

2800 Barry Street Affordable Housing Project

Initial Study – Mitigated Negative Declaration

prepared by

City of Camarillo
Department of Community Development
601 Carmen Drive
Camarillo, California 93010
Contact: Jaclyn Lee, Principal Planner

prepared with the assistance of

Rincon Consultants, Inc.
180 North Ashwood Avenue
Ventura, California 93003

August 2020

RINCON CONSULTANTS, INC.
Environmental Scientists | Planners | Engineers
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Initial Study

1. Project Title

2800 Barry Street Affordable Housing Project

2. Lead Agency Name and Address

City of Camarillo
Department of Community Development
601 Carmen Drive
Camarillo, California 93010

3. Contact Person and Phone Number

Jaclyn Lee, AICP, Principal Planner
805-383-5616

4. Project Location

The project site is located at 2800 Barry Street, in the City of Camarillo. The project site is located adjacent to North Lewis Road (State Route 34) and approximately 600 feet north of U.S. 101 Freeway (U.S. 101). The approximately 2.58-acre project site is undeveloped and previously utilized as a former building supply/lumber yard (Assessor Parcel No. 162-0-023-030). Figure 1 shows the regional location of the site and Figure 2 shows the project site within the existing neighborhood context[1]. Figure 3 is a site plan depicting the proposed project site layout.

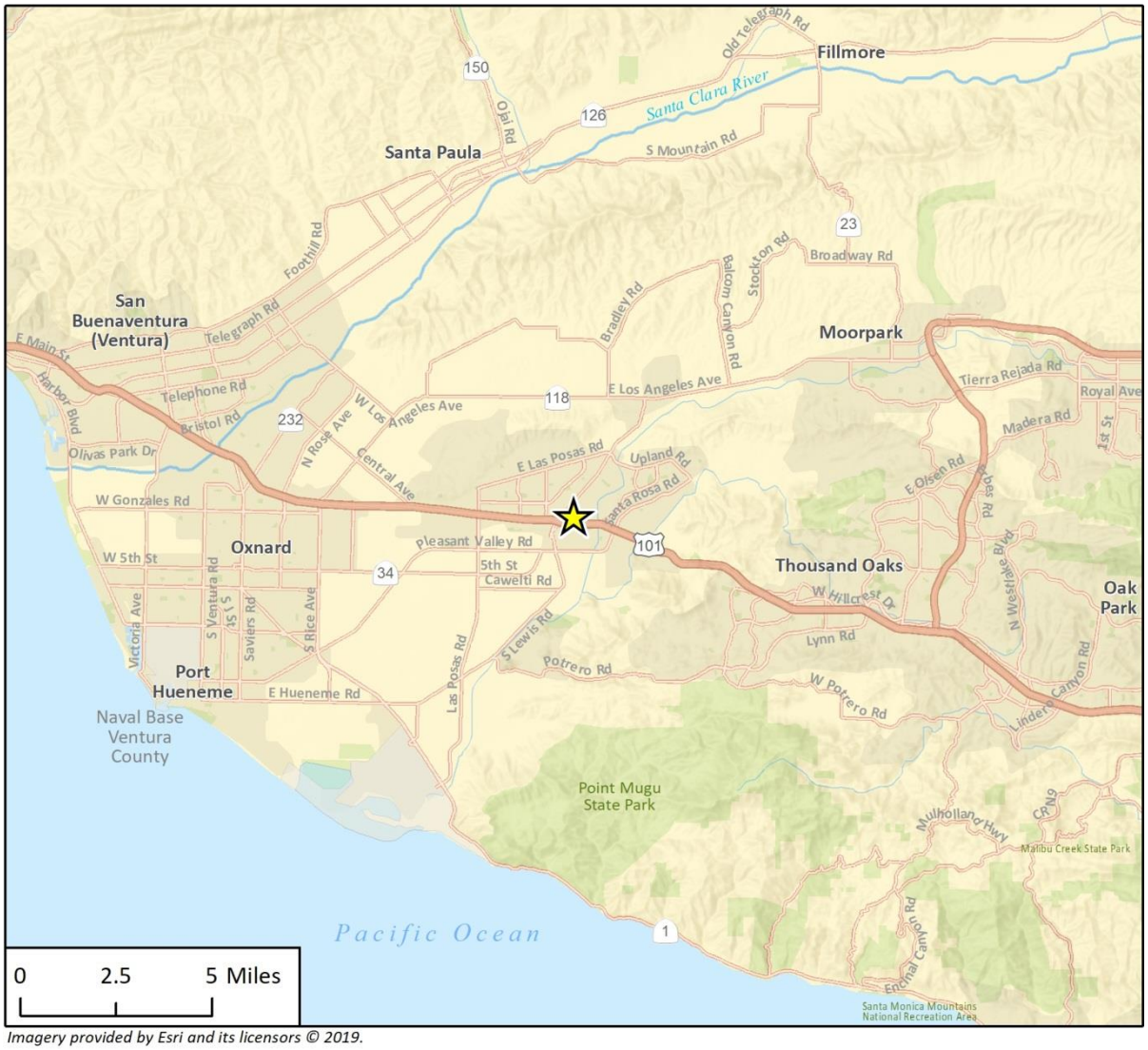
5. Project Sponsors' Name and Address

Area Housing Authority of the County of Ventura
1400 West Hillcrest Drive
Newbury Park, California 91320

Many Mansions
1423 East Thousand Oaks Boulevard
Thousand Oaks, California 91362

[1] Figure 2 provides aerial imagery prior to the demolition of all site structures (2019). The project site is currently vacant.

Figure 1 Regional Location



Imagery provided by Esri and its licensors © 2019.

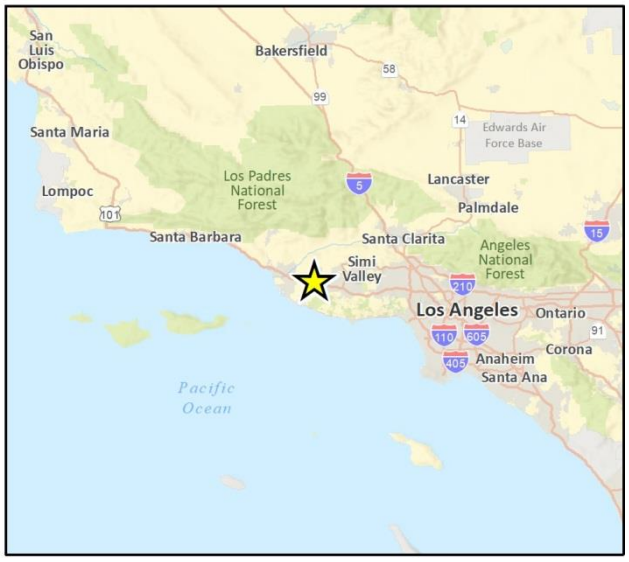
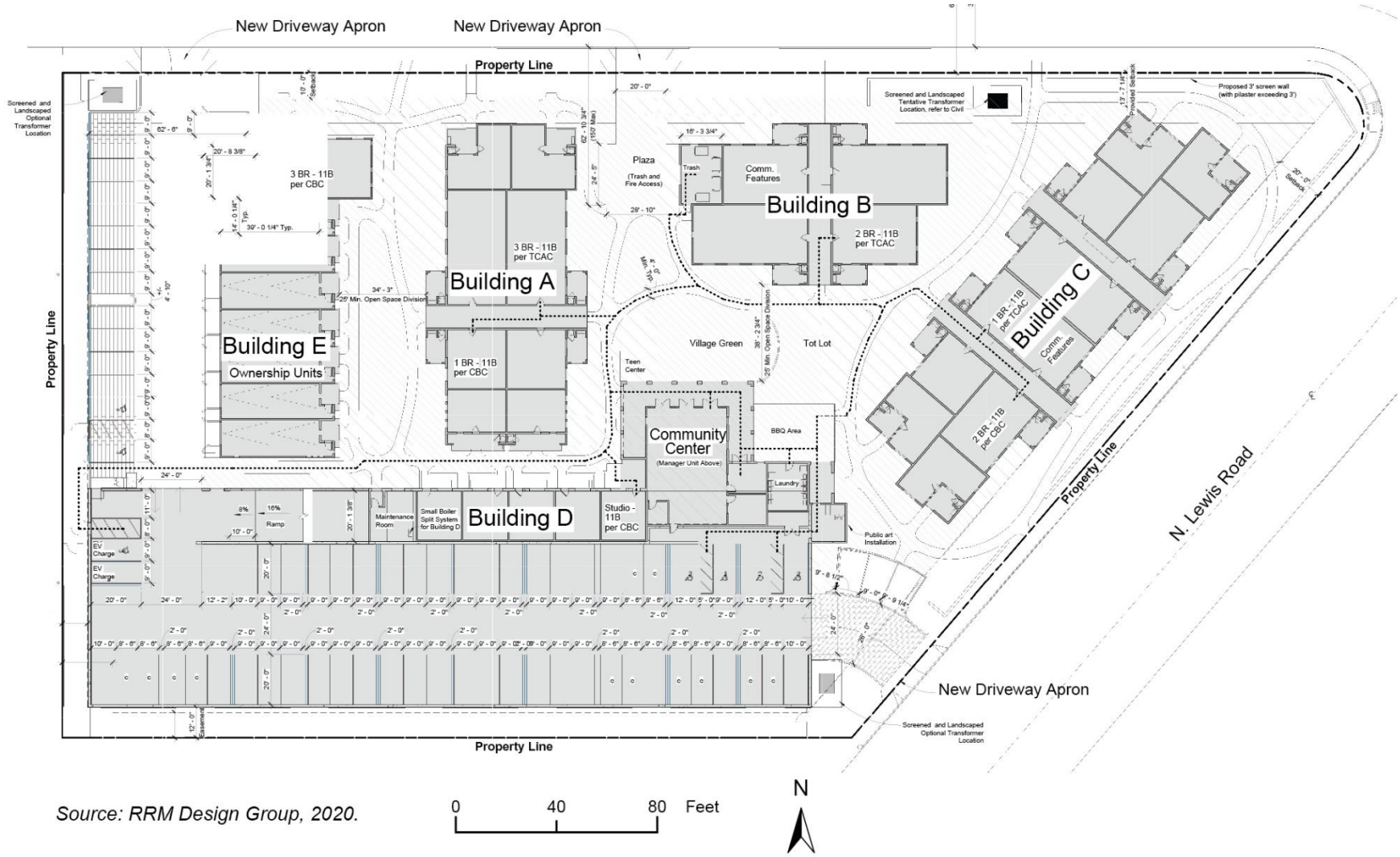


Figure 2 Project Location



Imagery provided by Microsoft Bing and its licensors © 2020.

Figure 3 Proposed Site Plan



Source: RRM Design Group, 2020.

6. General Plan Designation

The Camarillo General Plan land use designation for the project site is Industrial/Commercial. The project proponents are requesting a General Plan Amendment to change the land use designation to High Density Residential (18.1 – 30 dwellings per acre).

7. Zoning

The project site is zoned Light Manufacturing (M-1). The project proponents are requesting to rezone the property from Light Manufacturing (M-1) to Residential Planned Development - 30 dwelling units per acre maximum (RPD-30).

8. Description of Project

Building Characteristics

The proposed project involves construction of a new 68-unit multi-family affordable development consisting of 60 rental apartments and eight (8) for-sale townhouses. The 68 units would be located in five individual buildings and would be comprised of seven (7) studios, 22 one-bedroom units, 15 two-bedroom units, and 23 three-bedroom units. The project includes development of an on-site community center, a manager's office, a central common open space/recreation area, a BBQ area, a children's play structure, and a two-story unenclosed parking structure. The individual buildings with unit mixes and residential square footages are shown in Table 1. Appendix A contains the project plans, which include individual building and floor plan layouts.

Table 1 Unit Mixes

Building	Studio	1-Bedroom	2-Bedroom	3-Bedroom	Total	Total Square Feet
A	2	2	2	10	16	14,116
B	0	0	5	5	10	9,055
C	0	20	8	0	28	17,428
D	5	0	1	0	6	2,724*
E	0	0	0	8	8	12,651
Totals	**7**	**22**	**16**	**23**	**68**	**55,974**

* Does not include 1,472 sf community center space and approximately 1,000 feet of manager office/resident service, laundry and electrical space

The proposed residential buildings would be up to three stories in height, not to exceed 35 feet. Rooftop heating, ventilation and air conditioning (HVAC) systems would be provided. The project would be designed to achieve a Greenpoint rating, meet California Tax Credit Allocation Committee's (TCAC) requirements for green building and sustainability features, would exceed Title 24 energy requirements by 12 percent, and would include energy-efficient appliances and lighting, and water-efficient appliances and fixtures. The proposed buildings would be designed with Spanish Colonial Revival-style and include architectural details, such as red Spanish clay-tiles, metal trellises, and stucco walls. Figure 4 through Figure 8 illustrate conceptual elevations for each building and Figure 9 depicts a conceptual aerial rendering of the project.

Figure 4 Building A Elevations



Source: RRM Design Group, 2020.

Figure 5 Building B Elevations



Source: RRM Design Group, 2020.

Figure 6 Building C Elevations



Source: RRM Design Group, 2020.

Figure 7 Building D Elevations



Source: RRM Design Group, 2020.

Figure 8 Building E Elevations



2 North Elevation



1 East Elevation



1 South Elevation



2 West Elevation

Source: RRM Design Group, 2020.

0 25 50 Feet

Figure 9 Aerial Rendering



Source: RRM Design Group 2020

Table 2 summarizes the proposed building characteristics, parking and landscaping for the proposed project.

Table 2 Project and Site Summary

Site Summary	
Lot Size	2.58 acres
Proposed Building Height[1]	Up to 35 feet / 3-story
Density	27 du/acre
Building Coverage	35,165 sf (31 percent of site)
Landscaping/Open Space	
Proposed	36,300 sf
Pervious Coverage	0.87 acres (33.7 percent of site)
Parking Spaces	
Total Parking Spaces	153
Surface Parking	18
Private Garages (Enclosed)	16
Parking Structure Total 1st Floor 2nd Floor	119 56 63
Hardscape Coverage	41,056 (37 percent of site)

[1] Maximum height of 35 feet requested with Residential Planned Development (RPD) permit
du/acre-dwelling units per acre

Parking and Site Access

Vehicular access to the project site is currently provided by and would continue to be provided through three access points. Two access points, one at the middle of the northern property boundary and the other at the northwest corner of the project site, provide ingress and egress to Barry Street. The access point at the middle of the northern property line is only for fire and trash access. The third access point, located at the southeastern corner of the project site, would provide right turn in and right turn out only access off Lewis Road (SR 34). ADA pathways are provided throughout the project site and are accessible from existing pedestrian sidewalks on the north, east, and south sides of the project site.

The project would include construction of a two-level parking structure in the southern portion of the site. The project includes 18 surface parking spaces at the western and southeast portions of the site. The parking structure would provide a total of 119 parking spaces on the ground floor and second level and would include solar panel carports on the second level. The remaining 16 parking spaces would be provided within the eight townhome unit private garages.

Landscaping/Open Space

Common open space would be provided primarily near the center of the site, through multiple playground areas, courtyards and outdoor living areas, an activity area, and other scattered passive

and active landscaped and pedestrian hardscape areas. The project would include construction of bioretention facilities in the vegetated areas on-site connected to proposed underground storm drains. The total required common open space per CMC Section 19.16.110 is 48,875 square feet and the project would provide a total of approximately 25,825 square feet. The project proponents are requesting four concessions under State Density Bonus Law, one of which includes a reduced common open space requirement.

Grading and Construction

Project construction would extend for approximately 19 months and is anticipated to occur from March 2022 to September 2023. Construction phases would include demolition (asphalt surfaces), site preparation, grading, building construction, paving, and architectural coating.

- **Demolition:** March 2022
- **Site Preparation:** March 2022 to April 2022
- **Grading:** April 2022
- **Building Construction:** May 2022 to September 2023
- **Paving:** July 2023
- **Architectural Coating:** September 2023

The project proponents have indicated that construction would occur during the daytime, Monday through Saturday from 7:00 AM to 4:00 PM, consistent with CMC 10.34 (Noise Regulations). All construction equipment and workers would park on-site during the duration of construction. Project grading would include a disturbance area of approximately 2.6 acres, require cut of approximately 20 cubic yards (cy) of soil and import/fill of roughly 3,800 cy. Project construction would require approximately 237 truck trips to import soil, assuming soil is transported in trucks with a standard 16-cy capacity. The following haul routes are proposed and would require approval by the City:

- Southbound U.S. 101 trucks would exit Lewis Road, turn left onto Ventura Boulevard, and left onto Lewis Road. Trucks would enter the site from Barry Street and may exit the site via Lewis Road or Barry Street.
- Northbound U.S. 101 trucks would exit Lewis Road, turn right onto Daily Drive, and left onto Lewis Road. Trucks would enter the site from Barry Street and may exit the site via Lewis Road or Barry Street.

Required Lead Agency Approvals

The project proponents are requesting: a General Plan Amendment to change the land use from Industrial/Commercial to High Density Residential; a Zone Change to rezone the site from Light Manufacturing (M-1) to Residential Planned Development (RPD-30); a Residential Planned Development Permit, a Conditional Use Permit for Single-Room Occupancy (SRO) units, a Tentative Tract Map for a separate legal parcel and condominium subdivision with an Agreement for the Sale and Development of Real Property; and concessions for rear yard setback reduction, common useable open space and parking (compact and tandem) under the State Density Bonus Law. The project requires review and approval by the City of Camarillo City Council.

9. Surrounding Land Uses and Setting

The project site is located near the Flynn Road Industrial area, where the industrial area transitions into residential to the northwest, north of Mission Oaks Boulevard and U.S. 101. The site is located at the east end of the Barry Street residential neighborhood, which includes a mix of single-family and multi-family residences. The surrounding neighborhood includes a variety of amenities, such as Bob Kildee Community Park and Camarillo Skate Park, Dizdar Park, and Old Town Camarillo.

The area immediately north and west of the site is zoned Residential Planned Development (RPD) and developed with multi-family and single-family residences. To the north at the corner of Barry Street/Lewis Road (SR 34) the property is zoned Commercial Planned Developed Development (CPD) and developed with a restaurant. The area south of the project site is zoned Service Commercial (SC) and developed with self storage and automotive service businesses. Southeast of the site across Lewis Road is the Camarillo Train Station, which is served by Amtrak's Pacific Surfliner and Metrolink's Ventura County Line. Further to the east/southeast are industrial uses zoned Light Manufacturing (M-1) and a distribution center zoned General Manufacturing (M-2).

10. Other Public Agencies Whose Approval is Required

The City of Camarillo is the lead agency for the proposed project. California Department of Transportation (Caltrans) approval will be required for work within the Lewis Road (SR-34) right-of-way. Ventura County Watershed Protection District's approval will be required for the project's storm drain connection to the existing catch basin and/or impacts to the existing storm drain system in Lewis Road.

11. AB 52 Compliance

Letters were delivered to California Native American Tribes by certified mail on May 29, 2020. No California Native American tribes traditionally or culturally affiliated with the project area have requested consultation pursuant to Public Resources Code Section 21080.3.1 to date. The City has complied with the tribal consultation requirements of AB 52 and SB 18.

Environmental Factors Potentially Affected

This project would potentially affect the environmental factors checked below, involving at least one impact that is "Potentially Significant" or "Less than Significant with Mitigation Incorporated" as indicated by the checklist on the following pages.

☐	Aesthetics	☐	Agriculture and Forestry Resources	☐	Air Quality
■	Biological Resources	☐	Cultural Resources	☐	Energy
☐	Geology/Soils	☐	Greenhouse Gas Emissions	☐	Hazards & Hazardous Materials
☐	Hydrology/Water Quality	☐	Land Use/Planning	☐	Mineral Resources
☐	Noise	☐	Population/Housing	☐	Public Services
☐	Recreation	☐	Transportation	☐	Tribal Cultural Resources
☐	Utilities/Service Systems	☐	Wildfire	■	Mandatory Findings of Significance

Determination

Based on this initial evaluation:

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

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

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

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

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

Jaclyn Lee

Signature

8/28/2020

Date

Jaclyn Lee

Printed Name

Principal Planner

Title

Environmental Checklist

1 Aesthetics

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Except as provided in Public Resources Code Section 21099, would the project:				
a. Have a substantial adverse effect on a scenic vista?	☐	☐	■	☐
b. Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	■
c. Substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	■	☐
d. Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?	☐	☐	■	☐

a. Would the project have a substantial adverse effect on a scenic vista?

The City of Camarillo General Plan Community Design Element broadly characterizes open space areas, including agricultural land, hillside areas, and waterways, and views of the Santa Monica and Calleguas Mountains as scenic resources in the community. The project site is in an urbanized area and is not adjacent to any of these identified scenic resources. The nearest scenic resource is open space along Calleguas Creek, located 0.9 miles east of the project site; however, the project would not obstruct views of this resource because the project site is not in the line of sight from a designated public viewpoint.

The General Plan Community Design Element outlines goals, objectives, policies and programs for scenic corridors, gateways, streets, and corridors in the City. The General Plan outlines four roadways to maintain and preserve as major or minor scenic corridors with key entry points. The project site is in an urbanized area within two City-designated scenic corridors, U.S. 101 and Lewis Road. The project site is partially blocked from U.S. 101 due to intervening existing development, topography and landscaping. The project site is visible from and adjacent to the Lewis Road. Although the site is partially visible from these designated scenic corridors, it does not contain any

designated scenic resources and views of the project site would be similar to the residential uses to north and west of the site and would be visually compatible with surrounding development.

The proposed project would introduce new residential buildings two to three stories in height, compared to the previously developed, but currently vacant site. New trees and landscaping would be planted throughout the project site. Views through the site to the north are dominated by the Camarillo Hills which are developed with scattered residential uses. Long-range views of the Santa Monica Mountains to the southeast and east are generally available due to their elevation; however, there no designated viewpoints in the area and intervening buildings to the south and east largely prevent these views from some portions of the project site. Implementation of the project would not eliminate permanent views from a scenic corridor and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

b. Would the project substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No California Department of Transportation (Caltrans) Designated or Eligible Scenic Routes pass through the City of Camarillo (Camarillo 2004; Caltrans 2019). Moreover, there are no existing historic buildings, trees or scenic rock outcroppings on the project site that would be damaged by the project. Consequently, there would be no impact to a state scenic highway.

NO IMPACT

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

The project proponents are requesting a General Plan Amendment to change the land use designation from Industrial/Commercial to High Density Residential, and a Zoning change, to designate the property Residential Planned Development (RPD-30). As discussed in checklist item 1.a, development of the proposed project would introduce new residential buildings two to three stories in height. New trees and landscaping would be planted throughout the project site. Construction of the project would be visually compatible with the surrounding residential uses to the north and east, compared to the previous industrial uses and currently vacant site.

The project site is located in the Heritage Zone because it is within 1,000 feet of a designated freeway interchange (Lewis Road/U.S. 101 interchange). Therefore, the project would be required to adhere to the design guidelines of the Heritage Zone. Section 10.2.5 and 10.2.6 of the Community Design Element set the design theme for the Heritage Zone, including restrictions on style of architectural elements and the types, colors and textures of materials allowed for use in building design. Architectural styles appropriate in the Heritage Zone include Mission, Monterey, Early California, Spanish, Mediterranean or modern interpretations, and building materials include stucco, wood, glass, tile, and textured blocks. As shown in Figure 4 through Figure 9, the proposed buildings would be designed with Spanish Colonial Revival-style and include architectural details, such as red Spanish clay-tiles, metal trellises, and stucco walls, which match the existing structures on the project site other similar materials. Landscaping, tree plantings, and open space areas would be provided throughout the site and along the project boundaries.

Consistent with the Heritage Zone design themes, the configuration of the on-site building would provide for a variety of features (residential units, parking, on-site amenities) and provide a balanced combination of buildings rather than a simple block of a building mass. The architecture, size, and massing of the proposed buildings would not degrade the existing visual character or quality of public views of the site and its surroundings and would improve the visual character of the vacant infill site compared to existing conditions. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

d. Would the project create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?

The project site is in an existing urban area with moderate to high levels of existing lighting and glare due to the site's proximity to existing residential, commercial, and industrial developments and U.S. 101, in addition to its location along Lewis Road. Primary sources of nighttime light in the vicinity include lighting associated with existing developments, streetlights along Barry Street and Lewis Road, and headlights from vehicles on the streets. The primary source of daytime glare in the vicinity is the sun's reflection from glass surfaces from buildings and vehicle windows along Barry Street and Lewis Road.

The project site was previously developed and, although it is currently vacant, previously operated with on-site lighting and vehicles entering and exiting the site. The project would include lighting and on-site parking, which would contribute to existing sources of light and glare in the surrounding area. The project would be required to comply with applicable design standards in the City of Camarillo General Plan Community Design Element, which requires that light fixtures complement the character and style of the development. The project would be required to comply with applicable lighting requirements, including those in CMC Chapter 19.16, which outlines site design standards for lighting for development in properties zoned RPD, Residential Planned Development. In accordance with CMC section 19.16.1020, all project lighting would be focused, directed, and arranged to prevent glare and direct illumination on streets or adjoining properties. The parking structure would be located at the southern portion of the site, located away from residential properties to the north and west, which would reduce the amount of vehicle glare and headlights visible to adjacent residences. The project would not create a new source of substantial light or glare that is incompatible with adjacent uses or that would adversely affect day or nighttime views in the area and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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2 Agriculture and Forestry Resources

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

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

b. Would the project conflict with existing zoning for agricultural use or a Williamson Act contract?

c. Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)); timberland (as defined by Public Resources Code Section 4526); or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?

d. Would the project result in the loss of forest land or conversion of forest land to non-forest use?

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

The project site is currently undeveloped and was previously used as a lumber storage yard. The site has a land use designation of Industrial/Commercial and is zoned M-1. According to the California Department of Conservation (DOC) Important Farmland Finder, the project site is designated as Urban and Built-Up Land (DOC 2018). As such, the project would not be located on land designated as Prime Farmland, Unique Farmland or Farmland of Statewide Importance. The project site is not zoned for agricultural use, timberland or forest and is not under Williamson Act Contract (Camarillo 2017). The project site is in an urbanized area and is not located adjacent to any farmlands or forestland, and implementation of the project would not have any indirect impacts on farmland or forestland that could lead to their conversion to non-agricultural or non-forest uses. Therefore, the proposed project would have no impact on agriculture or forestry resources.

NO IMPACT

3 Air Quality

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	■	☐
b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	■	☐
c. Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	■	☐
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☐	■

The project site is located in the South Central Coast Air Basin (Basin), which covers San Luis Obispo, Santa Barbara, and Ventura counties. The Ventura County Air Pollution Control District (VCAPCD) monitors and regulates the local air quality in Ventura County and manages the Air Quality Management Plan (AQMP). The analysis presented in this section is based upon information found in the Ventura County Air Quality Assessment Guidelines (Guidelines), adopted by the VCAPCD in 2003.

Air quality is affected by stationary sources (e.g., industrial uses and oil and gas operations) and mobile sources (e.g., motor vehicles). Air quality at a given location is a function of several factors, including the quantity and type of pollutants emitted locally and regionally, and the dispersion rates of pollutants in the region. Primary factors affecting pollutant dispersion are wind speed and direction, atmospheric stability, temperature, the presence or absence of inversions, and topography. The project site is located in the southeastern portion of the Basin, which has moderate variability in temperatures, tempered by coastal processes. The air quality in the Basin is influenced by a wide range of emission sources, such as dense population centers, heavy vehicular traffic, industry, and weather.

Air Quality Standards and Attainment

The VCAPCD is required to monitor air pollutant levels to ensure National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) are met. If the standards are met, the Basin is classified as being in "attainment." If the standards are not met, the Basin is classified as being in "nonattainment," and the VCAPCD is required to develop strategies to meet the standards. According to the California Air Resources Board (CARB) Area Designation Maps, the project site is located in a region identified as being in nonattainment for ozone NAAQS and CAAQS and nonattainment for particulate matter less than 10 microns in diameter (PM_{10}) CAAQS (CARB

2019). In February 2017, the VCAPCD adopted the 2016 Ventura County AQMP, which provides a strategy for the attainment of federal ozone standards.

San Joaquin Valley Fever (formally known as Coccidioidomycosis) is an infectious disease caused by the fungus *Coccidioides immitis*. San Joaquin Valley Fever (Valley Fever) is a disease of concern in the Basin. Infection is caused by inhalation of *Coccidioides immitis* spores that have become airborne when dry, dusty soil or dirt is disturbed by natural processes, such as wind or earthquakes, or by human-induced ground-disturbing activities, such as construction, farming, or other activities (VCAPCD 2003). From 2011 to 2015, the number of cases of Valley Fever reported in California averaged 3,611 per year, with an average of 50 cases per year reported in Ventura County (California Department of Public Health 2016).

Air Pollutant Emission Thresholds

The VCAPCD's Guidelines recommend specific air emission criteria and threshold levels for determining whether a project may have a significant adverse impact on air quality within the Basin. The project would have a significant impact if operational emissions exceed 25 pounds per day of reactive organic compounds (ROC; also referred to as reactive organic gases) or 25 pounds per day of nitrogen oxides (NO_X). The 25 pounds per day threshold for ROC and NO_X is not intended to be applied to construction emissions since such emissions are temporary. Nevertheless, VCAPCD's Guidelines state that construction-related emissions should be mitigated if estimates of ROC or NO_X emissions from heavy-duty construction equipment exceed this threshold.

The VCAPCD has not established quantitative thresholds for particulate matter for either operation or construction. However, the VCAPCD indicates that a project that may generate fugitive dust emissions in such quantities as to cause injury, detriment, nuisance, or annoyance to any considerable number of persons, or which may endanger the comfort, repose, health, or safety of any such person, or which may cause or have a natural tendency to cause injury or damage to business or property, would have a significant air quality impact. This threshold is applicable to the generation of fugitive dust during construction grading and excavation activities. The VCAPCD Guidelines recommend fugitive dust mitigation measures that should be applied to all dust-generating activities. Such measures include minimizing the project disturbance area, watering the site prior to commencement of ground-disturbing activities, covering all truck loads, and limiting on-site vehicle speeds to 15 miles per hour or less.

Applicable VCAPCD Rules and Regulations

The VCAPCD implements rules and regulations for emissions that may be generated by various uses and activities. The rules and regulations detail pollution-reduction measures that must be implemented during construction and operation of projects. Relevant rules and regulations to the project include those listed below.

Rule 50 (Opacity)

This rule sets opacity standards on the discharge from sources of air contaminants. This rule would apply during construction of the proposed project.

Rule 51 (Nuisance)

This rule prohibits any person from discharging air contaminants or any other material from a source that would cause injury, detriment, nuisance, or annoyance to any considerable number of

persons or the public or which endangers the comfort, health, safety, or repose to any considerable number of persons or the public. The rule would apply during construction and operational activities.

Rule 55 (Fugitive Dust)

This rule requires fugitive dust generators, including construction and demolition projects, to implement control measures limiting the amount of dust from vehicle track-out, earth moving, bulk material handling, and truck hauling activities. The rule would apply during construction and operational activities.

Rule 55.1 (Paved Roads and Public Unpaved Roads)

This rule requires fugitive dust generators to begin the removal of visible roadway accumulation within 72 hours of any written notification from the VCAPCD. The use of blowers is expressly prohibited under any circumstances. This rule also requires controls to limit the amount of dust from any construction activity or any earthmoving activity on a public unpaved road. This rule would apply throughout all construction activities.

Rule 55.2 (Street Sweeping Equipment)

This rule requires the use of PM_{10} efficient street sweepers for routine street sweeping and for removing vehicle track-out pursuant to Rule 55. This rule would apply during all construction and operational activities.

Rule 74.2 (Architectural Coatings)

This rule sets limits on the volatile organic compound (VOC) content of architectural coatings. Non-flat coatings are limited to 150 grams per liter of VOC content. The proposed project is required to comply with this rule.

Rule 74.4 (Cutback Asphalt)

This rule sets limits on the type of application and VOC content of cutback and emulsified asphalt. The proposed project is required to comply with the type of application and VOC content standards set forth in this rule.

a. Would the project conflict with or obstruct implementation of the applicable air quality plan?

According to the VCAPCD's Guidelines, a project may be inconsistent with the applicable air quality plan if it would cause the existing population to exceed forecasts contained in the most recently adopted AQMP. The VCAPCD adopted the 2016 Ventura County AQMP to demonstrate a strategy for, and reasonable progress toward, attainment of the federal 8-hour ozone standard. The 2016 Ventura County AQMP relies on the Southern California Association of Governments' (SCAG's) 2016 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) forecasts of regional population growth in its AQMP population projections.

As discussed in Section 14, *Population and Housing*, the proposed project would provide housing for approximately 183 residents in 68 new residential units and would increase the City's population to 70,444 persons, an increase of 0.3 percent. The project would constitute approximately 1.9 percent of SCAG's projection for the City, given the projected 9,639 person population increase by 2040 (SCAG 2016). The growth expected from the project is within regional forecasts. Therefore, although

the project includes a land use and zoning change from an industrial land use to residential, the project is within the growth forecasts considered in the 2016 AQMP. As a result, the proposed project would not conflict with or obstruct implementation of the AQMP and impacts would be less than significant.

NO IMPACT

b. Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

Methodology

Construction-related emissions were estimated using the California Emissions Estimator Model (CalEEMod) version 2016.3.2. CalEEMod was developed by the California Air Pollution Control Officer's Association (CAPCOA) and is used by jurisdictions throughout California to quantify criteria pollutant emissions. The model calculates criteria pollutant emissions and GHGs emissions, reported as CO_2e. The calculation methodology and input data used in CalEEMod can be found in the CalEEMod User's Guide and appendices (CAPCOA 2017). The input data and subsequent construction and operation emission estimates for the project are detailed in the following discussion. CalEEMod output files for the project are included in Appendix B to this report.

For the purpose of modeling, the analysis relied upon the following assumptions:

- **Construction Phases.** Project construction would extend for approximately 19 months from March 2022 to September 2023, with crews working six days per week. Phases were modeled in accordance with the schedule as outlined in the Project Description, except architectural coating was extended a month and half to account for buildings being painted as they are completed. Construction of each building may occur in separate overlapping phases; however, this analysis conservatively models building construction as occurring simultaneously over a 16-month period.
- **Energy Usage.** Operational electricity energy was reduced by 30 percent to account for the requirements of 2019 Title 24 standards (California Energy Commission 2019).
- **Water and Wastewater.** CalEEMod does not incorporate water use reductions achieved by 2016 CALGreen (Part 11 of Title 24). New development would be subject to CALGreen, which requires a 20 percent increase in indoor water use efficiency. Thus, in order to account for compliance with CALGreen, a 20 percent reduction in indoor water use was included in the water consumption calculations for new development.
- **Solid Waste.** According to a CalRecycle report to the Legislature, as of 2013, California had achieved a statewide 50 percent diversion of solid waste from landfills through "reduce/recycle/compost" programs (CalRecycle 2015). However, AB 341 sets a statewide goal that 75 percent of the solid waste generated be reduced, recycled, or composted by 2020. Therefore, to account for the continuing actions of recycling requirements under state law (i.e., AB 341), an additional 25 percent solid waste diversion rate was included in CalEEMod.

In addition, it was assumed the proposed project would comply with all applicable regulatory standards, including the VCAPCD rules previously outlined. Some measures, such as reducing vehicle speeds to 15 miles per hour on unpaved roads to reduce fugitive dust emissions, were incorporated into the CalEEMod model.

Construction Impacts

Construction activities associated with development of the project would temporarily generate criteria pollutant emissions associated with equipment and fugitive dust. Construction emissions modeled include emissions generated by construction equipment used on-site and emissions generated by vehicle trips associated with construction, such as hauling, worker and vendor trips. It is assumed that all construction equipment used would be diesel-powered. ROC emissions are generated primarily during architectural coating phases of project construction.

Estimated maximum daily ROC, NO_X, CO, PM_{10}, and $PM_{2.5}$ construction emissions are shown in Table 3. The VCAPCD's 25 pounds per day thresholds for ROC and NO_X do not apply to construction emissions because such emissions are temporary, although it is noted that ROC and NO_X construction emissions would not exceed 25 pounds per day. Construction air quality impacts would be less than significant.

Table 3 Project Construction Emissions

	Maximum Daily Emissions (pounds per day)					
Construction	**ROC**	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Maximum	18.1	22.1	27.1	<0.1	1.9	1.2

ROC: reactive organic compounds; NO_X: nitrogen oxides; CO: carbon monoxide; SO_X: sulfur oxides; PM_{10}: particulate matter less than 10 microns in diameter; $PM_{2.5}$: particulate matter less than 2.5 microns in diameter; NA, not applicable.

See Appendix B for modeling details and CalEEMod results.

Notes: Emissions presented are the highest of the winter and summer modeled emissions. Emissions data is sourced from "mitigated" results, which incorporate standard emissions reductions from measures that would be implemented during project construction, such as fugitive dust emissions reduction measures required by VCAPCD Rule 55.

Operational Impacts

Operational emissions are comprised of area source emissions, energy emissions, and mobile source emissions. Area source emissions are generated by landscape maintenance equipment; consumer products such as solvents and propellants contained in aerosol and non-aerosol products; pesticide application; and architectural coating. Emissions attributed to energy use include electricity and natural gas consumption for space and water heating. Mobile source emissions are generated by the increase in motor vehicle trips to and from the project site associated with operation of on-site development. The project's operational air quality impacts would be significant if the air pollutant emissions exceed the VCAPCD significance threshold of 25 pounds per day of ROC or NO_X. Table 4 summarizes the operational air pollutant emissions on the project site.

Table 4 Operational Emissions

Emission Source	Maximum Daily Emissions (pounds per day)					
	ROC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Total Maximum Daily Emissions	2.1	1.8	10.4	<0.1	1.6	0.5
VCAPCD Significance Thresholds	25	25	NA	NA	NA	NA
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

ROC: reactive organic compounds; NO_X: nitrogen oxides; CO: carbon monoxide; SO_X: sulfur oxides; PM_{10}: particulate matter less than 10 microns in diameter; $PM_{2.5}$: particulate matter less than 2.5 microns in diameter; NA: not applicable

See Appendix B for modeling details and CalEEMod results.

Notes: Emissions presented are the highest of the winter and summer modeled emissions. Emissions data is sourced from "mitigated" results, which incorporate standard emissions reductions from measures that would be implemented during project construction, such as fugitive dust emissions measures required by VCAPCD Rule 55.

Operational emissions associated with the project would not exceed the VCAPCD recommended significance thresholds of 25 pounds per day for ROC or NO_X. Therefore, operation of the proposed project would not have a significant impact on regional air quality.

LESS THAN SIGNIFICANT IMPACT

c. Would the project expose sensitive receptors to substantial pollutant concentrations?

Sensitive receptors are members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. The sensitive receptor closest to the project site are single-family residences located adjacent to the western boundary and residences to the north, approximately 50 feet away. The VCAPCD states that localized air quality impacts to sensitive receptors typically result from fugitive dust, CO, toxic air contaminants, odors, and entrained fungal spores that cause Valley Fever (VCAPCD 2003). The proposed project's impacts related to each of these pollutants is detailed below.

Fugitive Dust

As discussed under checklist item 3.b, the VCAPCD recommends implementation of the fugitive dust control measures described in Section 7.4.1 of the *Air Quality Assessment Guidelines* as part of all project-related dust-generating operations and activities (VCAPCD 2003). These measures address both PM_{10} and $PM_{2.5}$ emissions from construction activities. The proposed project would be required to implement these fugitive dust control measures; therefore, project construction would not expose sensitive receptors to substantial pollutant concentrations and impacts would be less than significant.

Carbon Monoxide

A carbon monoxide (CO) hotspot is a localized concentration of CO that is above a CO ambient air quality standard. Localized CO hotspots can occur at intersections with heavy peak hour traffic. Specifically, hotspots can be created at intersections where traffic levels are high enough that the local CO concentration exceeds the federal one-hour standard of 35.0 parts per million (ppm) or the federal and state eight-hour standard of 9.0 ppm (CARB 2016). The entire SCCAB is in conformance with state and federal CO standards, and most air quality monitoring stations no longer report CO levels. No stations in Ventura County have monitored CO in the last 15 years. In 2004, the El Rio-Rio

Mesa School #2 monitoring station detected an eight-hour maximum CO concentration of 1.5 ppm, which is substantially below the state and federal standard of 9.0 ppm (CARB 2020).

The VCAPCD recommends conducting a CO hotspot screening analysis for any project the meets both of the following conditions:

1. The project would generate indirect CO emissions are greater than the applicable ozone project significance thresholds (i.e., 25 pounds per day); and
2. The project would generate traffic that would significantly impact congestion levels at roadway intersections currently operating at, or that are expected to operate at, LOS E or F.

