6	19	0	0	0	15	3	0	0	0	0	0	3	0	2	48	234	0	0	1	3
5:00 PM	0	13	26	0	0	0	19	3	0	0	0	0	0	2	0	3	66	219	1	0	3	4
5:15 PM	0	4	28	0	0	0	23	4	0	0	0	0	0	5	0	4	68		3	0	0	1
5:30 PM	0	7	17	0	0	0	17	5	0	1	0	0	0	3	0	2	52		0	0	1	2
5:45 PM	0	7	6	0	0	0	13	2	0	0	0	0	1	1	0	3	33		1	2	0	4

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lights	0	30	88	0	0	0	74	14	0	1	0	0	0	13	0	11	231
Mediums	0	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0	3
Total	0	30	90	0	0	0	74	15	0	1	0	0	0	13	0	11	234



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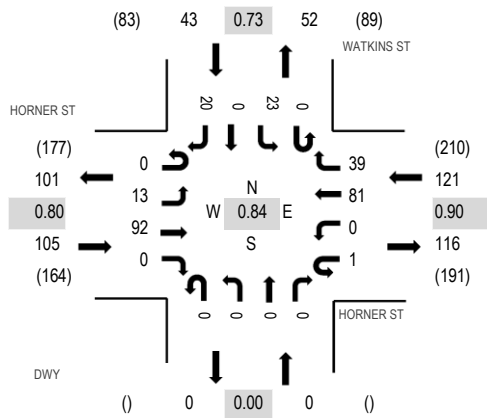
Location: 3 DWY & HORNER ST PM

Date and Start Time: Thursday, May 17, 2018

Peak Hour: 04:45 PM - 05:45 PM

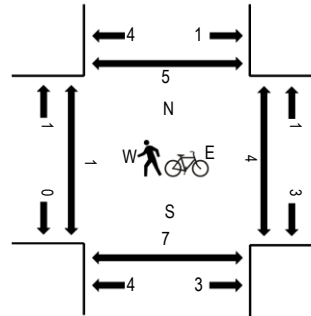
Peak 15-Minutes: 05:15 PM - 05:30 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	HORNER ST Eastbound				HORNER ST Westbound				DWY Northbound				WATKINS ST Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	8	18	0	0	0	13	11	0	0	0	0	0	10	0	4	64	222	2	0	4	2
4:15 PM	0	2	10	0	0	0	20	5	0	0	0	0	0	8	0	3	48	225	0	3	2	0
4:30 PM	0	2	12	0	0	0	19	6	0	0	0	0	0	4	0	2	45	257	0	0	0	0
4:45 PM	0	4	22	0	0	0	19	12	0	0	0	0	0	4	0	4	65	269	0	2	0	3
5:00 PM	0	2	17	0	0	0	21	13	0	0	0	0	0	9	0	5	67	235	0	1	3	1
5:15 PM	0	4	29	0	1	0	21	10	0	0	0	0	0	9	0	6	80		0	1	1	1
5:30 PM	0	3	24	0	0	0	20	4	0	0	0	0	0	1	0	5	57		1	0	3	0
5:45 PM	0	0	7	0	0	0	13	2	0	0	0	0	1	6	0	2	31		0	2	2	1

Peak Rolling Hour Flow Rates

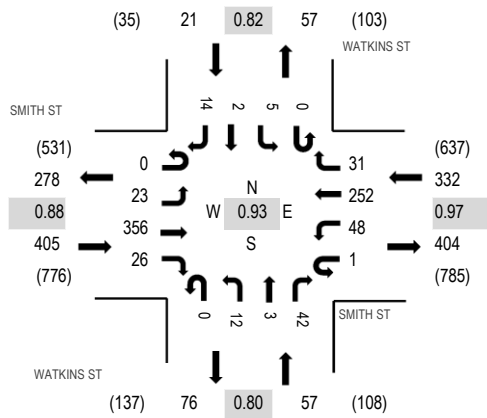
Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lights	0	13	90	0	1	0	80	39	0	0	0	0	0	23	0	20	266
Mediums	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3
Total	0	13	92	0	1	0	81	39	0	0	0	0	0	23	0	20	269



(303) 216-2439
www.alltrafficdata.net

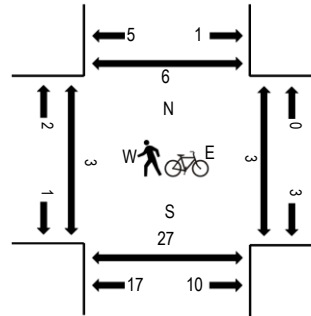
Location: 4 WATKINS ST & SMITH ST PM
Date and Start Time: Thursday, May 17, 2018
Peak Hour: 04:30 PM - 05:30 PM
Peak 15-Minutes: 05:00 PM - 05:15 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	SMITH ST Eastbound				SMITH ST Westbound				WATKINS ST Northbound				WATKINS ST Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	4	76	5	1	15	61	6	0	4	1	13	0	2	0	1	189	749	1	2	1	2
4:15 PM	0	4	80	3	0	10	51	7	0	1	1	6	0	4	1	0	168	780	0	0	1	1
4:30 PM	0	7	101	5	0	8	66	10	0	1	1	6	0	2	0	3	210	815	2	1	5	0
4:45 PM	0	4	72	3	0	10	67	7	0	4	0	9	0	0	2	4	182	814	0	0	6	3
5:00 PM	0	8	90	10	0	17	57	12	0	3	2	14	0	0	0	7	220	807	0	2	11	1
5:15 PM	0	4	93	8	1	13	62	2	0	4	0	13	0	3	0	0	203		1	0	5	2
5:30 PM	0	6	104	7	0	5	63	8	0	3	0	8	0	1	0	4	209		5	1	1	6
5:45 PM	1	5	74	2	0	13	61	4	0	2	0	12	0	0	0	1	175		2	0	2	0

Peak Rolling Hour Flow Rates



















Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lights	0	23	351	26	1	48	247	31	0	12	3	42	0	5	2	14	805
Mediums	0	0	5	0	0	0	5	0	0	0	0	0	0	0	0	0	10
Total	0	23	356	26	1	48	252	31	0	12	3	42	0	5	2	14	815




Appendix B




LOS Calculations





HCM 2010 Signalized Intersection Summary
1: Union City Blvd & Horner St

Existing AM
06/01/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	15	29	24	3	39	30	929	56	52	1104	12
Future Volume (veh/h)	23	15	29	24	3	39	30	929	56	52	1104	12
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	0.98		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	24	15	30	25	3	40	31	958	58	54	1138	12
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	133	48	68	136	21	90	49	2140	130	74	2316	24
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	0.03	0.63	0.63	0.04	0.65	0.65
Sat Flow, veh/h	411	496	698	429	218	924	1774	3388	205	1774	3588	38
Grp Volume(v), veh/h	69	0	0	68	0	0	31	500	516	54	561	589
Grp Sat Flow(s),veh/h/ln	1605	0	0	1571	0	0	1774	1770	1824	1774	1770	1856
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.9	7.6	7.6	1.6	8.6	8.6
Cycle Q Clear(g_c), s	1.9	0.0	0.0	1.9	0.0	0.0	0.9	7.6	7.6	1.6	8.6	8.6
Prop In Lane	0.35		0.43	0.37		0.59	1.00		0.11	1.00		0.02
Lane Grp Cap(c), veh/h	249	0	0	247	0	0	49	1118	1152	74	1142	1198
V/C Ratio(X)	0.28	0.00	0.00	0.28	0.00	0.00	0.63	0.45	0.45	0.73	0.49	0.49
Avail Cap(c_a), veh/h	624	0	0	612	0	0	238	1726	1780	305	1794	1882
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.2	0.0	0.0	22.2	0.0	0.0	25.1	4.9	4.9	24.8	4.8	4.8
Incr Delay (d2), s/veh	0.6	0.0	0.0	0.6	0.0	0.0	12.5	0.3	0.3	13.0	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	0.0	1.0	0.0	0.0	0.6	3.7	3.8	1.0	4.2	4.4
LnGrp Delay(d),s/veh	22.8	0.0	0.0	22.8	0.0	0.0	37.7	5.2	5.2	37.8	5.1	5.1
LnGrp LOS	C			C			D	A	A	D	A	A
Approach Vol, veh/h		69			68			1047			1204	
Approach Delay, s/veh		22.8			22.8			6.2			6.6	
Approach LOS		C			C			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.2	37.0		9.1	5.4	37.7		9.1				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	9.0	51.0		18.0	7.0	53.0		18.0				
Max Q Clear Time (g_c+I1), s	3.6	9.6		3.9	2.9	10.6		3.9				
Green Ext Time (p_c), s	0.0	22.8		0.6	0.0	23.1		0.6				
Intersection Summary												
HCM 2010 Ctrl Delay			7.3									
HCM 2010 LOS			A									



















Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	12	125	81	5	14	7
Future Vol, veh/h	12	125	81	5	14	7
Conflicting Peds, #/hr	30	0	0	30	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	77	77	77	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	162	105	6	18	9
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	142	0	-	0	332	138
Stage 1	-	-	-	-	138	-
Stage 2	-	-	-	-	194	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1441	-	-	-	663	910
Stage 1	-	-	-	-	889	-
Stage 2	-	-	-	-	839	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1441	-	-	-	623	887
Mov Cap-2 Maneuver	-	-	-	-	623	-
Stage 1	-	-	-	-	867	-
Stage 2	-	-	-	-	808	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.7	0		10.4		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1441	-	-	-	692	
HCM Lane V/C Ratio	0.011	-	-	-	0.039	
HCM Control Delay (s)	7.5	0	-	-	10.4	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	0.1	

Intersection						
Int Delay, s/veh	2.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	15	134	78	27	53	12
Future Vol, veh/h	15	134	78	27	53	12
Conflicting Peds, #/hr	38	0	0	38	1	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	179	104	36	71	16
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	178	0	-	0	380	160
Stage 1	-	-	-	-	160	-
Stage 2	-	-	-	-	220	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1398	-	-	-	622	885
Stage 1	-	-	-	-	869	-
Stage 2	-	-	-	-	817	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1398	-	-	-	574	857
Mov Cap-2 Maneuver	-	-	-	-	574	-
Stage 1	-	-	-	-	841	-
Stage 2	-	-	-	-	778	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.8	0		11.9		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1398	-	-	-	611	
HCM Lane V/C Ratio	0.014	-	-	-	0.142	
HCM Control Delay (s)	7.6	0	-	-	11.9	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	0.5	

Intersection												
Int Delay, s/veh	3.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	203	14	22	212	6	7	4	34	23	32	47
Future Vol, veh/h	6	203	14	22	212	6	7	4	34	23	32	47
Conflicting Peds, #/hr	7	0	22	22	0	7	9	0	2	2	0	9
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	214	15	23	223	6	7	4	36	24	34	49
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	236	0	0	250	0	0	579	539	245	536	543	242
Stage 1	-	-	-	-	-	-	256	256	-	280	280	-
Stage 2	-	-	-	-	-	-	323	283	-	256	263	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1331	-	-	1316	-	-	426	449	794	455	447	797
Stage 1	-	-	-	-	-	-	749	696	-	727	679	-
Stage 2	-	-	-	-	-	-	689	677	-	749	691	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1321	-	-	1314	-	-	358	427	778	419	425	786
Mov Cap-2 Maneuver	-	-	-	-	-	-	358	427	-	419	425	-
Stage 1	-	-	-	-	-	-	732	680	-	719	662	-
Stage 2	-	-	-	-	-	-	596	660	-	705	675	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			0.7			11.3			13.4		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	620	1321	-	-	1314	-	-	537				
HCM Lane V/C Ratio	0.076	0.005	-	-	0.018	-	-	0.2				
HCM Control Delay (s)	11.3	7.7	0	-	7.8	0	-	13.4				
HCM Lane LOS	B	A	A	-	A	A	-	B				
HCM 95th %tile Q(veh)	0.2	0	-	-	0.1	-	-	0.7				




HCM 2010 Signalized Intersection Summary
1: Union City Blvd & Horner St

Existing PM
06/01/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	15	18	21	21	28	24	1046	55	49	1116	19
Future Volume (veh/h)	11	15	18	21	21	28	24	1046	55	49	1116	19
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	0.99		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	12	16	19	22	22	30	26	1113	59	52	1187	20
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	105	61	58	115	52	57	42	2257	120	70	2408	41
Arrive On Green	0.09	0.09	0.09	0.09	0.09	0.09	0.02	0.66	0.66	0.04	0.68	0.68
Sat Flow, veh/h	282	713	675	363	600	657	1774	3418	181	1774	3561	60
Grp Volume(v), veh/h	47	0	0	74	0	0	26	576	596	52	590	617
Grp Sat Flow(s),veh/h/ln	1670	0	0	1620	0	0	1774	1770	1829	1774	1770	1852
Q Serve(g_s), s	0.0	0.0	0.0	0.9	0.0	0.0	0.8	9.2	9.2	1.6	9.1	9.1
Cycle Q Clear(g_c), s	1.4	0.0	0.0	2.4	0.0	0.0	0.8	9.2	9.2	1.6	9.1	9.1
Prop In Lane	0.26		0.40	0.30		0.41	1.00		0.10	1.00		0.03
Lane Grp Cap(c), veh/h	224	0	0	223	0	0	42	1168	1208	70	1196	1252
V/C Ratio(X)	0.21	0.00	0.00	0.33	0.00	0.00	0.62	0.49	0.49	0.74	0.49	0.49
Avail Cap(c_a), veh/h	596	0	0	591	0	0	222	1642	1697	253	1673	1751
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.1	0.0	0.0	24.5	0.0	0.0	27.1	4.8	4.8	26.6	4.4	4.4
Incr Delay (d2), s/veh	0.5	0.0	0.0	0.9	0.0	0.0	13.8	0.3	0.3	14.1	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.0	1.1	0.0	0.0	0.6	4.4	4.6	1.1	4.4	4.6
LnGrp Delay(d),s/veh	24.5	0.0	0.0	25.3	0.0	0.0	40.9	5.1	5.1	40.7	4.7	4.7
LnGrp LOS	C			C			D	A	A	D	A	A
Approach Vol, veh/h		47			74			1198			1259	
Approach Delay, s/veh		24.5			25.3			5.9			6.2	
Approach LOS		C			C			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.2	41.0		8.8	5.3	41.9		8.8				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	8.0	52.0		18.0	7.0	53.0		18.0				
Max Q Clear Time (g_c+l1), s	3.6	11.2		3.4	2.8	11.1		4.4				
Green Ext Time (p_c), s	0.0	25.8		0.5	0.0	26.2		0.5				
Intersection Summary												
HCM 2010 Ctrl Delay			6.9									
HCM 2010 LOS			A									