As shown in Table 4, operation of the proposed project would generate approximately 10.4 pounds of indirect CO emissions (i.e., mobile source emissions) per day, which would not exceed the threshold of 25 pounds per day. As discussed in Section 17, *Transportation*, the proposed project would not significantly impact congestion levels at roadway intersections due to the minimal number of vehicle trips generated by the project. As a result, the project does not trigger the need for a CO hotspot analysis, and the project would not cause or contribute to a CO hotspot.

Toxic Air Contaminants

Operation

According to VCAPCD's *Air Quality Assessment Guidelines* (2003) and CARB's *Air Quality and Land Use Handbook: A Community Health Perspective* (2005), typical sources of acutely and chronically hazardous TACs include industrial manufacturing processes (e.g., chrome plating, electrical manufacturing, and petroleum refining). The primary sources of potential air toxics associated with project operation include diesel particulate matter (DPM) from delivery trucks (e.g., truck traffic on local streets and idling on adjacent streets). The project would not include these types of potential industrial manufacturing process sources. Because the project would not generate or include substantial TAC sources and is consistent with the CARB and VCAPCD guidelines, it would not result in the exposure of off-site sensitive receptors to significant amounts of carcinogenic or toxic air contaminants. Therefore, impacts related to TACs would be less than significant.

While exposure of projects to existing environmental hazards are not significant impacts under CEQA, the following discussion has been included for informational purposes. The project involves construction of multi-family residential units, which would introduce new sensitive receptors at the site.

The California Air Resources Board's (CARB) *Air Quality and Land Use Handbook: A Community Health Perspective* recommends that local agencies avoid siting new, sensitive land uses within specific distances of potential sources of TACs, such as freeways, high-traffic roads, distribution centers, railroads, and ports (CARB 2005). Specifically, CARB recommends that local agencies avoid siting new, sensitive land uses within 500 feet of a freeway, within 1,000 feet of a distribution center that accommodate more than 100 trucks per day, or within 1,000 feet of rail yards. According to VCAPCD, proposed new land uses that will be sited within 0.25 mile of an existing source of TAC emissions should be evaluated for the potential to be impacted by TAC emissions (VCAPCD 2003). The project site is located within 0.25 mile of several potential TAC emission sources, including U.S. 101, Lewis Road (SR 34), the Union Pacific Railroad tracks, and warehouse/distribution centers. Rincon Consultants prepared a Health Risk Assessment (HRA) in June 2020 to analyze the possible health effects associated with existing TAC emission sources. The HRA is included as Appendix C. The primary concern is the effect of diesel exhaust particulate, a TAC, on sensitive uses. The primary

source of diesel exhaust particulates near the project site is heavy traffic traveling on U.S. 101 and Lewis Road (SR 34). In addition to diesel exhaust particulates from U.S. 101 and Lewis Road (SR 34), the HRA also examined five other vehicle exhaust pollutants of concern that are emitted from both diesel and gasoline-fueled vehicles: acrolein, acetaldehyde, formaldehyde, benzene, and 1,3-butadiene. As discussed in the HRA, the maximum exposed individual receptor (MEIR) on the project site would be exposed to a high end (95-percentile), 30-year excess cancer risk of approximately 8.6 in one million, which does not exceed the VCAPCD-recommended health risk criteria of 10 excess cases of cancer in one million individuals (VCAPCD 2003).

Construction

Construction-related activities would result in temporary project-generated emissions of DPM exhaust emissions from off-road, heavy-duty diesel equipment for site preparation, grading, building construction, and other construction activities. DPM was identified as a TAC by CARB in 1998. The potential cancer risk from the inhalation of DPM (discussed in the following paragraphs) outweighs the potential non-cancer health impacts (CARB 2017).

Generation of DPM from construction projects typically occurs in a single area for a short period. Construction of the proposed project would occur over approximately 19 months. The dose to which the receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance or substances in the environment and the extent of exposure that person has with the substance. Dose is positively correlated with time, meaning that a longer exposure period would result in a higher exposure level for the Maximally Exposed Individual. The risks estimated for a Maximally Exposed Individual are higher if a fixed exposure occurs over a longer period of time. According to the California Office of Environmental Health Hazard Assessment (OEHHA), health risk assessments, which determine the exposure of sensitive receptors to toxic emissions, should be based on a 70-year exposure period, but such assessments should be limited to the period/duration of activities associated with the project. The duration of proposed construction activities (i.e., 19 months) is approximately 2 percent of the total exposure period used for 30-year health risk calculations. Current models and methodologies for conducting health-risk assessments are associated with longer-term exposure periods of 9, 30, and 70 years, which do not correlate well with the temporary and highly variable nature of construction activities, resulting in difficulties in producing accurate estimates of health risk (Bay Area Air Quality Management District [BAAQMD] 2017).

The maximum PM_{10} and $PM_{2.5}$ emissions would occur during site preparation and grading activities. These activities would last for approximately three months. PM emissions would decrease for the remaining construction period because construction activities such as building construction and architectural coating would require less construction equipment. While the maximum DPM emissions associated with site preparation and grading activities would only occur for a portion of the overall construction period, these activities represent the worst-case condition for the construction period. Exposure during site preparation and grading activities would represent less than one percent of the total exposure period for health risk calculation. Given the aforementioned, DPM generated by project construction would not create unsafe or potentially hazardous conditions for sensitive receptors. This impact would be less than significant.

San Joaquin Valley Fever

Construction activities, including site preparation and grading, would have the potential to release Coccidioides immitis spores. However, the population of Camarillo has been and will continue to be

exposed to Valley Fever from agricultural and construction activities occurring throughout the region, not just from construction of the proposed project. In addition, substantial increases in the number of reported cases of Valley Fever tend to occur only after major ground-disturbing events such as the 1994 Northridge earthquake (VCAPCD 2003). Construction of the proposed project would not result in comparable major ground disturbance and compliance with VCAPCD Rule 55 (Fugitive Dust) would limit the number of spores released during grading. As discussed under *Air Pollutant Emission Thresholds*, the VCAPCD does not have a recommended threshold for Valley Fever Impacts, but instead recommends consideration of the following factors that may indicate a project's potential to result in significant impacts related to Valley Fever:

- Disturbance of the topsoil of undeveloped land (to a depth of about 12 inches)
- Dry, alkaline, sandy soils
- Virgin, undisturbed, non-urban areas
- Windy areas
- Archaeological resources probable or known to exist in the area (Native American midden sites)
- Special events (fairs, concerts) and motorized activities (motocross track, All Terrain Vehicle activities) on unvegetated soil (non-grass)
- Non-native population (i.e., out-of-area construction workers)

The proposed project would involve grading of previously disturbed soils in an urban area. Because the site was previously developed, these soils were previously disturbed and covered with buildings, asphalt, and concrete, which likely blocked the deposit of fungal spores. Therefore, construction of the proposed project would not result in a substantial increase in entrained fungal spores that cause Valley Fever above existing background levels and impacts related to Valley Fever would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

Based on the VCAPCD *Ventura County Air Quality Assessment Guidelines* (2003), a project may have a significant impact if it would generate an objectionable odor to a degree that would cause injury, detriment, nuisance, or annoyance to a considerable number of persons or to the public, or which would endanger the comfort, repose, health, or safety of any such persons or the public, or which would cause, or have a natural tendency to cause, injury or damage to business or property. Land uses and industrial operations known to emit objectionable odors include wastewater treatment facilities, food processing facilities, coffee roasters, fiberglass operations, refineries, feed lots/dairies, and composting facilities (VCAPCD 2003). The project would include residences, which are not associated with types of operations that emit objectionable odors. In addition, the project would introduce residential uses on a site that is currently designated for industrial uses, which is consistent with the residential land uses directly north and west of the site. Since the proposed project would not directly or indirectly generate any objectionable odors or other emissions that would adversely affect a substantial number of people, there would be no impact.

NO IMPACT

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4 Biological Resources

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

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

The project site encompasses 2.58 acres and is currently undeveloped and primarily covered by previously demolished building footprints and asphalt surfaces. Scattered vegetated grasses exist on the site, growing through cracks in the asphalt, as well as ornamental landscaping and vines/hedges along the fences of the western and southern project boundaries. Two palm trees are present on the sidewalk along Barry Street, near the middle of the site. The site is in a developed urban area and is approximately 0.9 miles west from the nearest open space, Calleguas Creek. The nearest U.S. Fish and Wildlife Service (USFWS) designated Critical Habitat, located approximately five miles to the east, is habitat for the Lyon's pentachaeta (*Pentachaeta lyonii*), a native plant within the sunflower family (USFWS 2020a). Project implementation would not affect or modify this protected habitat or wildlife habitats for this protected species in the City given that approximately 95 percent of the project site is impervious pavement and previous building footprints. The site is isolated from any other natural area and does not provide suitable habitat for protected species.

Two palm trees on the sidewalk along Barry Street and vines/hedges along the western and southern boundaries of the project site would remain as part of the project and could provide habitat for nesting birds. Some nesting birds are special status species under CEQA. If project activities were to occur during the nesting season, the project could directly or indirectly (e.g., through construction noise and vibration) affect nesting birds. Therefore, project impacts related to special status species would be potentially significant. Implementation of Mitigation Measure BIO-1 would avoid these potential impacts to nesting birds and resulting conflicts with the MBTA and CFGC, by requiring preconstruction surveys during the nesting season to identify whether nesting birds are present, and if present, establishing appropriate buffers. With implementation of Mitigation Measure BIO-1, potential impacts would be less than significant.

Mitigation Measure

BIO-1 Pre-construction Nesting Bird Surveys and Avoidance

- If initial clearing activities prior to the start of construction take place during the bird nesting season (generally February 1 through August 31, but variable based on seasonal and annual climatic conditions), a nesting bird survey should be performed by a qualified biologist within seven days of such activities to determine the presence/absence, location, and status of any active nests on-site or within 100 feet of the site. The findings of the survey should be summarized in a report to be submitted to the City of Camarillo prior to undertaking construction activities at the site.
- If no nesting birds are observed during pre-construction surveys, no further action would be necessary.
- If nesting birds are found on-site, a qualified biologist shall determine an appropriate buffer depending on the species, nest, and location. Nests should be monitored at a minimum of once per week by the qualified biologist until it has been determined that the nest is no longer being used by either the young or adults. No ground disturbance should occur within this buffer until the qualified biologist confirms that the breeding/nesting is completed, and all the young have

fledged. If project activities must occur within the buffer, they should be conducted at the discretion of the qualified biologist.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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

c. Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

The project site was previously developed, contains approximately 95 percent impervious surfaces, and is in an urban area. No riparian, federally protected wetland, or other sensitive habitats exist on the site or in the immediate vicinity. According to the USFWS National Wetlands Inventory, the wetland feature closest to the site is Calleguas Creek, approximately 0.9 miles east of the site and the nearest riparian habitat and is located within Calleguas Creek, approximately one mile east/southeast of the project site (USFWS 2020b). The project would not directly affect the creek.

As discussed in Section 10, *Hydrology and Water Quality*, the proposed project would comply with the requirements of the Ventura County Municipal Stormwater Permit (CAS004002, Order R4-2010-0108), and would also include stormwater best management practices (BMPs), as detailed in CMC Chapter 9.32, which regulates the implementation of BMPs for projects in the City. Additionally, construction activities would comply with the California State Construction General Permit (Order No. 2009-2009-DWQ, as amended). Due to the distance from the project site to the closest riparian habitat and wetland and because the project would not involve construction or modification of the project site that could adversely affect any sensitive habitat through changes in stormwater flow or modification of natural habitat, the proposed project would have no impacts to riparian habitat, federally protected wetlands, or other sensitive natural communities.

NO IMPACT

d. Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Wildlife corridors are generally defined as connections between habitat patches that allow for physical and genetic exchange between otherwise isolated animal populations. Such linkages may serve a local purpose, such as between foraging and denning areas, or they may be regional in nature, allowing movement across the landscape. Some habitat linkages may serve as migration corridors, wherein animals periodically move away from an area and then subsequently return. Examples of barriers or impediments to movement include housing and other urban development, roads, fencing, unsuitable habitat, or open areas with little vegetative cover. Regional and local wildlife movements are expected to be concentrated near topographic features that allow convenient passage, including roads, drainages, and ridgelines.

As mentioned above, the project site is located in an urban area and is surrounded by existing development and established transportation corridors such as Highway 101 and Lewis Road (SR 34). The nearest open space is approximately 0.9 miles east of the project site, along Calleguas Creek. The proposed project involves residential construction on a previously developed infill site that does

not connect areas of natural habitat and is not located near wildlife nurseries; therefore, the project would have no impact on wildlife movement.

NO IMPACT

e. Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

The City of Camarillo has not adopted any policies or ordinances protecting biological resources that would apply to the proposed project, other than protection measures for City trees in the CMC (Chapter 13.12). The project would retain the two street trees along Barry Street and no trees are proposed for removal. The project would be required to adhere to the measures in CMC Section 13.12.070, which include avoidance and protection measures for ensuring that construction activities do not injure or destroy trees. In addition, as discussed in checklist item 4.a, no biological resources that are subject to protection by any local or regional protection ordinances are present on the project site. Therefore, no impact associated with local biological resource protection policies or ordinances would occur.

NO IMPACT

f. Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

The project site is in an urban area and is currently zoned for industrial land use. The project site is not subject to any Habitat Conservation Plan, Natural Conservation Community Plan, or other local, regional, or state habitat conservation plans. Additionally, as explained above, the proposed project would not substantially impact any native habitat or natural community. Therefore, the project would not conflict with an adopted local, regional, or state habitat conservation plan and there would be no impact.

NO IMPACT

5 Cultural Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☐	■	☐
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	■	☐
c. Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	■	☐

a. Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?

b. Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

c. Would the project disturb any human remains, including those interred outside of formal cemeteries?

Rincon Consultants prepared a Historical Resources Evaluation (HRE) for the project site in November 2018, prior to demolition of the on-site structures. The site is now vacant and undeveloped. As part of the HRE, a search of the California Historical Resources Information System (CHRIS) was conducted at the South Central Coastal Information Center (SCCIC) at California State University, Fullerton on October 31, 2018. The purpose of the records search was to identify previously recorded cultural resources, as well as previously conducted cultural resources studies that include the project site and a 0.25-mile radius surrounding it. The search included a review of the National Register of Historic Places (NRHP), the California Register of Historical Resources (CRHR) and the Built Environment Resources Directory (BERD), and available historic maps and aerial photographs. In addition to the CHRIS records search, Rincon also reviewed the list of Ventura County Historical Landmarks and Points of Interest. The HRE and records search results are included in Appendix D.

The SCCIC records search identified 14 previous studies within a 0.25-mile radius of the project site. Of these studies, none were located within the project site, two were adjacent to the project site, and 12 were located outside of the project site. The two studies adjacent to the project pertained to the U.S 101/SR-34 Interchange Project, which is located approximately 0.25 miles south of the site. None of the previously recorded cultural resources identified by the studies are located on or directly adjacent to the project site. The records search completed also identified 22 previously recorded built environment resources within a 0.25-mile radius of the project site, none of which are located on or adjacent to the project site.

The proposed project involves construction of a residential development on a previously developed project site. The SCCIC search confirms that no known cultural resources exist on the project site and based on extensive previous disturbance to the site, it is unlikely that unanticipated, significant cultural resources or human remains exist. Additionally, the entire footprint of the project site has been previously disturbed during the construction of the previous buildings and asphalt surface, in addition to extensive soil excavation that occurred to remove contaminated soil in the western portion of the site (see discussion in checklist item 9.d, in Section 9, *Hazards and Hazardous Materials*). Construction of the proposed project would not disturb the ground beyond previous activities. Based on the information summarized above, the project would have less than significant impacts on historical or archaeological resources and less than significant impacts related to disturbance of human remains.

LESS THAN SIGNIFICANT IMPACT

6 Energy

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	■	☐
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	■	☐

Energy use relates directly to environmental quality, since it can adversely affect air quality and can generate greenhouse gas (GHG) emissions that contribute to climate change. Fossil fuels are burned to create electricity that powers residences and commercial/industrial buildings, heats and cools buildings, and powers vehicles. Transportation energy use is related to the fuel efficiency of cars, trucks, and public transportation; choice of different travel modes such as auto, carpool, and public transit; and miles traveled by these modes. Construction and routine operation and maintenance of transportation infrastructure also consume energy.

Electricity and Natural Gas

In 2017, California used 292,039 gigawatt-hours (GWh) of electricity, 29 percent of which was from renewable resources (CEC 2018a). California also consumed approximately 12,500 million U.S. therms (MMthm) of natural gas in 2017 (CEC 2017b). Southern California Edison (SCE) would provide electricity to the project and Southern California Gas Company (SCG) would provide natural gas. Table 5 and Table 6 show electricity and natural gas consumption by sector and in total for SCE and SCG. In 2017, SCE provided approximately 28.9 percent of the total electricity used in California and SCG provided approximately 41.1 percent of the total natural gas used in California.

Table 5 Electricity Consumption in the SCE Service Area in 2017

Agriculture and Water Pump	Commercial Building	Commercial Other	Industry	Mining and Construction	Residential	Streetlight	Total Usage
2,975.4	31,925.3	4,283.3	13,094	2,410.6	28,975.0	627.9	84,291.6

Notes: All usage expressed in GWh

Source: CEC 2017a

Table 6 Natural Gas Consumption in SCG Service Area in 2017

Agriculture and Water Pump	Commercial Building	Commercial Other	Industry	Mining and Construction	Residential	Total Usage
69.4	895.9	72.1	1,716.6	229.7	2,158.1	5,141.8

Notes: All usage expressed in MMthm
Source: CEC 2017c

Petroleum

In 2016, approximately 40 percent of the state's energy consumption was used for transportation activities (EIA 2018). Californians presently consume over 19 billion gallons of motor vehicle fuels per year (CEC 2018b). Although California's population and economy are expected to grow, gasoline demand is projected to decline from roughly 15.8 billion gallons in 2017 to between 12.3 billion and 12.7 billion gallons in 2030, a 20 percent to 22 percent reduction. This decline is expected in response to both increasing vehicle electrification and higher fuel economy for new gasoline vehicles (CEC 2018b).

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

Construction

During project construction, energy would be consumed in the form of petroleum-based fuels used to power off-road construction vehicles and equipment on the project site, and construction worker travel to and from the project site. The project would require pavement and asphalt installation; architectural coating; and landscaping and hardscaping.

The total consumption of gasoline and diesel fuel during project construction was estimated using the assumptions and factors from CalEEMod used to estimate construction air emissions for Section 3, *Air Quality,* and Section 8, *Greenhouse Gas Emissions* (Appendix B). Table 7 presents the estimated construction phase energy consumption, indicating that construction equipment and worker trips would consume approximately 87,550 gallons of diesel fuel and 15,533 gallons of gasoline over the project construction period. Of the 87,550 gallons of diesel fuel, construction equipment would consume an estimated 78,823 gallons, with haul and vendor trips using the remaining 8,727 gallons.

Table 7 Proposed Project Construction Energy Usage

Source	Fuel Consumption (gallons)
Construction Equipment & Vendor/Haul Trips	87,550
Construction Worker Vehicle Trips	15,333

See Appendix B for gasoline and diesel calculations.

These construction energy estimates represent a conservative estimate because the construction equipment used in each phase of construction was assumed to be operating every day of construction. Construction equipment would be maintained to all applicable standards, and construction activity and associated fuel consumption and energy use would be temporary and

typical for construction sites. It is also reasonable to assume that contractors would avoid wasteful, inefficient, and unnecessary fuel consumption during construction to reduce construction costs. Therefore, the project would not involve the inefficient, wasteful, and unnecessary use of energy during construction, and the construction-phase impact related to energy consumption would be less than significant.

Operational Energy Demand

Natural gas and electricity would be used for heating and cooling systems, lighting, water use, and the overall operation of the project. Gasoline consumption would be attributed to the trips generated from residents. The majority of project-related fuel consumption would be from motor vehicles traveling to and from the project site. According to the CalEEMod calculations, the project would result in 654,622 annual vehicle miles traveled (VMT) (Appendix B). As shown in Table 8, the project would result in an annual net change in transportation-related energy consumption of 126,078 gallons of fuel or 2,925 million British thermal units (MMBtu).

Table 8 Estimated Project Annual Transportation Energy Consumption

Vehicle Type[1]	Percent of Vehicle Trips[2]	Annual Vehicle Miles Traveled[3]	Average Fuel Economy (miles/gallon)[4]	Total Annual Fuel Consumption (gallons)	Total Fuel Consumption (MMBtu)[6]
Passenger Cars	59.75	280,406	24.0	11,683	1,459
Light/Medium Trucks	33.34	156,493	17.4	8,992	1,122
Heavy Trucks/Other	6.53	30,643	7.4	4,141	341
Motorcycles	0.38	1,791	43.9[5]	41	3
Total	**100.0**	**469,332**	**–**	**126,078**	**2,925**

Notes: Totals may not add up due to rounding. Energy consumption calculations are included in Appendix B.

[1] Vehicle classes provided in CalEEMod do not correspond exactly to vehicle classes in DOT fuel consumption data, except for motorcycles. Therefore, it was assumed that passenger cars correspond to the light-duty, short-base vehicle class, light/medium trucks correspond to the light-duty long-base vehicle class, and heavy trucks/other correspond to the single unit, 2-axle 6-tire or more class.

[2] Percent of vehicle trips from CalEEMod Table 4.4 "Fleet Mix" in CalEEMod results (see Appendix B).

[3] Mitigated annual VMT found in Table 4.2 "Trip Summary Information" in CalEEMod results (see Appendix B).

[4] Average Fuel Economies: U.S. Department of Energy, 2018.

[5] U.S. Department of Transportation 2013

[6] One gallon of gasoline is equivalent to approximately 109,786 Btu, while one gallon of diesel is equivalent to approximately 127,464 Btu (CARB 2015).

Operation of the proposed project would consume approximately 0.36 GWh of electricity per year (electricity use is provided in the CalEEMod results in Appendix A). The project's electricity demand would be served by SCE, which provided 84,291 GWh of electricity in 2017. The project's electricity demand would account for less than 0.0005 percent of SCE's electricity supply. Therefore, SCE would have sufficient supplies for the project. Estimated natural gas consumption for the project would be approximately 0.007 MMthm per year (natural gas use provided in the CalEEMod output of Appendix A). The project's natural gas demand would be served by SCG, which provided 5,142 MMthm per year in 2017. The project's natural gas demand would account for less than 0.0001 percent of SCG's natural gas supply. Therefore, SCG would have sufficient supplies for the project.

The project would comply with all standards set in CBC Title 24, which would minimize the wasteful, inefficient, or unnecessary consumption of energy resources during operation**.** California's CAL

Green standards (California Code of Regulations, Title 24, Part 11) require implementation of energy efficient light fixtures and building materials into the design of new construction projects. Furthermore, the 2019 Building Energy Efficiency Standards (CBC Title 24, Part 6) requires newly constructed buildings to meet energy performance standards set by the Energy Commission. These standards are specifically crafted for new buildings to result in energy efficient performance so that the buildings do not result in wasteful, inefficient, or unnecessary consumption of energy. The standards are updated every three years and each iteration is more energy efficient than the previous standards. As discussed in the Project Description, the project would be designed to achieve a Greenpoint rating, meet TCAC requirements for green building and sustainability features, exceed Title 24 energy requirements by 12 percent, and include energy-efficient appliances and lighting, and water-efficient appliances and fixtures. Furthermore, the project would further reduce its use of nonrenewable energy resources because the electricity generated by renewable resources provided by SCE continues to increase to comply with state requirements through Senate Bill 100, which requires electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045.

In conclusion, construction of the project would be temporary and typical of similar projects, and would not result in wasteful, inefficient, or unnecessary consumption of energy. Operation of the project would increase consumption of fuel, natural gas, and electricity compared to existing conditions; however, the increase would be in conformance with the latest version of California's Green Building Standards Code and the Building Energy Efficiency Standards. In addition, as noted above, SCE and SCG have sufficient supplies to serve the project. Therefore, the project would have a less than significant impact.

LESS THAN SIGNIFICANT IMPACT

b. Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

In 2015 the Ventura County Regional Energy Alliance established a climate action plan, known as Climate on the Move, which includes 2010-2012 GHG inventories, 2020 forecasts and reduction target options for the City of Camarillo, as well as other local government members. The purpose of the climate action plan is to identify the most significant contributors to GHG emissions and establish strategies to reduce GHG emissions to meet AB 32 requirements. The plan for the City of Camarillo focuses primarily on setting targets for reducing residential emissions from natural gas and electricity. However, successful implementation of the plan depends on the implementation of each city jurisdiction's policies and programs and the plan itself does not include energy or GHG reduction measures that are applicable to land use projects. The project would comply with all standards set in the 2019 Title 24 Building Energy Efficiency Standards. Therefore, it is consistent with the goals of Climate on the Move to reduce GHG emissions from natural gas and electricity consumption.

LESS THAN SIGNIFICANT IMPACT

7 Geology and Soils

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
1. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	☐	☐	■	☐
2. Strong seismic ground shaking?	☐	☐	■	☐
3. Seismic-related ground failure, including liquefaction?	☐	☐	■	☐
4. Landslides?	☐	☐	■	☐
b. Result in substantial soil erosion or the loss of topsoil?	☐	☐	■	☐
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	■	☐
d. Be located on expansive soil, as defined in Table 1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	■	☐
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	■
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	■

The analysis in this section is based in part on the findings of the Geotechnical Engineering Study prepared for the project site by Advanced Geotechnical Services, Inc. in September 2019 (see Appendix E). In summary, the report concludes that the project site is geotechnically suitable for the proposed improvements, provided that the geotechnical recommendations related to site preparation, excavations and construction, which are included in the report, are incorporated into project design.

a.1. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?

a.2. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?

a.3. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?

a.4. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?

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

The project site is located in a seismically active region of Southern California; however, according to the Geotechnical Engineering Study, the project site does not lie within an Alquist-Priolo Fault Zone and is also not within a City of Camarillo Earthquake Fault Zone. As such, the project site is not at risk of adverse effects resulting from fault rupture (Appendix E). Per the United States Geologic Survey, the project site is located approximately 1,200 feet south of the Simi-Santa Rosa Fault and 1,600 feet north of the Camarillo Fault (USGS 2017). However, the project site does not lie in a special study zone for fault rupture hazard and the potential for fault rupture hazard is low. Nonetheless, the California Building Code (CBC) requires structural design and construction methods which will be employed to minimize adverse effects of seismic ground shaking. The project site is not located in an identified fault zone and the project would comply with the CBC and would not exacerbate fault rupture or groundshaking hazards; therefore, impacts would be less than significant.

The project site is not located in an area designated as being potentially liquefiable on the State of California Seismic Hazards map of the Camarillo Quadrangle, however it is located in an area designated as potentially liquefiable on the City of Camarillo Liquefaction Hazards Map (Appendix E). The Geotechnical Engineering Report reports that groundwater is not located in the upper 50 feet of the subsurface soils on the project site, a primary condition that necessitates liquefaction risk. Based on the screening criteria evaluated for liquefaction in the Study, the project site is not prone to liquefaction, including lateral spread or ground failure (Appendix E). Additionally, the project site is not located near any hillsides subject to landslides and the site is not subject to earthquake induced land sliding (Appendix E). Therefore, the proposed project would not introduce new potential hazards related to unstable soils, or introduce new risk related to existing seismic related hazards, and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

b. Would the project result in substantial soil erosion or the loss of topsoil?

Ground-disturbing activities associated with the project implementation may result in the removal of some topsoil in order to construct the proposed on-site structures. Standard construction best management practices would be implemented in order to avoid or minimize soil erosion associated with ground-disturbing activities. As discussed further in Section 10, *Hydrology and Water Quality*, implementation of erosion control measures stated in Chapter 16.04 of the CMC, as well as adherence to requirements provided in the National Pollutant Discharge Elimination System (NPDES) permit for construction activities would reduce soil erosion and avoid or minimize potential impacts. As such, impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

d. Would the project be located on expansive soil, as defined in Table 1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

Expansive soils are highly compressible, clay-based soils that tend to expand as they absorb water and shrink as water is drawn away. Expansive soils are of concern since building foundations may rise during the rainy season and fall during dry periods in response to the clay's action. According to the General Plan Safety Element, soils in the City are generally expansive in nature. Highly expansive soils are present in the east and west ends of the City, while low-to-moderately expansive soils are present in the City core. The Geotechnical Engineering Study indicates that the project site is underlain by younger alluvium materials and that the expansion index of upper on-site soils are in the low to low expansion category (Appendix D). Therefore, the project would not create substantial direct or indirect risk to life or property due to expansive soils.

LESS THAN SIGNIFICANT IMPACT

e. Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

The proposed project would not include the installation of new septic tanks or alternative wastewater disposal systems, since the project would connect to the City wastewater system. No impact would occur.

NO IMPACT

f. Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

The project site is currently developed and in an urban region and there are no exposed paleontological resources or geologic features on the site. Based on extensive previous disturbance to the site, it is unlikely that unanticipated, significant paleontological resources exist. Additionally, the entire footprint of the project site has been previously disturbed during the construction of the previous buildings and asphalt surface, in addition to extensive soil excavation that occurred to remove contaminated soil in the western portion of the site (see discussion in checklist item 9.d, in Section 9, *Hazards and Hazardous Materials*). Construction of the proposed project would not disturb the ground beyond previous activities and because there is no evidence that the proposed project would impact unique paleontological resources, the project would have no impact.

NO IMPACT

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8 Greenhouse Gas Emissions

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	■	☐
b. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	■	☐

Project implementation would generate greenhouse gas (GHG) emissions through the burning of fossil fuels or other emissions of GHGs, thus potentially contributing to cumulative impacts related to climate change. In response to an increase in man-made GHG concentrations over the past 150 years, California has implemented AB 32, the "California Global Warming Solutions Act of 2006." AB 32 codifies the Statewide goal of reducing emissions to 1990 levels by 2020 (essentially a 15 percent reduction below 2005 emission levels) and the adoption of regulations to require reporting and verification of statewide GHG emissions. Furthermore, on September 8, 2016, the governor signed Senate Bill 32 (SB 32) into law, which requires the State to further reduce GHGs to 40 percent below 1990 levels by 2030. SB 32 extends AB 32, directing California Air Resources Board (CARB) to ensure that GHGs are reduced to 40 percent below the 1990 level by 2030.

On December 14, 2017, CARB adopted the 2017 Scoping Plan, which provides a framework for achieving the 2030 target. The 2017 Scoping Plan does not provide project-level thresholds for land use development. Instead, it recommends that local governments adopt policies and locally-appropriate quantitative thresholds consistent with a statewide per capita goal of six metric tons (MT) CO_2e by 2030 and two MT CO_2e by 2050 (CARB 2017). As stated in the 2017 Scoping Plan, these goals may be appropriate for plan-level analyses (city, county, sub regional, or regional level), but not for specific individual projects because they include all emissions sectors in the State.

Individual projects typically do not generate sufficient GHG emissions to directly influence climate change. However, physical changes caused by a project can contribute incrementally to cumulative effects that are significant, even if individual changes resulting from a project are limited. The issue of climate change typically involves an analysis of whether a project's contribution towards an impact would be cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects (CEQA Guidelines, Section 15064[h][1]). See Section 3*, Air Quality*, for information on the methodologies used to calculate emissions and Appendix B for the model outputs.

Regional and Local Plans

Southern California Association of Governments (SCAG) Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS)

SB 375 requires metropolitan planning organizations to prepare an RTP/SCS that will achieve regional emission reductions through sustainable transportation and growth strategies. On September 23, 2010, CARB adopted final regional targets for reducing GHG emissions levels by 2020 and 2035. SCAG was assigned targets of an eight percent reduction in GHGs from transportation sources by 2020 and a 13 percent reduction in GHGs from transportation sources by 2035. Most recently, SCAG adopted the 2016-2040 RTP/SCS, which includes strategies and objectives to encourage transit-oriented and infill development and the use of alternative transportation to minimize vehicle use.

Significance Thresholds

The City of Camarillo has established its own CEQA Environmental Guidelines document, which were adopted May 27th, 2020 and only apply to projects submitted to the City after the date of the Guidelines adoption. The City's Guidelines specify that, in absence of other thresholds of significance from VCAPCD, the City uses SCAQMD's draft thresholds for the purpose of evaluating GHG impacts associated with proposed general development projects. However, for the purposes of this analysis, these thresholds are utilized to evaluate the significance of project impacts.

The SCAQMD has been evaluating GHG significance thresholds since April 2008. In December 2008, the SCAQMD adopted an interim 10,000 metric tons CO_2e (MT of CO_2e) per year screening level threshold for stationary source/industrial projects for which the SCAQMD is the lead agency. The SCAQMD has continued to consider adoption of significance thresholds for residential and general development projects. The most recent proposal issued in September 2010 uses the following tiered approach to evaluate potential GHG impacts from various uses:

- **Tier 1**: Determine if CEQA categorical exemptions are applicable. If not, move to Tier 2.
- **Tier 2**: Consider whether or not the proposed project is consistent with a locally adopted GHG reduction plan that has gone through public hearings and CEQA review, that has an approved inventory, includes monitoring, etc. If not, move to Tier 3.
- **Tier 3**: Consider whether the project generates GHG emissions in excess of screening thresholds for individual land uses. The 10,000 MT of CO_2e/year threshold for industrial uses would be recommended for use by all lead agencies. Under option 1, separate screening thresholds are proposed for residential projects (3,500 MT of CO_2e/year), commercial projects (1,400 MT of CO_2e/year), and mixed-use projects (3,000 MT of CO_2e/year). Under option 2 a single numerical screening threshold of 3,000 MT of CO_2e/year would be used for all non-industrial projects. If the project generates emissions in excess of the applicable screening threshold, move to Tier 4.
- **Tier 4**: Consider whether the project generates GHG emissions in excess of applicable performance standards for the project service population (population plus employment). The efficiency targets were established based on the goal of AB 32 to reduce statewide GHG emissions by 2020 and 2035. The 2020 efficiency targets are 4.8 MT of CO_2e per service population for project level analyses and 6.6 MT of CO_2e per service population for plan level analyses. The 2035 targets that reduce emissions to 40 percent below 1990 levels are 3.0 MT of CO_2e per service population for project level analyses and 4.1 MT of CO_2e per service population

for plan level analyses. If the project generates emissions in excess of the applicable efficiency targets, move to Tier 5.

- **Tier 5**: Consider the implementation of CEQA mitigation (including the purchase of GHG offsets) to reduce the project efficiency target to Tier 4 levels.

The thresholds identified above have not been adopted by the SCAQMD or distributed for widespread public review and comment, and the working group tasked with developing the thresholds has not met since September 2010. The future schedule and likelihood of threshold adoption is uncertain.

Nonetheless, according to the City's Guidelines project impacts are characterized as follows:

- A project would have no impact if it does not generate an increase in GHG emissions as part of construction-related and operational activities.
- A project would have a less than significant impact if the project generates an increase in GHG emissions that do not exceed the SCAQMD Tier 3 or Tier 4 Standards.
- A project would have a potentially significant impact if it generates an increase in GHG emissions that exceeds the SCAQMD Tier 4 standards.

Methodology

Electricity emissions are calculated by multiplying the energy use times the carbon intensity of the utility district per kilowatt hour (CAPCOA 2017). The project would be served by SCE. Therefore, SCE's specific energy intensity factors (i.e., the amount of CO_2, CH_4, and N_2O per kilowatt-hour) are used in the calculations of GHG emissions. The energy intensity factors included in CalEEMod are based on 2012 data, at which time SCE had only achieved a 20.6 percent procurement of renewable energy. Per SB 100, the statewide Renewable Portfolio Standard (RPS) Program requires electricity providers to increase procurement from eligible renewable energy sources to 60 percent by 2030. To account for the continuing effects of the RPS, the energy intensity factors included in CalEEMod were reduced based on the percentage of renewables reported by SCE. SCE energy intensity factors that include this reduction are shown in Table 9.

Table 9 Southern California Edison Energy Intensity Factors for Proposed Project

	2012 (lbs/MWh)	2030 (lbs/MWh)[2]
Percent procurement	20.6%[1]	60%
Carbon dioxide (CO_2)	702.44	353.87
Methane (CH_4)	0.029	0.015
Nitrous oxide (N_2O)	0.006	0.003

lbs/MWh = pounds per megawatt-hour

[1] Source: SCE 2012

[2] RPS goal established by SB 100

a. Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

Project construction is assumed to occur over a period of approximately 19 months. Based on CalEEMod modeling results, construction activities for the project would generate an estimated 481 MT and 483 MT of CO_2e in 2022 and 2023, respectively (Table 10). Amortized over a 30-year period (the assumed life of the project per SCAQMD guidance), construction of the project would generate about 32 MT of CO_2e per year.

Table 10 Estimated Construction GHG Emissions for Proposed Project

Year	Project Emissions (MT/yr CO_2e)
2022	481
2023	483
Total	964
Total Amortized over 30 Years	**32**

See Appendix B for CalEEMod worksheets.
Totals may not add up due to rounding

Table 11 summarizes the proposed project's combined construction and operational GHG emissions.

Table 11 Combined Annual Emissions of Greenhouse Gases

Emission Source	Annual Emissions (CO_2e in metric tons)
Construction	**32**
Operational	
Area	<1
Energy	97
Solid Waste	4
Water	17
Mobile	
CO_2 and CH_4	311
N_2O	6
Proposed Project Total Emissions	**468**
Service Population/Capita Emissions (Residents)	**183**
Proposed Project Per Capita Emissions	**2.6**

See Appendix B for CalEEMod worksheets. Totals may not add up due to rounding

As indicated in Table 11, the proposed project's combined construction and operational net emissions would be 468 MT CO_2e per year, which is below the Tier 3 threshold of 3,500 MT of CO_2e per year for residential projects. As outlined in the Section 14, *Population and Housing*, the project would construct housing for 183 persons (capita), and generate approximately 468 MT of CO_2e per year, which equates to 2.6 MT of CO_2e per capita, which is less than the Tier 4 threshold of 3.0 MT of CO_2e per service population for project level analyses. Therefore, this impact would be less than significant.

LESS THAN SIGNIFICANT IMPACT

b. Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

As discussed under *Regional Regulations*, Climate on the Move includes 2010-2012 GHG inventories, 2020 forecasts, and reduction target options for the City of Camarillo, but does not include specific GHG reduction measures, goals or policies that land use projects are required to comply with. Because project emissions would not exceed SCAQMD's recommended Tier 3 bright line threshold or Tier 4 emissions per service population threshold for project level analyses, the project would not conflict with the overarching goal set in Climate on the Move to achieve statewide GHG reduction targets. The project would also be consistent with the SCAG RTP/SCS, which establishes strategies and policies to reduce regional GHG emissions. Specific land use objectives identified in SCAG's 2016 RTP/SCS include:

- **Reflect the Changing Population and Demands.** The SCAG region, home to about 18.8 million people in 2015, currently contains 5.9 million households and 8 million jobs. By 2040, the RTP/SCS projects that these figures will increase by 3.4 million people, with nearly 1.5 million more households and 1.8 million more jobs (SCAG 2016). High Quality Transit Areas (HQTAs) will account for three percent of regional total land, but will accommodate 46 percent and 55 percent of future household and employment growth, respectively, between 2012 and 2040. The 2016 RTP/SCS land use pattern contains sufficient residential capacity to accommodate the region's future growth, including the eight-year regional housing need. The land use pattern accommodates about 530,000 additional households in the SCAG region by 2020 and 1.5 million more households by 2040. The land use pattern also encourages improvement in the jobs-housing balance by accommodating 1.1 million more jobs by 2020 and about 2.4 million more jobs by 2040.
- **Focus New Growth Around Transit.** The 2016 RTP/SCS land use pattern reinforces the trend of focusing growth in the region's HQTAs. Concentrating housing and transit also concentrates roadway repair investments, leverages transit and active transportation investments, reduces regional life cycle infrastructure costs, improves accessibility, avoids greenfield development, and has the potential to improve public health and housing affordability. HQTAs provide households with alternative modes of transport that can reduce VMT and GHG emissions.
- **Plan for Growth Around Livable Corridors.** The Livable Corridors strategy seeks to revitalize commercial strips through integrated transportation and land use planning that results in increased economic activity and improved mobility options. From a land use perspective, Livable Corridors strategies include a special emphasis on fostering collaboration between neighboring jurisdictions to encourage better planning for various land uses, corridor branding, roadway improvements and focusing retail into attractive nodes along a corridor.
- **Provide More Options for Short Trips.** Thirty-eight percent of all trips in the SCAG region are less than three miles. The 2016 RTP/SCS provides strategies to promote the use of active

transport for short trips, including implementation of sidewalks and local bikeways. Neighborhood Mobility Areas are meant to reduce short trips in a suburban setting.