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	30	90	74	15	13	11
Future Vol, veh/h	30	90	74	15	13	11
Conflicting Peds, #/hr	11	0	0	11	0	4
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	35	105	86	17	15	13




Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	114	0	0 280 110
Stage 1	-	-	- 106 -
Stage 2	-	-	- 174 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1475	-	- 710 943
Stage 1	-	-	- 918 -
Stage 2	-	-	- 856 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1470	-	- 680 931
Mov Cap-2 Maneuver	-	-	- 680 -
Stage 1	-	-	- 910 -
Stage 2	-	-	- 827 -

Approach	EB	WB	SB
HCM Control Delay, s	1.9	0	9.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1470	-	-	-	776
HCM Lane V/C Ratio	0.024	-	-	-	0.036
HCM Control Delay (s)	7.5	0	-	-	9.8
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Intersection





Int Delay, s/veh 1.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	13	92	81	39	23	20
Future Vol, veh/h	13	92	81	39	23	20
Conflicting Peds, #/hr	5	0	0	5	4	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	15	110	96	46	27	24

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	148	0	0 269 126
Stage 1	-	-	- 125 -
Stage 2	-	-	- 144 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1434	-	- 720 924
Stage 1	-	-	- 901 -
Stage 2	-	-	- 883 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1433	-	- 706 919
Mov Cap-2 Maneuver	-	-	- 706 -
Stage 1	-	-	- 897 -
Stage 2	-	-	- 870 -



















Approach	EB	WB	SB
HCM Control Delay, s	0.9	0	9.9
HCM LOS			A




Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1433	-	-	-	791
HCM Lane V/C Ratio	0.011	-	-	-	0.065
HCM Control Delay (s)	7.5	0	-	-	9.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2




Intersection												
Int Delay, s/veh	2.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	23	356	26	49	252	31	12	3	42	5	2	14
Future Vol, veh/h	23	356	26	49	252	31	12	3	42	5	2	14
Conflicting Peds, #/hr	6	0	27	27	0	6	3	0	3	3	0	3
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	25	383	28	53	271	33	13	3	45	5	2	15
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	310	0	0	438	0	0	878	889	427	872	886	297
Stage 1	-	-	-	-	-	-	473	473	-	399	399	-
Stage 2	-	-	-	-	-	-	405	416	-	473	487	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1250	-	-	1122	-	-	268	282	628	271	284	742
Stage 1	-	-	-	-	-	-	572	558	-	627	602	-
Stage 2	-	-	-	-	-	-	622	592	-	572	550	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1247	-	-	1119	-	-	238	252	612	231	254	736
Mov Cap-2 Maneuver	-	-	-	-	-	-	238	252	-	231	254	-
Stage 1	-	-	-	-	-	-	545	531	-	608	565	-
Stage 2	-	-	-	-	-	-	571	555	-	512	524	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.5			1.2			14.6			13.8		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	435	1247	-	-	1119	-	-	433				
HCM Lane V/C Ratio	0.141	0.02	-	-	0.047	-	-	0.052				
HCM Control Delay (s)	14.6	7.9	0	-	8.4	0	-	13.8				
HCM Lane LOS	B	A	A	-	A	A	-	B				
HCM 95th %tile Q(veh)	0.5	0.1	-	-	0.1	-	-	0.2				





HCM 2010 Signalized Intersection Summary
1: Union City Blvd & Horner St




Existing + Project AM
06/01/2018




												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	15	29	25	3	40	30	929	57	53	1104	12
Future Volume (veh/h)	23	15	29	25	3	40	30	929	57	53	1104	12
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	0.98		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	24	15	30	26	3	41	31	958	59	55	1138	12
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	133	49	69	137	21	91	49	2134	131	75	2313	24
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	0.03	0.63	0.63	0.04	0.64	0.64
Sat Flow, veh/h	408	500	699	434	216	919	1774	3385	208	1774	3588	38
Grp Volume(v), veh/h	69	0	0	70	0	0	31	501	516	55	561	589
Grp Sat Flow(s),veh/h/ln	1607	0	0	1569	0	0	1774	1770	1823	1774	1770	1856
Q Serve(g_s), s	0.0	0.0	0.0	0.1	0.0	0.0	0.9	7.6	7.6	1.6	8.6	8.6
Cycle Q Clear(g_c), s	1.9	0.0	0.0	2.0	0.0	0.0	0.9	7.6	7.6	1.6	8.6	8.6
Prop In Lane	0.35		0.43	0.37		0.59	1.00		0.11	1.00		0.02
Lane Grp Cap(c), veh/h	251	0	0	249	0	0	49	1116	1149	75	1141	1196
V/C Ratio(X)	0.27	0.00	0.00	0.28	0.00	0.00	0.63	0.45	0.45	0.74	0.49	0.49
Avail Cap(c_a), veh/h	623	0	0	610	0	0	237	1722	1775	305	1790	1877
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.2	0.0	0.0	22.2	0.0	0.0	25.2	5.0	5.0	24.8	4.8	4.8
Incr Delay (d2), s/veh	0.6	0.0	0.0	0.6	0.0	0.0	12.5	0.3	0.3	13.2	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	0.0	1.0	0.0	0.0	0.6	3.7	3.8	1.1	4.2	4.4
LnGrp Delay(d),s/veh	22.8	0.0	0.0	22.8	0.0	0.0	37.7	5.3	5.3	38.0	5.2	5.2
LnGrp LOS	C			C			D	A	A	D	A	A
Approach Vol, veh/h		69			70			1048			1205	
Approach Delay, s/veh		22.8			22.8			6.2			6.7	
Approach LOS		C			C			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.2	37.0		9.2	5.5	37.8		9.2				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	9.0	51.0		18.0	7.0	53.0		18.0				
Max Q Clear Time (g_c+I1), s	3.6	9.6		3.9	2.9	10.6		4.0				
Green Ext Time (p_c), s	0.0	22.8		0.6	0.0	23.1		0.6				
Intersection Summary												
HCM 2010 Ctrl Delay			7.4									
HCM 2010 LOS			A									

Intersection						
Int Delay, s/veh	1.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	14	125	81	6	15	9
Future Vol, veh/h	14	125	81	6	15	9
Conflicting Peds, #/hr	30	0	0	30	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	77	77	77	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	162	105	8	19	12
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	143	0	-	0	338	139
Stage 1	-	-	-	-	139	-
Stage 2	-	-	-	-	199	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1440	-	-	-	658	909
Stage 1	-	-	-	-	888	-
Stage 2	-	-	-	-	835	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1440	-	-	-	617	886
Mov Cap-2 Maneuver	-	-	-	-	617	-
Stage 1	-	-	-	-	866	-
Stage 2	-	-	-	-	803	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.8	0		10.4		
HCM LOS	B					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1440	-	-	-	696	
HCM Lane V/C Ratio	0.013	-	-	-	0.045	
HCM Control Delay (s)	7.5	0	-	-	10.4	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	0.1	

Intersection						
Int Delay, s/veh	2.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	15	135	79	28	54	12
Future Vol, veh/h	15	135	79	28	54	12
Conflicting Peds, #/hr	38	0	0	38	1	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	180	105	37	72	16
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	181	0	-	0	383	162
Stage 1	-	-	-	-	162	-
Stage 2	-	-	-	-	221	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1394	-	-	-	620	883
Stage 1	-	-	-	-	867	-
Stage 2	-	-	-	-	816	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1394	-	-	-	572	855
Mov Cap-2 Maneuver	-	-	-	-	572	-
Stage 1	-	-	-	-	840	-
Stage 2	-	-	-	-	778	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.8	0		11.9		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1394	-	-	-	609	
HCM Lane V/C Ratio	0.014	-	-	-	0.144	
HCM Control Delay (s)	7.6	0	-	-	11.9	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	0.5	



















Intersection												
Int Delay, s/veh	3.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	205	14	24	213	6	7	4	36	23	32	47
Future Vol, veh/h	6	205	14	24	213	6	7	4	36	23	32	47
Conflicting Peds, #/hr	7	0	22	22	0	7	9	0	2	2	0	9
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	216	15	25	224	6	7	4	38	24	34	49
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	238	0	0	253	0	0	586	546	247	544	550	243
Stage 1	-	-	-	-	-	-	258	258	-	285	285	-
Stage 2	-	-	-	-	-	-	328	288	-	259	265	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1329	-	-	1312	-	-	422	445	792	450	443	796
Stage 1	-	-	-	-	-	-	747	694	-	722	676	-
Stage 2	-	-	-	-	-	-	685	674	-	746	689	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1319	-	-	1310	-	-	354	423	776	413	421	785
Mov Cap-2 Maneuver	-	-	-	-	-	-	354	423	-	413	421	-
Stage 1	-	-	-	-	-	-	730	678	-	714	657	-
Stage 2	-	-	-	-	-	-	591	655	-	700	673	-
Approach	EB		WB				NB			SB		
HCM Control Delay, s	0.2		0.8				11.3			13.5		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	622	1319	-	-	1310	-	-	532				
HCM Lane V/C Ratio	0.08	0.005	-	-	0.019	-	-	0.202				
HCM Control Delay (s)	11.3	7.7	0	-	7.8	0	-	13.5				
HCM Lane LOS	B	A	A	-	A	A	-	B				
HCM 95th %tile Q(veh)	0.3	0	-	-	0.1	-	-	0.7				

Intersection						
Int Delay, s/veh	1.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	4	17	3	1	21
Future Vol, veh/h	3	4	17	3	1	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	4	18	3	1	23
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	45	20	0	0	22	0
Stage 1	20	-	-	-	-	-
Stage 2	25	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	965	1058	-	-	1593	-
Stage 1	1003	-	-	-	-	-
Stage 2	998	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	964	1058	-	-	1593	-
Mov Cap-2 Maneuver	964	-	-	-	-	-
Stage 1	1003	-	-	-	-	-
Stage 2	997	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	8.6	0		0.3		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	1016	1593	-	
HCM Lane V/C Ratio	-	-	0.007	0.001	-	
HCM Control Delay (s)	-	-	8.6	7.3	0	
HCM Lane LOS	-	-	A	A	A	
HCM 95th %tile Q(veh)	-	-	0	0	-	

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	1	1	42	65	2
Future Vol, veh/h	3	1	1	42	65	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	1	1	46	71	2
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	120	72	73	0	-	0
Stage 1	72	-	-	-	-	-
Stage 2	48	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	876	990	1527	-	-	-
Stage 1	951	-	-	-	-	-
Stage 2	974	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	875	990	1527	-	-	-
Mov Cap-2 Maneuver	875	-	-	-	-	-
Stage 1	951	-	-	-	-	-
Stage 2	973	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	9	0.2		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1527	-	901	-	-	
HCM Lane V/C Ratio	0.001	-	0.005	-	-	
HCM Control Delay (s)	7.4	0	9	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0	-	0	-	-	




HCM 2010 Signalized Intersection Summary
1: Union City Blvd & Horner St

Existing + Project PM
06/01/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	15	18	24	21	30	24	1046	60	53	1116	19
Future Volume (veh/h)	11	15	18	24	21	30	24	1046	60	53	1116	19
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	0.99		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	12	16	19	26	22	32	26	1113	64	56	1187	20
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	104	65	61	120	51	58	42	2233	128	73	2402	40
Arrive On Green	0.09	0.09	0.09	0.09	0.09	0.09	0.02	0.66	0.66	0.04	0.67	0.67
Sat Flow, veh/h	273	724	676	398	567	643	1774	3401	195	1774	3561	60
Grp Volume(v), veh/h	47	0	0	80	0	0	26	579	598	56	590	617
Grp Sat Flow(s),veh/h/ln	1672	0	0	1608	0	0	1774	1770	1827	1774	1770	1852
Q Serve(g_s), s	0.0	0.0	0.0	1.2	0.0	0.0	0.8	9.5	9.5	1.8	9.2	9.2
Cycle Q Clear(g_c), s	1.4	0.0	0.0	2.6	0.0	0.0	0.8	9.5	9.5	1.8	9.2	9.2
Prop In Lane	0.26		0.40	0.32		0.40	1.00		0.11	1.00		0.03
Lane Grp Cap(c), veh/h	231	0	0	230	0	0	42	1162	1200	73	1193	1249
V/C Ratio(X)	0.20	0.00	0.00	0.35	0.00	0.00	0.62	0.50	0.50	0.76	0.49	0.49
Avail Cap(c_a), veh/h	589	0	0	582	0	0	219	1622	1675	250	1653	1730
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.1	0.0	0.0	24.6	0.0	0.0	27.4	5.0	5.0	26.9	4.5	4.5
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.9	0.0	0.0	13.9	0.3	0.3	15.0	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.0	1.3	0.0	0.0	0.6	4.6	4.8	1.2	4.5	4.7
LnGrp Delay(d),s/veh	24.6	0.0	0.0	25.5	0.0	0.0	41.3	5.3	5.3	41.9	4.8	4.8
LnGrp LOS	C			C			D	A	A	D	A	A
Approach Vol, veh/h		47			80			1203			1263	
Approach Delay, s/veh		24.6			25.5			6.1			6.5	
Approach LOS		C			C			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.3	41.3		9.1	5.3	42.3		9.1				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	8.0	52.0		18.0	7.0	53.0		18.0				
Max Q Clear Time (g_c+I1), s	3.8	11.5		3.4	2.8	11.2		4.6				
Green Ext Time (p_c), s	0.0	25.8		0.5	0.0	26.3		0.5				
Intersection Summary												
HCM 2010 Ctrl Delay			7.2									
HCM 2010 LOS			A									

Intersection




Int Delay, s/veh 2.4





Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	39	90	74	18	15	16
Future Vol, veh/h	39	90	74	18	15	16
Conflicting Peds, #/hr	11	0	0	11	0	4
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	45	105	86	21	17	19




Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	118	0	0 303 112
Stage 1	-	-	- 108 -
Stage 2	-	-	- 195 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1470	-	- 689 941
Stage 1	-	-	- 916 -
Stage 2	-	-	- 838 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1465	-	- 654 929
Mov Cap-2 Maneuver	-	-	- 654 -
Stage 1	-	-	- 908 -
Stage 2	-	-	- 803 -