- **Preserve Our Existing System.** Southern California's transportation system is becoming increasingly compromised by decades of underinvestment in maintaining and preserving our infrastructure. These investments have not kept pace with the demands placed on the system, and the quality of many roads, highways, bridges, transit, and bicycle and pedestrian facilities are continuing to deteriorate. Unfortunately, the longer they deteriorate, the more expensive they will be to fix in the future. Even worse, deficient conditions compromise the safety of users throughout the network. For all of these reasons, system preservation and achieving a state of good repair are top priorities of the 2016 RTP/SCS.
- **Transit.** Looking toward 2040, the 2016 RTP/SCS maintains a significant investment in public transportation across all transit modes and also calls for new household and employment growth to be targeted in areas that are well-served by public transportation to maximize the improvements called for in the Plan.
- **Active Transportation.** The 2016 RTP/SCS includes $12.9 billion for active transportation improvements, including $8.1 billion in capital projects and $4.8 billion as part of the operations and maintenance expenditures on regionally significant local streets and roads. The Active Transportation portion of the 2016 RTP/SCS updates the Active Transportation portion of the 2012 RTP/SCS, which has goals for improving safety, increasing active transportation usage and friendliness, and encouraging local active transportation plans. It proposes strategies to further develop the regional bikeway network, assuming that all local active transportation plans will be implemented, and dedicates resources to maintain and repair thousands of miles of dilapidated sidewalks. To accommodate the growth in walking, biking and other forms of active transportation regionally, the 2016 Active Transportation Plan also considers new strategies and approaches beyond those proposed in 2012.

As discussed in Section 14, *Population and Housing*, the proposed project would not cause Camarillo to exceed regional growth projections for employment and population on which the SCAG RTP/SCS is based. The project would be consistent with the RTP/SCS goal of reflecting the changing population and demands because it would be consistent with SCAG's regional growth projections. The project site is located just north of the Camarillo transit hub, where Amtrak and Metrolink trains stop, which is also a local transit bus hub. Sidewalks and bike lanes along Lewis Road (SR 34) also connect the project site directly to the transit hub. Therefore, the project would be consistent with the goals of the RTP/SCS to focus employment growth around transit, livable corridors, and safe active transportation networks. The project's direct access to existing pedestrian and bicycle networks also supports the goal of reducing short trips by providing future employees with safe, alternative, non-vehicular modes of travel to services in the area. While not directly applicable to the project, the project would also not conflict with or impede implementation of the RTP/SCS goal for preserving the existing transportation system.

Furthermore, State policies to reduce GHG emissions associated with energy use, including the Renewable Portfolio Standard and Title 24 of the California Building Code, would reduce anticipated emissions associated with the proposed project. The 2017 Scoping Plan outlines a pathway to achieving the reduction targets set under SB 32, which is considered an interim target toward meeting the State's long-term 2045 goal established by EO B-55-18. Since the project would result infill development consisting of affordable residential units near existing transportation networks and would not exceed per capita emissions targets, the project would conflict with achievement of

the State's GHG reduction targets. Therefore, the project would not conflict with plans and policies aimed at reducing GHG emissions and such impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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9 Hazards and Hazardous Materials

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	■	☐
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	■	☐
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?	☐	☐	■	☐
d. Be located on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	■	☐
e. For a project located in an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	■
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	■
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	☐	☐	☐	■

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

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

c. Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?

The nearest residential development to the project site are single family residences located directly west of the site and across Barry Street to the north. Pleasant Valley School of Engineering and Arts Early Education Center is the closest school, located approximately 0.25 miles north of the project site.

Grading and construction activities could use a limited amount of hazardous and flammable substances/oils during heavy equipment operation for site preparation and building construction. Standard construction best management practices for the use and handling of such materials would be implemented to avoid or reduce the potential for such conditions to occur. Further, the transport, use, and storage of hazardous materials during construction of the project would be conducted in accordance with all applicable State and federal laws, such as the Hazardous Materials Transportation Act, Resource Conservation and Recovery Act, the California Hazardous Material Management Act, and the California Code of Regulations, Title 22.

The project includes residential uses, which would not involve any routine use, transport, or disposal of hazardous materials. Operation of the project would be conducted in accordance with all applicable state and federal laws, as explained above. With adherence to applicable laws, the project would not create a significant hazard or emit hazardous emissions to the public, the environment, or in proximity to a school, and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

d. Would the project be located on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

A Phase I Environmental Site Assessment (ESA) was prepared for the property by Certified Environmental Consultants, Inc. (CEC) dated February 22, 2017. Subsequent Phase II ESAs were prepared by CEC and Rincon Consultants, Inc. According to historical sources, the project site was in agricultural use (row crops) in 1947, developed with a gasoline station on the northeastern corner of the property from 1962 through 1967, and was been developed as a lumber yard/building supply business since at least the 1950s through 2019. All on-site buildings were demolished and removed from the site in separate stages in 2018 and 2019, in accordance with asbestos containing material and lead based paint requirements. The site is currently vacant and void of all structures.

Based on the ESAs completed, approximately 500 cubic yards or 750 tons of shallow polynuclear aromatic hydrocarbons (PNA) impacted soil was identified in the western area of the project site. BMC Stock Holdings, Inc enrolled in the voluntary cleanup program with the County of Ventura Environmental Health Division to regulate the remedial excavation of the PNA-impacted soil. The Remedial Action Agreement (Case #SR0015832) was dated March 14, 2018. A total of 548.68 tons of PNA impacted soil was removed and disposed off-site between May and July 2018. Confirmation of soil sample analytical results were below identified screening levels for clean-up and the Ventura

County Environmental Health Division issued a No Further Action/Case Closure Letter dated August 23, 2018. The Closure Letter from the Ventura County Environmental Health Division confirmed the corrective actions at the site would protect public health for future residential land uses. The letter and case closure summary is attached as Appendix F. Because there are no other identified hazardous materials on the project site, the project would not be located on a site with identified hazardous materials and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

The project site is approximately 2.25 miles east of the Camarillo Airport and is not located in the Runway Protection Zone, Outer Safety Zone, or Traffic Pattern Zones identified for the Airport (Ventura County 2000 and 2010). Therefore, the proposed project would not result in a safety hazard or excessive noise for people residing or working in the project area and there would be no impact.

NO IMPACT

f. Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

The proposed project involves construction of residential buildings and a parking structure within the project site and would not modify or block current emergency access routes or site ingress and egress. Although implementation of the proposed project would increase traffic to and from the project site, the project site is surrounded by major roadways, including Lewis Road (SR 34), and U.S. 101, which have sufficient capacity to provide access to and from the project site (see Section 17, *Transportation*). The two project driveways along Barry Street would be constructed to City of Camarillo design standards and the driveway along Lewis Road (SR 34) would be constructed to City of Camarillo and Caltrans design standards. As such, access points would be designed to accommodate emergency response vehicles and the project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation route. There would be no impact.

NO IMPACT

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

As discussed in Section 20, *Wildfire*, the project site is surrounded by existing development and is not located in or near state responsibility areas or lands classified as very high fire hazard severity zones (CalFire 2010; 2019). The project site is separated by approximately 2.5 miles of development from the nearest undeveloped and vegetated area; therefore, the proposed project would not expose building occupants or structures to uncontrolled spread of wildfire or significant wildfire-related risks. There would be no impact.

NO IMPACT

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10 Hydrology and Water Quality

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

In January 2020, RRM Design Group prepared a Preliminary Hydrology Report for the proposed project (Appendix G).

In accordance with the Ventura County Municipal Stormwater Permit (CAS004002, Order R4-2010-0108), RRM Design Group also prepared a Post Construction Stormwater Management Plan (PCSMP) for the project in February 2020, which is included as Appendix H. The analysis in this section is partially based on these reports/plans.

a. Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Construction

As stormwater flows over a construction site, it can pick up sediment, debris, and chemicals, and transport them to receiving water bodies. Temporary site preparation and grading activities associated with the project may result in soil erosion. Construction activities could also affect water quality in the event of an accidental fuel or hazardous materials leak or spill. However, the proposed project would apply best management practices (BMPs) and adhere to permitting requirements in order to avoid potential impacts to water quality, as discussed below.

On-site construction activities would be required to comply with the California State Construction General Permit (Order No. 2009-2009-DWQ, as amended) because project construction would disturb more than one acre of land. Compliance with the California State Construction General Permit would require the creation and implementation of a Storm Water Pollution Prevention Plan, which would include best management practices to prevent stormwater pollution during construction (i.e., pollutant source control, site design to reduce run off, monitoring for spills and leaks, implementing straw waddles, silt fencing, infiltration techniques, etc.). Inspections would be conducted on the project site once every seven calendar days, or once every 14 calendar days and within 24 hours of a 0.25-inch storm event. With regulatory compliance, potential impacts associated with construction of the proposed project to water quality would be less than significant.

Operation

The project site is a previously disturbed, predominantly paved industrial site. The proposed project would be required to be designed to meet the requirements of the Ventura County Municipal Stormwater Permit (CAS004002, Order R4-2010-0108) and the requirements of the Ventura County Technical Guidance Manual for Stormwater Quality Control Measures (Technical Guidance Manual). The project would be subject to the requirements in the Ventura County (MS4) permit. Site-specific BMPs that mitigate stormwater would be designed and built following design requirements in the Ventura County MS4 Permit. The Ventura County MS4 permit establishes limits for the concentration of contaminants entering the storm drain system. Retention, infiltration, bioretention, and biofiltration mitigation BMPs would be used consistent with requirements outlined in the Ventura County MS4 Permit. The project would be required to implement the stormwater quality mitigation controls specified in its approved PCSMP No. SW0042, included as Appendix H.

The Drainage Study determined that implementation of retention BMPs specified in the approved PCSMP would be sufficient to comply with the Ventura County MS4 Permit and related Ventura County Technical Guidance Manual and reduce water quality impacts from construction to a less than significant level (Appendix G). In order to comply with the Ventura County Municipal Stormwater Permit and Ventura County Technical Guidance Manual, the project would be required

to incorporate additional best management practices identified in the approved PCSMP No. SW0042 to ensure operation of the project site results in less than significant water quality impacts. Therefore, compliance with all applicable federal, state, and local regulations, and permit provisions would ensure that the project would not violate any water quality standards or water discharge requirements and project impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

e. Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

As discussed under checklist item 10.a, compliance with existing regulations would ensure the proposed project would not degrade surface or groundwater quality. Consequently, the project would not conflict with or obstruct implementation of a water quality control plan.

The project site overlies the Pleasant Valley Groundwater Basin (California Department of Water Resources Bulletin 118 Number 4-006), which is designated as a high-priority groundwater basin under the Sustainable Groundwater Management Act (SGMA). In December 2019, the Fox Canyon Groundwater Management Agency finalized its Draft Groundwater Sustainability Plan (GSP) for the Pleasant Valley Basin.

As previously discussed, the project site was previously developed and is predominantly paved. Currently, the project site includes 95 percent impervious surfaces, which the project would reduce to 66 percent through introduction of on-site landscaping and open space pervious areas. While the project would decrease impervious surfaces on the project site, it would also include stormwater mitigation measures to capture and mitigate stormwater, allowing for groundwater infiltration through the project site. The project would not interfere substantially with groundwater recharge. In addition, as discussed in Section 19, *Utilities and Service Systems*, water supplies are sufficient to meet the demands of the project. Accordingly, the proposed project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin. The project would not conflict with or obstruct implementation of the GSP. Impacts related to sustaining groundwater supplies, recharge, and conflict with management plans would be less than significant.

LESS THAN SIGNIFICANT IMPACT

c.(i) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site?

c.(ii) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

c.(iii) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

The project site is already developed and predominantly paved. The project site does not include any streams or rivers. Stormwater runoff on the site would eventually be carried into the existing inlet on Lewis Road into the county storm drain system. As discussed in checklist items 10.b and 10.e, the project would decrease impervious surfaces on the project site. The project would include stormwater mitigation measures, allowing for groundwater infiltration through the project site. In order to comply with the NPDES program, the Ventura County Municipal Stormwater Permit, and Ventura County Technical Guidance Manual, the project would be required to implement additional design measures to capture and mitigate all stormwater on the project site so that post-development stormwater flows do not exceed pre-development levels. Existing and proposed peak flows exiting the site are summarized in Table 12, which shows that proposed peak flows would be reduced compared to existing conditions, under all 10-, 25-, 50-, and 100-year storm events.

Table 12 Existing and Proposed Peak Flows

Storm Event	Existing Q (cfs)	Proposed (cfs)
10-Year	7.10	5.26
25-Year	8.73	9.98
50-Year	9.98	7.96
100-Year	11.21	9.17

Source: RRM Design Group 2020; Appendix G

The project would not generate peak flows exceeding the capacity of existing stormwater drainage systems or result in substantial erosion, siltation, or flooding on- or off-site.

LESS THAN SIGNIFICANT IMPACT

c.(iv) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows?

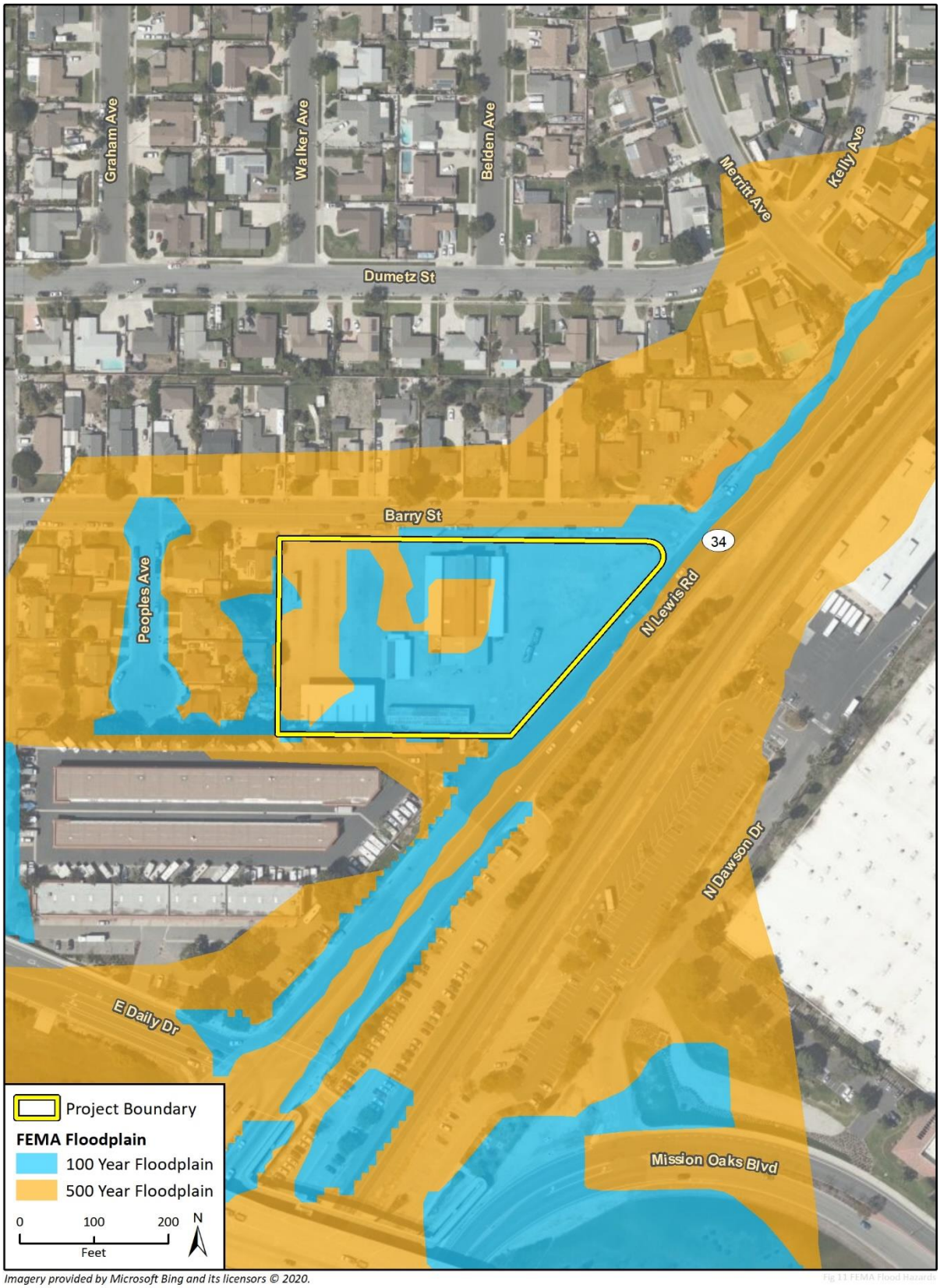
d. In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?

The project site is located approximately 0.9 miles west of Calleguas Creek. A levee runs along the western bank of this segment of Calleguas Creek. According to the Federal Emergency Management Agency (FEMA), and as shown in Figure 10, the site contains areas designated Zone X, Other Areas of Flood Hazard –Area of Minimal Flood Hazard (0.2 percent annual chance of flood hazard – 500 year floodplain) (FEMA 2015) and areas designated Zone AO (Special Flood Hazard Area [SFHA] With Base Flood Elevation depth of one foot – 100 year floodplain). The site does not serve as a floodway and is an infill site previously developed with structures. Consequently, the proposed project would not impede or redirect flood flows and the project would elevate the site above the flood depth and provide finish floor elevations of one foot above the flood elevation (Appendix G). Because portions of the site are located in a SFHA, prior to Public Works authorizing a Zoning Clearance for the building permit, the project proponent would need to process a Letter of Map Revision through the FEMA for review and approval to remove those portions of the SFHA in conflict with the proposed buildings.

A tsunami is a series of traveling ocean waves of extremely long length generated primarily by vertical movement on a fault (earthquake) occurring along the ocean floor. The project site is located approximately nine miles from the coastline and, therefore, is not subject to inundation by tsunami. The project site is also not located near a large inland body of water which could generate a seiche during seismic ground shaking. According to the County of Ventura General Plan Hazards Appendix, the project site is located in an area subject to potential inundation by dam failure (County of Ventura 2013). The project site is an existing infill site surrounded by other developments. The proposed project would not exacerbate risks associated with release of pollutants due to project inundation. Furthermore, as discussed in checklist items c.I-III and shown in Table 12, in compliance with the NPDES program, the Ventura County Municipal Stormwater Permit, and Ventura County Technical Guidance Manual, the project would be required to implement design measures to capture and mitigate all stormwater within the project site such that post-development stormwater flows do not exceed pre-development levels. By implementing these design measures, the project would increase the site's capacity to retain and infiltrate flood waters. Therefore, impacts related to project inundation would be less than significant.

LESS THAN SIGNIFICANT IMPACT

Figure 10 FEMA Flood Hazard Areas



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11 Land Use and Planning

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Physically divide an established community?	☐	☐	☐	■
b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	■

a. Would the project physically divide an established community?

The proposed project involves residential construction on a previously developed site in an urban area surrounded by residential and commercial land uses. The project would not divide the community because it does not include construction of a wall, roadway, or other component that would create any physical division. Therefore, the project would have no impact related to the physical division of an existing community.

NO IMPACT

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

The proposed project involves construction of a 68-unit multifamily affordable development as well as an on-site community center, managers office, central common open space/recreation area, BBQ area, children's play structure, and a two-story unenclosed parking structure. The project site was previously utilized as an industrial lumber yard, and is currently zoned M-1, Light Manufacturing with a general plan land use designation of Industrial/Commercial. The site is located adjacent to low-medium density residential (RPD) properties to the north and west and properties further to south and east are zoned for commercial and industrial uses. The property to the north at the corner of Barry Street/Lewis Road (SR 34) is commercial and is currently developed with a restaurant. The project proponents are requesting a General Plan Amendment to change the land use designation from Industrial/Commercial to High Density Residential, and a Zoning change, to designate the property Residential Planned Development (RPD-30), which allow up to 30 dwelling units per acre. With approval of the requested General Plan Amendment and zoning change, the project would be consistent with the proposed land use and zoning designations for the site. In addition, due to the site's location adjacent to residential uses and in close proximity to the Camarillo transit hub, where Amtrak and Metrolink trains stop, the project would bring a compatible use to the existing residential neighborhood in an area well served with existing transit options.

The proposed project would be required to adhere to the applicable zoning ordinances outlined in the CMC and General Plan Community Design Element for RPD land uses. The height of the new building would not exceed 35 feet (requested with RPD permit), the proposed density would be 27 units per acre (under the allowable 30 units per acre for RPD sites), and the project would provide a total of approximately 26,322 square feet of common open space/landscaping per CMC Section 19.16.110 (required 22,000 square feet). According to the Community Design Element, the project site lies within the City's Heritage Zone, which applies to parcels within 500 feet of a freeway and 1,000 feet of a designated freeway interchange. The Heritage Zone was established to help create a sense of community identity and requires that new buildings use elements of one of the following architectural styles: Mission, Monterey, Early California, Spanish, Mediterranean or modern interpretations of these styles. As discussed in Section 4.1, *Aesthetics*, the proposed project would comply with the design requirements of the Heritage Zone and would be visually compatible with existing residential buildings in the area. Compliance with the CMC and General Plan would ensure agreement with applicable land use plans, policies and regulations adopted to avoid environmental effects. Therefore, the project would have no impact.

NO IMPACT

12 Mineral Resources

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

a. Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

b. Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

According to the City's Open Space and Conservation Element, Ventura County's Mineral Reserve Management Program conducted a study of the Camarillo area and found no mineral resources of statewide significance (Camarillo 2017). Because no known mineral resources of regional or statewide significance exist in the City and no mining and oil extraction activities are proposed, the proposed project would have no impact on mineral resources.

NO IMPACT

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13 Noise

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

Noise is defined as unwanted sound. Noise level measurements include intensity, frequency, and duration, as well as time of occurrence. Noise level (or volume) is generally measured in decibels (dB) using the A-weighted sound pressure level (dBA). The A-weighting scale is an adjustment to the actual sound pressure levels to be consistent with that of human hearing response, which is most sensitive to frequencies around 4,000 Hertz (about the highest note on a piano) and less sensitive to low frequencies (below 100 Hertz).

Sound pressure level is measured on a logarithmic scale with the 0 dBA level based on the lowest detectable sound pressure level that people can perceive (an audible sound that is not zero sound pressure level). Based on the logarithmic scale, a doubling of sound energy is equivalent to an increase of 3 dBA, and a sound that is 10 dBA less than the ambient sound level has no effect on ambient noise. Because of the nature of the human ear, a sound must be about 10 dBA greater than the ambient noise level to be judged as twice as loud. In general, a 3 dBA change in the ambient noise level is noticeable, while 1-2 dBA changes generally are not perceived. Quiet suburban areas typically have noise levels in the range of 40-50 dBA, while areas adjacent to arterial streets are typically in the 50-60+ dBA range. Normal conversational levels are usually in the 60-65 dBA range and ambient noise levels greater than 65 dBA can interrupt conversations.

Noise levels from point sources, such as those from individual pieces of machinery, typically attenuate (or drop off) at a rate of 6 dBA per doubling of distance from the noise source. Noise levels from lightly traveled roads typically attenuate at a rate of about 4.5 dBA per doubling of distance. Noise levels from heavily traveled roads typically attenuate at about 3 dBA per doubling of

distance. Noise levels may also be reduced by intervening structures; generally, a single row of buildings between the receptor and the noise source can reduce noise levels by about 5 dBA, while a solid wall or berm can reduce noise levels by 5 to 10 dBA (Federal Transit Administration [FTA] 2018).

The duration of noise is important because sounds that occur over a long period of time are more likely to be an annoyance or cause direct physical damage or environmental stress. One of the most frequently used noise metrics that considers both duration and sound power level is the equivalent noise level (Leq). The Leq is defined as the single steady A-weighted level that is equivalent to the same amount of energy as that contained in the actual fluctuating levels over a period of time (essentially, the average noise level). Typically, Leq is summed over a one-hour period. Lmax is the highest RMS (root mean squared) sound pressure level within the measurement period, and Lmin is the lowest RMS sound pressure level within the measurement period.

The time period in which noise occurs is also important since nighttime noise tends to disturb people more than daytime noise. Community noise is usually measured using the Day-Night Average Level (Ldn), which is the 24-hour average noise level with a 10-dBA penalty for noise occurring during nighttime (9 PM to 7 AM) hours, or Community Noise Equivalent Level (CNEL), which is the 24-hour average noise level with a 5 dBA penalty for noise occurring from 7 PM to 9 PM and a 10 dBA penalty for noise occurring from 9 PM to 7 AM. The Ldn and CNEL typically do not differ by more than 1 dBA. In practice, CNEL and Ldn are often used interchangeably.

Vibration refers to groundborne noise and perceptible motion. Vibration is a unique form of noise because its energy is carried through buildings, structures, and the ground, whereas noise is simply carried through the air. Thus, vibration is generally felt rather than heard. Some vibration effects can be caused by noise (e.g., the rattling of windows from passing trucks). This phenomenon is caused by the coupling of the acoustic energy at frequencies that are close to the resonant frequency of the material being vibrated. Typically, groundborne vibration generated by human-made activities attenuates rapidly as distance from the source of the vibration increases. The ground motion caused by vibration is measured as particle velocity in inches per second and is referenced as vibration decibels (VdB) in the U.S.

The background vibration velocity level in residential areas is usually around 50 VdB. The vibration velocity level threshold of perception for humans is approximately 65 VdB. A vibration velocity of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels for many people. The range of interest is from approximately 50 VdB, which is the typical background vibration velocity level, to 100 VdB, which is the general threshold where minor damage can occur in fragile buildings. Most perceptible indoor vibration is caused by sources in buildings such as operation of mechanical equipment, movement of people, or the slamming of doors. Typical outdoor sources of perceptible groundborne vibration are construction equipment, steel wheeled trains, and traffic on rough roads.

Project Area Noise Conditions

The primary off-site noise source in the project area is motor vehicles, due to the project site's proximity to both U.S. 101 and Lewis Road (SR 34). Motor vehicle noise is a concern because it is characterized by a high number of individual events that often create sustained noise levels. Ambient noise levels are expected to be highest during the morning and afternoon rush hours unless congestion slows speeds substantially.

Per the City of Camarillo General Plan Noise Element, the project site is located in area with existing noise levels of approximately 65 to 75 CNEL, decreasing with distance from Lewis Road (Camarillo 2015).

Sensitive Receivers

Noise exposure goals for various types of land uses reflect the varying noise sensitivities associated with those uses. Some land uses are considered more sensitive to ambient noise and ground-borne vibration levels than others. People in residences, schools, libraries, churches, hospitals, and nursing homes are generally more sensitive to noise than are people at commercial and industrial establishments. The noise-sensitive receivers nearest to the project site are single family residences directly west of the site and approximately 50 feet to the north across Barry Street.

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

Construction

Project construction would require the use of heavy equipment for site preparation, grading, building construction, and paving activities. Over the course of a typical construction day, construction equipment could be as close as 15 feet from the nearest sensitive receiver. However, because most project construction and heavy equipment use would occur at the center of the site, it is assumed that over the course of a typical construction day the construction equipment would operate at an average distance of 150 feet from the project boundary. As such, a distance of 150 feet was used to assess potential impacts to sensitive receivers. Construction noise would vary depending on the mix of equipment and the location of the activity on the project site. Typical heavy construction equipment would include bulldozers, excavators, dump trucks, front-end loaders, graders, and stationary equipment, such as compressors and generators. It is assumed that diesel engines would power all construction equipment. For assessment purposes and to be conservative, the loudest hour has been used for this assessment. Noise levels are based on a loader, a dozer, a grader, and a stationary engine operating simultaneously, which is typical of the loudest construction phase, grading. Using the FHWA Roadway Construction Noise Model (RCNM) to estimate noise associated with construction equipment, maximum hourly noise levels are calculated to be about 75 dBA L_{eq} at 150 feet, as measured from the center of the construction site or activity. RCNM Calculations are included in Appendix I. Noise levels may exceed the ambient noise levels around the site, and therefore, may periodically be audible at nearby sensitive receivers.

Section 10.34.120 of the CMC regulates noise from the construction of buildings and structures adjacent to or within any residential zone. Per 10.34.120(E), construction activities are exempt from the interior and exterior requirements, provided that exterior construction or repair work does not generate noise levels exceeding the Noise Ordinance exterior noise standards at residential properties between the hours of 7:00 PM of one day and 7:00 AM of the next day or at any time on Sunday, or at any time on any public holiday. As discussed in the Project Description, construction of the project would occur from 7:00 AM to 4:00 PM., Monday through Saturday, and not during any public holidays (i.e., New Year's Day, Memorial Day, Independence Day, Labor Day, Veterans' Day, Thanksgiving Day, and Christmas Day). Required adherence to Section 10.34.120 of the CMC would ensure that noise levels from construction would not violate interior or exterior standards during specific hours and days of the week, and impacts would be less than significant.

Operation

Roadway Noise

Primary noise generation from the proposed project that could affect sensitive receivers would be from vehicular traffic on area roadways near sensitive receivers. In order for a perceptible noise increase of at least 3 dBA to occur, the proposed project would need to result in a doubling of traffic. The Traffic Study conducted by Associated Transportation Engineers (Appendix J) concludes that the project would generate 370 daily vehicle trips, with 24 new vehicle trips during peak morning (AM) traffic hours and 30 new vehicle trips during peak evening (PM) traffic hours. The Traffic Study concludes that new trips would be distributed to U.S. 101 (20 percent of new trips or approximately 6 PM peak hour trips), Lewis Road (SR 34) (35 percent of new trips or approximately 12 PM peak hour trips), Pleasant Valley Road (20 percent of new trips or approximately 6 PM peak trips), Camino Alvarez) (10 percent of new trips or approximately 3 PM peak hour trips), and Barry Street (15 percent of new trips or approximately 5 PM peak hour trips) (Appendix J). Lewis Road (SR 34) north of the intersection of Daily Drive, currently carries approximately 1,979 PM peak hour trips; therefore, the addition of 12 PM peak hour trips would result in a 0.4 percent roadway volume increase. Under cumulative conditions, which incorporates other current development projects in the City, forecasted cumulative roadway volumes on Lewis Road (SR 34) would be approximately 2,189 PM peak hour trips. The project's contribution of approximately 12 PM peak hour trips would result in a 0.5 percent roadway volume increase. The project-generated traffic increase on adjacent roadways would be negligible, would not double existing roadway volumes during existing plus project or cumulative plus project conditions, and would not result in a perceptible noise increase. As such, impacts associated with increased roadway volumes and operational noise levels would be less than significant.

HVAC Equipment

HVAC equipment would be located on the roofs of the proposed buildings. This equipment typically has noise shielding cabinets, is placed on the roof or within mechanical equipment rooms and is not usually a significant source of noise. Noise from HVAC equipment ranges from 60 to 70 dBA L_{eq} at 15 feet from the source (Illingworth & Rodkin 2009). For a conservative estimate, this analysis assumes that HVAC equipment generates a noise level of 70 dBA L_{eq} at 15 feet from the source. Rooftop HVAC equipment on Building E could be located as close as approximately 60 feet from the nearest residential property to the west, without taking into account the height of the proposed building. With a noise attenuation of 6 dBA per doubling of distance, noise from rooftop HVAC equipment would be approximately 58 dBA L_{eq} at the nearest residential property. As discussed in the Setting, ambient noise levels in the general project vicinity range from 65-75 CNEL based on the project site's proximity to Lewis Road (SR 34) and U.S. 101. Therefore, implementation of the project would not generate noise levels in excess of existing ambient conditions and would not subject nearby receivers to excessive operational noise levels.

LESS THAN SIGNIFICANT IMPACT

b. Would the project result in generation of excessive groundborne vibration or groundborne noise levels?

Groundborne vibration and noise levels are typically generated by heavy equipment and hauling trucks during project construction. Project construction would require the use of heavy equipment and hauling trucks for site preparation, grading, building construction, and paving activities. The City of has not adopted a significance threshold to assess vibration impacts during construction and operation. Therefore, the FTA guidelines set forth in the FTA Transit Noise and Vibration Impact Assessment Manual (2018) are used to evaluate potential construction vibration impacts related to both potential building damage and human annoyance. Based on FTA criteria, construction vibration impacts would be significant if construction vibration levels exceed 100 VdB, which is the general threshold where damage can occur to fragile buildings, or 72 VdB at residences during nighttime hours (FTA 2018).

Construction vibration impacts are assessed for individual pieces of construction equipment in accordance with FTA guidance (FTA 2018). Due to site constraints and worker safety limitations, individual pieces of vibratory construction equipment typically do not operate in close proximity to each other such that any single off-site structure would experience substantial levels of vibration from multiple pieces of construction equipment. Therefore, the additive impacts of multiple pieces of vibratory construction equipment operating simultaneously are not evaluated. Over the course of a typical construction day, construction equipment could be as close as 15 feet from the nearest sensitive receiver. However, because most project construction and heavy equipment use would occur at the center of the site, it is assumed that over the course of a typical construction day the construction equipment would operate at an average distance of 150 feet from the project boundary. As such, a distance of 150 feet was used to assess potential vibration impacts from construction equipment to sensitive receivers. Hauling trucks required to import soil and other construction materials are also sources of vibrational noise when traveling on a roadway. As discussed in the Project Description, hauling trucks may travel in front of residences along Barry Street to the north, at a distance of approximately 30 feet, the distance from the edge of the nearest travel lane along Barry Street. For purposes of evaluating vibrational impacts, a distance of 30 feet is evaluated for loaded trucks and 150 feet for construction equipment. Expected vibration noise levels are shown in Table 13.

Table 13 Vibration Levels at Sensitive Receptors

	Estimated VdB at Nearest Building	
Equipment	**30 Feet**	**150 Feet**
Small Bulldozer	–	41
Large Bulldozer	–	70
Loaded Truck	81	66
Threshold	**100**	**100**
Threshold Exceeded?	No	No

See Appendix I for vibration analysis worksheets.
Source: FTA 2018

As shown in Table 13, vibration levels from individual pieces of construction equipment would not exceed 100 VdB at a receiver 30 feet away, the threshold at which damage can occur to fragile buildings. Construction vibration levels at all other residential buildings in the immediate vicinity would be less than the levels shown in Table 13 because vibration levels would attenuate with distance. Therefore, project construction would not generate vibration exceeding the threshold of 100 VdB for residential uses. The project would not generate excessive groundborne noise or vibration that would affect sensitive receivers and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

The project site is approximately 2.25 miles from the Camarillo Airport and is not in the existing or projected future 65, 60 or 75 CNEL or DNL noise contours for the airport (Ventura County 2000 and 2010). In addition, per the Camarillo Airport Master Plan, the site is located in an overflight avoidance area and outside of the suggested arrival and departure tracks (Ventura County 2010). Therefore, the proposed project would not expose future residents or workers in the project area to excessive noise levels from airports or airstrips and there would be no impact.

NO IMPACT

14 Population and Housing

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Induce substantial unplanned population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	☐	☐	■	☐
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	■

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

The proposed project involves construction of a multi-family housing development consisting of a total of 68 units. The project would include 60 rental apartments (7 studios, 22 one-bedrooms, 15 two-bedrooms, and 23 three-bedrooms and 8 for-sale townhomes. The California Department of Finance (DOF) estimates that the average household size in the City is 2.61 (DOF 2020). Based on the average household size of 2.61 for all 68 units (conservatively assumed as 29 of the units would be studios and one-bedrooms), the addition of 68 housing units would generate a population increase of approximately 183 residents. The California DOF estimates that the January 2020 population of the City of Camarillo was 70,261 persons (CDOF 2020). In its 2016 RTP/SCS, the Southern California Council of Governments (SCAG) estimates that the City's population will increase to 79,900 by 2040, an increase of 9,639 persons (SCAG 2015).

The project would increase the City's population to 70,444 persons, an increase of 0.3 percent. The project population would constitute approximately 1.9 percent of SCAG's projection for the City, given the 9,639 person population increase by 2040 (SCAG 2016). The population growth expected from the project is within regional forecasts and would induce growth that has already been accounted for. Aside from the temporary employment opportunities during construction, the project would not include new commercial development or components that would generate employment opportunities. Because construction would be temporary and short-term, any employment opportunities anticipated would not induce population growth. The proposed project would not cause a substantial increase in population or induce significant, unplanned population growth and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

b. Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

The project site does not contain existing housing or habitable structures. As such, the project would not displace people or housing and, therefore, would not necessitate the construction of replacement housing elsewhere. Further, the project includes the construction of housing. There would be no impact.

NO IMPACT

15 Public Services

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a.	Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
	1 Fire protection?	☐	☐	■	☐
	2 Police protection?	☐	☐	■	☐
	3 Schools?	☐	☐	■	☐
	4 Parks?	☐	☐	■	☐
	5 Other public facilities?	☐	☐	■	☐

a.1. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered fire protection facilities, or the need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?

The City is served by the Ventura County Fire Protection District (Fire Department), which employs over 444 uniformed officers and civilians throughout the County (Camarillo 2020b). There are five fire stations that serve the City; the closest fire station to the proposed project is Fire Station No. 54 located at 2160 Pickwick Drive, approximately 0.6 miles (driving distance) from the project site. According to the City of Camarillo General Plan Safety Element, it is anticipated that average emergency response times in the City are approximately five minutes or less. The site is located adjacent to Lewis Road (SR 34), and north of the Lewis Road (SR 34) / U.S. 101 interchange, which would provide regional access for fire response vehicles.

The Fire Department provides services aimed at fire prevention and compliance with California Building Standards Code, Chapters 7 and 7A, and the California Fire Code (California Code of Regulations, Title 24, Part 9). The Fire Department provides fire protection engineering, building inspections for code compliance, and hazardous materials inspections. The Fire Department also provides education and training in public safety and emergency preparedness. While the proposed project may increase the demand for fire protection services through the development of new

residential buildings, demand would be met by the existing Fire Department facilities in the City. Proposed building plans would be subject to review by the Fire Department to ensure that the site design, access, and building floor plans comply with all applicable fire codes. In addition, the project would be subject to the Fire Protection Facilities Fee which is used to help fund new fire facilities and equipment. Compliance with the applicable Fire Code requirements and payment of the Fire Protection Facilities Fee would reduce the projects incremental increase in demand for fire protection services. Since the project is within the current service area for fire protection, and construction of the project would not require new or expanded facilities, and potential impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

a.2. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered police protection facilities, or the need for new or physically altered police protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?

Police protection services for the City have been provided on a contract basis by the Ventura County Sheriff's Department since the City's incorporation in 1964. The City's police station is located at 3701 East Las Posas Road, approximately two miles (driving distance) north of the project site. Since police protection to the project site is provided via officers driving in Police Department vehicles, the proposed project would not create the need for the construction of new or physically-altered police facilities. In accordance with standard City practice, the project's building plans would be subject to review by the Camarillo Police Department to reduce opportunities for the commission of crimes at the project site. Impacts to police protection services associated with the proposed project would be less than significant.

LESS THAN SIGNIFICANT IMPACT

a.3. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered schools, or the need for new or physically altered schools, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives?

In Camarillo, the Pleasant Valley School District (PVSD) provides public school education for grades K-8 and the Oxnard Union High School District (OUHSD) for grades 9-12. Other public charter and private schools are also present in the City. For the PVSD, the project site is located within the attendance boundary of the First Choice Zone Attendance Area for elementary schools and Las Colinas Attendance Area for middle schools (PVSD 2020). The high school nearest to the project site is Adolfo Camarillo High School, approximately 1.5 miles east of the site. Attendance at area schools is dependent upon the boundaries drawn by the local school districts, but students often do not attend the school that is physically closest to their homes. The attendance boundaries of individual schools are adjusted by the school districts periodically on an as-needed basis.

Development of the proposed project would increase the number of students attending local public schools. Using the local school district student generations rates of 0.5 student per multi-family unit in the PVSD and 0.0925 student per multi-family unit in the OUHSD, the 68 proposed residential units would generate an average of 34 elementary/middle school students and seven (7) high school students. New students as a result of the proposed project could create the need for new or expanded school facilities.

Typically, operating revenue for school districts is provided by local property taxes accrued at the state and allocated to each school district based on the average daily student attendance. Funds for facility improvements to accommodate new students is primarily generated by fees charged to new development projects. The project proponents would be required to pay the required State mandated school impact fees under the provisions of Senate Bill 50. Pursuant to Section 65995 (3)(h) of the California Government Code (Senate Bill 50, chaptered August 27, 1998), the payment of statutory fees is deemed to be full and complete mitigation of the impacts of any legislative or adjudicative act, or both, involving, but not limited to, the planning, use, or development of real property, or any change in governmental organization or reorganization. Payment of the required school impact fees to both the PVSD and the OUHSD would reduce the project's demand for school services such that additional new or physically altered facilities would not be required and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

a.4. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered parks, public facilities, or the need for new or physically altered parks, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives?