Approach	EB	WB	SB
HCM Control Delay, s	2.3	0	9.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1465	-	-	-	772
HCM Lane V/C Ratio	0.031	-	-	-	0.047
HCM Control Delay (s)	7.5	0	-	-	9.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Intersection						
Int Delay, s/veh	2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	13	94	84	42	26	20
Future Vol, veh/h	13	94	84	42	26	20
Conflicting Peds, #/hr	5	0	0	5	4	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	15	112	100	50	31	24
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	155	0	-	0	277	131
Stage 1	-	-	-	-	130	-
Stage 2	-	-	-	-	147	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1425	-	-	-	713	919
Stage 1	-	-	-	-	896	-
Stage 2	-	-	-	-	880	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1424	-	-	-	699	914
Mov Cap-2 Maneuver	-	-	-	-	699	-
Stage 1	-	-	-	-	892	-
Stage 2	-	-	-	-	867	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.9	0		10		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1424	-	-	-	779	
HCM Lane V/C Ratio	0.011	-	-	-	0.07	
HCM Control Delay (s)	7.6	0	-	-	10	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	0.2	



















Intersection												
Int Delay, s/veh	2.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	23	359	26	59	256	31	12	3	48	5	2	14
Future Vol, veh/h	23	359	26	59	256	31	12	3	48	5	2	14
Conflicting Peds, #/hr	6	0	27	27	0	6	3	0	3	3	0	3
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	25	386	28	63	275	33	13	3	52	5	2	15
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	315	0	0	441	0	0	906	917	430	905	915	301
Stage 1	-	-	-	-	-	-	476	476	-	425	425	-
Stage 2	-	-	-	-	-	-	430	441	-	480	490	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1245	-	-	1119	-	-	257	272	625	257	273	739
Stage 1	-	-	-	-	-	-	570	557	-	607	586	-
Stage 2	-	-	-	-	-	-	603	577	-	567	549	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1242	-	-	1116	-	-	227	240	609	215	241	733
Mov Cap-2 Maneuver	-	-	-	-	-	-	227	240	-	215	241	-
Stage 1	-	-	-	-	-	-	543	530	-	588	543	-
Stage 2	-	-	-	-	-	-	547	535	-	501	523	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.4			1.4			14.7			14.2		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	437	1242	-	-	1116	-	-	415				
HCM Lane V/C Ratio	0.155	0.02	-	-	0.057	-	-	0.054				
HCM Control Delay (s)	14.7	8	0	-	8.4	0	-	14.2				
HCM Lane LOS	B	A	A	-	A	A	-	B				
HCM 95th %tile Q(veh)	0.5	0.1	-	-	0.2	-	-	0.2				




Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	6	3	3	52	43	11
Future Vol, veh/h	6	3	3	52	43	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	3	3	57	47	12
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	116	53	59	0	-	0
Stage 1	53	-	-	-	-	-
Stage 2	63	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	880	1014	1545	-	-	-
Stage 1	970	-	-	-	-	-
Stage 2	960	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	878	1014	1545	-	-	-
Mov Cap-2 Maneuver	878	-	-	-	-	-
Stage 1	970	-	-	-	-	-
Stage 2	958	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	9	0.4		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1545	-	919	-	-	
HCM Lane V/C Ratio	0.002	-	0.011	-	-	
HCM Control Delay (s)	7.3	0	9	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0	-	0	-	-	




Intersection						
Int Delay, s/veh	1.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	7	5	45	12	7	24
Future Vol, veh/h	7	5	45	12	7	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	5	49	13	8	26
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	96	55	0	0	62	0
Stage 1	55	-	-	-	-	-
Stage 2	41	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	903	1012	-	-	1541	-
Stage 1	968	-	-	-	-	-
Stage 2	981	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	898	1012	-	-	1541	-
Mov Cap-2 Maneuver	898	-	-	-	-	-
Stage 1	968	-	-	-	-	-
Stage 2	976	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	8.9	0		1.7		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	942	1541	-	
HCM Lane V/C Ratio	-	-	0.014	0.005	-	
HCM Control Delay (s)	-	-	8.9	7.3	0	
HCM Lane LOS	-	-	A	A	A	
HCM 95th %tile Q(veh)	-	-	0	0	-	





HCM 2010 Signalized Intersection Summary
1: Union City Blvd & Horner St

Cumulative AM
06/01/2018

																
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR				
Lane Configurations																
Traffic Volume (veh/h)	25	16	31	26	3	42	33	1008	61	56	1198	13				
Future Volume (veh/h)	25	16	31	26	3	42	33	1008	61	56	1198	13				
Number	7	4	14	3	8	18	5	2	12	1	6	16				
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0				
Ped-Bike Adj(A_pbT)	0.99		0.97	0.98		0.99	1.00		0.99	1.00		1.00				
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900				
Adj Flow Rate, veh/h	26	16	32	27	3	43	34	1039	63	58	1235	13				
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0				
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97				
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2				
Cap, veh/h	127	50	69	130	22	92	52	2188	133	75	2363	25				
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	0.03	0.65	0.65	0.04	0.66	0.66				
Sat Flow, veh/h	412	502	696	428	219	928	1774	3388	205	1774	3588	38				
Grp Volume(v), veh/h	74	0	0	73	0	0	34	543	559	58	609	639				
Grp Sat Flow(s),veh/h/ln	1609	0	0	1575	0	0	1774	1770	1824	1774	1770	1856				
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	1.1	8.8	8.8	1.8	10.1	10.1				
Cycle Q Clear(g_c), s	2.2	0.0	0.0	2.2	0.0	0.0	1.1	8.8	8.8	1.8	10.1	10.1				
Prop In Lane	0.35		0.43	0.37		0.59	1.00		0.11	1.00		0.02				
Lane Grp Cap(c), veh/h	246	0	0	244	0	0	52	1143	1178	75	1166	1222				
V/C Ratio(X)	0.30	0.00	0.00	0.30	0.00	0.00	0.65	0.47	0.48	0.77	0.52	0.52				
Avail Cap(c_a), veh/h	579	0	0	568	0	0	251	1599	1648	283	1631	1710				
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00				
Uniform Delay (d), s/veh	23.9	0.0	0.0	23.9	0.0	0.0	27.1	5.1	5.1	26.8	5.0	5.0				
Incr Delay (d2), s/veh	0.7	0.0	0.0	0.7	0.0	0.0	13.1	0.3	0.3	15.3	0.4	0.3				
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
%ile BackOfQ(50%),veh/ln	1.1	0.0	0.0	1.1	0.0	0.0	0.7	4.3	4.4	1.2	4.9	5.1				
LnGrp Delay(d),s/veh	24.6	0.0	0.0	24.6	0.0	0.0	40.2	5.4	5.4	42.0	5.4	5.4				
LnGrp LOS	C			C			D	A	A	D	A	A				
Approach Vol, veh/h	74			73			1136			1306						
Approach Delay, s/veh	24.6			24.6			6.5			7.0						
Approach LOS	C			C			A			A						
Timer	1	2	3	4	5	6	7	8								
Assigned Phs	1	2			4	5	6	8								
Phs Duration (G+Y+Rc), s	6.4	40.4			9.6	5.7	41.2	9.6								
Change Period (Y+Rc), s	4.0	4.0			4.0	4.0	4.0	4.0								
Max Green Setting (Gmax), s	9.0	51.0			18.0	8.0	52.0	18.0								
Max Q Clear Time (g_c+l1), s	3.8	10.8			4.2	3.1	12.1	4.2								
Green Ext Time (p_c), s	0.0	25.2			0.6	0.0	25.1	0.6								
Intersection Summary																
HCM 2010 Ctrl Delay				7.8												
HCM 2010 LOS				A												