As discussed in Section 14, *Population and Housing*, the project would increase the City's population to 70,444 persons, an increase of 0.3 percent. The population growth expected from the project is within regional forecasts and would induce growth that has already been accounted for. The project would not generate substantial demand for recreational facilities that would affect City parkland ratios (ratios would remain at approximately 4.3 acres per 1,000 residents as discussed in Section 16, *Recreation)*. Although the project would incrementally increase demand for recreational facilities off-site, it would not directly affect any existing parks and the project proponents would be required to pay in-lieu fees to assist the PVRPD with the purchase and development of new community park facilities. In addition, the project includes the construction of a community center, central common open space/recreation area, BBQ area, and children's play structure to serve on-site residents. Implementation of these facilities would further reduce demand for local recreational facilities in the area. The project would not create the need for new or expanded parks and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

a.5. Would the project result in substantial adverse physical impacts associated with the provision of other new or physically altered public facilities, or the need for new or physically altered public facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?

Development of the proposed project would result in incremental impacts to the City's public services and facilities such as storm drain usage, solid-waste disposal, water usage, and wastewater disposal. Refer to the impact analysis in Section 10, *Hydrology and Water Quality*, and Section 19, *Utilities and Service Systems*, for discussion of the proposed project's impacts to utility services and facilities. Other commonly used public facilities include libraries and medical facilities. As discussed in Section 14, *Population and Housing*, the proposed project would increase the City's population by approximately 183 residents. However, the project site is in an area of Camarillo that is currently served by existing public libraries, medical facilities, and other services. These facilities would

continue to accommodate the needs of the City. The project would not create the need for new or expanded public facilities and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

16 Recreation

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

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

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

Recreational amenities in the City of Camarillo include 28 parks and three recreation centers operated by the Pleasant Valley Recreation and Parks District (PVRPD), providing more than 300 acres developed for recreational space (PVRPD 2020). Based on a population of 70,261 residents, the City's current parkland ratio is approximately 4.3 parkland acres per 1,000 residents (DOF 2020). The desired standard stated in the 1975 Quimby Act is three acres of parkland per 1,000 residents. By this standard, the City of Camarillo has an adequate amount of open space for recreational purposes, on a per population basis. However, the City's General Plan Recreation Element specifies a desired parkland ratio of five acres of parkland per 1,000 residents. By this standard, the City requires additional parkland to meet its target ratio (Camarillo 2002).

As discussed in Section 14, *Population and Housing,* the proposed project would increase the City's population by approximately 183 persons, to a total of 70,444 persons. This increase would not substantially alter the parkland ratio, which would remain at approximately 4.3 acres per 1,000 persons. The project includes multiple playground areas, courtyards, community center, and a BBQ and activity area, which would reduce recreational demands on other facilities in the area. The construction of these on-site amenities has been evaluated throughout this Initial Study. Although the project would incrementally increase demand for recreational facilities off-site, the project proponents would be required to pay in-lieu fees to assist the PVRPD with the purchase and development of new community park facilities. Since the project would not generate substantial demand for recreational facilities that would affect City parkland ratios, would not increase deterioration of existing facilities, and would not include or require the construction or expansion of recreational facilities, impacts to parks and recreational facilities would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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17 Transportation

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☐	■
b. Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	■	☐
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment)?	☐	☐	☐	■
d. Result in inadequate emergency access?	☐	☐	☐	■

a. Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Associated Transportation Engineers (ATE) prepared a Traffic Study (Appendix J) to address the proposed project's potential impacts on the circulation system. This analysis is provided for informational purposes because upon certification of the new CEQA Guidelines in 2019, vehicle LOS can no longer be used as the basis for determining environmental impact significance under CEQA. Instead, lead agencies are required to use vehicle miles of travel (VMT) to measure transportation impacts of land use plans and land use projects. VMT impacts are discussed under item 17(b) below. The Traffic Study estimates that the project would generate 370 new daily trips, including 24 new vehicle trips during weekday morning peak hours and 30 new vehicle trips during the weekday evening peak hours (Appendix J). The Traffic Study assesses the project's traffic impacts at eight nearby intersections, finding that the new development would not result in an exceedance of City of Camarillo impact thresholds at any study intersections under existing plus project or cumulative plus project conditions. Additionally, all intersections are expected to operate at level of service (LOS) ratings of C or better with the project, in compliance with the City's intersection LOS standard of LOS C or better.

As detailed in Section 8, *Greenhouse Gas Emissions*, the project site is located north of the Camarillo transit hub, where Amtrak and Metrolink trains stop, which is also a local transit bus hub. Sidewalks currently exist along Barry Street and Lewis Road (SR 34) and would be retained through project implementation. According to the City's Circulation Element, there are no Class I, II, or III bicycle facilities in the vicinity of the site and there are no proposed bicycle lanes in the area (Lewis Road only provides a shoulder and no designated bicycle lanes).The project involves residential construction on an existing industrial site and would not remove or interfere with any bicycle,

pedestrian or transit facilities. Therefore, the project would be consistent with local plans and policies regarding the circulation system and the project would have no impact.

NO IMPACT

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

Section 15064.3 was recently added to the State CEQA Guidelines and describes specific considerations for evaluating a project's transportation impacts. Section 15064.3(b) establishes vehicle miles traveled (VMT) as the most appropriate measure of transportation impacts, shifting away from the use of LOS analysis that evaluates a project's impacts on traffic conditions at nearby roadways and intersections.

The proposed project is infill development that would provide residential housing within an existing urban area. Infill development generally reduces VMT compared to greenfield development (new development on lands not previously planned for development) and the project would provide residential housing in an area serviced by existing public transit, potentially reducing the distance local residents would need to travel.

According to the City of Camarillo Environmental Guidelines and pursuant to Section 15064.3, projects within one-half mile of either an existing major transit stop or a stop along an existing high quality transit corridor should be presumed to cause a less than significant transportation impact (City of Camarillo 2020; OPR 2018). OPR further defines "major transit stops" as "a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods."

The project site is located approximately 0.1 mile from a major transit stop, the Camarillo transit hub, which is an existing rail transit station and a local transit bus hub. Therefore, the proposed project would not create a substantial increase in VMT or conflict with CEQA Guidelines section 15064.3(b), and this would be a less than significant impact.

In addition, according to the Governor's Office of Planning and Research (OPR)'s Technical Advisory on Evaluating Transportation Impacts In CEQA, adding affordable housing to infill locations generally improves jobs-housing match, in turn shortening commutes and reducing VMT (OPR 2020). Further, "… low-wage workers in particular would be more likely to choose a residential location close to their workplace, if one is available. In areas where existing jobs housing match is closer to optimal, low income housing nevertheless generates less VMT than market- rate housing. Therefore, a project consisting of a high percentage of affordable housing may be a basis for the lead agency to find a less-than-significant impact on VMT. The project consists of development of 68 affordable housing units intended for families and workforce household earning less than 80 percent of the Area Median Income (AMI). Since the project would not create a substantial increase in VMT or conflict or be inconsistent with CEQA Guidelines section 15064.3(b), impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

The project involves construction of residences on a previously developed industrial site. Two access points, one at the middle of the northern property boundary and the other at the northwest corner of the project site, provide ingress and egress to Barry Street. The third access point, located at the southeastern corner of the project site, would provide right turn in and right turn out only access off Lewis Road (SR 34). The Traffic Study prepared by ATE evaluated potential project impacts related to driveway operations on Barry Street and Lewis Road (SR 34). The project would generate a minimal amount of traffic that the project driveways would operate at acceptable conditions and not impact operations of the adjacent roadways (Appendix J). In addition, ATE conducted a signal warrant access for the Lewis Road (SR 34)/project driveway intersection to determine whether a signal is necessary at the specific location. The project's approach volumes would not satisfy the vehicular volume warrants warranting a signal during either the existing plus project or cumulative plus project conditions (Appendix J). Therefore, the proposed access points would provide sufficient capacity and would not create hazardous or dangerous conditions for vehicles entering and exiting the site. Because the project would not substantially increase hazards or create incompatible uses, there would be no impact.

NO IMPACT

d. Would the project result in inadequate emergency access?

As discussed in checklist item 17.c, vehicular access to the project site is currently and would be provided through three access points. Two access points, one at the middle of the northern property boundary and the other at the northwest corner of the project site, provide ingress and egress to Barry Street. The third access point, located at the southeastern corner of the project site, would provide right turn in and right turn out only access off Lewis Road (SR 34). The project proponents would be required to construct the driveway connection to Lewis Road (SR 34) to City of Camarillo and Caltrans standards and the driveway connections to Barry Street would be required to adhere to City of Camarillo standards. The project would not create traffic impacts which would impede access to designated evacuation routes and the project driveways are currently and would continue to accommodate access to the project site by emergency vehicles. Therefore, the project would not result in inadequate emergency access and would have no impact.

NO IMPACT

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18 Tribal Cultural Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in a Public Resources Code Section 21074 as either a site, feature, place, or cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or	☐	☐	☐	■
b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	☐	■

As of July 1, 2015, California Assembly Bill 52 of 2014 (AB 52) was enacted and expands CEQA by defining a new resource category, "tribal cultural resources." AB 52 establishes that "A project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment" (PRC Section 21084.2). It further states that the lead agency shall establish measures to avoid impacts that would alter the significant characteristics of a tribal cultural resource, when feasible (PRC Section 21084.3).

PRC Section 21074 (a)(1)(A) and (B) defines tribal cultural resources as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe" and is:

1. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or
2. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying these criteria, the lead agency shall consider the significance of the resource to a California Native American tribe.

AB 52 also establishes a formal consultation process for California tribes regarding those resources. The consultation process must be completed before a CEQA document can be certified. Under AB 52, lead agencies are required to "begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project." Native American tribes to be included in the process are those that have requested notice of projects proposed within the jurisdiction of the lead agency.

a. Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code Section 21074 that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?

b. Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code Section 21074 that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1?

The City of Camarillo sent AB 52 outreach consultation letters via certified mail to the Barbareño/Ventureño Band of Mission Indians, Coastal Band of the Chumash Nation, and Santa Ynez Band of Mission Indians on May 29, 2020. No responses have been received to date. The City has complied with the tribal consultation requirements of AB 52. Although the City has not received any responses requesting further consultation to date, the City will respond to any correspondence received from tribal contacts in response to these letters consistent with the requirements of AB 52. Therefore, implementation of the project would not adversely affect tribal cultural resources and no impact would occur.

NO IMPACT

19 Utilities and Service Systems

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

a. Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

b. Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

Water

Water service is provided by the City of Camarillo's Public Works Department. Water mains currently exist along Barry Street and Lewis Road (SR 34). Any improvements to connect to existing

water lines would be within the existing developed area on and surrounding the project site and would not cause significant environmental effects outside of those as analyzed throughout this Initial Study. RRM Design Group prepared a water demand study for the proposed project, the results of which are shown in Table 14. The water demand study is provided as Appendix L.

Table 14 Water Use

Unit Category	Water Use Factor (gal/day)	Population Factor (people/unit)	Unit Quantity	Anticipated Daily Demand (gal/day)	Anticipated Annual Demand (AFY)
Apartments	70	1.9	60	7,980	8.9
Condo/Duplex	70	2.5	8	1,400	1.6
Project Total					**10.5**

RRM Design Group 2020; Appendix L

According to the City of Camarillo's 2015 Urban Water Management Plan (UWMP), total water deliveries in the City's service area in 2015 totaled 7,508 AFY. By 2035, the City anticipates this demand to increase by 1,704 AFY, to a total of 9,212 AFY. Specifically, multi-family water use is anticipated to increase by approximately 161 AFY between 2015 and 2035 (Camarillo 2016).

As discussed in the water demand study, the historic water allocation for the site was determined to be 0.55 AFY. As shown in Table 14, the project would demand approximately 10.5 AFY. Although the project would implement green building and sustainability features and water-efficient appliances and fixtures, the project would result in an increase in water demand. Based on the recent drought conditions, the Camarillo Water Division has adopted water conservation ordinances that require the developers of new developments to provide water supplies from existing sources so that no increase in water supplies is needed to be obtained (Camarillo 2020a). Per the City of Camarillo Municipal Code, Section 14.12.030, in order for an application for new potable water service to be approved and a will-serve letter issued for a new development project, the project proponent must demonstrate that the proposed project would not create additional demand on the City's water system. To satisfy this requirement, the proponent for a new development project must provide, to the satisfaction of the City and in accordance with the City's water demand offset program, , substantial evidence of an enforceable commitment that the water demand for the project will be offset prior to the provision of a potable water will-serve letter (Section 14.12.030). As a result, required adherence to the City's Municipal Code would ensure that sufficient water supplies are available to serve the project and any additional demand generated by the project would result in no net increase in the City's overall water demand.

Regarding water use for landscaping, the project would be required to comply with the State Model Water Efficient Landscape Ordinance (MWELO). The MWELO requires new development projects with landscape areas of 500 square feet or more to design a landscaping plan with an estimated total water use that would not exceed the site's calculated Maximum Applied Water Allowance, which is based on the site's reference evapotranspiration, adjustment factor, and the size of the landscaped area. The MWELO requires the use of high efficiency irrigation emission devices, automatic irrigation controllers that use either evapotranspiration or soil moisture sensor data for irrigation scheduling, and sensors that suspend or alter irrigation operation during unfavorable weather conditions.

The project would not require or result in the relocation or construction of new or expanded water facilities, would implement a strategy to off-set water demand to meet project water needs, and result in no net increase in the City's overall water demand. Impacts would be less than significant.

Wastewater Treatment

The project site is currently connected to sewer lines managed by the Camarillo Sanitary District, however new connections are proposed to accommodate the increased development and density on-site. Any improvements to connect to existing wastewater/sewer lines within the existing developed area on the project site and would not cause significant environmental effects outside of those as analyzed throughout this Initial Study. Per the Camarillo Sanitary District's System Evaluation and Capacity Assurance Plan, deficiencies have been identified in the conveyance pipelines downstream from the project site, along Lewis Road (SR 34) and Dawson Road (Camarillo Sanitary District 2009). Conveyance pipelines would require analysis to determine whether capacity is available through sections of the system downstream from the project site. If deficiencies are identified and upgrades are required, any ground disturbing activities related to conveyance pipelines upgrades would be limited to previously disturbed areas where existing wastewater infrastructure is located. Environmental impacts associated with construction or relocation of wastewater facilities would be less than significant.

Wastewater flows generated at the project site are conveyed to the Camarillo Wastewater Treatment Plant (CWTP). The CWTP currently treats about 3.5 million gallons of wastewater each day, with a maximum capacity of 7.25 million gallons per day (mgd) (City of Camarillo 2020d). A wastewater/sewer demand study prepared by RRM Design Group in 2020 is included as Appendix M. The wastewater/sewer demand study determined that the project would generate approximately 0.0079 mgd (Appendix M). The CWTP has a daily surplus of 3.75 mgd, of which the proposed project's wastewater generation would account for less than 0.2 percent of the daily surplus (City of Camarillo 2020d). Therefore, the CWTP has sufficient capacity to serve the project's projected wastewater generation and impacts would be less than significant.

Stormwater Drainage

The project site is in an urban area with existing stormwater drainage and lines. Any improvements to connect to existing stormwater lines/drains would be within the existing developed area on and surrounding the project site and would not cause significant environmental effects outside of those as analyzed throughout this Initial Study. The project would include improvements to stormwater drainage facilities on the project site. These improvements would be limited to the footprint of the proposed project and those improvements that are included in the project design, such as, the project's storm drain connection to the existing catch basin in Lewis Road.

A significant impact may occur if the volume of stormwater runoff would increase to a level exceeding the capacity of the storm drain system serving a project site, resulting in the construction of new stormwater drainage facilities. As discussed in Section 10, *Hydrology and Water Quality*, in compliance with existing laws and regulations, the project would be required to implement design features to prevent an increase in peak stormwater flows on the project site during any storm event. Consequently, the project would not increase demand on stormwater drainage infrastructure or result in the need for new infrastructure beyond those improvements that are included in the project design. Impacts related to stormwater drainage would be less than significant.

Electric Power

The project site is currently developed and connected to the regional electricity grid. The site is served by SCE. As discussed in Section 6, *Energy*, the proposed project would increase electricity demand at the project site by approximately 0.36 GWh per year. The site's electricity demands

would continue to be served by SCE's existing infrastructure. The project would not result in the need for new electric power infrastructure beyond those improvements that are included in the project design. Impacts related to electric power would be less than significant.

Natural Gas

As discussed in Section 6, *Energy*, SCG currently provides natural gas to the project site. The proposed project would increase natural gas demand at the project site by approximately 0.007 MMthm per year. The site's natural gas demand would continue to be served by SCG's existing infrastructure. The project would not result in the need for new natural gas infrastructure beyond those improvements that are included in the project design. Impacts related to natural gas would be less than significant.

Telecommunications

The project site was previously developed and connected to regional telecommunications infrastructure. Although the site is vacant and unimproved, the project would not result in the need for new telecommunications infrastructure beyond the improvements that are included in the project design. Impacts related to telecommunications infrastructure would be less than significant.

LESS THAN SIGNIFICANT IMPACT

c. Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

As discussed under checklist items 19.a and 19.b, the CWTP has sufficient capacity to treat wastewater generated by the project. This impact would be less than significant.

LESS THAN SIGNIFICANT IMPACT

d. Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

e. Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Assembly Bill 939, passed in 1989, required all jurisdictions in California to increase their landfill diversion to 50 percent by the year 2000. In addition, AB 341, passed in 2012, sets a new statewide goal of achieving 75 percent landfill diversion by 2020. The Ventura Regional Sanitation District provides waste pick-up and hauling services for residences in Camarillo. Trash from the City is taken to Toland Road Landfill, a public Class II landfill in Santa Paula with a maximum permitted capacity of 1,500 tons per day, which would be the presumed disposal location for solid waste generated at the project site. The Toland Road Landfill is permitted to accept mixed municipal, construction/ demolition, agricultural, industrial, and sludge waste types (CalRecycle 2015; 2019). In 2018, Toland Road Landfill received 1,200 tons per day, which leaves a remaining daily capacity of approximately 300 tons (Martinez 2018).

According to CalEEMod modeling results, the project would generate approximately 7.8 tons of waste per year, or approximately 0.02 tons per day. This increase would account for 0.007 percent of the remaining daily capacity of 300 tons per day at Toland Road Landfill. Conservatively assuming

that daily demand has increased by 15 percent since 2018 to 1,375 tons per day, leaving 125 tons per day of remaining daily capacity, project-generated waste would account for 0.02 percent of remaining daily capacity. Therefore, the project would not generate waste in excess of local capacity and impacts to the capacity of local infrastructure would be less than significant.

LESS THAN SIGNIFICANT IMPACT

20 Wildfire

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

a. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

The project site is located in an urban area of the City. Undeveloped wildland areas are not located in proximity to the project site. According to the California Department of Forestry and Fire Protection (CalFire) the project site is approximately 2.25 miles west of the nearest "Very High Fire Hazard Severity Zone" for wildland fires (CalFire 2010; 2019). The project site is not located in or near a state responsibility area or area classified as having a very high fire hazard. In addition, as discussed in Section 15, *Public Services,* the project includes residential development on an infill site adjacent to the Lewis Road (SR 34) and U.S. 101 which provide regional access for emergency response services and the project would be constructed to 2019 California Fire Code standards. The project would have no impact to emergency response or evacuation plans.

NO IMPACT

b. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project due to slope, prevailing winds, and other factors, exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

d. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project expose people or structures to significant risks, including downslopes or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

As discussed under impact discussion 20(a) of this section, the project site is surrounded by existing development and is not located in or near state responsibility areas or lands classified as very high fire hazard severity zones. The project site is separated by approximately 2.5 miles of development from the nearest undeveloped and vegetated area; therefore, the proposed project would not expose building occupants or structures to uncontrolled spread of wildfire or significant wildfire-related risks, such as runoff or post-fire slope instability.

In addition, according to the Camarillo General Plan Background Section, prevailing winds in the area are westerlies (2004). Because the project site is located approximately 2.5 miles west of the nearest Very High Fire Hazard Severity Zone, the project site would typically be upwind of any fires occurring in this area and potential occupants would not be exposed to substantial pollutant concentrations from any potential wildfires. Wildfire-related risks and impacts to project residents and structures would be less than significant.

LESS THAN SIGNIFICANT IMPACT

c. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

The project site is undeveloped and located in an urban area of Camarillo. As discussed above in this section, the site is not located in or near a state responsibility area or very high fire hazard zone. The site is well served by existing roadways and utilities and would not require the installation or maintenance of new roads, fuel breaks, emergency water sources, power lines, or other utilities that would exacerbate fire risk. No temporary or ongoing impacts would occur.

NO IMPACT

21 Mandatory Findings of Significance

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

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

As described in Section 4, *Biological Resources*, the proposed project site was previously developed and project implementation would have less than significant impacts to biological resources with implementation of Mitigation Measure BIO-1, which requires pre-construction nesting bird surveys and avoidance measures. The project would not impact wildlife habitats or cause wildlife populations to drop below self-sustaining levels. Additionally, Section 5, *Cultural Resources,* explains that the project would not adversely affect any historic or archeological resources since none are

identified to exist on the project site. The proposed project would less than significant impacts with mitigation incorporated.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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

The Traffic Study prepared for the project includes a list of approved and pending development projects, which were incorporated into the cumulative traffic analysis (Appendix J; Table 7)[2]. The nearest approved and pending project (LD-544/RPD-203) is over 800 feet west of the project site, at 2521 Barry Street. None of the approved and pending projects are immediately adjacent to the project site. As described in the discussion of environmental checklist Sections 1 through 20, the project would have no impact, a less than significant impact, or a less than significant impact with mitigation incorporated for all environmental issues. These include short-term, long-term, and where appropriate, cumulative impacts. Cumulative impacts of the following resource areas have been addressed in the individual resource sections above: *Air Quality*, *Greenhouse Gas Emissions*, *Noise*, and *Transportation*. CalEEMod was utilized to assess the air quality and greenhouse gas impacts resulting from the proposed project, leading to a conclusion that the impacts associated with air quality and GHG emissions would be less than significant when compared to applicable thresholds that take into account cumulative impacts. In addition, the traffic analysis concludes that project traffic impacts under the cumulative plus project scenario would not exceed the City's LOS-based significance threshold.

Certain resource areas (e.g., agricultural and mineral) were determined to have no impact in comparison to existing conditions. Therefore, the project would not contribute to cumulative impacts related to these issues. Other issues (e.g., archaeological and paleontological resources, geology and soils, and hazards and hazardous materials) are by their nature project-specific and impacts at one location do not add to impacts at other locations or create additive impacts. In addition, the proposed project would not generate substantial population growth in exceedance of regional and City forecasts; therefore, it would not contribute substantially to any cumulative increases in demand for public services, or utilities such as water, wastewater, and solid waste service. The projects contribution to cumulative impacts would not be cumulatively considerable and cumulative impacts of the proposed project would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

In general, and as analyzed in this Initial Study, impacts to human beings are associated with air quality contaminants, hazards related to adverse geologic conditions, exposure to hazards and

[2] The Amazon Last Mile Distribution Facility project at 3001 and 3175 Mission Oaks Boulevard was not included in the 2800 Barry Street Traffic Study as the Amazon Last Mile Distribution Facility project was approved after the preparation of the proposed project's Traffic Study. The Amazon Last Mile Distribution Facility would not include any new major modifications or expansions to the buildings and pursuant to the approved Transportation Assessment prepared for the Amazon Last Mile Distribution Facility, the new occupants would generate fewer vehicle trips than the previous occupants (NV5 2019). Therefore, the Amazon Last Mile Distribution Facility project would not contribute to cumulative impacts.

hazardous materials, and excessive noise. As detailed in analyses in Section 3, *Air Quality*, Section 7, *Geology and Soils*, Section 9, *Hazards and Hazardous Materials*, Section 10, *Hydrology and Water Quality,* and Section 13, *Noise*, the proposed project would not result, either directly or indirectly, in substantial adverse effects related to these hazards. Compliance with applicable rules and regulations, as described throughout this Initial Study would reduce potential impacts on human beings to a less than significant level.

LESS THAN SIGNIFICANT IMPACT

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List of Preparers

Rincon Consultants, Inc. prepared this Initial Study under contract to the City of Camarillo. Persons involved in data gathering analysis, project management, and quality control are listed below.

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Appendix A

Project Plans

2800 Barry Street



Code Compliance

CHAPTER 11A CODE COMPLIANCE::

Section 1102A.3
Multistory Apartments with no elevator requirement

At least 10% of total number of Multistory Dwelling Units on site are to be designated as 11A

Total Multistory Units on site = 68 units

10% of 68 units = 7 Units to comply with Section 1102A.3.1 Multistory apartment requirements

Section 1104A.1
Covered Multifamily Dwellings

All ground floor dwelling units in non-elevator buildings shall be adaptable and on an accessible route

Section 1109A.2.1
Private Garages for Multifamily Dwelling Units:

Exception:
Private garages that are attached to and directly serve a single covered multifamily dwelling unit providing there is a door leading directly from the covered dwelling unit, which immediately enters the garage.

Section 1109A.5
Unassigned not attached parking spaces:

5% of total number of covered and uncovered accessible parking spaces are required.

5% of 90 total covered parking spaces =
5 covered accessible spaces required

5% of 58 total uncovered parking spaces =
3 uncovered accessible spaces required

CHAPTER 11B CODE COMPLIANCE:

Section 11B-233.3
Public Housing Facilities with Residential Dwelling Units

Section 11B-233.3.1.1
Residential Dwelling Units with Mobility Features

At least 5% of total number of Residential Dwelling Units on the site shall provide mobility features complying with Sections 11B-809.2 through 11B-809.4 and shall be on an accessible route per Sections 11B-206

68 Total Residential Units on site

Required
5% of 68 units = (4) 11B Units are required to provide mobility features

Actual Provided
10% of 68 units = (7) 11B units are provided per CTCAC requirements

Section 11B-233.3.1.3
Residential Dwelling Units with Communications Features

At least 2% of the total number of Residential Dwelling Units shall provide communication features complying with Sections 11B-809.5

Required
2% of 68 units = (2) 11B units required with Communication features.

Actual Provided
2% of 68 units = (2) 11B units provided with Communication features.

Section 11B-233.3.1.2
Residential Dwelling Units with Adaptable Features

In Public Housing facilities with Residential Dwelling Units, residential dwelling units complying with Chapter 11A, Division IV shall provide Dwelling Unit Features required by Sections 11B-233.3.1 through 11B-233.3.1.5. Adaptable residential dwelling units shall be on an accessible route.

Exception:
The number of required adaptable residential units shall be reduced by the number of units required by Section 11B-233.3.1.1

Total of (23) 11A units provided less the (7) 11B units required/provided =
(23) 11A adaptable units required *

11B Unit Designations

Building Name	11B Mobility Units	TCAC
Building A	(1) - 1BR	(1) - 3BR
Building B	-	(1) - 2BR
Building C	(1) - 2BR	(1) - 1BR
Building D	(1) - Studio	-
Building E	(1) - 3BR	-
Total:	**4**	**3**

Unit Data

UNIT MIX:

Building:	STUDIO	1BD.	2BD.	3BD.	Total
A	2	2	2	10	16
B	0	0	5	5	10
C	0	20	8	0	28
D	5	0	*1	0	6
E	0	0	0	8	8
TOTALS	7	22	*16	23	*68

*Includes Manager's Unit

Applicable Codes

2019 California Building Code
2019 California Plumbing Code
2019 California Electrical Code
2019 California Fire Code
2019 California Energy Code
2019 California Administration Code
2019 California Referenced Standards Code
2019 ADA Standards for Accessible Design
2019 California Green Building Standards Code
Uniform Federal Accessibility Standards
Fair Housing Law

Utility Service Providers

Water Service: Camarillo Water District
Sanitary: Camarillo Sanitary District
Electrical: Southern California Edison
Gas: So Cal Gas
Trash/Recycling: EJ Harrison

Vicinity Map



Project Data

Project Description:	Project is a 100% affordable multi-family housing development consisting of a total of 68 units (including one unrestricted managers unit), including 60 rental apartments, and 8 for-sale townhomes. The rental apartments include 7 studio, 22 one-bedroom, 15 two-bedroom, and 23 three-bedroom units, in a total of four buildings. A total of 153 parking spaces are provided, whereas 34 are required pursuant to State Density Bonus Law and CMC 19.49. Onsite amenities include an approximately 1,472 sf community center, multiple playground areas, common courtyards, outdoor BBQ areas, and shared outdoor living areas. Private outdoor patios and balconies are provided in each unit. The project conforms to California Tax Credit Allocation Committee (TCAC) requirements for sustainability and energy efficiency.
Address:	2800 Barry Street, Camarillo, California 93010
APN(s):	162-0-023-030
Existing Land Use:	Industrial/Commercial
Proposed Land Use:	High Density 30 du/ac
Existing Zoning:	M-1
Proposed Zoning:	RPD-30 (Under Proposed Zoning)
Existing Use:	Vacant Lot
Proposed Use:	Multi-family Residential - Affordable Housing
Lot Area:	112,384 SF / 2.58 ac.
Current Allowable Density:	30 du/ac
Proposed Density:	27.4 du/ac
Maximum Height:	25 ft unless approved with RPD permit
Proposed Height:	35 ft requested with RPD permit
Required Yard (Setbacks):	Front (East-Lewis Rd.): 20' unless approved with RPD permit Side (North/South): 10' unless approved with RPD permit Rear (West): 20'
Provided Yard (Setbacks):	Front (Lewis Rd.): East 20' Sides (South): 12' & (North): 13' Rear (West):10' Concession Requested
Requested Discretionary Approvals:	General Plan Amendment Zone Change Residential Planned Development (RPD) Permit Conditional Use Permit for Studio Efficiency Units Density Bonus and Other Incentives Tentative Tract Map

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A.02	2nd Level Parking Plan
A.03	Surrounding Site Map Exhibit
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A.A3	Building A Exterior Elevations
A.A4	Details
A.B1	Building B Plans
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A.B3	Building B Exterior Elevations
A.B4	Trash Enclosure Floor Plan
A.C1	Building C Plans
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A.X1	Typical Unit Plans
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C-1.0	Preliminary Grading and Utility Plan
L-1	Landscape Concept Plan
TM-1	Tentative Tract Map No. TT-6017 Title Sheet
TM-2	Tentative Tract Map No. TT-6017 Existing Condition
TM-3	Tentative Tract Map No. TT-6017 Preliminary Grading and Utility Plan

Site Coverage

LOT SIZE:
Gross: 112,384 SF (2.58 AC)

LOT COVERAGE:

Drive Way/ Parking:	32,090 SF (29%)
Building Foot Print:	35,165 SF (31%)
Hardscape:	8,966 SF (8%)
Landscape:	36,300 SF (32%)
	112,521 SF (100%)

Common Open Space

Per Camarillo Municipal Code 19.16.110

Required Common Open Space =	
125 SF per Efficiency Unit x 7	=875 SF
250 SF per 1BR and 2BR Unit x 38	=13,500 SF
500 SF per 3BR Unit x 23	=34,500 SF
Total Required	**=48,875 SF**
Provided Common Open Space	**= 30,538 SF**

Parking Data

Parking Provided:
Rental Apartments - 105 undesignated spaces
Compact Parking (Parking Structure/Townhome Garages) - 44 (28 parking structure and 16 townhome garage spaces, 28% overall)
Guest parking - 32 undesignated spaces
Total Parking Provided: 153 spaces

Concessions

1. **Compact Parking Spaces in parking structure and townhome garages** - 44 spaces (28% overall)
2. **Tandem Parking in townhome garages (Bldg E)** - reduction in required 12' clear width to approximately 9 feet, 16 total spaces
3. **Reduced required common open space** from 48,875 sf to approximately 30,538 sf
4. **Reduced rear yard setback** – from 20 feet to 10 feet along western property line

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Area Housing Authority of the County of Ventura
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2800 Barry Street Affordable Housing Development
2800 Barry Street, Camarillo, California 93010
Project Data

G.00
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A: NE View at the Intersection



B: NW View at the Intersection



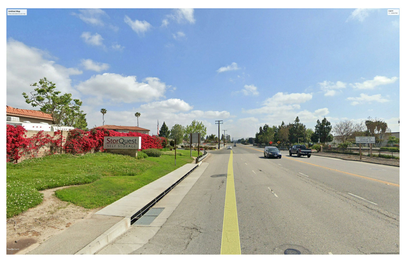
C:SE View at the Intersection



D: SW View at the Intersection



E: Site View at the Intersection



F: Lewis Road View A



G: Barry Street View B



H: Barry Street View A



I: Lewis Road View B

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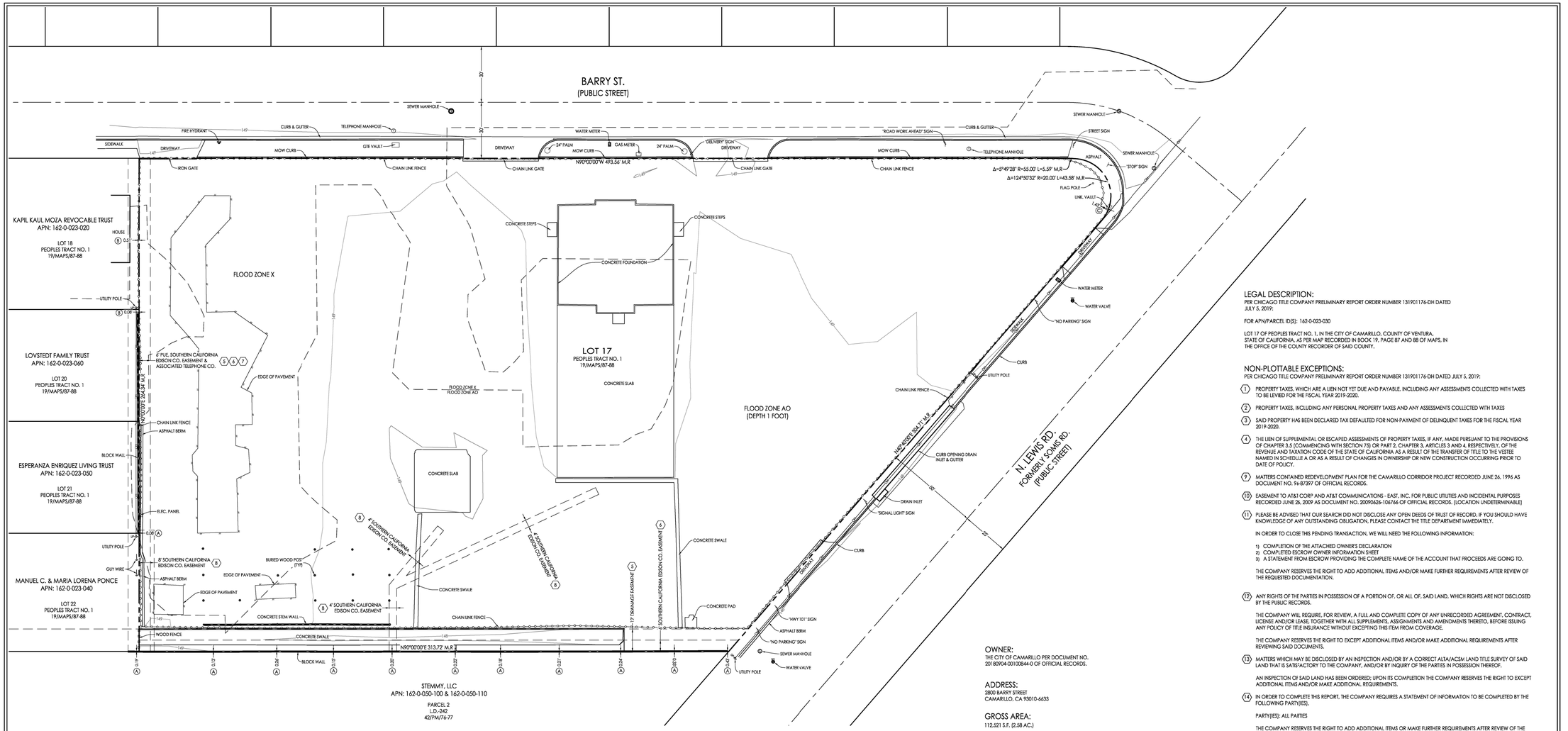
2800 Barry Street Affordable Housing Develpoment

2800 Barry Street, Camarillo, California 93010

Site Photos

G.01

8/4/2020



LEGAL DESCRIPTION:

PER CHICAGO TITLE COMPANY PRELIMINARY REPORT ORDER NUMBER 131901176-DH DATED JULY 5, 2019:

FOR APN/PARCEL ID(S): 162-0-023-030

LOT 17 OF PEOPLES TRACT NO. 1, IN THE CITY OF CAMARILLO, COUNTY OF VENTURA, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 19, PAGE 87 AND 88 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

NON-PLOTTABLE EXCEPTIONS:

PER CHICAGO TITLE COMPANY PRELIMINARY REPORT ORDER NUMBER 131901176-DH DATED JULY 5, 2019:

(1) PROPERTY TAXES, WHICH ARE A LIEN NOT YET DUE AND PAYABLE, INCLUDING ANY ASSESSMENTS COLLECTED WITH TAXES TO BE LEVIED FOR THE FISCAL YEAR 2019-2020.

(2) PROPERTY TAXES, INCLUDING ANY PERSONAL PROPERTY TAXES AND ANY ASSESSMENTS COLLECTED WITH TAXES

(3) SAID PROPERTY HAS BEEN DECLARED TAX DEFAULTED FOR NON-PAYMENT OF DELINQUENT TAXES FOR THE FISCAL YEAR 2019-2020.

(4) THE LIEN OF SUPPLEMENTAL OR ESCAPED ASSESSMENTS OF PROPERTY TAXES, IF ANY, MADE PURSUANT TO THE PROVISIONS OF CHAPTER 3.5 (COMMENCING WITH SECTION 75) OR PART 2, CHAPTER 3, ARTICLES 3 AND 4, RESPECTIVELY, OF THE REVENUE AND TAXATION CODE OF THE STATE OF CALIFORNIA AS A RESULT OF THE TRANSFER OF TITLE TO THE VESTEE NAMED IN SCHEDULE A OR AS A RESULT OF CHANGES IN OWNERSHIP OR NEW CONSTRUCTION OCCURRING PRIOR TO DATE OF POLICY.

(9) MATTERS CONTAINED REDEVELOPMENT PLAN FOR THE CAMARILLO CORRIDOR PROJECT RECORDED JUNE 26, 1996 AS DOCUMENT NO. 96-87397 OF OFFICIAL RECORDS.

(10) EASEMENT TO AT&T CORP AND AT&T COMMUNICATIONS - EAST, INC. FOR PUBLIC UTILITIES AND INCIDENTAL PURPOSES RECORDED JUNE 26, 2009 AS DOCUMENT NO. 20090626-106766 OF OFFICIAL RECORDS. (LOCATION UNDETERMINABLE)

(11) PLEASE BE ADVISED THAT OUR SEARCH DID NOT DISCLOSE ANY OPEN DEEDS OF TRUST OF RECORD. IF YOU SHOULD HAVE KNOWLEDGE OF ANY OUTSTANDING OBLIGATION, PLEASE CONTACT THE TITLE DEPARTMENT IMMEDIATELY.

IN ORDER TO CLOSE THIS PENDING TRANSACTION, WE WILL NEED THE FOLLOWING INFORMATION:

1) COMPLETION OF THE ATTACHED OWNER'S DECLARATION
2) COMPLETED ESCROW OWNER INFORMATION SHEET
3) A STATEMENT FROM ESCROW PROVIDING THE COMPLETE NAME OF THE ACCOUNT THAT PROCEEDS ARE GOING TO.

THE COMPANY RESERVES THE RIGHT TO ADD ADDITIONAL ITEMS AND/OR MAKE FURTHER REQUIREMENTS AFTER REVIEW OF THE REQUESTED DOCUMENTATION.

(12) ANY RIGHTS OF THE PARTIES IN POSSESSION OF A PORTION OF, OR ALL OF, SAID LAND, WHICH RIGHTS ARE NOT DISCLOSED BY THE PUBLIC RECORDS.