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	13	136	88	5	15	8
Future Vol, veh/h	13	136	88	5	15	8
Conflicting Peds, #/hr	30	0	0	30	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	77	77	77	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	177	114	6	19	10
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	151	0	-	0	358	148
Stage 1	-	-	-	-	148	-
Stage 2	-	-	-	-	210	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1430	-	-	-	640	899
Stage 1	-	-	-	-	880	-
Stage 2	-	-	-	-	825	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1430	-	-	-	600	877
Mov Cap-2 Maneuver	-	-	-	-	600	-
Stage 1	-	-	-	-	858	-
Stage 2	-	-	-	-	794	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.7	0		10.6		
HCM LOS	B					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1430	-	-	-	674	
HCM Lane V/C Ratio	0.012	-	-	-	0.044	
HCM Control Delay (s)	7.5	0	-	-	10.6	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	0.1	

Intersection						
Int Delay, s/veh	2.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	16	145	85	29	57	13
Future Vol, veh/h	16	145	85	29	57	13
Conflicting Peds, #/hr	38	0	0	38	1	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	193	113	39	76	17
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	190	0	-	0	408	171
Stage 1	-	-	-	-	171	-
Stage 2	-	-	-	-	237	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1384	-	-	-	599	873
Stage 1	-	-	-	-	859	-
Stage 2	-	-	-	-	802	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1384	-	-	-	552	845
Mov Cap-2 Maneuver	-	-	-	-	552	-
Stage 1	-	-	-	-	832	-
Stage 2	-	-	-	-	763	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.8	0		12.2		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1384	-	-	-	590	
HCM Lane V/C Ratio	0.015	-	-	-	0.158	
HCM Control Delay (s)	7.6	0	-	-	12.2	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	0.6	

Intersection												
Int Delay, s/veh	3.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	220	15	24	230	7	8	4	37	25	35	51
Future Vol, veh/h	7	220	15	24	230	7	8	4	37	25	35	51
Conflicting Peds, #/hr	7	0	22	22	0	7	9	0	2	2	0	9
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	232	16	25	242	7	8	4	39	26	37	54



















Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	256	0	0	269	0	0	627	583	263	581	587	262
Stage 1	-	-	-	-	-	-	276	276	-	303	303	-
Stage 2	-	-	-	-	-	-	351	307	-	278	284	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1309	-	-	1295	-	-	396	424	776	425	422	777
Stage 1	-	-	-	-	-	-	730	682	-	706	664	-
Stage 2	-	-	-	-	-	-	666	661	-	728	676	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1299	-	-	1293	-	-	327	402	761	389	400	767
Mov Cap-2 Maneuver	-	-	-	-	-	-	327	402	-	389	400	-
Stage 1	-	-	-	-	-	-	712	665	-	698	646	-
Stage 2	-	-	-	-	-	-	567	643	-	681	660	-




Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.7	11.7	14.2
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	590	1299	-	-	1293	-	-	509
HCM Lane V/C Ratio	0.087	0.006	-	-	0.02	-	-	0.23
HCM Control Delay (s)	11.7	7.8	0	-	7.8	0	-	14.2
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.3	0	-	-	0.1	-	-	0.9

HCM 2010 Signalized Intersection Summary
1: Union City Blvd & Horner St




Cumulative PM
06/21/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	16	20	23	23	30	26	1138	60	53	1214	21
Future Volume (veh/h)	12	16	20	23	23	30	26	1138	60	53	1214	21
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	0.99		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	13	17	21	24	24	32	28	1211	64	56	1291	22
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	98	64	62	108	55	58	44	2305	122	71	2455	42
Arrive On Green	0.09	0.09	0.09	0.09	0.09	0.09	0.02	0.67	0.67	0.04	0.69	0.69
Sat Flow, veh/h	271	711	688	358	615	649	1774	3419	181	1774	3561	61
Grp Volume(v), veh/h	51	0	0	80	0	0	28	626	649	56	641	672
Grp Sat Flow(s),veh/h/ln	1670	0	0	1621	0	0	1774	1770	1830	1774	1770	1852
Q Serve(g_s), s	0.0	0.0	0.0	1.1	0.0	0.0	1.0	10.9	11.0	1.9	10.8	10.8
Cycle Q Clear(g_c), s	1.7	0.0	0.0	2.8	0.0	0.0	1.0	10.9	11.0	1.9	10.8	10.8
Prop In Lane	0.25		0.41	0.30		0.40	1.00		0.10	1.00		0.03
Lane Grp Cap(c), veh/h	223	0	0	222	0	0	44	1193	1234	71	1220	1277
V/C Ratio(X)	0.23	0.00	0.00	0.36	0.00	0.00	0.64	0.52	0.53	0.79	0.53	0.53
Avail Cap(c_a), veh/h	546	0	0	542	0	0	145	1504	1555	232	1590	1664
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.1	0.0	0.0	26.6	0.0	0.0	29.6	5.0	5.0	29.1	4.6	4.6
Incr Delay (d2), s/veh	0.5	0.0	0.0	1.0	0.0	0.0	14.3	0.4	0.3	17.1	0.4	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.0	1.3	0.0	0.0	0.6	5.3	5.5	1.3	5.3	5.5
LnGrp Delay(d),s/veh	26.7	0.0	0.0	27.6	0.0	0.0	43.9	5.4	5.4	46.2	5.0	5.0
LnGrp LOS	C			C			D	A	A	D	A	A
Approach Vol, veh/h		51			80			1303			1369	
Approach Delay, s/veh		26.7			27.6			6.2			6.7	
Approach LOS		C			C			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.5	45.3		9.5	5.5	46.2		9.5				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	8.0	52.0		18.0	5.0	55.0		18.0				
Max Q Clear Time (g_c+I1), s	3.9	13.0		3.7	3.0	12.8		4.8				
Green Ext Time (p_c), s	0.0	27.8		0.5	0.0	29.4		0.5				
Intersection Summary												
HCM 2010 Ctrl Delay			7.4									
HCM 2010 LOS			A									

Intersection						
Int Delay, s/veh	2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	33	98	81	16	14	12
Future Vol, veh/h	33	98	81	16	14	12
Conflicting Peds, #/hr	11	0	0	11	0	4
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	38	114	94	19	16	14
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	124	0	-	0	305	118
Stage 1	-	-	-	-	114	-
Stage 2	-	-	-	-	191	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1463	-	-	-	687	934
Stage 1	-	-	-	-	911	-
Stage 2	-	-	-	-	841	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1458	-	-	-	656	922
Mov Cap-2 Maneuver	-	-	-	-	656	-
Stage 1	-	-	-	-	903	-
Stage 2	-	-	-	-	810	-
Approach	EB	WB		SB		
HCM Control Delay, s	1.9	0		10		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1458	-	-	-	757	
HCM Lane V/C Ratio	0.026	-	-	-	0.04	
HCM Control Delay (s)	7.5	0	-	-	10	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1	

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	14	100	88	42	25	22
Future Vol, veh/h	14	100	88	42	25	22
Conflicting Peds, #/hr	5	0	0	5	4	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	119	105	50	30	26

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	160	0	0 291 136
Stage 1	-	-	- 135 -
Stage 2	-	-	- 156 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1419	-	- 700 913
Stage 1	-	-	- 891 -
Stage 2	-	-	- 872 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1418	-	- 685 908
Mov Cap-2 Maneuver	-	-	- 685 -
Stage 1	-	-	- 887 -
Stage 2	-	-	- 857 -