THE COMPANY WILL REQUIRE, FOR REVIEW, A FULL AND COMPLETE COPY OF ANY UNRECORDED AGREEMENT, CONTRACT, LICENSE AND/OR LEASE, TOGETHER WITH ALL SUPPLEMENTS, ASSIGNMENTS AND AMENDMENTS THERETO, BEFORE ISSUING ANY POLICY OF TITLE INSURANCE WITHOUT EXCEPTING THIS ITEM FROM COVERAGE.

THE COMPANY RESERVES THE RIGHT TO EXCEPT ADDITIONAL ITEMS AND/OR MAKE ADDITIONAL REQUIREMENTS AFTER REVIEWING SAID DOCUMENTS.

(13) MATTERS WHICH MAY BE DISCLOSED BY AN INSPECTION AND/OR BY A CORRECT ALTA/ACSM LAND TITLE SURVEY OF SAID LAND THAT IS SATISFACTORY TO THE COMPANY, AND/OR BY INQUIRY OF THE PARTIES IN POSSESSION THEREOF.

AN INSPECTION OF SAID LAND HAS BEEN ORDERED; UPON ITS COMPLETION THE COMPANY RESERVES THE RIGHT TO EXCEPT ADDITIONAL ITEMS AND/OR MAKE ADDITIONAL REQUIREMENTS.

(14) IN ORDER TO COMPLETE THIS REPORT, THE COMPANY REQUIRES A STATEMENT OF INFORMATION TO BE COMPLETED BY THE FOLLOWING PARTY(IES).

PARTY(IES): ALL PARTIES

THE COMPANY RESERVES THE RIGHT TO ADD ADDITIONAL ITEMS OR MAKE FURTHER REQUIREMENTS AFTER REVIEW OF THE REQUESTED STATEMENT OF INFORMATION.

NOTE: THE STATEMENT OF INFORMATION IS NECESSARY TO COMPLETE THE SEARCH AND EXAMINATION OF TITLE UNDER THIS ORDER. ANY TITLE SEARCH INCLUDES MATTERS THAT ARE INDEXED BY NAME ONLY, AND HAVING A COMPLETED STATEMENT OF INFORMATION ASSISTS THE COMPANY IN THE ELIMINATION OF CERTAIN MATTERS WHICH APPEAR TO INVOLVE THE PARTIES BUT IN FACT AFFECT ANOTHER PARTY WITH THE SAME OR SIMILAR NAME. BE ASSURED THAT THE STATEMENT OF INFORMATION IS ESSENTIAL AND WILL BE KEPT STRICTLY CONFIDENTIAL TO THIS FILE.

OWNER:

THE CITY OF CAMARILLO PER DOCUMENT NO. 20180904-00100844-0 OF OFFICIAL RECORDS.

ADDRESS:

2800 BARRY STREET
CAMARILLO, CA 93010-6633

GROSS AREA:

112,521 S.F. (2.58 AC.)

ZONING:

CURRENTLY: ZONE M-1 (LIGHT MANUFACTURING)
PROPOSED: ZONE

FLOOD ZONE:

FLOOD ZONE X (0.2% ANNUAL CHANCE FLOODPLAIN) AND ZONE AO (1% ANNUAL CHANCE FLOODPLAIN, DEPTH OF 1 FOOT) PER F.I.R.M. COMMUNITY PANEL NO. 06111C0931F AND F.I.R.M. COMMUNITY PANEL NO. 06111C0933F DATED JANUARY 7, 2015.

ALTA/NSPS TABLE A ITEMS:

ITEM 5 GROUND SURVEY, ELEVATIONS BASED ON VENTURA COUNTY BENCH MARK "R 1295", ELEVATION BEING 150.12 FEET (NAVD88).
ITEM 6 NOTHING PROVIDED BY CLIENT.
ITEM 7 NOTHING OBSERVED.
ITEM 9 NOTHING OBSERVED.
ITEM 14 ACCESS TO PROPERTY FROM W. DRIVER AVENUE AND COLONY DRIVE.
ITEM 16 NOTHING OBSERVED.
ITEM 17 NOTHING PROVIDED BY CLIENT.
ITEM 18 NO DELINEATION MARKERS WERE OBSERVED.

PLOTTABLE EXCEPTIONS:

PER CHICAGO TITLE COMPANY PRELIMINARY REPORT ORDER NUMBER 131901176-DH DATED JULY 5, 2019:

(5) EASEMENTS FOR THE PUBLIC UTILITIES AND DRAINAGE PURPOSE AND RIGHTS INCIDENTAL THERETO AS DELINEATED OR AS OFFERED FOR DEDICATION, ON THE MAP OF PEOPLES TRACT NO. 1 RECORDED IN BOOK 19, PAGE 87 AND 88 OF MAPS.

(6) EASEMENT TO SOUTHERN CALIFORNIA EDISON COMPANY FOR PUBLIC UTILITIES AND INCIDENTAL PURPOSES RECORDED APRIL 8, 1952 IN BOOK 1059, PAGE 95 OF OFFICIAL RECORDS.

(7) EASEMENT TO ASSOCIATED TELEPHONE COMPANY, LTD. FOR PUBLIC UTILITIES AND INCIDENTAL PURPOSES RECORDED JULY 1, 1952 IN BOOK 1075, PAGE 13 OF OFFICIAL RECORDS.

(8) EASEMENT TO SOUTHERN CALIFORNIA EDISON COMPANY FOR PUBLIC UTILITIES AND INCIDENTAL PURPOSES RECORDED MARCH 11, 1985 AS DOCUMENT NO. 23977 OF OFFICIAL RECORDS.

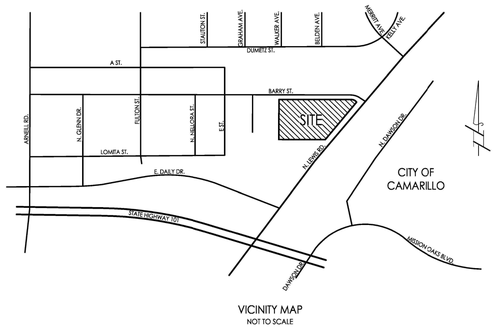
OBSERVABLE EVIDENCE OF OF EASEMENTS AND/OR SERVITUDES:

(A) WALL ENCROACHMENT ONTO SUBJECT PROPERTY.
(S) FENCE ENCROACHMENT ONTO ADJOINING PROPERTY.
(C) UTILITY VAULT ENCROACHMENT ONTO SUBJECT PROPERTY.

REFERENCES

M MEASURED
R 104/MAPS/79-90

0 10 20
GRAPHIC SCALE



VICINITY MAP
NOT TO SCALE

SURVEYOR'S CERTIFICATE

TO HOUSING AUTHORITY OF THE COUNTY OF VENTURA; MANY MANSIONS, A CALIFORNIA NON-PROFIT CORPORATION; CHICAGO TITLE COMPANY.

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2016 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 2, 3, 4, 5, 6(B), 7(A), 7(B)(1), 7(C), 8, 9, 11, 13, 14, 16, 17, 18, 19 AND 22 OF TABLE A THEREOF.

THE FIELDWORK WAS COMPLETED ON 08/22/2019

DATE OF PLAT OR MAP: 09/09/2019

STEVEN B. WEBSTER — SEPTEMBER 9, 2019
STEVEN B. WEBSTER — DATE
REGISTRATION NO. L.S. 7561

NOTE: SECTION 8770.6 OF THE CALIFORNIA BUSINESS AND PROFESSIONS CODE STATES THAT THE USE OF THE WORD CERTIFY OR CERTIFICATION BY A LICENSED LAND SURVEYOR IN THE PRACTICE OF LAND SURVEYING OR THE PREPARATION OF MAPS, PLATS, REPORTS, DESCRIPTIONS OR OTHER SURVEYING DOCUMENTS ONLY CONSTITUTES AN EXPRESSION OF PROFESSIONAL OPINION REGARDING THOSE FACTS OR FINDINGS WHICH ARE THE SUBJECT OF THE CERTIFICATION AND DOES NOT CONSTITUTE A WARRANTY OR GUARANTEE, EITHER EXPRESSED OR IMPLIED.

LICENSED LAND SURVEYOR
STEVEN B. WEBSTER
LIC. NO. 7561
STATE OF CALIFORNIA

ALTA / NSPS LAND TITLE SURVEY

LOT 17 OF PEOPLES TRACT NO. 1, IN THE CITY OF CAMARILLO, COUNTY OF VENTURA, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 19, PAGE 87 AND 88 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

PREPARED AT THE REQUEST OF THE AREA HOUSING AUTHORITY OF THE COUNTY OF VENTURA.

REVISION	DATE

JOB # 1450-02-RS19 SHEET 1 OF 2

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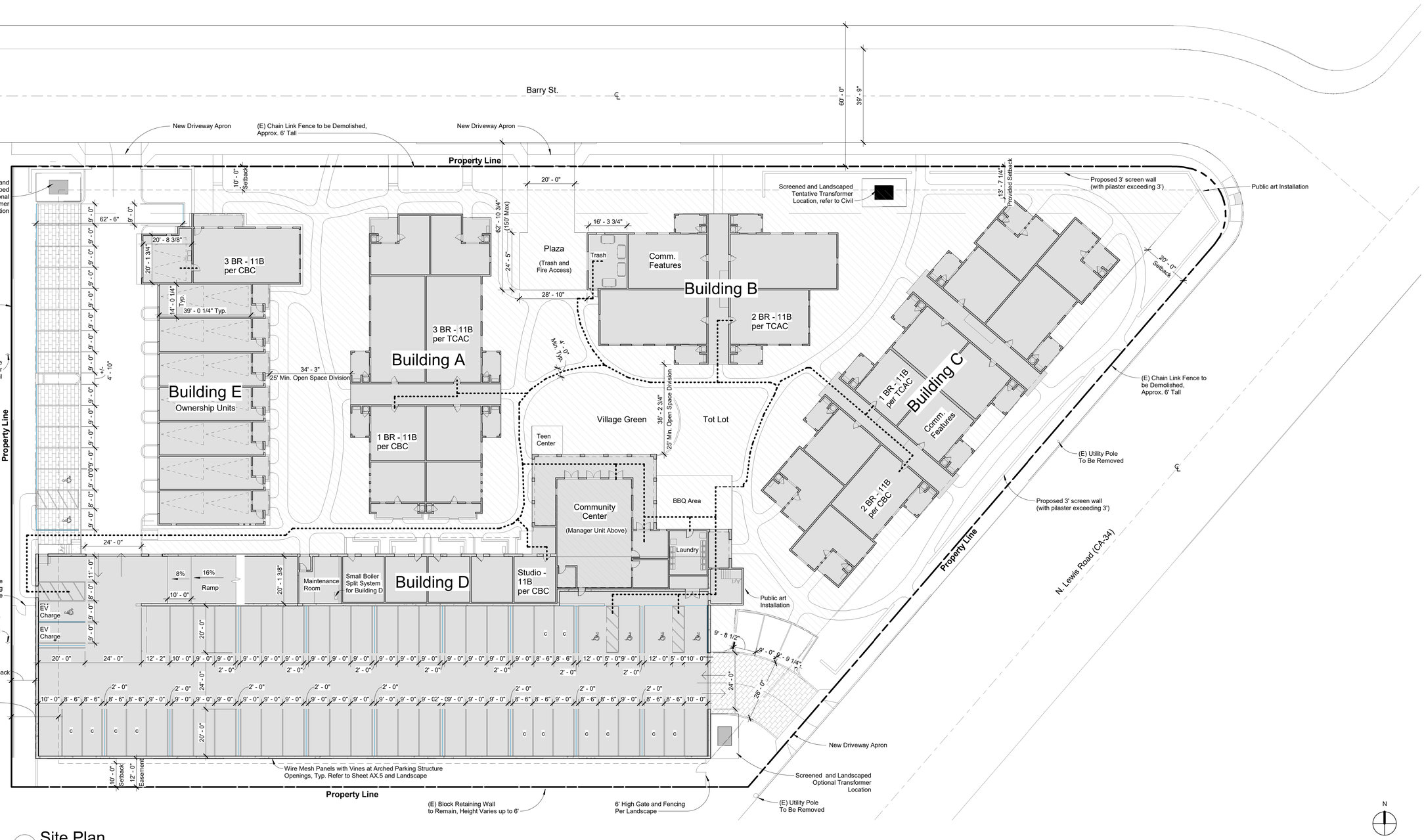
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A COLLABORATIVE COMMUNITY

2800 Barry Street Affordable Housing Development

2800 Barry Street, Camarillo, California 93010

ALTA Survey

G.02
8/4/2020



1 Site Plan
SCALE: 1" = 20'-0"

Legend

- Accessible Path of Travel
- Common Open Space

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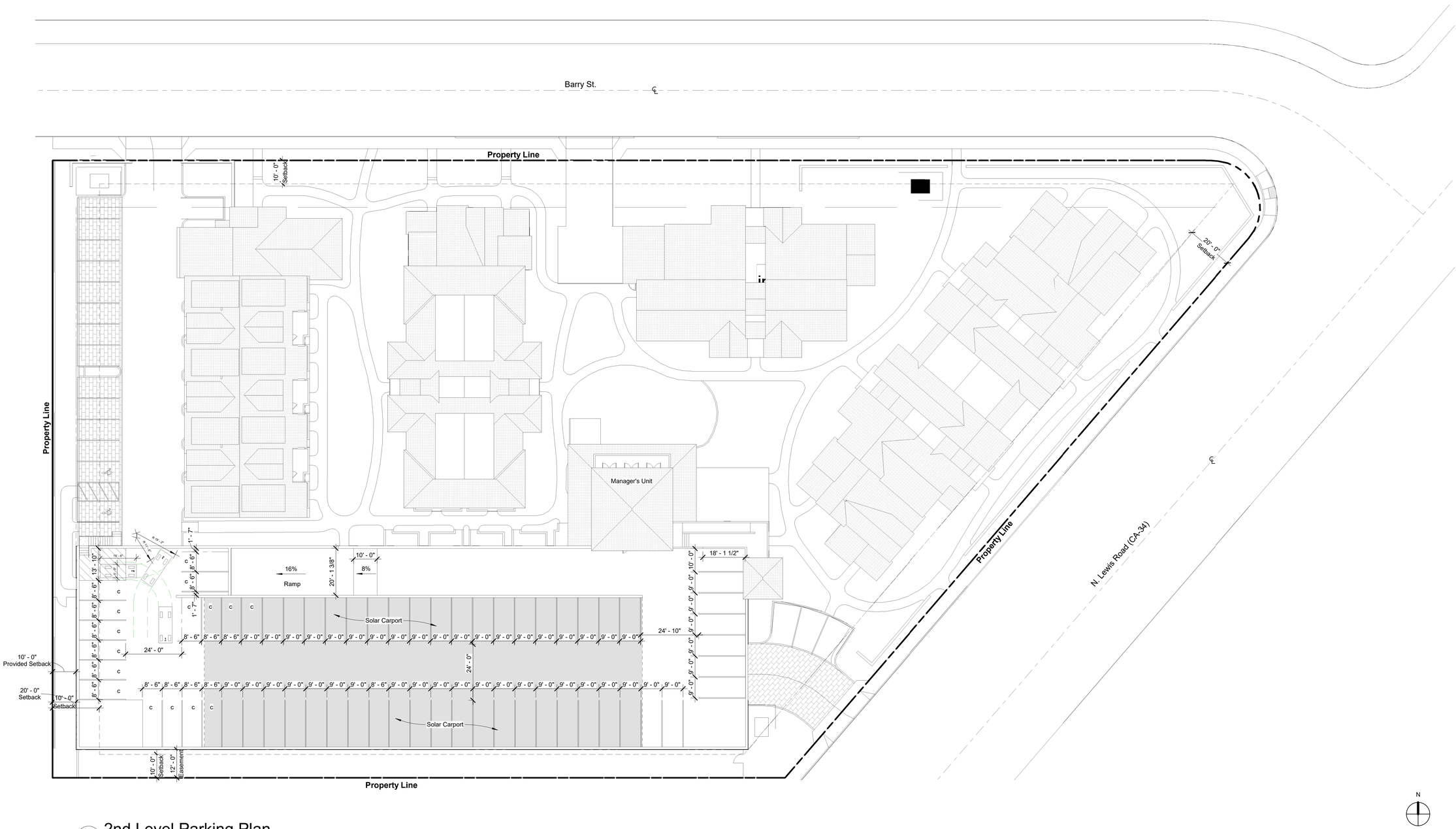
2800 Barry Street Affordable Housing Development

2800 Barry Street, Camarillo, California 93010

Site Plan

A.01

8/4/2020



1 2nd Level Parking Plan

SCALE: 1" = 20'-0"

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2800 Barry Street Affordable Housing Development

2800 Barry Street, Camarillo, California 93010

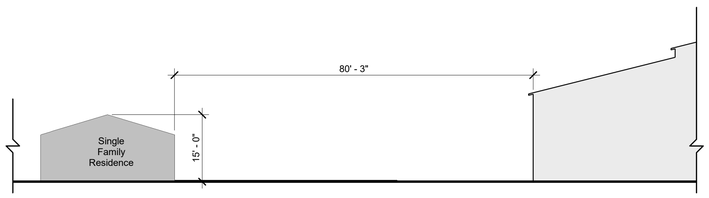
2nd Level Parking Plan

A.02

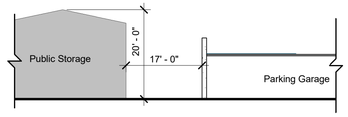
8/4/2020



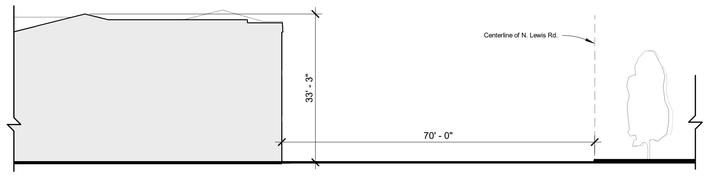
Surrounding Site Exhibit Map



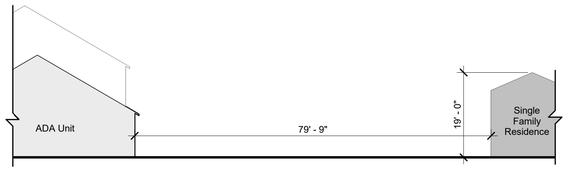
1 Barry Street Section
SCALE: 1/16" = 1'-0"



3 South Boundary Section
SCALE: 1/16" = 1'-0"



2 N. Lewis Road (CA-34) Section
SCALE: 1/16" = 1'-0"



4 West Boundary Section
SCALE: 1/16" = 1'-0"

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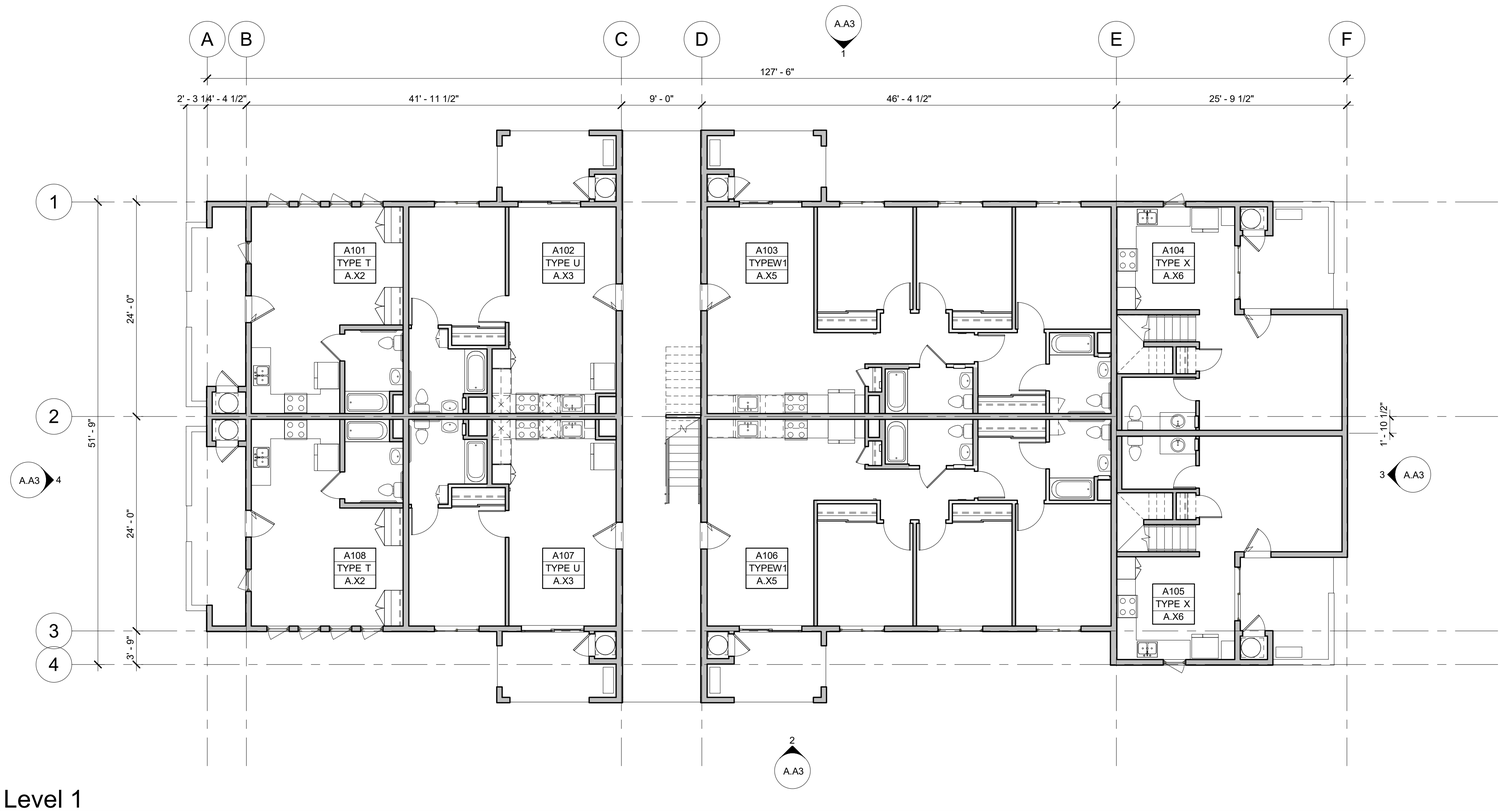
A COLLABORATIVE COMMUNITY

2800 Barry Street Affordable Housing Development

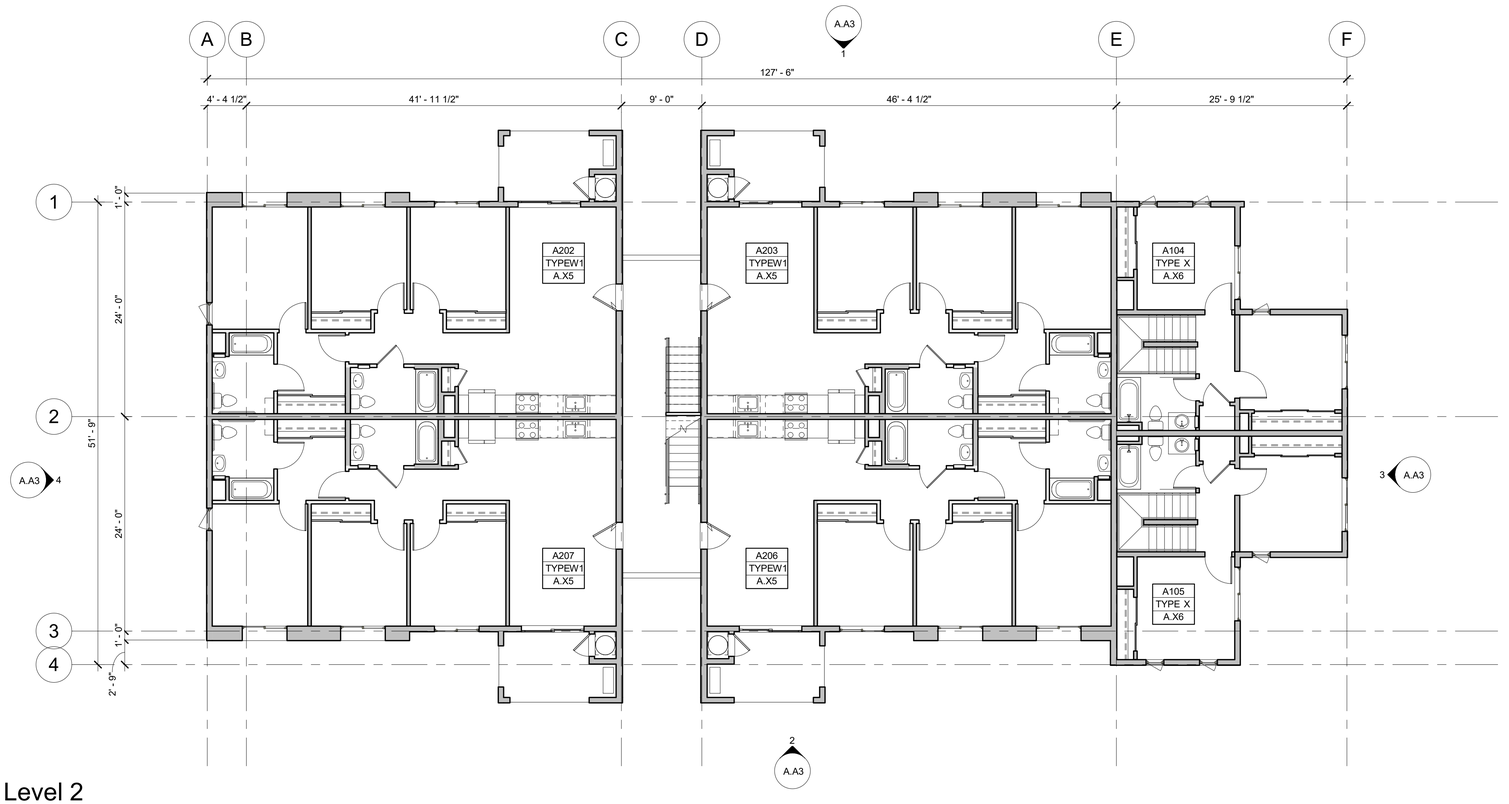
2800 Barry Street, Camarillo, California 93010

Surrounding Site Map Exhibit

A.03
8/4/2020



1 Level 1
SCALE: 1/8" = 1'-0"



2 Level 2
SCALE: 1/8" = 1'-0"

Building A Unit Mix

Unit Type	Net SF (Each)	Unit Count
Studio - Type T	392 sf	2
1 BD - Type U	536 sf	2
2 BD - Type X	910 sf	2
3 BD - Type W1	1044 sf	10
Total SF (Net):	**14,116 sf**	

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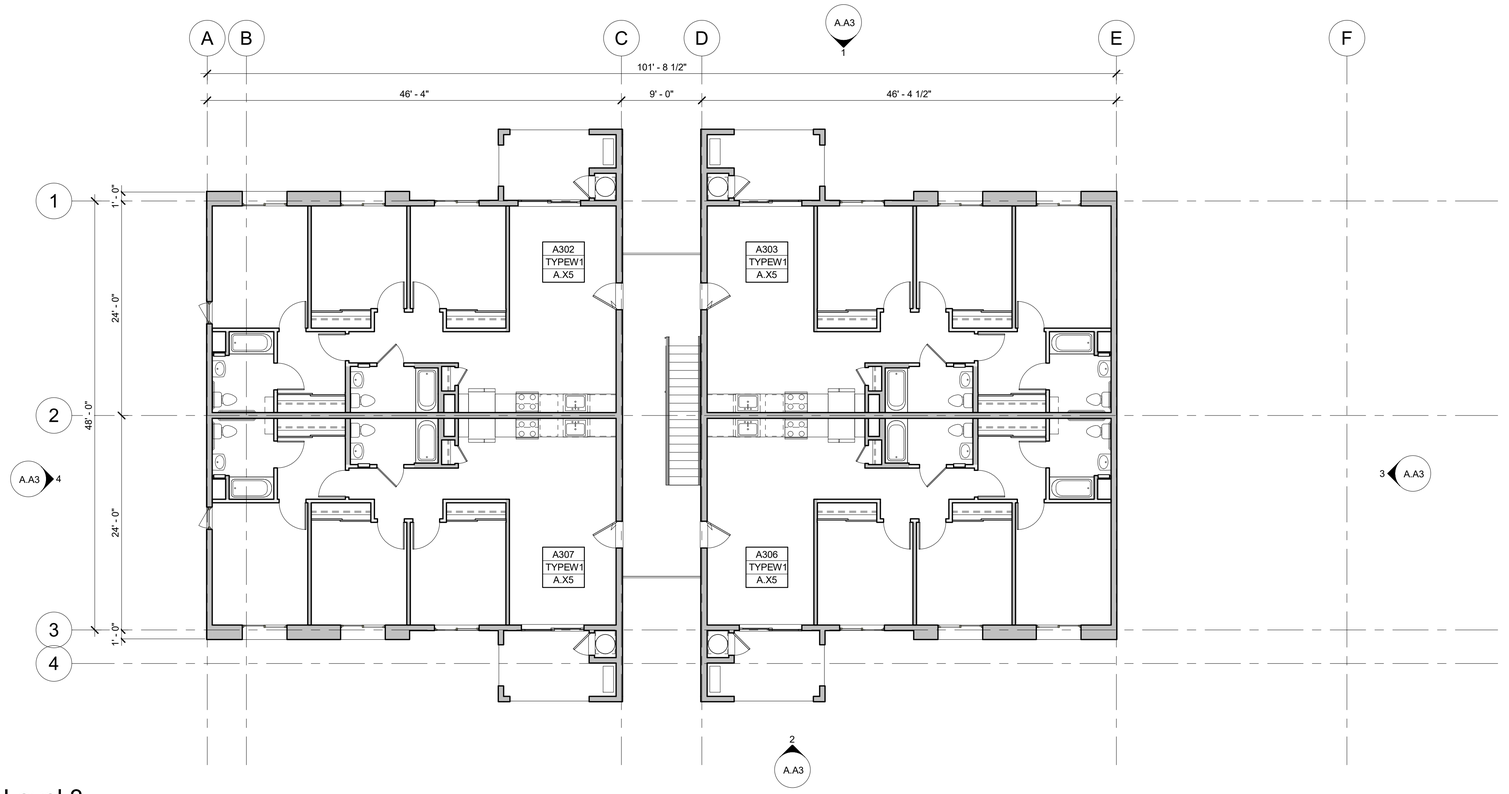
2800 Barry Street Affordable Housing Development

2800 Barry Street, Camarillo, California 93010

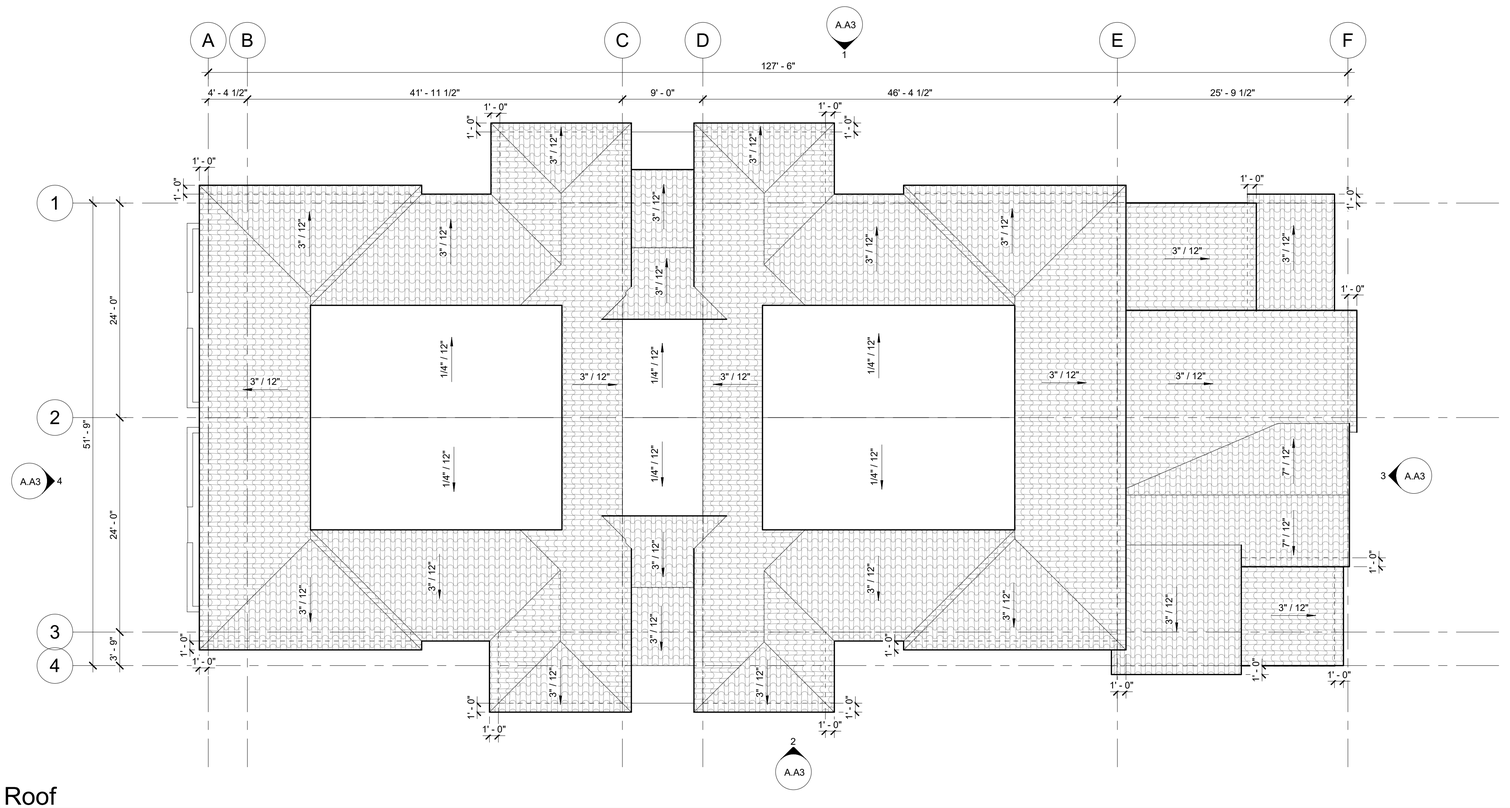
Building A Plans

A.A1

8/4/2020



1 Level 3
SCALE: 1/8" = 1'-0"



2 Roof
SCALE: 1/8" = 1'-0"

Building A Unit Mix

Unit Type	Net SF (Each)	Unit Count
Studio - Type T	392 sf	2
1 BD - Type U	536 sf	2
2 BD - Type X	910 sf	2
3 BD - Type W1	1044 sf	10
Total SF (Net):	**14,116 sf**	

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Area Housing Authority of the County of Ventura
A COLLABORATIVE COMMUNITY

2800 Barry Street Affordable Housing Development

2800 Barry Street, Camarillo, California 93010

Building A Plans

A.A2
8/4/2020



3 North Elevation
SCALE: 1/8" = 1'-0"



1 West Elevation
SCALE: 1/8" = 1'-0"



4 South Elevation
SCALE: 1/8" = 1'-0"



2 East Elevation
SCALE: 1/8" = 1'-0"

rrm design group

RRM Design Group

10 E. Figueroa St., Suite 1
Santa Barbara, CA 93101

Tel: 805.963.8283
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Many Mansions
Area Housing Authority of the County of Ventura
A COLLABORATIVE COMMUNITY

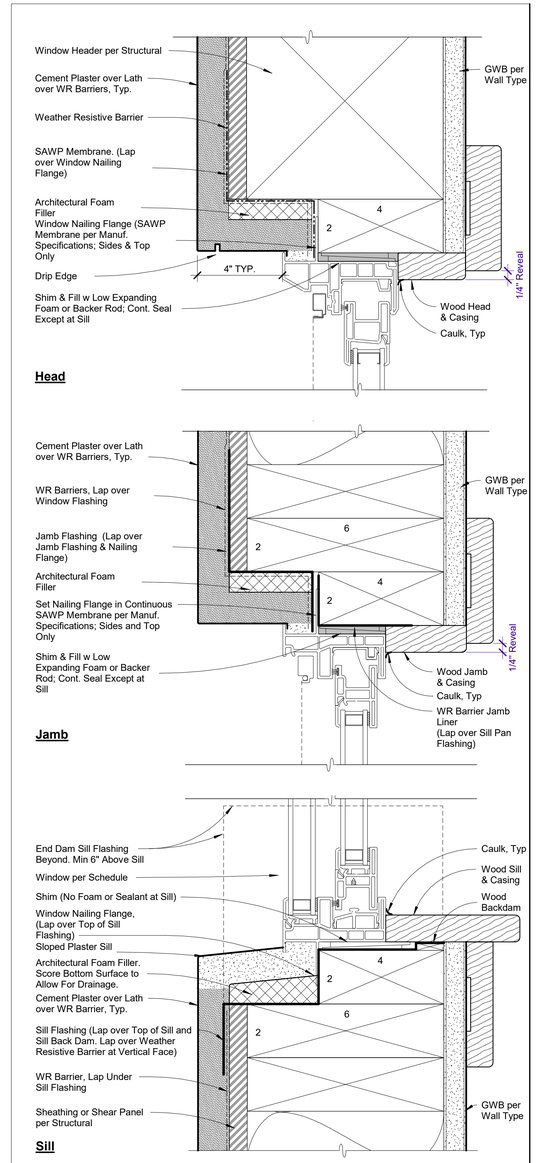
2800 Barry Street Affordable Housing Development

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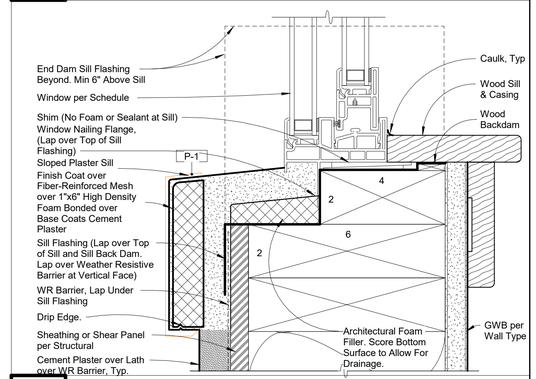
Building A Exterior Elevations

A.A3

8/4/2020



1 **Window Detail Typical** SCALE: 6" = 1'-0"



2 **Window Sill** SCALE: 6" = 1'-0"

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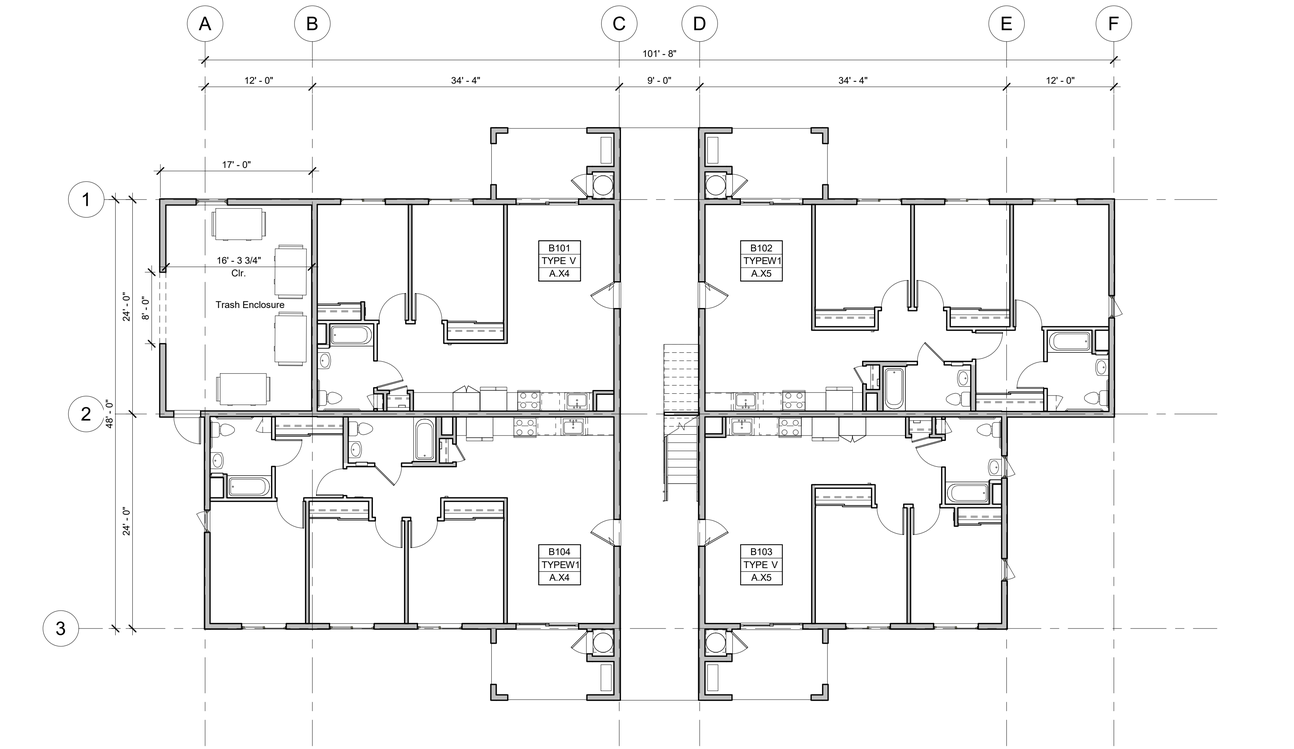
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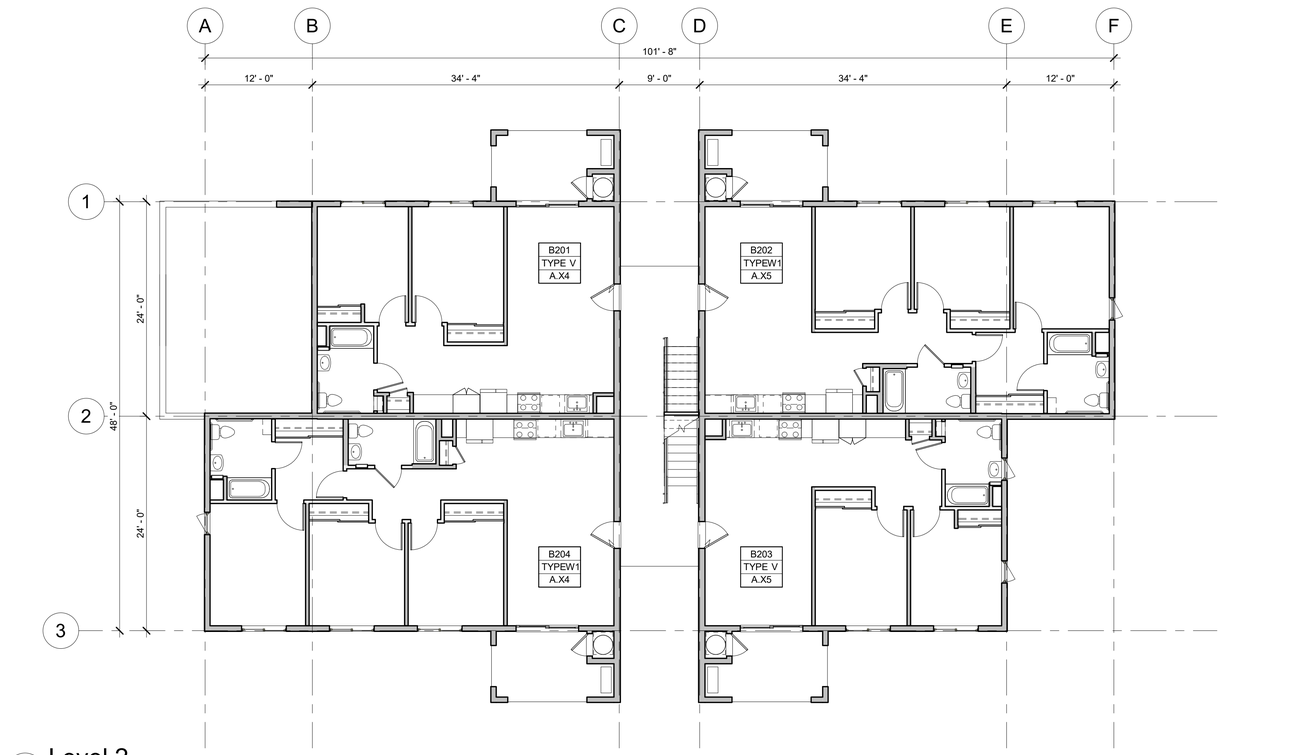
Details

A.A4

8/4/2020



1 Level 1
SCALE: 1/8" = 1'-0"



2 Level 2
SCALE: 1/8" = 1'-0"

Building B Unit Mix

Unit Type	Net SF (Each)	Unit Count
2 BD - Type V	767 sf	5
3 BD - Type W1	1044 sf	5
Total SF (Net):	**9,055 sf**	

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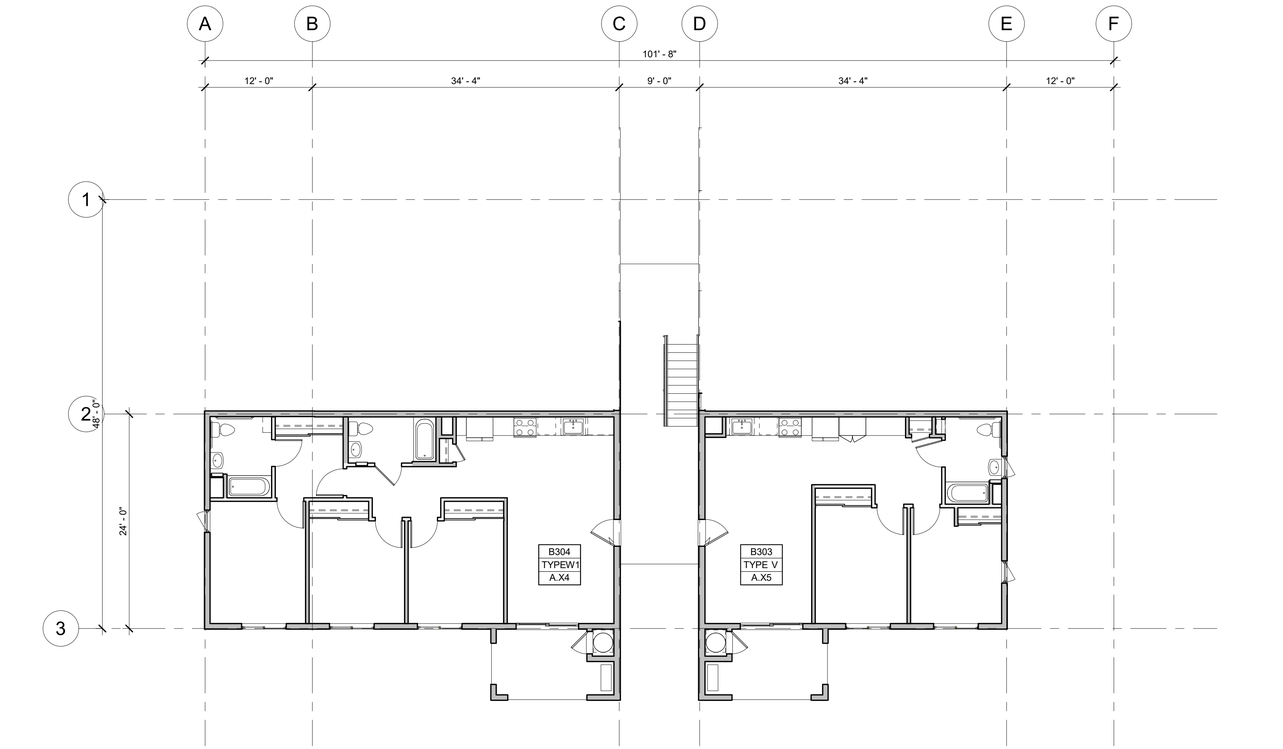
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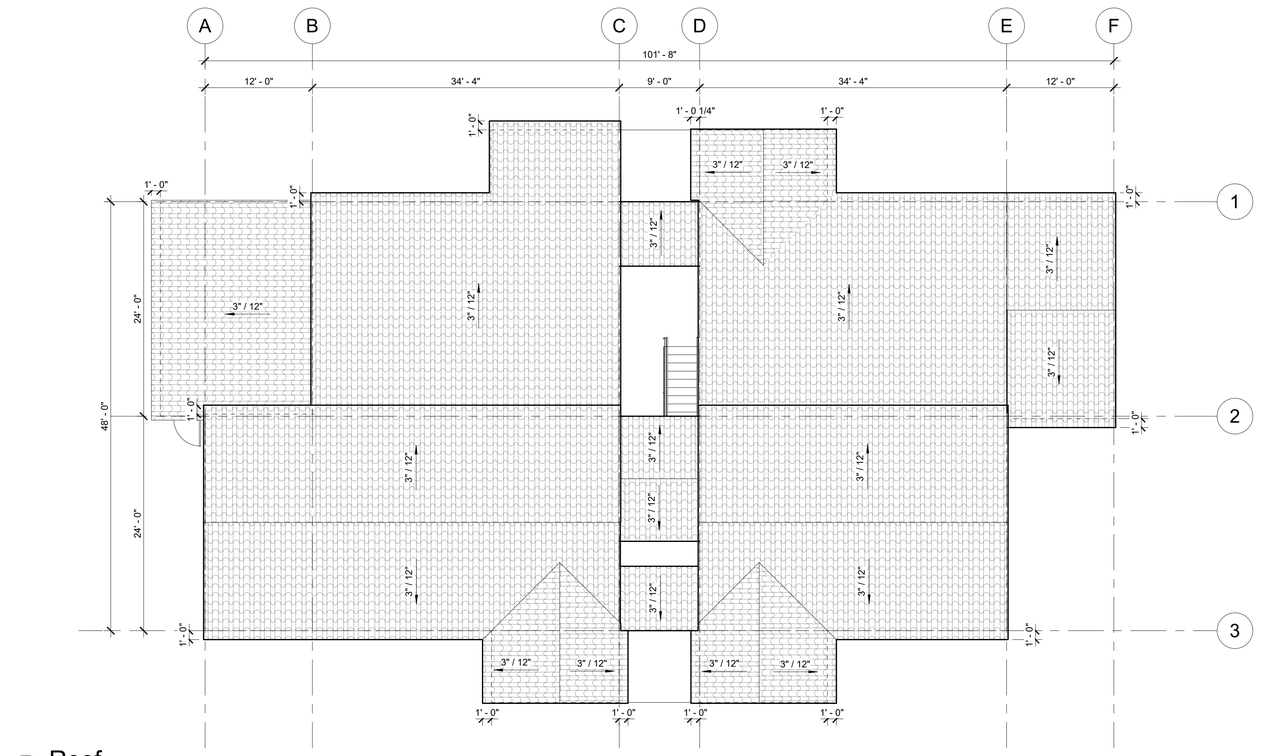
Building B Plans

A.B1

8/4/2020



1 Level 3
SCALE: 1/8" = 1'-0"



2 Roof
SCALE: 1/8" = 1'-0"

Building B Unit Mix

Unit Type	Net SF (Each)	Unit Count
2 BD - Type V	767 sf	5
3 BD - Type W1	1044 sf	5
Total SF (Net):	**9,055 sf**	

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2800 Barry Street Affordable Housing Development

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Building B Plans

A.B2

8/4/2020



1 North Elevation
SCALE: 1/8" = 1'-0"



2 East Elevation
SCALE: 1/8" = 1'-0"



3 South Elevation
SCALE: 1/8" = 1'-0"



4 West Elevation
SCALE: 1/8" = 1'-0"

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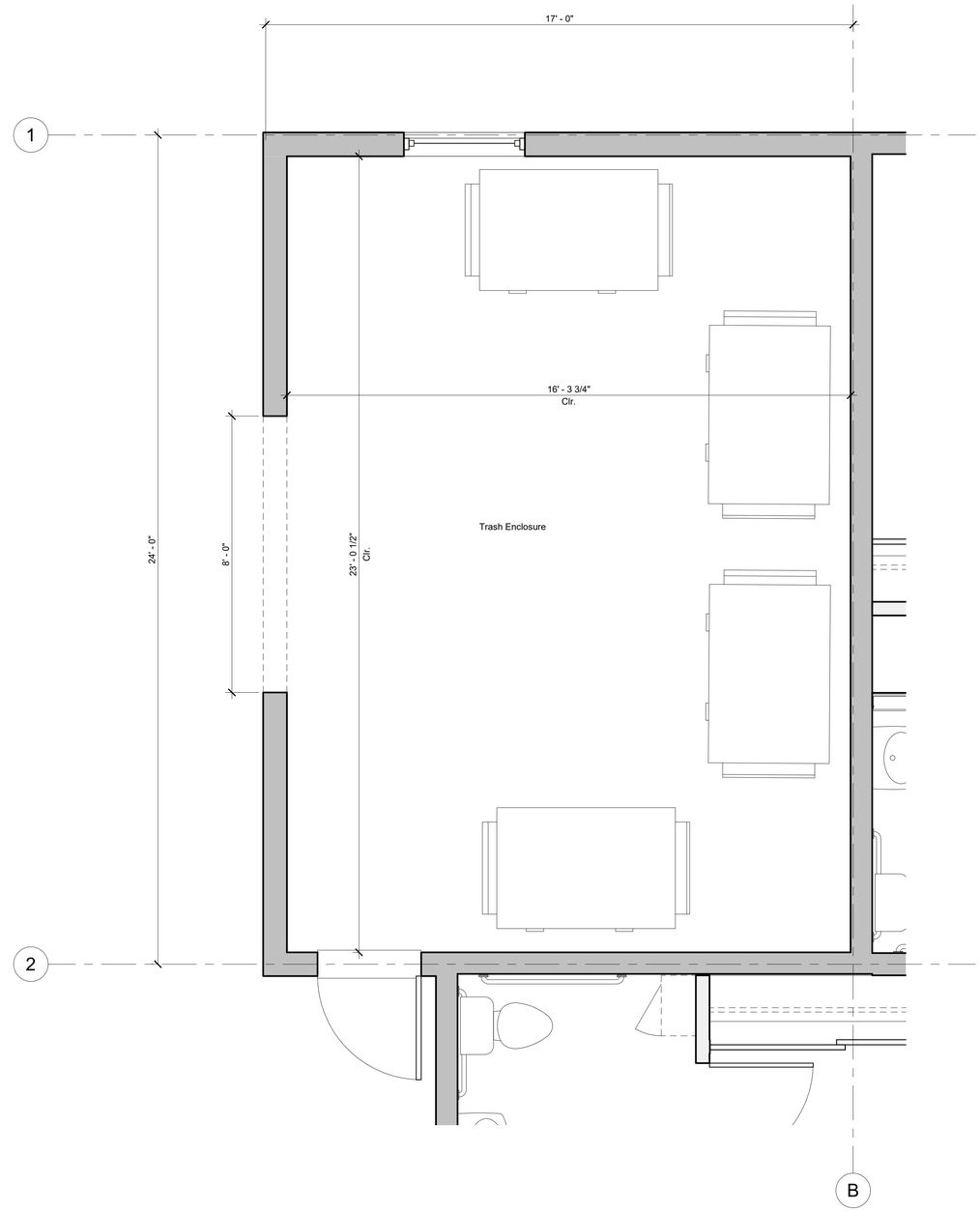
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2800 Barry Street Affordable Housing Development
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Building B Exterior Elevations

A.B3
8/4/2020



Trash Enclosure
1/2" = 1'-0"

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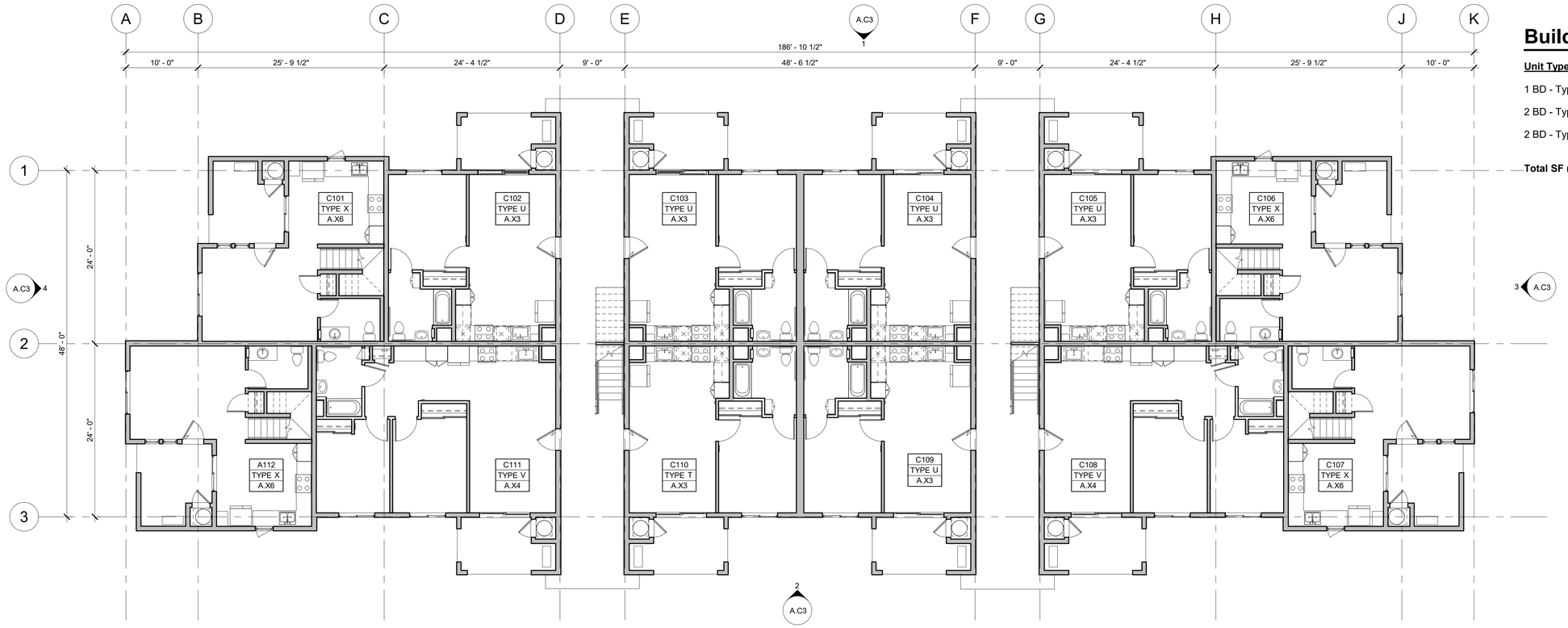
2800 Barry Street Affordable Housing Development

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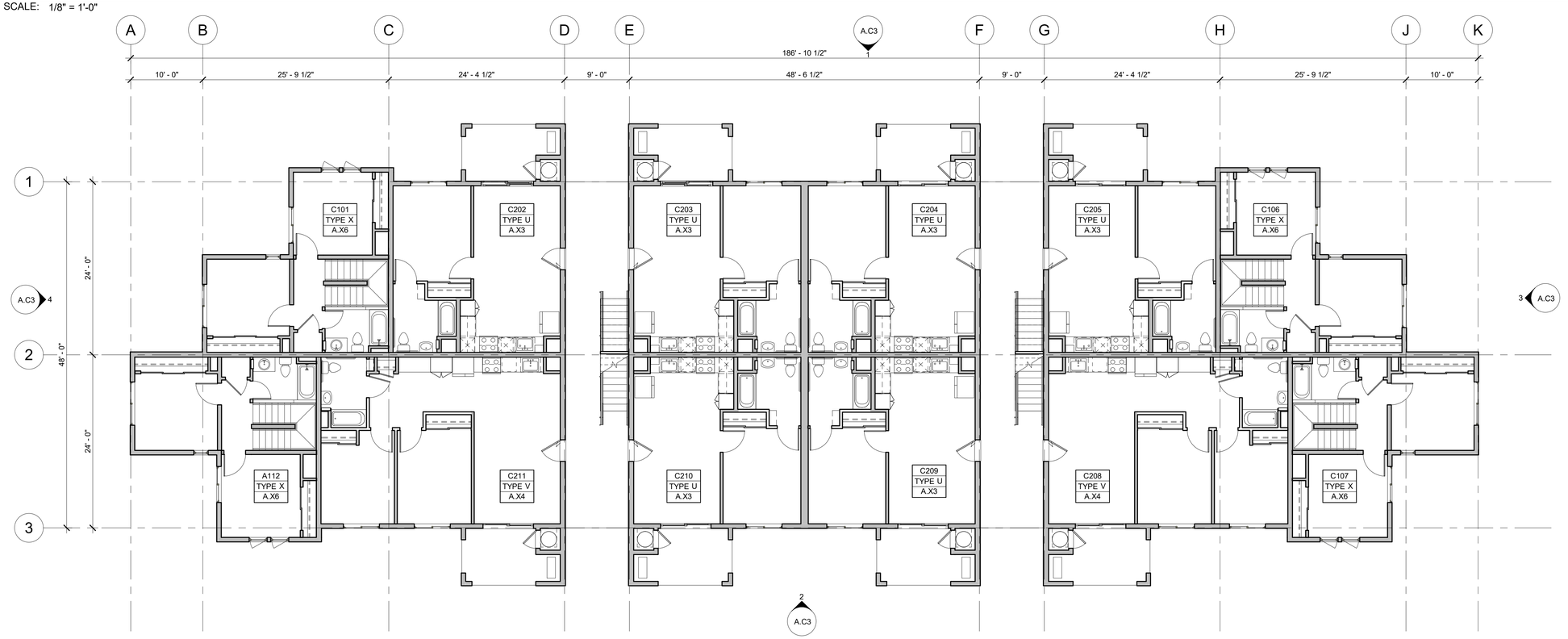
Trash Enclosure

A.B4

8/4/2020



1 Level 1
SCALE: 1/8" = 1'-0"



2 Level 2
SCALE: 1/8" = 1'-0"

Building C Unit Mix

Unit Type	Net SF (Each)	Unit Count
1 BD - Type U	536 sf	20
2 BD - Type V	767 sf	4
2 BD - Type X	910 sf	4
Total SF (Net):	**17,428 sf**	

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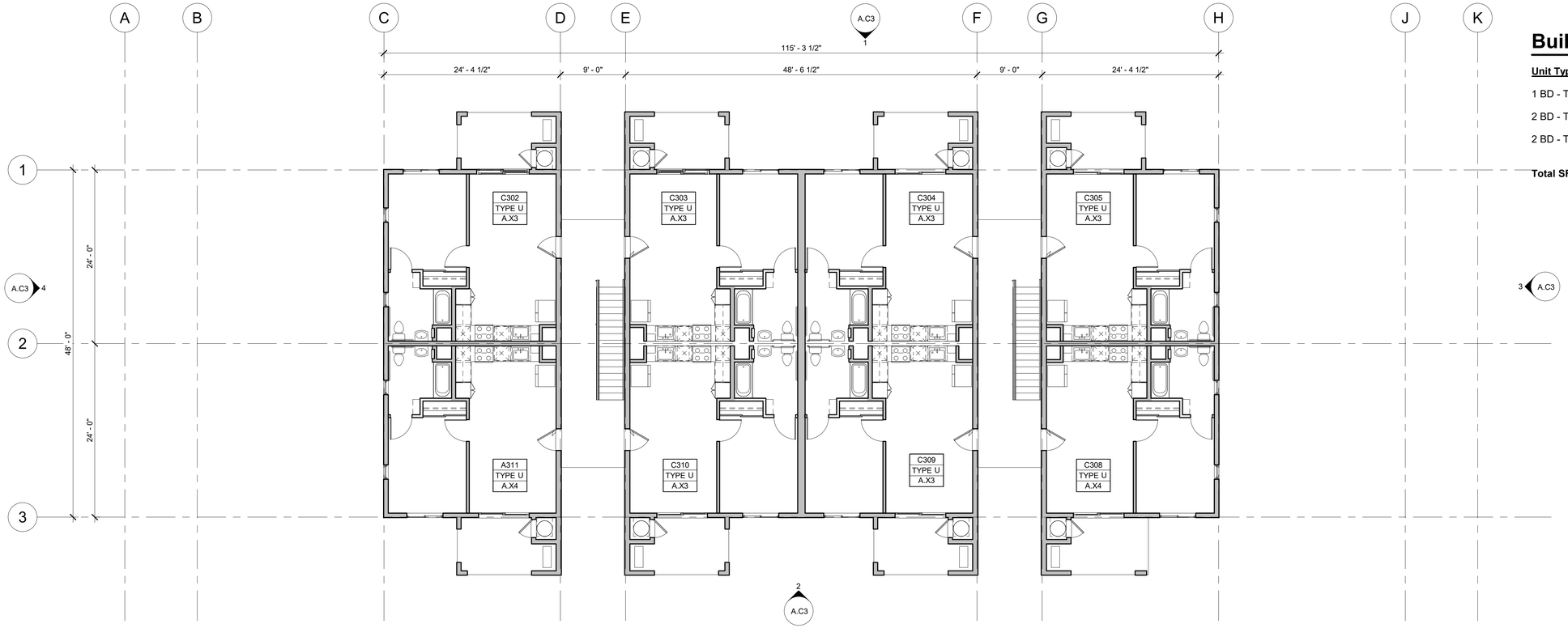
2800 Barry Street Affordable Housing Development

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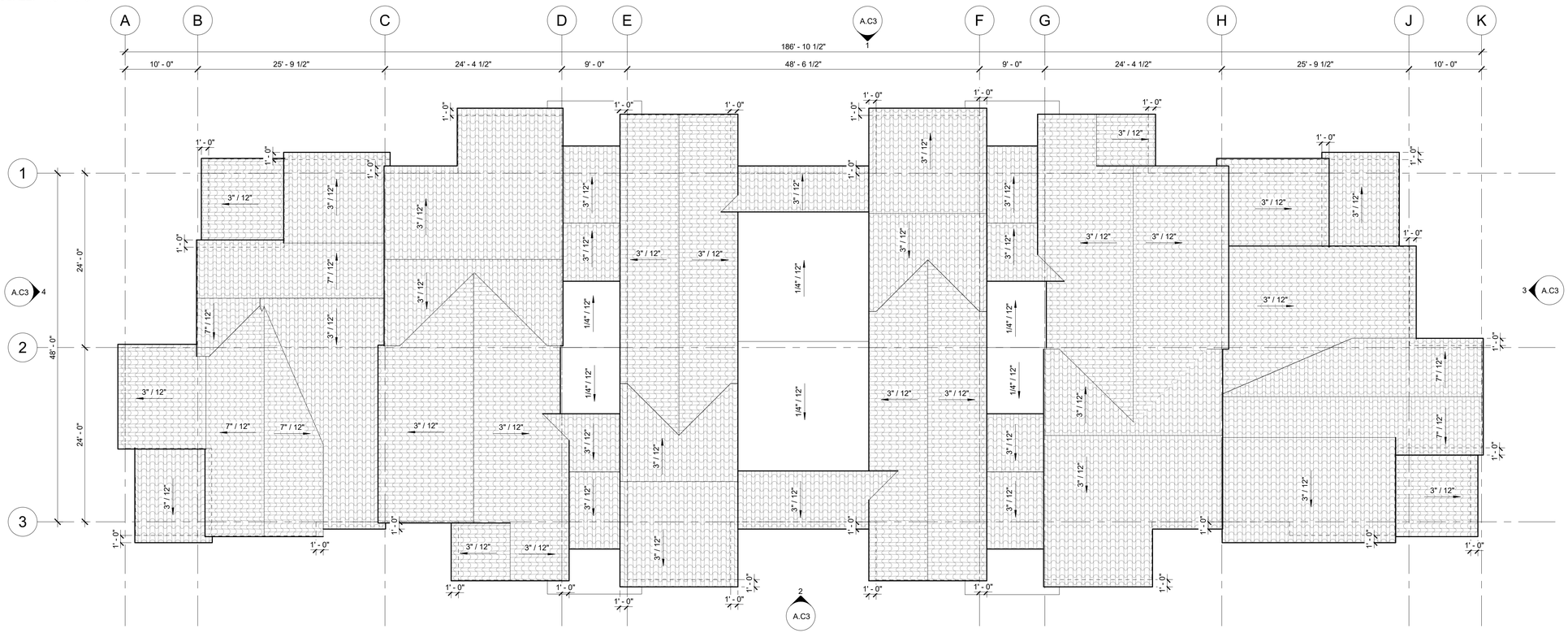
Building C Plans

A.C1

8/4/2020



1 Level 3
SCALE: 1/8" = 1'-0"



2 Roof1
SCALE: 1/8" = 1'-0"

Building C Unit Mix

Unit Type	Net SF (Each)	Unit Count
1 BD - Type U	536 sf	20
2 BD - Type V	767 sf	4
2 BD - Type X	910 sf	4
Total SF (Net):	**17,428 sf**	

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2800 Barry Street Affordable Housing Development

2800 Barry Street, Camarillo, California 93010

Building C Plans

A.C2

8/4/2020



1 North Elevation
SCALE: 1/8" = 1'-0"



2 South Elevation
SCALE: 1/8" = 1'-0"



3 East Elevation
SCALE: 1/8" = 1'-0"



4 West Elevation
SCALE: 1/8" = 1'-0"

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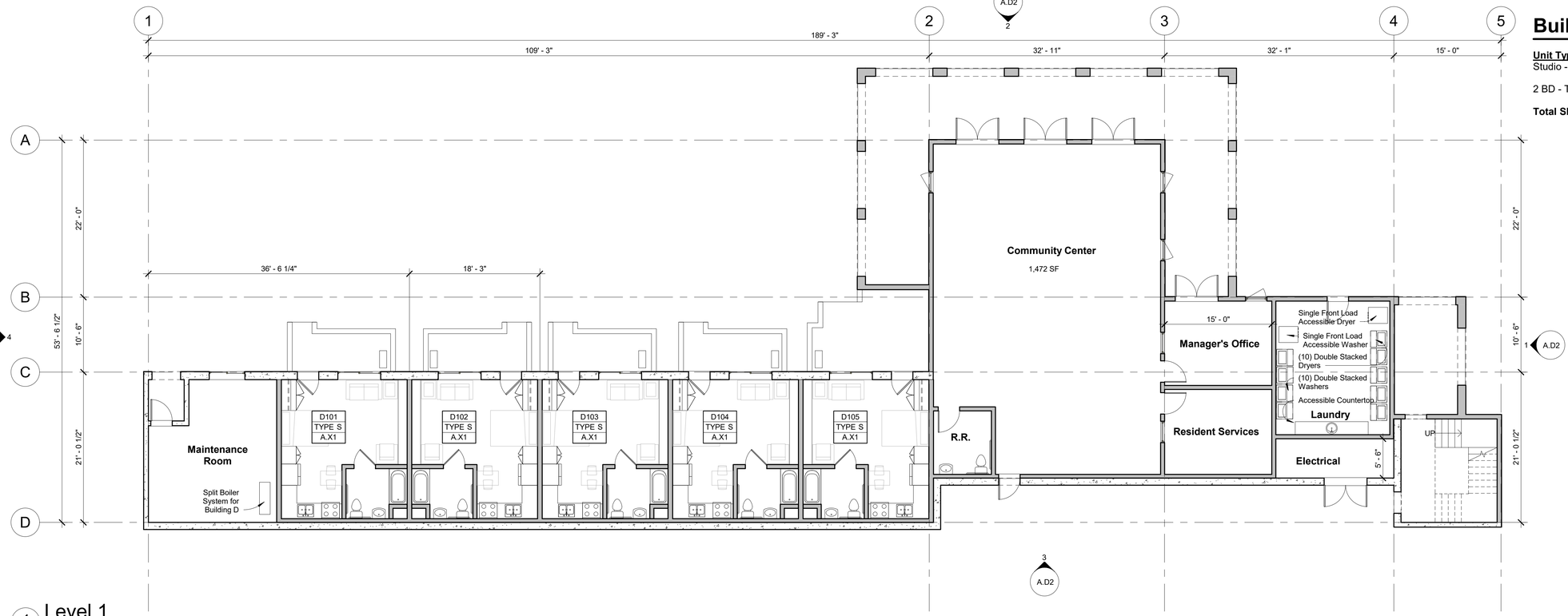
2800 Barry Street Affordable Housing Development

2800 Barry Street, Camarillo, California 93010

Building C Exterior Elevations

A.C3

8/4/2020

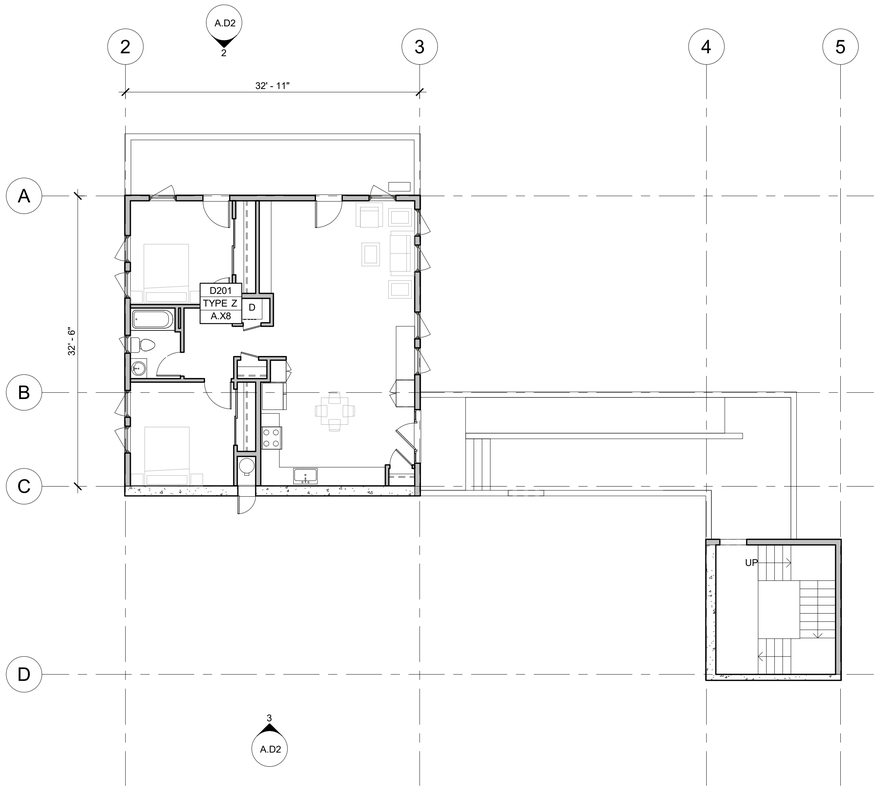


1 Level 1

SCALE: 1/8" = 1'-0"

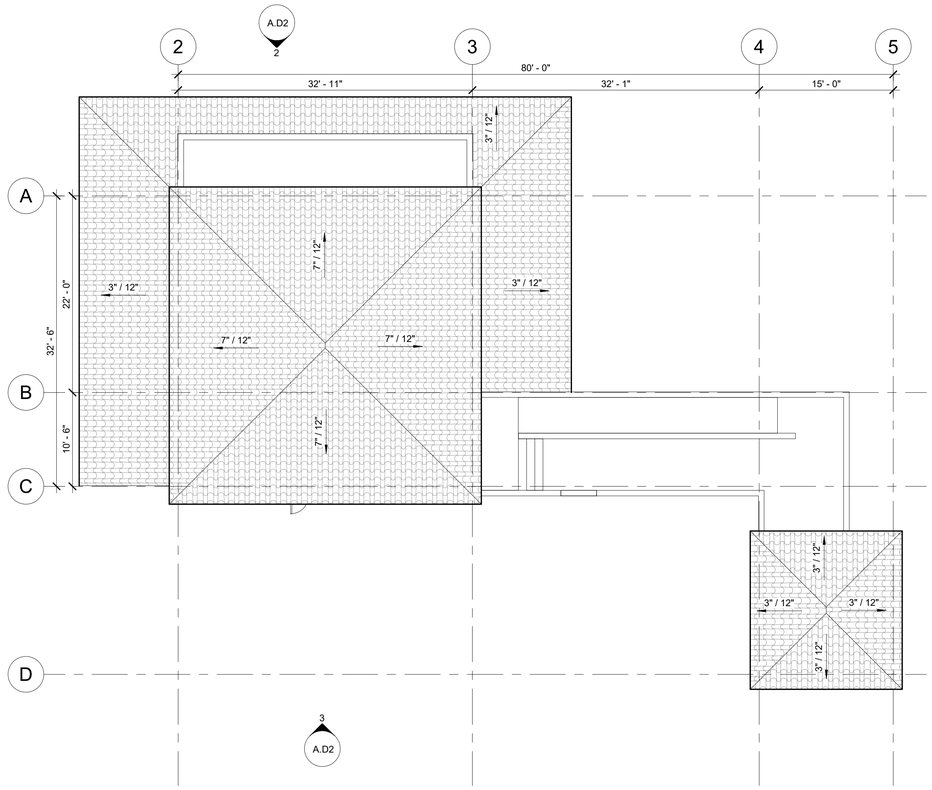
Building D Unit Mix

Unit Type	Net SF (Each)	Unit Count
Studio - Type S	342 sf	5
2 BD - Type Z	1014 sf	1
Total SF (Net):	**2,724 sf**	



2 Level 2 - Manager's Unit

SCALE: 1/8" = 1'-0"



3 Roof

SCALE: 1/8" = 1'-0"

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Building D Plans

A.D1

8/4/2020



2 North Elevation

SCALE: 1/16" = 1'-0"



3 South Elevation

SCALE: 1/16" = 1'-0"



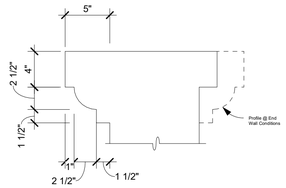
1 East Elevation

SCALE: 1/16" = 1'-0"



4 West Elevation

SCALE: 1/16" = 1'-0"



5 Typical Cornice @ Garage

SCALE: 1 1/2" = 1'-0"

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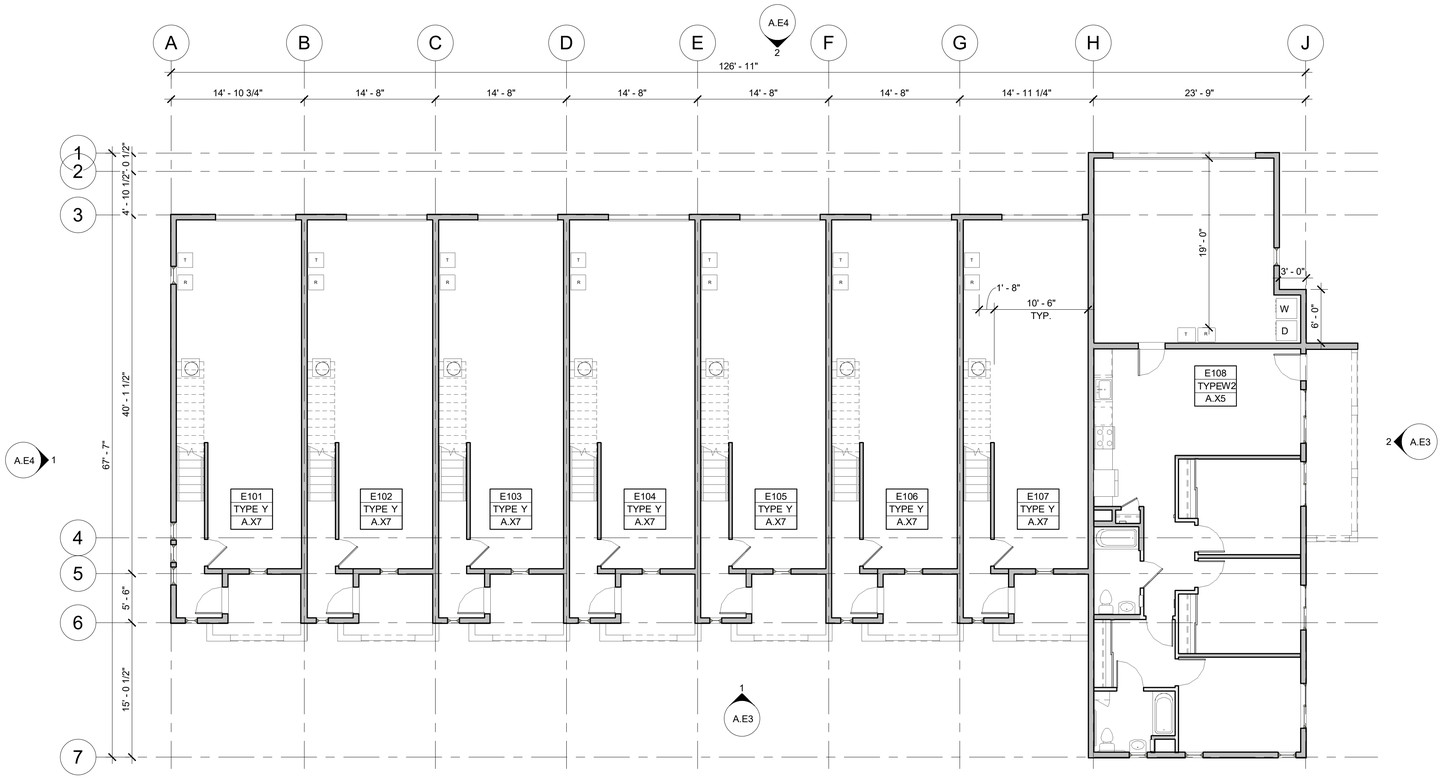
2800 Barry Street Affordable Housing Development