Approach	EB	WB	SB
HCM Control Delay, s	0.9	0	10
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1418	-	-	-	774
HCM Lane V/C Ratio	0.012	-	-	-	0.072
HCM Control Delay (s)	7.6	0	-	-	10
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection												
Int Delay, s/veh	2.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	25	387	28	53	274	34	13	3	46	5	2	15
Future Vol, veh/h	25	387	28	53	274	34	13	3	46	5	2	15
Conflicting Peds, #/hr	6	0	27	27	0	6	3	0	3	3	0	3
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	416	30	57	295	37	14	3	49	5	2	16



















Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	337	0	0	473	0	0	951	963	461	947	960	322
Stage 1	-	-	-	-	-	-	512	512	-	433	433	-
Stage 2	-	-	-	-	-	-	439	451	-	514	527	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1222	-	-	1089	-	-	240	256	600	241	257	719
Stage 1	-	-	-	-	-	-	545	536	-	601	582	-
Stage 2	-	-	-	-	-	-	597	571	-	543	528	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1219	-	-	1086	-	-	211	226	585	201	227	714
Mov Cap-2 Maneuver	-	-	-	-	-	-	211	226	-	201	227	-
Stage 1	-	-	-	-	-	-	517	508	-	580	541	-
Stage 2	-	-	-	-	-	-	542	531	-	478	501	-




Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	1.2	15.7	14.5
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	404	1219	-	-	1086	-	-	402
HCM Lane V/C Ratio	0.165	0.022	-	-	0.052	-	-	0.059
HCM Control Delay (s)	15.7	8	0	-	8.5	0	-	14.5
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.6	0.1	-	-	0.2	-	-	0.2

HCM 2010 Signalized Intersection Summary
1: Union City Blvd & Horner St

Cumulative + Project AM
06/01/2018




												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	16	31	27	3	43	33	1008	62	57	1198	13
Future Volume (veh/h)	25	16	31	27	3	43	33	1008	62	57	1198	13
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	0.98		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	26	16	32	28	3	44	34	1039	64	59	1235	13
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	127	51	70	131	22	93	52	2181	134	76	2361	25
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	0.03	0.64	0.64	0.04	0.66	0.66
Sat Flow, veh/h	409	505	697	433	218	923	1774	3385	208	1774	3588	38
Grp Volume(v), veh/h	74	0	0	75	0	0	34	543	560	59	609	639
Grp Sat Flow(s),veh/h/ln	1611	0	0	1573	0	0	1774	1770	1823	1774	1770	1856
Q Serve(g_s), s	0.0	0.0	0.0	0.1	0.0	0.0	1.1	8.9	8.9	1.9	10.2	10.2
Cycle Q Clear(g_c), s	2.3	0.0	0.0	2.3	0.0	0.0	1.1	8.9	8.9	1.9	10.2	10.2
Prop In Lane	0.35		0.43	0.37		0.59	1.00		0.11	1.00		0.02
Lane Grp Cap(c), veh/h	248	0	0	246	0	0	52	1140	1175	76	1164	1221
V/C Ratio(X)	0.30	0.00	0.00	0.31	0.00	0.00	0.65	0.48	0.48	0.78	0.52	0.52
Avail Cap(c_a), veh/h	578	0	0	566	0	0	251	1596	1644	282	1627	1706
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.9	0.0	0.0	23.9	0.0	0.0	27.2	5.2	5.2	26.8	5.0	5.0
Incr Delay (d2), s/veh	0.7	0.0	0.0	0.7	0.0	0.0	13.1	0.3	0.3	15.6	0.4	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	0.0	1.2	0.0	0.0	0.7	4.3	4.5	1.2	5.0	5.3
LnGrp Delay(d),s/veh	24.6	0.0	0.0	24.6	0.0	0.0	40.3	5.5	5.5	42.4	5.4	5.4
LnGrp LOS	C			C			D	A	A	D	A	A
Approach Vol, veh/h		74			75			1137			1307	
Approach Delay, s/veh		24.6			24.6			6.5			7.1	
Approach LOS		C			C			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.4	40.5		9.7	5.7	41.2		9.7				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	9.0	51.0		18.0	8.0	52.0		18.0				
Max Q Clear Time (g_c+l1), s	3.9	10.9		4.3	3.1	12.2		4.3				
Green Ext Time (p_c), s	0.0	25.2		0.6	0.0	25.1		0.6				
Intersection Summary												
HCM 2010 Ctrl Delay			7.8									
HCM 2010 LOS			A									

Intersection						
Int Delay, s/veh	1.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	15	136	88	6	16	10
Future Vol, veh/h	15	136	88	6	16	10
Conflicting Peds, #/hr	30	0	0	30	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	77	77	77	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	19	177	114	8	21	13
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	152	0	-	0	364	148
Stage 1	-	-	-	-	148	-
Stage 2	-	-	-	-	216	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1429	-	-	-	635	899
Stage 1	-	-	-	-	880	-
Stage 2	-	-	-	-	820	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1429	-	-	-	595	877
Mov Cap-2 Maneuver	-	-	-	-	595	-
Stage 1	-	-	-	-	858	-
Stage 2	-	-	-	-	788	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.8	0		10.6		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1429	-	-	-	679	
HCM Lane V/C Ratio	0.014	-	-	-	0.05	
HCM Control Delay (s)	7.6	0	-	-	10.6	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	0.2	

Intersection

Int Delay, s/veh 2.9

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations						
Traffic Vol, veh/h	16	146	86	30	58	13
Future Vol, veh/h	16	146	86	30	58	13
Conflicting Peds, #/hr	38	0	0	38	1	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	195	115	40	77	17

Major/Minor Major1 Major2 Minor2





Conflicting Flow All	193	0	-	0	411	173
Stage 1	-	-	-	-	173	-
Stage 2	-	-	-	-	238	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1380	-	-	-	597	871
Stage 1	-	-	-	-	857	-
Stage 2	-	-	-	-	802	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1380	-	-	-	550	843
Mov Cap-2 Maneuver	-	-	-	-	550	-
Stage 1	-	-	-	-	830	-
Stage 2	-	-	-	-	763	-

Approach EB WB SB

HCM Control Delay, s	0.8	0	12.3
HCM LOS			B



















Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1




Capacity (veh/h)	1380	-	-	-	587
HCM Lane V/C Ratio	0.015	-	-	-	0.161
HCM Control Delay (s)	7.7	0	-	-	12.3
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.6

Intersection												
Int Delay, s/veh	3.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	222	15	26	231	7	8	4	39	25	35	51
Future Vol, veh/h	7	222	15	26	231	7	8	4	39	25	35	51
Conflicting Peds, #/hr	7	0	22	22	0	7	9	0	2	2	0	9
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	234	16	27	243	7	8	4	41	26	37	54
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	258	0	0	271	0	0	634	590	266	590	595	263
Stage 1	-	-	-	-	-	-	278	278	-	309	309	-
Stage 2	-	-	-	-	-	-	356	312	-	281	286	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1307	-	-	1292	-	-	392	420	773	419	417	776
Stage 1	-	-	-	-	-	-	728	680	-	701	660	-
Stage 2	-	-	-	-	-	-	661	658	-	726	675	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1297	-	-	1290	-	-	322	398	758	381	395	766
Mov Cap-2 Maneuver	-	-	-	-	-	-	322	398	-	381	395	-
Stage 1	-	-	-	-	-	-	710	664	-	693	640	-
Stage 2	-	-	-	-	-	-	561	638	-	677	659	-
Approach	EB		WB				NB		SB			
HCM Control Delay, s	0.2		0.8				11.7		14.3			
HCM LOS							B		B			
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	591	1297	-	-	1290	-	-	503				
HCM Lane V/C Ratio	0.091	0.006	-	-	0.021	-	-	0.232				
HCM Control Delay (s)	11.7	7.8	0	-	7.9	0	-	14.3				
HCM Lane LOS	B	A	A	-	A	A	-	B				
HCM 95th %tile Q(veh)	0.3	0	-	-	0.1	-	-	0.9				