2800 Barry Street, Camarillo, California 93010

Building D Exterior Elevations

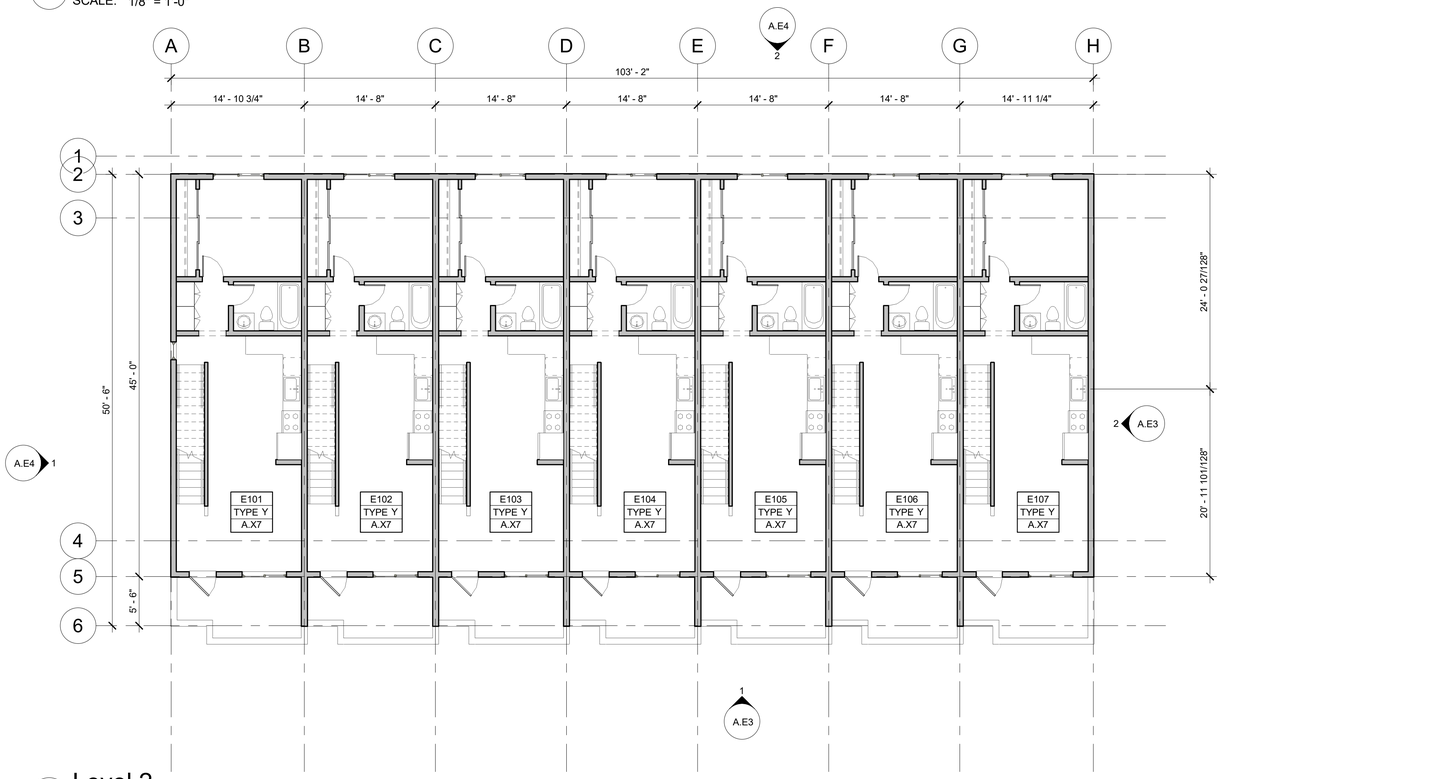
A.D2

8/4/2020



1 Level 1

SCALE: 1/8" = 1'-0"



2 Level 2

SCALE: 1/8" = 1'-0"

Building E Unit Mix

Unit Type	Net SF (Each)	Unit Count
3 BD - Type Y	1593 sf	7
3 BD - Type W2	1500 sf	1
Total SF (Net):	**12,651 sf**	
Patio - Type W2	105 sf	1

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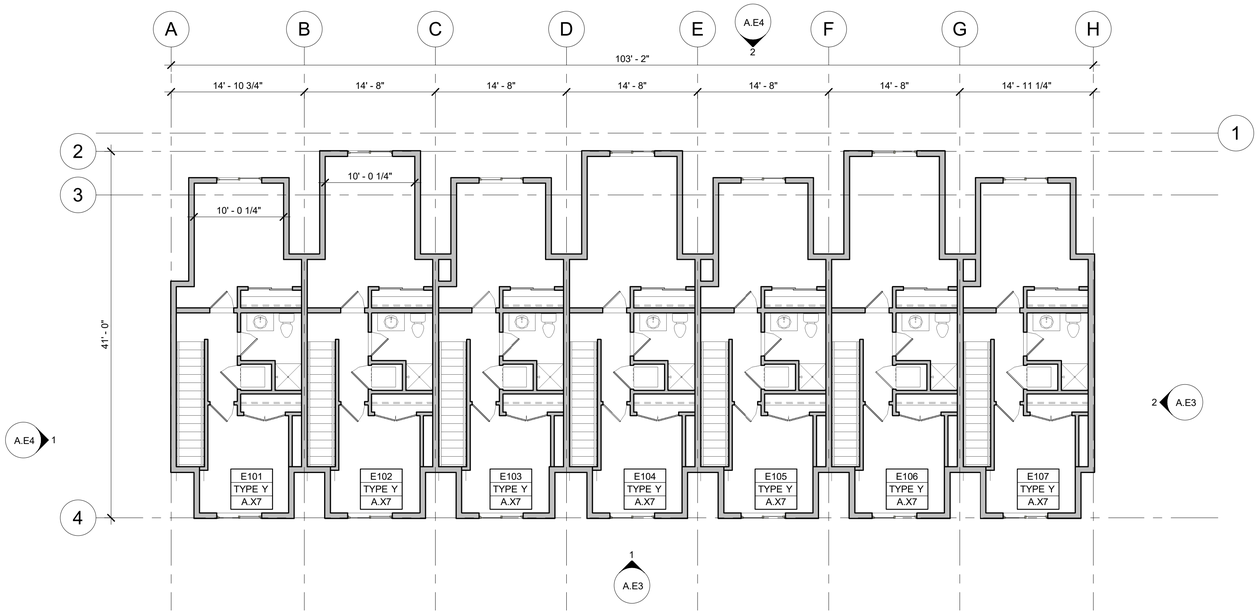
2800 Barry Street Affordable Housing Development

2800 Barry Street, Camarillo, California 93010

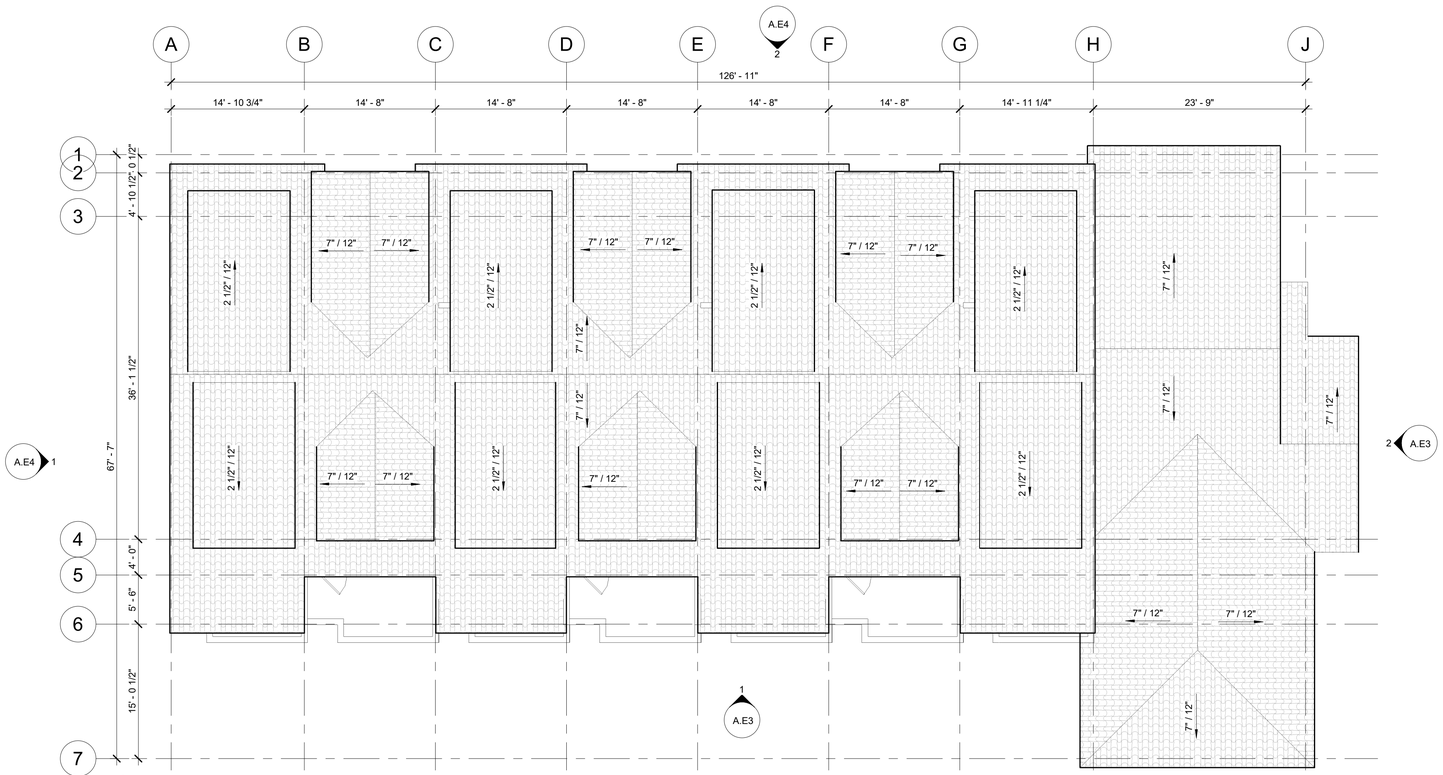
Building E Plans

A.E1

8/4/2020



1 Level 2.5
SCALE: 1/8" = 1'-0"



2 Roof
SCALE: 1/8" = 1'-0"

Building E Unit Mix

Unit Type	Net SF (Each)	Unit Count
3 BD - Type Y	1593 sf	7
3 BD - Type W2	1500 sf	1
Total SF (Net):	**12,651 sf**	
Patio - Type W2	105 sf	1

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2800 Barry Street Affordable Housing Development

2800 Barry Street, Camarillo, California 93010

Building E Plans

A.E2

8/4/2020



2 North Elevation (Facing Barry St.)
SCALE: 1/8" = 1'-0"



1 East Elevation
SCALE: 1/8" = 1'-0"

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2800 Barry Street Affordable Housing Development

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Building E Exterior Elevations

A.E3

8/4/2020



1 South Elevation
SCALE: 1/8" = 1'-0"



2 West Elevation
SCALE: 1/8" = 1'-0"

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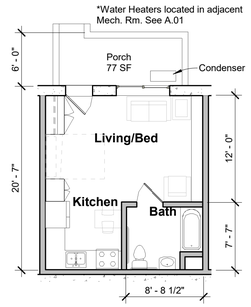
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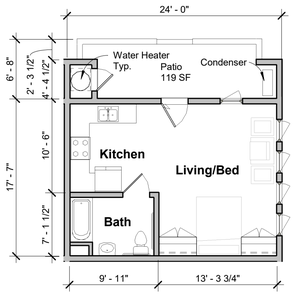
Building E Exterior Elevations

A.E4
8/4/2020



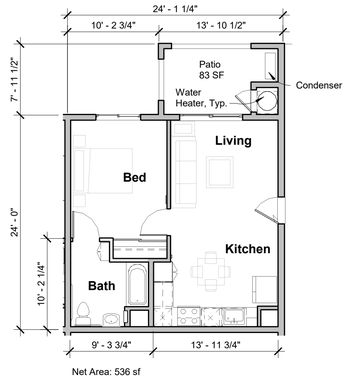
Net Area: 342 sf

1 Unit Type S
SCALE: 1/8" = 1'-0"



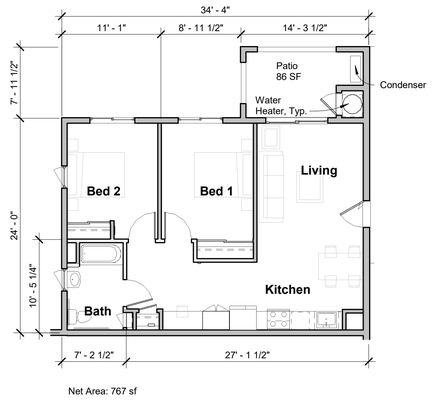
Net Area: 392 sf

2 Unit Type T
SCALE: 1/8" = 1'-0"



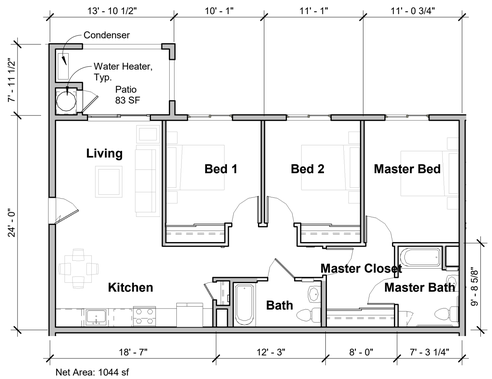
Net Area: 536 sf

3 Unit Type U
SCALE: 1/8" = 1'-0"



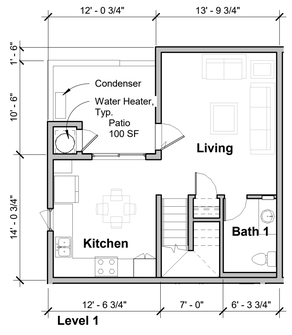
Net Area: 767 sf

4 Unit Type V
SCALE: 1/8" = 1'-0"



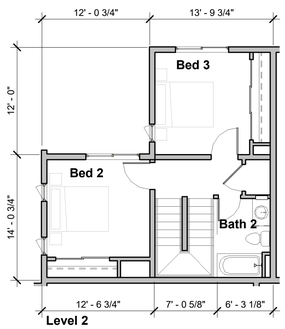
Net Area: 1044 sf

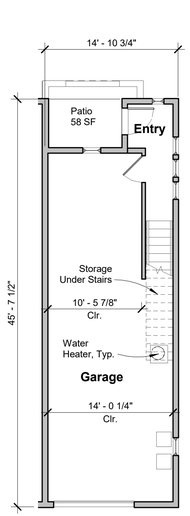
5 Unit Type W
SCALE: 1/8" = 1'-0"

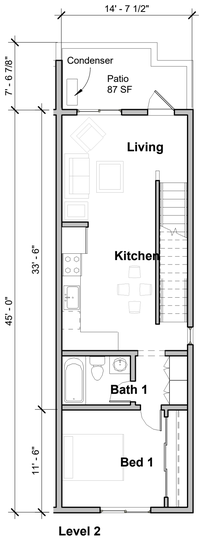


Total Net Area: 910 sf

6 Unit Type X
SCALE: 1/8" = 1'-0"

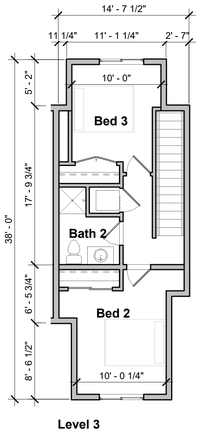


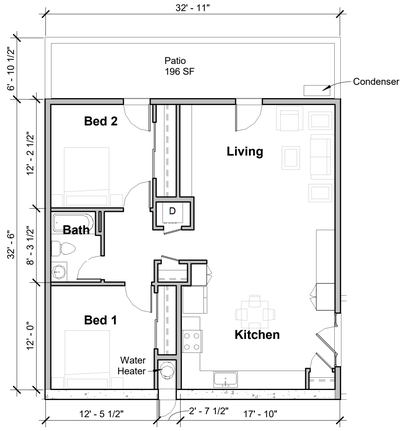




Total Net Area: 1593 sf

7 Unit Type Y
SCALE: 1/8" = 1'-0"





Net Area: 1014 sf

8 Unit Type Z (Manager's Unit)
SCALE: 1/8" = 1'-0"

Note:
1. All labels typical throughout all unit buildings

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Typical Unit Plans

A.X1
8/4/2020



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2800 Barry Street Affordable Housing Develpoment

2800 Barry Street, Camarillo, California 93010

View From Lewis Road

A.X2

8/4/2020



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2800 Barry Street Affordable Housing Development

2800 Barry Street, Camarillo, California 93010

View From Barry Street

A.X3

8/4/2020



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2800 Barry Street Affordable Housing Development

2800 Barry Street, Camarillo, California 93010

Aerial

A.X4

8/4/2020

Stucco Color:



La Habra Stucco
20/30, X-50, Crystal White
Painted Dunn Edwards:
Swiss Coffee DEW341

Paint for Stucco
Dunn Edwards: Swiss Coffee DEW341

Wood Corbel and Trim Color:



Painted Dunn Edwards:
Espresso Machiatto
DET680



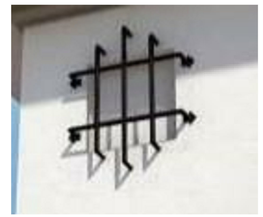
Wood Beam End

Garage Door:



Classic Garage Door with
Window Panels
Note: Paint Color to match
Wood Trim.

Decorative Opening Grilles:



Decorative Metal Quatrefoil
(Building E, North and South Elevation)



Decorative Cast Stone Grille
(Building B Trash Enclosure, North Elevation)

Roof Tile:



Eagle Roofing; Capistrano, Tucson Blend 8806
Integral Color, Concrete "S" Tile

Railings:



Decorative Metal Railing
Ownership Units



Decorative Metal.
Rental and Ownership Units

Window Frames:



Milgard Vinyl,
Style Line Series



Milgard: Espresso
Premium
Vinyl Finish

Light Fixtures:



Sunpark, Wall Mount,
3-4311
Die Formed Cold Rolled
Steel with Powder
Coated Finish

Wire Mesh Screen:



Wire Mesh Panel example
for use at Parking Garage South Elevation.
Final style and finish may vary.

Inspiration Images:



Plaster Window Sill Detail



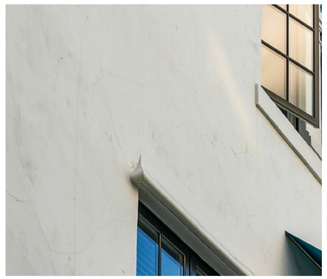
Joined Window Sill



Plaster Window Trim



Window Eyebrow



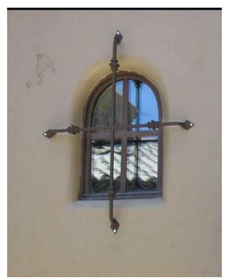
Window Eyebrow Close Up



Sloped Window Sill



Plaster Window Hood



Decorative Metal Window Grille
(Building A, South Elevation)



Tile Awning & Metal Brackets



Decorative Metal Window Grille
(Building D, Community Center
North Elevation)



Painted Metal Vent Cover

RRM Design Group

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Santa Barbara, CA 93101

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Fax: 805.963.8184
www.rrmdesign.com

A COLLABORATIVE COMMUNITY

2800 Barry Street Affordable Housing Development

2800 Barry Street, Camarillo, California 93010

Color and Material Board

A.X5

8/4/2020

2729 BARRY STREET
APN 162-0-021-060

2743 BARRY STREET
APN 162-0-021-070

2757 BARRY STREET
APN 162-0-021-080

2775 BARRY STREET
APN 162-0-021-090

2785 BARRY STREET
APN 162-0-021-100

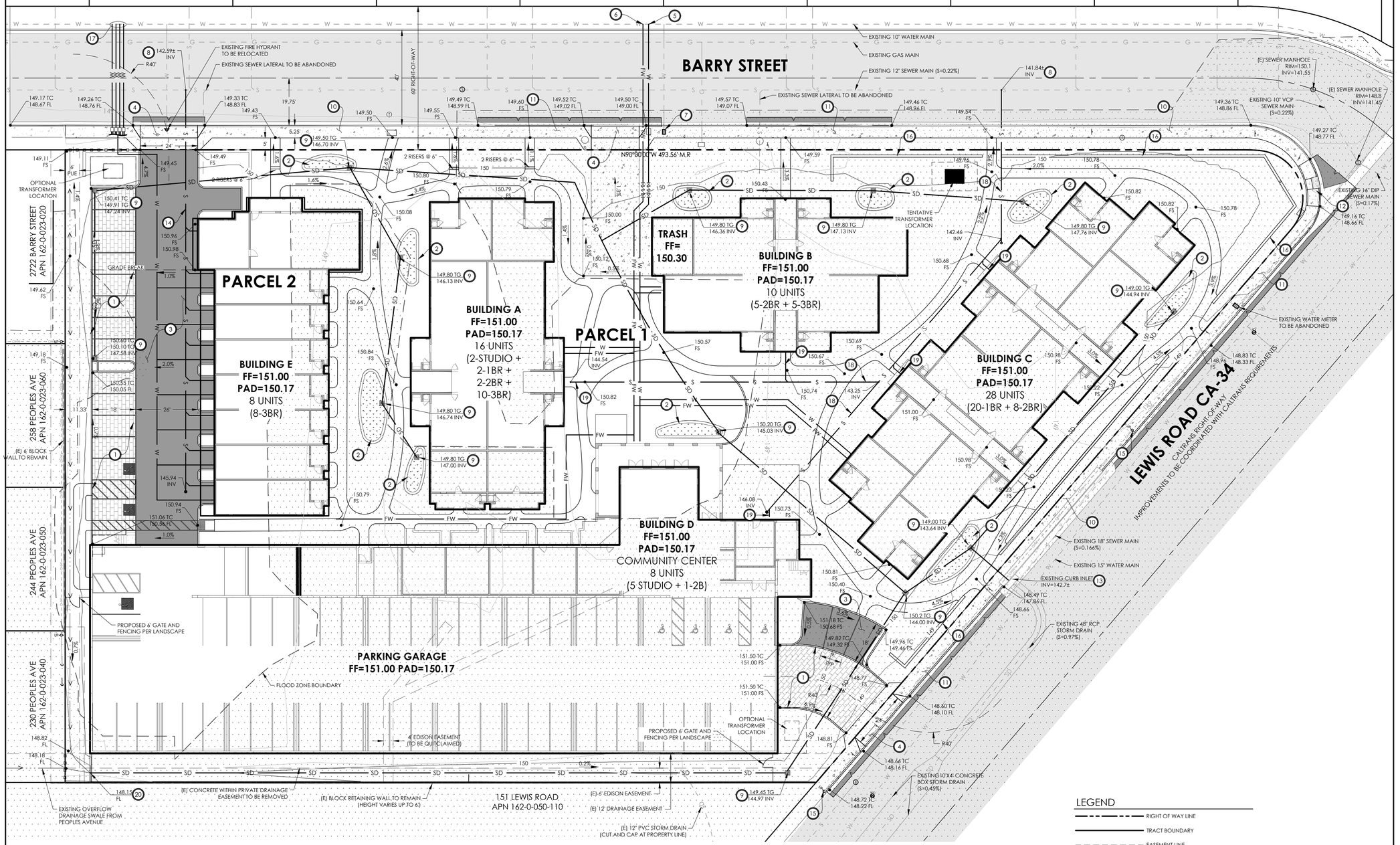
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2815 BARRY STREET
APN 162-0-021-120

2837 BARRY STREET
APN 162-0-021-130

2857 BARRY STREET
APN 162-0-021-170

APN 162-0-021-180



EARTH QUANTITIES:

AREA OF DISTURBANCE 2.6 AC±

RAW CUT: 20 CY
RAW FILL: 3,800 CY

QUANTITY ESTIMATES ON THESE PLANS ARE TO BE USED FOR PERMIT PURPOSES ONLY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ACTUAL QUANTITIES FOR THE PURPOSE OF CONSTRUCTION.

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GENERAL NOTES

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2. PROJECT TO REPLACE ANY CRACKED OR UPLIFTED CURB AND GUTTER ALONG BARRY STREET PROJECT FRONTAGE.
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IMPROVEMENT NOTES

1. PROPOSED PERMEABLE PAVEMENT.
2. PROPOSED BIORETENTION AREA.
3. PROPOSED ASPHALT CONCRETE PAVING.
4. PROPOSED DRIVEWAY.
5. PROPOSED PRIVATE DOMESTIC WATER CONNECTION WITH MASTER METER AND BACKFLOW PREVENTER.
6. PROPOSED PRIVATE FIRE WATER CONNECTION WITH BACKFLOW PREVENTER.
7. PROPOSED CONNECTION TO EXISTING METER FOR IRRIGATION PURPOSES.
8. PROPOSED SEWER CONNECTION.
9. PROPOSED STORM DRAIN INLET.
10. PROPOSED CONCRETE SIDEWALK.

IMPROVEMENT NOTES, CONT.

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12. PROPOSED ACCESSIBLE CURB RAMP.
13. PROPOSED CONNECTION TO EXISTING CURB INLET.
14. PROPOSED 6" PRIVATE SEWER MAIN AT 2.0% MINIMUM SLOPE.
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16. PROPOSED 3' SCREEN WALL (WITH PILASTERS EXCEEDING 3') WITH OPENINGS AT GRADE TO ALLOW DRAINAGE TO PASS THROUGH.
17. PROPOSED FOUR (4) WATER SERVICE CONNECTIONS WITH DUAL 3/4" METERS SERVING CONDOMINIUM UNITS (8 METERS TOTAL).
18. PROPOSED 8" PRIVATE SEWER MAIN AT 1.0% MINIMUM SLOPE.
19. PROPOSED 6" PRIVATE BUILDING SEWER LATERAL AT 2.0% MINIMUM SLOPE.
20. PROPOSED STRAIGHT HEADWALL FOR 18" STORM DRAIN.

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- TRACT BOUNDARY
- EASEMENT LINE
- EXISTING SEWER LINE
- EXISTING WATER LINE
- EXISTING STORM DRAIN
- PROPOSED SEWER LINE
- PROPOSED WATER LINE
- PROPOSED FIRE WATER LINE
- PROPOSED STORM DRAIN
- EXISTING AC PAVEMENT
- PROPOSED AC PAVEMENT
- PROPOSED CONCRETE PAVEMENT
- PROPOSED PERMEABLE PAVEMENT
- PROPOSED BIORETENTION
- FLOOD ZONE AO (DEPTH 1')

NORTH

0 10' 20' 40'

SCALE: 1" = 20'

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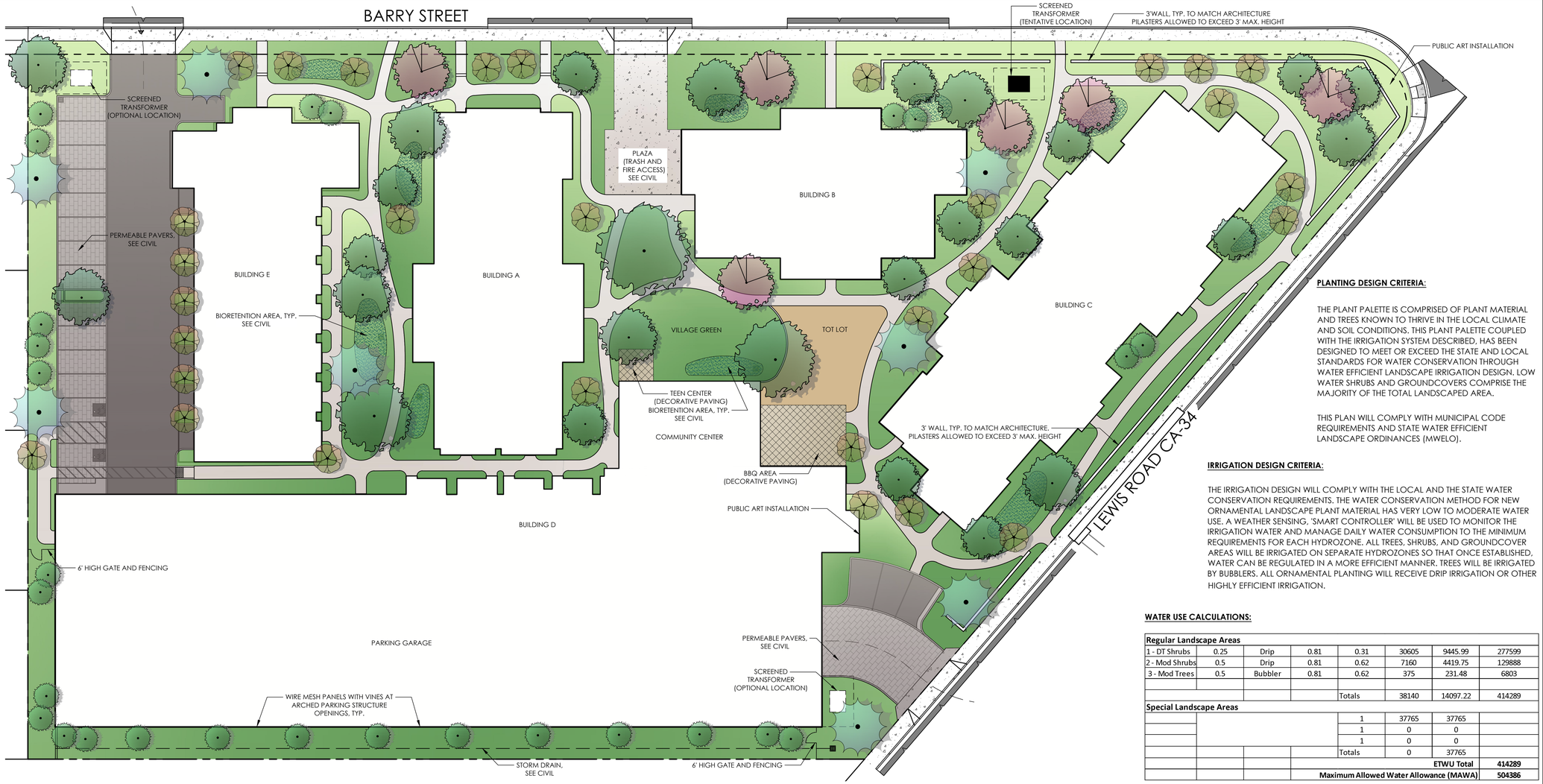
2800 Barry Street Affordable Housing Development

2800 Barry Street, Camarillo, California 93010

PRELIMINARY GRADING AND UTILITY PLAN

C-1.0

7/27/2020



PLANTING DESIGN CRITERIA:

THE PLANT PALETTE IS COMPRISED OF PLANT MATERIAL AND TREES KNOWN TO THRIVE IN THE LOCAL CLIMATE AND SOIL CONDITIONS. THIS PLANT PALETTE COUPLED WITH THE IRRIGATION SYSTEM DESCRIBED, HAS BEEN DESIGNED TO MEET OR EXCEED THE STATE AND LOCAL STANDARDS FOR WATER CONSERVATION THROUGH WATER EFFICIENT LANDSCAPE IRRIGATION DESIGN. LOW WATER SHRUBS AND GROUNDCOVERS COMPRISE THE MAJORITY OF THE TOTAL LANDSCAPED AREA.

THIS PLAN WILL COMPLY WITH MUNICIPAL CODE REQUIREMENTS AND STATE WATER EFFICIENT LANDSCAPE ORDINANCES (MWELO).

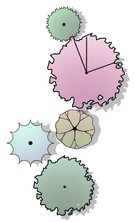
IRRIGATION DESIGN CRITERIA:

THE IRRIGATION DESIGN WILL COMPLY WITH THE LOCAL AND THE STATE WATER CONSERVATION REQUIREMENTS. THE WATER CONSERVATION METHOD FOR NEW ORNAMENTAL LANDSCAPE PLANT MATERIAL HAS VERY LOW TO MODERATE WATER USE. A WEATHER SENSING, 'SMART CONTROLLER' WILL BE USED TO MONITOR THE IRRIGATION WATER AND MANAGE DAILY WATER CONSUMPTION TO THE MINIMUM REQUIREMENTS FOR EACH HYDROZONE. ALL TREES, SHRUBS, AND GROUNDCOVER AREAS WILL BE IRRIGATED ON SEPARATE HYDROZONES SO THAT ONCE ESTABLISHED, WATER CAN BE REGULATED IN A MORE EFFICIENT MANNER. TREES WILL BE IRRIGATED BY BUBBLERS. ALL ORNAMENTAL PLANTING WILL RECEIVE DRIP IRRIGATION OR OTHER HIGHLY EFFICIENT IRRIGATION.

WATER USE CALCULATIONS:

Regular Landscape Areas							
1 - DT Shrubs	0.25	Drip	0.81	0.31	30605	9445.99	277599
2 - Mod Shrubs	0.5	Drip	0.81	0.62	7160	4419.75	129888
3 - Mod Trees	0.5	Bubbler	0.81	0.62	375	231.48	6803
				Totals	38140	14097.22	414289
Special Landscape Areas							
				1	37765	37765	
				1	0	0	
				1	0	0	
				Totals	0	37765	
						ETWU Total	**414289**
						Maximum Allowed Water Allowance (MAWA)	**504386**

CONCEPTUAL PLANT SCHEDULE



TREES SUCH AS:	BOTANICAL NAME	COMMON NAME
	CHORISIA SPECIOSA	SILK FLOSS TREE
	CUPRESSUS SEMPERVIRENS `GLAUCA`	ITALIAN CYPRESS
	ERIOBOTRYA DEFLEXA	BRONZE LOQUAT
	MELALEUCA QUINQUENERVIA	CAJEPUT TREE
	PINUS CANARIENSIS	CANARY ISLAND PINE
	QUERCUS AGRIFOLIA	COAST LIVE OAK
	ULMUS PARVIFOLIA	CHINESE ELM

SHRUBS SUCH AS:	BOTANICAL NAME	COMMON NAME
	AEONIUM X `PSEUDOTABULIFORME`	GREEN PLATTERS AEONIUM
	ANIGOZANTHOS X `BUSH GOLD`	KANGAROO PAW
	ARCTOSTAPHYLOS DENSIFLORA `HOWARD MCMINN`	HOWARD MCMINN MANZANITA
	ARTEMISIA CALIFORNICA `CANYON GREY`	PROSTRATE CALIFORNIA SAGEBRUSH
	BOUGAINVILLEA X `SAN DIEGO RED`	BOUGAINVILLEA
	CHONDROPETALUM TECTORUM `EL CAMPO`	CAPE RUSH
	DENDROMECON RIGIDA	BUSH POPPY
	EPILOBIUM CALIFORNICUM	CALIFORNIA FUCHSIA
	EUPHORBIA CHARACIAS	EVERGREEN SPURGE
	FURCRAEA FOETIDA `MEDIOPICTA`	MAURITIUS HEMP
	KNIPHOFIA X `ICE QUEEN`	ICE QUEENTORCH LILY
	LOROPETALUM CHINENSE	GREEN LOROPETALUM
	LUPINUS ALBIFRONS	BUSH LUPINE
	MUHLENBERGIA CAPILLARIS	PINK MUHLY GRASS
	PEROVSKIA ATRIPLICIFOLIA	RUSSIAN SAGE
	PHORMIUM TENAX `SURFER`	NEW ZEALAND FLAX
	PHORMIUM X `WILDWOOD`	NEW ZEALAND FLAX
	PLUMBAGO AURICULATA	BLUE PLUMBAGO
	RHAMNUS CALIFORNICA `EVE CASE`	CALIFORNIA COFFEEBERRY

BIOSWALE SHRUBS SUCH AS:	BOTANICAL NAME	COMMON NAME
	ACHILLEA FILIPENDULINA	FERNLEAF YARROW
	ACHILLEA MILLEFOLIUM	COMMON YARROW
	CAREX BARBERAE	SANTA BARBARA SEDGE
	MUHLENBERGIA RIGENS	DEER GRASS

GROUND COVERS SUCH AS:	BOTANICAL NAME	COMMON NAME
	CEANOTHUS GRISEUS HORIZONTALIS	CARMEL CREEPER
	GAZANIA SPLENDENS	GAZANIA
	SESLERIA X `GREENLEE HYBRID`	GREENLEE MOOR GRASS
	VINCA MINOR	COMMON PERIWINKLE



WIRE MESH PANEL EXAMPLE. FINAL STYLE AND FINISH MAY VARY.

NORTH

0 20 40 60 80 feet

1" = 20'

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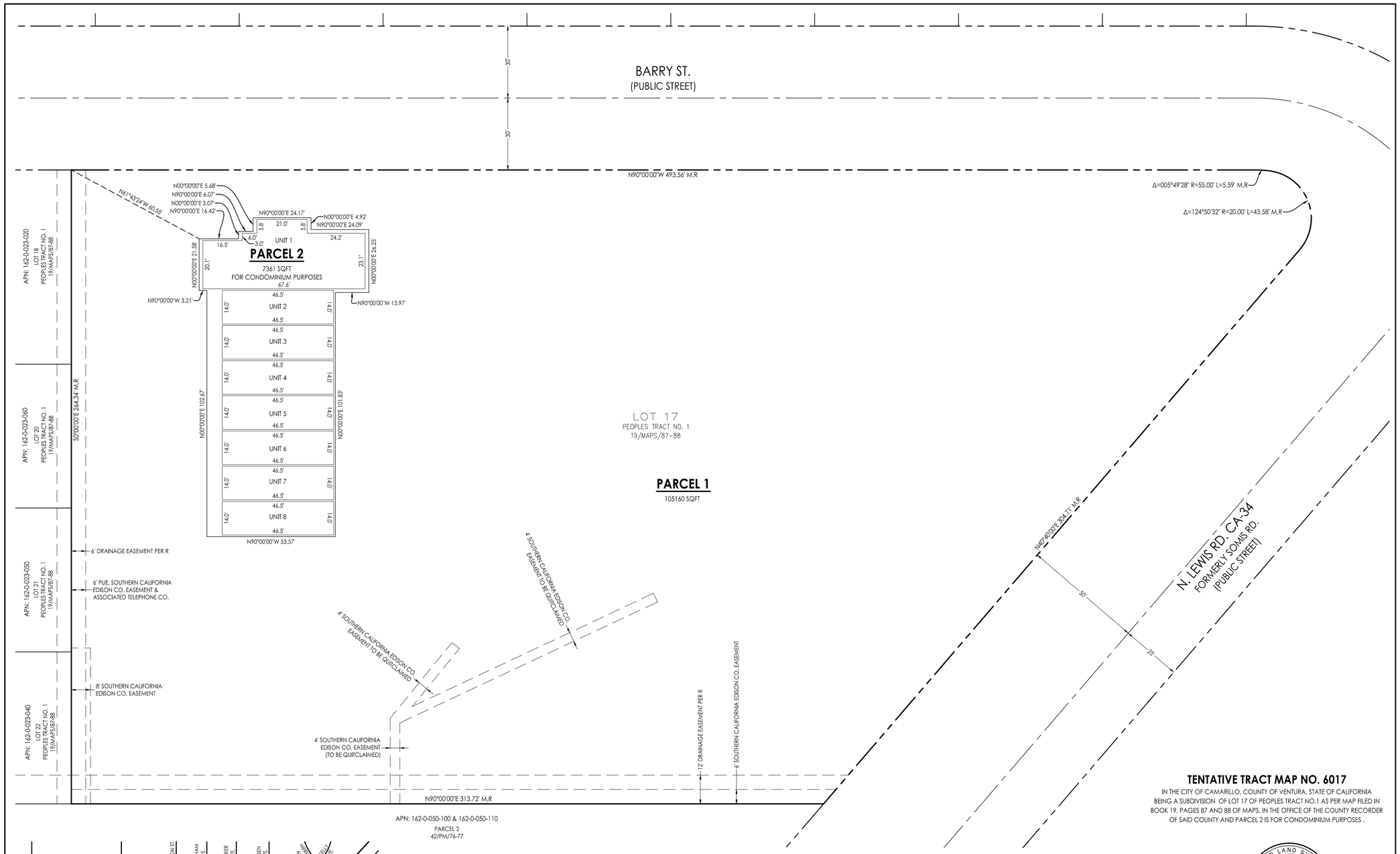
2800 Barry Street Affordable Housing Development

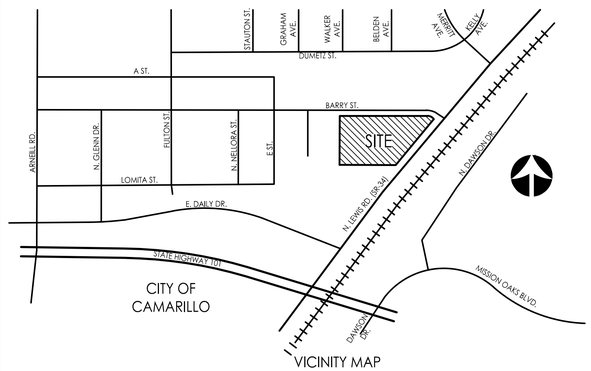
2800 Barry Street, Camarillo, California 93010

LANDSCAPE CONCEPT PLAN

L-1

7/27/2020





VICINITY MAP
NOT TO SCALE

EXISTING CONTOURS:
EXISTING CONTOURS WERE ESTABLISHED FROM A FIELD SURVEY RELATIVE TO THE BENCHMARK (SEE BENCHMARK NOTE) ON JULY 22, 2019. CONTOUR INTERVAL IS 1.00 FEET.