HCM 2010 Signalized Intersection Summary
1: Union City Blvd & Horner St




Cumulative + Project PM
06/01/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	16	20	26	23	32	26	1138	65	57	1214	21
Future Volume (veh/h)	12	16	20	26	23	32	26	1138	65	57	1214	21
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	0.99		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	13	17	21	28	24	34	28	1211	69	61	1291	22
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	98	68	65	114	55	60	44	2274	129	77	2446	42
Arrive On Green	0.09	0.09	0.09	0.09	0.09	0.09	0.02	0.67	0.67	0.04	0.69	0.69
Sat Flow, veh/h	264	720	689	392	583	637	1774	3403	194	1774	3561	61
Grp Volume(v), veh/h	51	0	0	86	0	0	28	629	651	61	641	672
Grp Sat Flow(s),veh/h/ln	1673	0	0	1611	0	0	1774	1770	1827	1774	1770	1852
Q Serve(g_s), s	0.0	0.0	0.0	1.3	0.0	0.0	1.0	11.3	11.3	2.1	11.0	11.0
Cycle Q Clear(g_c), s	1.7	0.0	0.0	3.0	0.0	0.0	1.0	11.3	11.3	2.1	11.0	11.0
Prop In Lane	0.25		0.41	0.33		0.40	1.00		0.11	1.00		0.03
Lane Grp Cap(c), veh/h	230	0	0	228	0	0	44	1183	1221	77	1216	1272
V/C Ratio(X)	0.22	0.00	0.00	0.38	0.00	0.00	0.64	0.53	0.53	0.79	0.53	0.53
Avail Cap(c_a), veh/h	542	0	0	536	0	0	144	1492	1540	230	1578	1651
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.1	0.0	0.0	26.7	0.0	0.0	29.8	5.3	5.3	29.2	4.7	4.7
Incr Delay (d2), s/veh	0.5	0.0	0.0	1.0	0.0	0.0	14.4	0.4	0.4	16.3	0.4	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.0	1.5	0.0	0.0	0.6	5.5	5.7	1.4	5.3	5.5
LnGrp Delay(d),s/veh	26.6	0.0	0.0	27.7	0.0	0.0	44.2	5.6	5.6	45.6	5.1	5.1
LnGrp LOS	C			C			D	A	A	D	A	A
Approach Vol, veh/h		51			86			1308			1374	
Approach Delay, s/veh		26.6			27.7			6.5			6.9	
Approach LOS		C			C			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.7	45.2		9.8	5.5	46.4		9.8				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	8.0	52.0		18.0	5.0	55.0		18.0				
Max Q Clear Time (g_c+I1), s	4.1	13.3		3.7	3.0	13.0		5.0				
Green Ext Time (p_c), s	0.0	27.7		0.6	0.0	29.4		0.5				
Intersection Summary												
HCM 2010 Ctrl Delay			7.7									
HCM 2010 LOS			A									

Intersection						
Int Delay, s/veh	2.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	42	98	81	19	16	17
Future Vol, veh/h	42	98	81	19	16	17
Conflicting Peds, #/hr	11	0	0	11	0	4
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	49	114	94	22	19	20
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	127	0	-	0	328	120
Stage 1	-	-	-	-	116	-
Stage 2	-	-	-	-	212	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1459	-	-	-	666	931
Stage 1	-	-	-	-	909	-
Stage 2	-	-	-	-	823	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1454	-	-	-	630	919
Mov Cap-2 Maneuver	-	-	-	-	630	-
Stage 1	-	-	-	-	901	-
Stage 2	-	-	-	-	786	-
Approach	EB	WB		SB		
HCM Control Delay, s	2.3	0		10		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1454	-	-	-	752	
HCM Lane V/C Ratio	0.034	-	-	-	0.051	
HCM Control Delay (s)	7.6	0	-	-	10	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2	

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	14	102	91	45	28	22
Future Vol, veh/h	14	102	91	45	28	22
Conflicting Peds, #/hr	5	0	0	5	4	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	121	108	54	33	26

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	167	0	0 299 141
Stage 1	-	-	- 140 -
Stage 2	-	-	- 159 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1411	-	- 692 907
Stage 1	-	-	- 887 -
Stage 2	-	-	- 870 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1410	-	- 677 902
Mov Cap-2 Maneuver	-	-	- 677 -
Stage 1	-	-	- 883 -
Stage 2	-	-	- 855 -

Approach	EB	WB	SB
HCM Control Delay, s	0.9	0	10.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1410	-	-	-	760
HCM Lane V/C Ratio	0.012	-	-	-	0.078
HCM Control Delay (s)	7.6	0	-	-	10.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Intersection												
Int Delay, s/veh	2.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	25	390	28	63	278	34	13	3	52	5	2	15
Future Vol, veh/h	25	390	28	63	278	34	13	3	52	5	2	15
Conflicting Peds, #/hr	6	0	27	27	0	6	3	0	3	3	0	3
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	419	30	68	299	37	14	3	56	5	2	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	341	0	0	476	0	0	980	992	464	980	989	326
Stage 1	-	-	-	-	-	-	515	515	-	459	459	-
Stage 2	-	-	-	-	-	-	465	477	-	521	530	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1218	-	-	1086	-	-	229	246	598	229	247	715
Stage 1	-	-	-	-	-	-	543	535	-	582	566	-
Stage 2	-	-	-	-	-	-	578	556	-	539	527	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1215	-	-	1083	-	-	199	214	583	187	215	710
Mov Cap-2 Maneuver	-	-	-	-	-	-	199	214	-	187	215	-
Stage 1	-	-	-	-	-	-	515	507	-	562	519	-
Stage 2	-	-	-	-	-	-	517	510	-	469	500	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	1.4	15.9	15
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	403	1215	-	-	1083	-	-	385
HCM Lane V/C Ratio	0.181	0.022	-	-	0.063	-	-	0.061
HCM Control Delay (s)	15.9	8	0	-	8.5	0	-	15
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.7	0.1	-	-	0.2	-	-	0.2

Appendix C
Conceptual Plan of Recommended Curb
Extensions at Horner St and Vallejo St

DRIVEWAY
PER CITY
STANDARDS

(E) $E_1 = 12.46'$

LOT
CON

VALLEJO

N0°17'30"W 402.10'

102.83'

12.00
5.00

TYP 3

BICYC.

2%

BULB-OUT.

STOP

CROSSWALK

RETAIL

F.F. 10.75
PAD 9.75

EXISTING FIRE HYDRANT TO BE
RELOCATED PER ACWD STANDARDS

BULB-OUT

EXISTING OVERHEAD SERVICE
TO BE UNDERGROUNDED

HORNER ST