BENCHMARK:
BENCHMARK FOR THIS SURVEY BEING VENTURA COUNTY VERTICAL CONTROL R 1295, DESCRIBED BY BENCHMARK DISK STAMPED "R 1295 1977" SET **A GALVANIZED STEEL ROD SET TO THE DEPTH OF 32 FEET ENCASED IN A PIPE PROJECTING 5 INCHES, 1 FOOT BELOW TRACKS, THE LOCATION BEING** 0.25 MILE NORTHEAST ALONG THE SOUTHERN PACIFIC RAILROAD FROM THE U.S. HIGHWAY 101 OVERPASS AT CAMARILLO, 0.1 MILE SOUTHWEST OF MILE POLE 417, 62 FEET SOUTHEAST OF THE CENTER OF THE JUNCTION OF LEWIS ROAD AND BARRY STREET, 12 FEET NORTHWEST OF THE NORTHWEST RAIL, 18 FEET NORTHEAST OF THE EAST CORNER OF A CORRUGATED STEEL BUILDING AT 301 LEWIS ROAD, 2.0 FEET NORTHEAST OF A TELEGRAPH POLE, DISK IS 0.2 FEET BELOW THE GROUND. ACCESS TO WHICH IS HAD THROUGH A 4-INCH PLASTIC SCREW PLUG. ELEVATION BEING 150.12 FEET (NGVD29).

BASIS OF BEARINGS:
THE BASIS OF BEARING BEING RECORD DATA AS SHOWN ON THE MAP OF PEOPLES TRACT NO. 1 FILED IN BOOK 19 OF MISCELLANEOUS RECORDS AT PAGES 87 THROUGH 88 IN THE COUNTY RECORDER'S OFFICE, COUNTY OF VENTURA, STATE OF CALIFORNIA (R).

REFERENCES:
M MEASURED
R 19/MR/87-88

LEGAL DESCRIPTION:
LOT 17 OF PEOPLES TRACT NO. 1, IN THE CITY OF CAMARILLO, COUNTY OF VENTURA, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 19, PAGE 87 AND 88 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

APN: 162-0-023-030

LAND USE:
EXISTING - VACANT
PROPOSED - MULTI-FAMILY (AFFORDABLE HOUSING) AND CONDOMINIUMS

ADDRESS:
2800 BARRY STREET
CAMARILLO, CA 93010-6633

GROSS AREA:
112,521 S.F. (2.58 AC.)

ZONING:
CURRENTLY: ZONE M-1 (LIGHT MANUFACTURING)
PROPOSED: ZONE RPD-30

FLOOD ZONE:
FLOOD ZONE X (0.2% ANNUAL CHANCE FLOODPLAIN) AND ZONE AO (1% ANNUAL CHANCE FLOODPLAIN, DEPTH OF 1 FOOT) PER F.I.R.M. COMMUNITY PANEL NO. 06111C0931F AND F.I.R.M. COMMUNITY PANEL NO. 06111C0933F DATED JANUARY 7, 2015.

UTILITIES:
ELECTRICAL: SOUTHERN CALIFORNIA EDISON
GAS: SOUTHERN CALIFORNIA GAS COMPANY
WATER: CITY OF CAMARILLO
SEWER: CAMARILLO SANITARY DISTRICT

OWNER:
THE CITY OF CAMARILLO
601 CARMEN DR #6034
CAMARILLO, CA 93010

DEVELOPER:
MANY MANSIONS
1259 E. THOUSAND OAKS BOULEVARD
THOUSAND OAKS, CA 91362

DEVELOPER:
AREA HOUSING AUTHORITY OF THE COUNTY OF VENTURA
1400 WEST HILLCREST DRIVE
NEWBURY PARK, CA 91320

TENTATIVE TRACT MAP NO. 6017
IN THE CITY OF CAMARILLO, COUNTY OF VENTURA, STATE OF CALIFORNIA BEING A SUBDIVISION OF LOT 17 OF PEOPLES TRACT NO.1 AS PER MAP FILED IN BOOK 19, PAGES 87 AND 88 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY AND PARCEL 2 IS FOR CONDOMINIUM PURPOSES .

MAP PREPARER:
STEVEN B. WEBSTER, L.S. 7561
SUPERVISOR OF SURVEYING
RRM DESIGN GROUP
3765 S. HIGUERA ST., STE. 102
SAN LUIS OBISPO, CA 93401

LICENSED LAND SURVEYOR
STEVEN B. WEBSTER
LIC. NO. 7561
STATE OF CALIFORNIA

SHEET INDEX:
TTM-1 TITLE SHEET
TTM-2 EXISTING CONDITION
TTM-3 PRELIMINARY GRADING AND UTILITY PLAN

NORTH

0 10' 20' 40'
SCALE: 1" = 20'

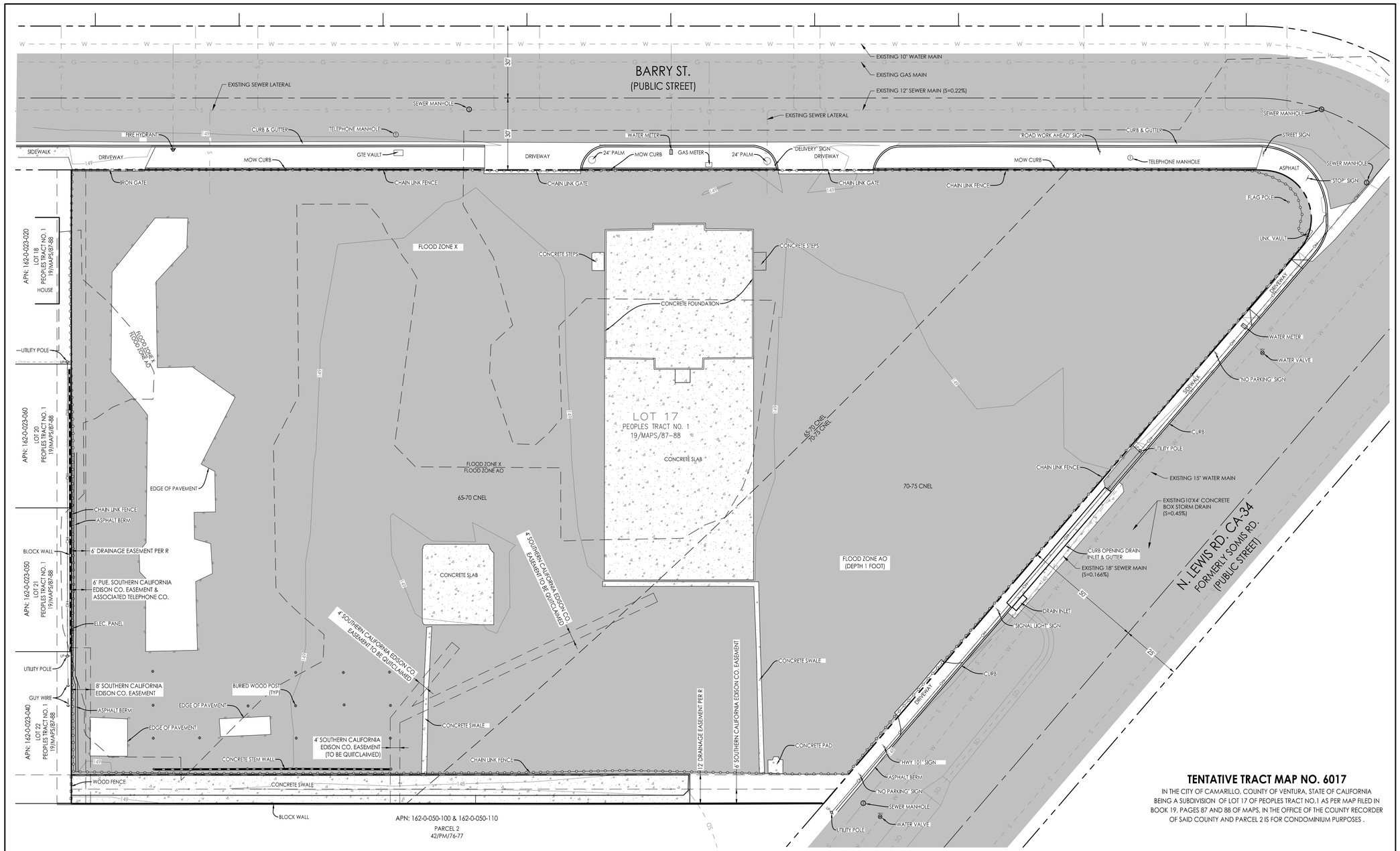
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A COLLABORATIVE COMMUNITY

TENTATIVE TRACT MAP NO. 6017
2800 Barry Street Affordable Housing Development
2800 Barry Street, Camarillo, California 93010

TITLE SHEET

TTM-1
7/27/2020



TENTATIVE TRACT MAP NO. 6017

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LEGEND

- RIGHT OF WAY LINE
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- S — EXISTING SEWER LINE
- W — EXISTING WATER LINE
- SD — EXISTING STORM DRAIN
- 10 — EXISTING MAJOR CONTOUR
- 11 — EXISTING MINOR CONTOUR
- EXISTING CURB AND GUTTER
- EXISTING WALL
- EXISTING AC PAVEMENT
- EXISTING CONCRETE PAVEMENT
- EXISTING BUILDING FOOTPRINT
- EXISTING FIRE HYDRANT
- EXISTING TREE
- EXISTING UTILITY POLE

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TENTATIVE TRACT MAP NO. 6017

2800 Barry Street Affordable Housing Development

2800 Barry Street, Camarillo, California 93010

EXISTING CONDITION

TTM-2

7/27/2020

2729 BARRY STREET
APN 162-0-021-060

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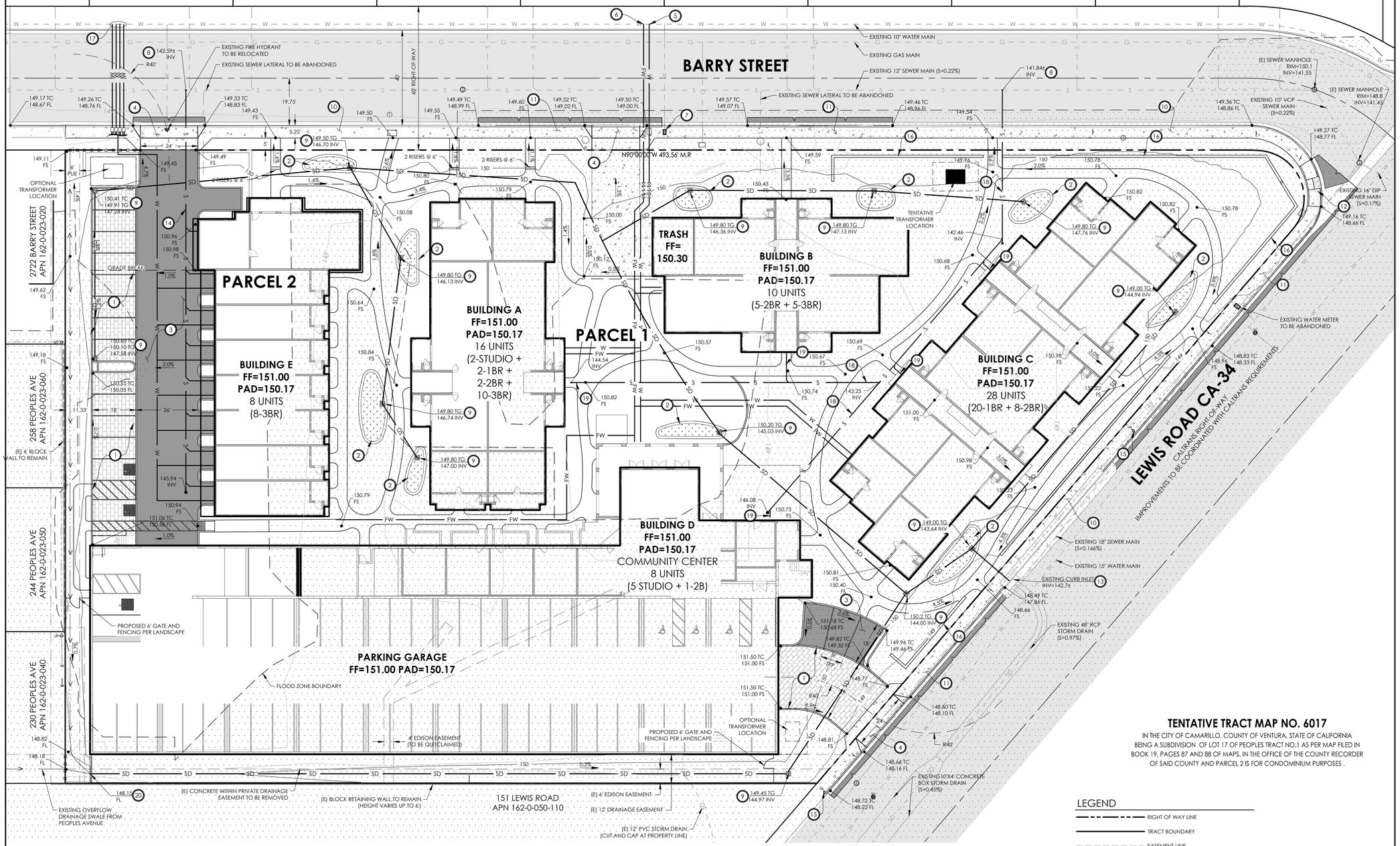
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APN 162-0-021-180



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- PROPOSED SEWER LINE
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- EXISTING AC PAVEMENT
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- PROPOSED BIORETENTION
- FLOOD ZONE AO (DEPTH 1')

NORTH

0 10' 20' 40'

SCALE: 1" = 20'

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TENTATIVE TRACT MAP NO. 6017
2800 Barry Street Affordable Housing Development
2800 Barry Street, Camarillo, California 93010

PRELIMINARY GRADING AND UTILITY PLAN

TTM-3
7/27/2020
SHEET 3 OF 3

Appendix B

Air Quality, Greenhouse Gas, and Energy Calculations

2800 Barry Street

Ventura County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	8.97	1000sqft	0.33	8,966.00	0
Unenclosed Parking Structure	131.00	Space	0.60	52,400.00	0
Apartments Mid Rise	68.00	Dwelling Unit	1.65	58,466.00	208

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2024
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - residential=units, community center, manager office, landscaping/open space. parking lot for hardscape paved area

Construction Phase - Applicant provided construction schedule

Off-road Equipment - applicant provided equipment

Off-road Equipment - applicant provided equipment

Off-road Equipment - Applicant provided equipment

Off-road Equipment - applicant provided equipment

Off-road Equipment - applicant provided equipment

Off-road Equipment - applicant provided equipment

Trips and VMT - 3780 cu yds / 16 cu yds per truck = 237 trips (1 in and 1 out) = 474

Grading - 3780 cu yds of fill

Vehicle Trips - Rate from Traffic Study

Area Coating - Rule 74.2

Energy Use - Redcued by 30 percent to account for requirements of 2019 title 24 standards

Water And Wastewater - 2016 CalGreen (Part 11 of Title 24) - 20 percent reduction in indoor water use

Solid Waste - AB 341 - 75 percent recycling

Construction Off-road Equipment Mitigation - VCAPCD Rule 55 - Watering and 15 MPH

Mobile Land Use Mitigation -

Area Mitigation - Rule 74.2 Arch Coatings

Energy Mitigation - 12 percent exceedance Title 24

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150
tblAreaCoating	Area_EF_Nonresidential_Interior	250	150
tblAreaCoating	Area_EF_Parking	250	150
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True

tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	10.00	41.00
tblConstructionPhase	NumDays	220.00	444.00
tblConstructionPhase	NumDays	6.00	26.00
tblConstructionPhase	NumDays	10.00	25.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblEnergyUse	T24E	179.76	125.80
tblGrading	MaterialImported	0.00	3,780.00
tblLandUse	LandUseSquareFeet	8,970.00	8,966.00
tblLandUse	LandUseSquareFeet	68,000.00	58,466.00
tblLandUse	LotAcreage	0.21	0.33
tblLandUse	LotAcreage	1.18	0.60
tblLandUse	LotAcreage	1.79	1.65
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblSolidWaste	SolidWasteGenerationRate	31.28	7.80
tblTripsAndVMT	HaulingTripNumber	473.00	474.00

tblVehicleTrips	WD_TR	6.65	5.44
tblWater	IndoorWaterUseRate	4,430,473.74	3,544,379.00

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					
2022	0.2808	2.4045	2.5362	5.4700e-003	0.0949	0.1089	0.2039	0.0233	0.1063	0.1296	0.0000	479.4369	479.4369	0.0518	0.0000	480.7306
2023	0.5930	2.2202	2.6016	5.5300e-003	0.0875	0.0995	0.1870	0.0235	0.0973	0.1209	0.0000	481.7574	481.7574	0.0462	0.0000	482.9118
Maximum	**0.5930**	**2.4045**	**2.6016**	**5.5300e-003**	**0.0949**	**0.1089**	**0.2039**	**0.0235**	**0.1063**	**0.1296**	**0.0000**	**481.7574**	**481.7574**	**0.0518**	**0.0000**	**482.9118**

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					
2022	0.2808	2.4045	2.5362	5.4700e-003	0.0872	0.1089	0.1961	0.0225	0.1063	0.1288	0.0000	479.4365	479.4365	0.0518	0.0000	480.7302
2023	0.5930	2.2202	2.6016	5.5300e-003	0.0875	0.0995	0.1870	0.0235	0.0973	0.1209	0.0000	481.7569	481.7569	0.0462	0.0000	482.9114
Maximum	**0.5930**	**2.4045**	**2.6016**	**5.5300e-003**	**0.0875**	**0.1089**	**0.1961**	**0.0235**	**0.1063**	**0.1288**	**0.0000**	**481.7569**	**481.7569**	**0.0518**	**0.0000**	**482.9114**

	ROG	NOx	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**	**4.23**	**0.00**	**1.98**	**1.79**	**0.00**	**0.34**	**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	3-1-2022	5-31-2022	0.6041	0.6041
2	6-1-2022	8-31-2022	0.8861	0.8861
3	9-1-2022	11-30-2022	0.8779	0.8779
4	12-1-2022	2-28-2023	0.8204	0.8204
5	3-1-2023	5-31-2023	0.8113	0.8113
6	6-1-2023	8-31-2023	0.9888	0.9888
7	9-1-2023	9-30-2023	0.4843	0.4843
		Highest	0.9888	0.9888

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	0.2786	5.8300e-003	0.5060	3.0000e-005		2.8000e-003	2.8000e-003		2.8000e-003	2.8000e-003	0.0000	0.8273	0.8273	8.0000e-004	0.0000	0.8472
Energy	4.1900e-003	0.0358	0.0152	2.3000e-004		2.8900e-003	2.8900e-003		2.8900e-003	2.8900e-003	0.0000	156.6455	156.6455	5.5500e-003	1.7400e-003	157.3040
Mobile	0.0808	0.3115	1.0335	3.9600e-003	0.4005	3.0200e-003	0.4035	0.1071	2.8100e-003	0.1099	0.0000	364.7990	364.7990	0.0137	0.0000	365.1426
Waste						0.0000	0.0000		0.0000	0.0000	1.5833	0.0000	1.5833	0.0936	0.0000	3.9226
Water						0.0000	0.0000		0.0000	0.0000	1.1245	24.5922	25.7166	0.1165	2.9400e-003	29.5046
Total	**0.3636**	**0.3531**	**1.5547**	**4.2200e-003**	**0.4005**	**8.7100e-003**	**0.4092**	**0.1071**	**8.5000e-003**	**0.1156**	**2.7078**	**546.8639**	**549.5717**	**0.2302**	**4.6800e-003**	**556.7210**

2.2 Overall Operational

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	0.2786	5.8300e-003	0.5060	3.0000e-005		2.8000e-003	2.8000e-003		2.8000e-003	2.8000e-003	0.0000	0.8273	0.8273	8.0000e-004	0.0000	0.8472
Energy	3.9300e-003	0.0336	0.0143	2.1000e-004		2.7200e-003	2.7200e-003		2.7200e-003	2.7200e-003	0.0000	153.7443	153.7443	5.4900e-003	1.6900e-003	154.3863
Mobile	0.0702	0.2499	0.7287	2.5300e-003	0.2476	2.0100e-003	0.2496	0.0662	1.8700e-003	0.0681	0.0000	232.8923	232.8923	9.5300e-003	0.0000	233.1305
Waste						0.0000	0.0000		0.0000	0.0000	1.5833	0.0000	1.5833	0.0936	0.0000	3.9226
Water						0.0000	0.0000		0.0000	0.0000	1.1245	24.5922	25.7166	0.1165	2.9400e-003	29.5046
Total	**0.3528**	**0.2893**	**1.2489**	**2.7700e-003**	**0.2476**	**7.5300e-003**	**0.2551**	**0.0662**	**7.3900e-003**	**0.0736**	**2.7078**	**412.0560**	**414.7638**	**0.2259**	**4.6300e-003**	**421.7912**

	ROG	NOx	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	**2.97**	**18.08**	**19.67**	**34.36**	**38.18**	**13.55**	**37.65**	**38.18**	**13.06**	**36.33**	**0.00**	**24.65**	**24.53**	**1.86**	**1.07**	**24.24**

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	3/1/2022	3/23/2022	6	20	
2	Site Preparation	Site Preparation	3/29/2022	3/31/2022	6	3	
3	Grading	Grading	4/1/2022	4/30/2022	6	26	
4	Building Construction	Building Construction	5/2/2022	9/30/2023	6	444	
5	Paving	Paving	7/1/2023	7/29/2023	6	25	
6	Architectural Coating	Architectural Coating	8/15/2023	9/30/2023	6	41	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 26

Acres of Paving: 0.93

Residential Indoor: 118,394; Residential Outdoor: 39,465; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 3,682 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	2	8.00	81	0.73
Demolition	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Site Preparation	Concrete/Industrial Saws	2	8.00	81	0.73
Site Preparation	Excavators	1	8.00	158	0.38
Grading	Excavators	1	8.00	158	0.38
Grading	Scrapers	1	8.00	367	0.48
Building Construction	Air Compressors	2	8.00	78	0.48
Building Construction	Cement and Mortar Mixers	2	8.00	9	0.56
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	1	7.00	89	0.20
Building Construction	Generator Sets	3	8.00	84	0.74
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
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	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	2	5.00	0.00	474.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	75.00	17.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2022

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	0.0105	0.0895	0.1181	1.9000e-004		4.8100e-003	4.8100e-003		4.6600e-003	4.6600e-003	0.0000	16.2187	16.2187	2.3500e-003	0.0000	16.2776
Total	**0.0105**	**0.0895**	**0.1181**	**1.9000e-004**		**4.8100e-003**	**4.8100e-003**		**4.6600e-003**	**4.6600e-003**	**0.0000**	**16.2187**	**16.2187**	**2.3500e-003**	**0.0000**	**16.2776**

3.2 Demolition - 2022

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	3.3000e-004	2.0000e-004	2.2800e-003	1.0000e-005	8.1000e-004	1.0000e-005	8.1000e-004	2.1000e-004	1.0000e-005	2.2000e-004	0.0000	0.6455	0.6455	2.0000e-005	0.0000	0.6458
Total	**3.3000e-004**	**2.0000e-004**	**2.2800e-003**	**1.0000e-005**	**8.1000e-004**	**1.0000e-005**	**8.1000e-004**	**2.1000e-004**	**1.0000e-005**	**2.2000e-004**	**0.0000**	**0.6455**	**0.6455**	**2.0000e-005**	**0.0000**	**0.6458**

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	0.0105	0.0895	0.1181	1.9000e-004		4.8100e-003	4.8100e-003		4.6600e-003	4.6600e-003	0.0000	16.2187	16.2187	2.3500e-003	0.0000	16.2776
Total	**0.0105**	**0.0895**	**0.1181**	**1.9000e-004**		**4.8100e-003**	**4.8100e-003**		**4.6600e-003**	**4.6600e-003**	**0.0000**	**16.2187**	**16.2187**	**2.3500e-003**	**0.0000**	**16.2776**

3.2 Demolition - 2022

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	3.3000e-004	2.0000e-004	2.2800e-003	1.0000e-005	8.1000e-004	1.0000e-005	8.1000e-004	2.1000e-004	1.0000e-005	2.2000e-004	0.0000	0.6455	0.6455	2.0000e-005	0.0000	0.6458
Total	**3.3000e-004**	**2.0000e-004**	**2.2800e-003**	**1.0000e-005**	**8.1000e-004**	**1.0000e-005**	**8.1000e-004**	**2.1000e-004**	**1.0000e-005**	**2.2000e-004**	**0.0000**	**0.6455**	**0.6455**	**2.0000e-005**	**0.0000**	**0.6458**

3.3 Site Preparation - 2022

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	1.3800e-003	0.0111	0.0159	3.0000e-005		5.8000e-004	5.8000e-004		5.7000e-004	5.7000e-004	0.0000	2.2934	2.2934	3.1000e-004	0.0000	2.3011
Total	**1.3800e-003**	**0.0111**	**0.0159**	**3.0000e-005**		**5.8000e-004**	**5.8000e-004**		**5.7000e-004**	**5.7000e-004**	**0.0000**	**2.2934**	**2.2934**	**3.1000e-004**	**0.0000**	**2.3011**

3.3 Site Preparation - 2022

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	4.0000e-005	2.0000e-005	2.7000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0775	0.0775	0.0000	0.0000	0.0775
Total	**4.0000e-005**	**2.0000e-005**	**2.7000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0775**	**0.0775**	**0.0000**	**0.0000**	**0.0775**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.3800e-003	0.0111	0.0159	3.0000e-005		5.8000e-004	5.8000e-004		5.7000e-004	5.7000e-004	0.0000	2.2934	2.2934	3.1000e-004	0.0000	2.3011
Total	**1.3800e-003**	**0.0111**	**0.0159**	**3.0000e-005**		**5.8000e-004**	**5.8000e-004**		**5.7000e-004**	**5.7000e-004**	**0.0000**	**2.2934**	**2.2934**	**3.1000e-004**	**0.0000**	**2.3011**

3.3 Site Preparation - 2022

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	4.0000e-005	2.0000e-005	2.7000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0775	0.0775	0.0000	0.0000	0.0775
Total	**4.0000e-005**	**2.0000e-005**	**2.7000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0775**	**0.0775**	**0.0000**	**0.0000**	**0.0775**

3.4 Grading - 2022

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					0.0141	0.0000	0.0141	1.5300e-003	0.0000	1.5300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0133	0.1394	0.1252	2.6000e-004		5.6600e-003	5.6600e-003		5.2000e-003	5.2000e-003	0.0000	23.2367	23.2367	7.5200e-003	0.0000	23.4245
Total	**0.0133**	**0.1394**	**0.1252**	**2.6000e-004**	**0.0141**	**5.6600e-003**	**0.0197**	**1.5300e-003**	**5.2000e-003**	**6.7300e-003**	**0.0000**	**23.2367**	**23.2367**	**7.5200e-003**	**0.0000**	**23.4245**

3.4 Grading - 2022

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	1.5300e-003	0.0542	0.0141	1.7000e-004	4.0600e-003	2.0000e-004	4.2600e-003	1.1100e-003	1.9000e-004	1.3100e-003	0.0000	17.2356	17.2356	1.6400e-003	0.0000	17.2765
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	2.1000e-004	1.3000e-004	1.4800e-003	0.0000	5.2000e-004	0.0000	5.3000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4195	0.4195	1.0000e-005	0.0000	0.4198
Total	**1.7400e-003**	**0.0544**	**0.0156**	**1.7000e-004**	**4.5800e-003**	**2.0000e-004**	**4.7900e-003**	**1.2500e-003**	**1.9000e-004**	**1.4500e-003**	**0.0000**	**17.6551**	**17.6551**	**1.6500e-003**	**0.0000**	**17.6963**

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					6.3200e-003	0.0000	6.3200e-003	6.9000e-004	0.0000	6.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0133	0.1394	0.1252	2.6000e-004		5.6600e-003	5.6600e-003		5.2000e-003	5.2000e-003	0.0000	23.2366	23.2366	7.5200e-003	0.0000	23.4245
Total	**0.0133**	**0.1394**	**0.1252**	**2.6000e-004**	**6.3200e-003**	**5.6600e-003**	**0.0120**	**6.9000e-004**	**5.2000e-003**	**5.8900e-003**	**0.0000**	**23.2366**	**23.2366**	**7.5200e-003**	**0.0000**	**23.4245**

3.4 Grading - 2022

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	1.5300e-003	0.0542	0.0141	1.7000e-004	4.0600e-003	2.0000e-004	4.2600e-003	1.1100e-003	1.9000e-004	1.3100e-003	0.0000	17.2356	17.2356	1.6400e-003	0.0000	17.2765
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	2.1000e-004	1.3000e-004	1.4800e-003	0.0000	5.2000e-004	0.0000	5.3000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4195	0.4195	1.0000e-005	0.0000	0.4198
Total	**1.7400e-003**	**0.0544**	**0.0156**	**1.7000e-004**	**4.5800e-003**	**2.0000e-004**	**4.7900e-003**	**1.2500e-003**	**1.9000e-004**	**1.4500e-003**	**0.0000**	**17.6551**	**17.6551**	**1.6500e-003**	**0.0000**	**17.6963**

3.5 Building Construction - 2022

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	0.2232	1.9304	2.0352	3.8000e-003		0.0968	0.0968		0.0949	0.0949	0.0000	324.7243	324.7243	0.0353	0.0000	325.6073
Total	**0.2232**	**1.9304**	**2.0352**	**3.8000e-003**		**0.0968**	**0.0968**		**0.0949**	**0.0949**	**0.0000**	**324.7243**	**324.7243**	**0.0353**	**0.0000**	**325.6073**

3.5 Building Construction - 2022

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	4.7900e-003	0.1636	0.0444	4.5000e-004	0.0119	4.2000e-004	0.0123	3.4300e-003	4.1000e-004	3.8300e-003	0.0000	43.7570	43.7570	3.3800e-003	0.0000	43.8415
Worker	0.0256	0.0159	0.1793	5.6000e-004	0.0635	4.4000e-004	0.0639	0.0169	4.0000e-004	0.0173	0.0000	50.8289	50.8289	1.2100e-003	0.0000	50.8591
Total	**0.0304**	**0.1795**	**0.2237**	**1.0100e-003**	**0.0754**	**8.6000e-004**	**0.0762**	**0.0203**	**8.1000e-004**	**0.0211**	**0.0000**	**94.5859**	**94.5859**	**4.5900e-003**	**0.0000**	**94.7005**

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	0.2232	1.9304	2.0352	3.8000e-003		0.0968	0.0968		0.0949	0.0949	0.0000	324.7239	324.7239	0.0353	0.0000	325.6069
Total	**0.2232**	**1.9304**	**2.0352**	**3.8000e-003**		**0.0968**	**0.0968**		**0.0949**	**0.0949**	**0.0000**	**324.7239**	**324.7239**	**0.0353**	**0.0000**	**325.6069**

3.5 Building Construction - 2022

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	4.7900e-003	0.1636	0.0444	4.5000e-004	0.0119	4.2000e-004	0.0123	3.4300e-003	4.1000e-004	3.8300e-003	0.0000	43.7570	43.7570	3.3800e-003	0.0000	43.8415
Worker	0.0256	0.0159	0.1793	5.6000e-004	0.0635	4.4000e-004	0.0639	0.0169	4.0000e-004	0.0173	0.0000	50.8289	50.8289	1.2100e-003	0.0000	50.8591
Total	**0.0304**	**0.1795**	**0.2237**	**1.0100e-003**	**0.0754**	**8.6000e-004**	**0.0762**	**0.0203**	**8.1000e-004**	**0.0211**	**0.0000**	**94.5859**	**94.5859**	**4.5900e-003**	**0.0000**	**94.7005**

3.5 Building Construction - 2023

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	0.2325	1.9905	2.2570	4.2300e-003		0.0952	0.0952		0.0932	0.0932	0.0000	361.8345	361.8345	0.0382	0.0000	362.7904
Total	**0.2325**	**1.9905**	**2.2570**	**4.2300e-003**		**0.0952**	**0.0952**		**0.0932**	**0.0932**	**0.0000**	**361.8345**	**361.8345**	**0.0382**	**0.0000**	**362.7904**

3.5 Building Construction - 2023

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	3.9600e-003	0.1387	0.0448	4.9000e-004	0.0132	1.8000e-004	0.0134	3.8200e-003	1.7000e-004	3.9900e-003	0.0000	47.6858	47.6858	3.3600e-003	0.0000	47.7698
Worker	0.0269	0.0160	0.1843	6.0000e-004	0.0708	4.8000e-004	0.0712	0.0188	4.4000e-004	0.0192	0.0000	54.4690	54.4690	1.2100e-003	0.0000	54.4993
Total	**0.0309**	**0.1547**	**0.2291**	**1.0900e-003**	**0.0840**	**6.6000e-004**	**0.0847**	**0.0226**	**6.1000e-004**	**0.0232**	**0.0000**	**102.1548**	**102.1548**	**4.5700e-003**	**0.0000**	**102.2691**

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	0.2325	1.9905	2.2570	4.2300e-003		0.0952	0.0952		0.0932	0.0932	0.0000	361.8341	361.8341	0.0382	0.0000	362.7900
Total	**0.2325**	**1.9905**	**2.2570**	**4.2300e-003**		**0.0952**	**0.0952**		**0.0932**	**0.0932**	**0.0000**	**361.8341**	**361.8341**	**0.0382**	**0.0000**	**362.7900**

3.5 Building Construction - 2023

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	3.9600e-003	0.1387	0.0448	4.9000e-004	0.0132	1.8000e-004	0.0134	3.8200e-003	1.7000e-004	3.9900e-003	0.0000	47.6858	47.6858	3.3600e-003	0.0000	47.7698
Worker	0.0269	0.0160	0.1843	6.0000e-004	0.0708	4.8000e-004	0.0712	0.0188	4.4000e-004	0.0192	0.0000	54.4690	54.4690	1.2100e-003	0.0000	54.4993
Total	**0.0309**	**0.1547**	**0.2291**	**1.0900e-003**	**0.0840**	**6.6000e-004**	**0.0847**	**0.0226**	**6.1000e-004**	**0.0232**	**0.0000**	**102.1548**	**102.1548**	**4.5700e-003**	**0.0000**	**102.2691**

3.6 Paving - 2023

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	5.3300e-003	0.0475	0.0693	1.2000e-004		2.2100e-003	2.2100e-003		2.0600e-003	2.0600e-003	0.0000	9.8493	9.8493	3.0000e-003	0.0000	9.9242
Paving	4.3000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.7600e-003**	**0.0475**	**0.0693**	**1.2000e-004**		**2.2100e-003**	**2.2100e-003**		**2.0600e-003**	**2.0600e-003**	**0.0000**	**9.8493**	**9.8493**	**3.0000e-003**	**0.0000**	**9.9242**

3.6 Paving - 2023

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	3.8000e-004	2.3000e-004	2.6300e-003	1.0000e-005	1.0100e-003	1.0000e-005	1.0100e-003	2.7000e-004	1.0000e-005	2.7000e-004	0.0000	0.7759	0.7759	2.0000e-005	0.0000	0.7763
Total	**3.8000e-004**	**2.3000e-004**	**2.6300e-003**	**1.0000e-005**	**1.0100e-003**	**1.0000e-005**	**1.0100e-003**	**2.7000e-004**	**1.0000e-005**	**2.7000e-004**	**0.0000**	**0.7759**	**0.7759**	**2.0000e-005**	**0.0000**	**0.7763**

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	5.3300e-003	0.0475	0.0693	1.2000e-004		2.2100e-003	2.2100e-003		2.0600e-003	2.0600e-003	0.0000	9.8493	9.8493	3.0000e-003	0.0000	9.9242
Paving	4.3000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.7600e-003**	**0.0475**	**0.0693**	**1.2000e-004**		**2.2100e-003**	**2.2100e-003**		**2.0600e-003**	**2.0600e-003**	**0.0000**	**9.8493**	**9.8493**	**3.0000e-003**	**0.0000**	**9.9242**

3.6 Paving - 2023

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	3.8000e-004	2.3000e-004	2.6300e-003	1.0000e-005	1.0100e-003	1.0000e-005	1.0100e-003	2.7000e-004	1.0000e-005	2.7000e-004	0.0000	0.7759	0.7759	2.0000e-005	0.0000	0.7763
Total	**3.8000e-004**	**2.3000e-004**	**2.6300e-003**	**1.0000e-005**	**1.0100e-003**	**1.0000e-005**	**1.0100e-003**	**2.7000e-004**	**1.0000e-005**	**2.7000e-004**	**0.0000**	**0.7759**	**0.7759**	**2.0000e-005**	**0.0000**	**0.7763**

3.7 Architectural Coating - 2023

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	0.3186					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.9300e-003	0.0267	0.0371	6.0000e-005		1.4500e-003	1.4500e-003		1.4500e-003	1.4500e-003	0.0000	5.2342	5.2342	3.1000e-004	0.0000	5.2420
Total	**0.3225**	**0.0267**	**0.0371**	**6.0000e-005**		**1.4500e-003**	**1.4500e-003**		**1.4500e-003**	**1.4500e-003**	**0.0000**	**5.2342**	**5.2342**	**3.1000e-004**	**0.0000**	**5.2420**

3.7 Architectural Coating - 2023

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	9.4000e-004	5.6000e-004	6.4600e-003	2.0000e-005	2.4800e-003	2.0000e-005	2.5000e-003	6.6000e-004	2.0000e-005	6.7000e-004	0.0000	1.9087	1.9087	4.0000e-005	0.0000	1.9098
Total	**9.4000e-004**	**5.6000e-004**	**6.4600e-003**	**2.0000e-005**	**2.4800e-003**	**2.0000e-005**	**2.5000e-003**	**6.6000e-004**	**2.0000e-005**	**6.7000e-004**	**0.0000**	**1.9087**	**1.9087**	**4.0000e-005**	**0.0000**	**1.9098**

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	0.3186					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.9300e-003	0.0267	0.0371	6.0000e-005		1.4500e-003	1.4500e-003		1.4500e-003	1.4500e-003	0.0000	5.2342	5.2342	3.1000e-004	0.0000	5.2420
Total	**0.3225**	**0.0267**	**0.0371**	**6.0000e-005**		**1.4500e-003**	**1.4500e-003**		**1.4500e-003**	**1.4500e-003**	**0.0000**	**5.2342**	**5.2342**	**3.1000e-004**	**0.0000**	**5.2420**

3.7 Architectural Coating - 2023

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	9.4000e-004	5.6000e-004	6.4600e-003	2.0000e-005	2.4800e-003	2.0000e-005	2.5000e-003	6.6000e-004	2.0000e-005	6.7000e-004	0.0000	1.9087	1.9087	4.0000e-005	0.0000	1.9098
Total	**9.4000e-004**	**5.6000e-004**	**6.4600e-003**	**2.0000e-005**	**2.4800e-003**	**2.0000e-005**	**2.5000e-003**	**6.6000e-004**	**2.0000e-005**	**6.7000e-004**	**0.0000**	**1.9087**	**1.9087**	**4.0000e-005**	**0.0000**	**1.9098**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Transit Accessibility

Integrate Below Market Rate Housing

	ROG	NOx	CO	SO2	Fugitive 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	0.0702	0.2499	0.7287	2.5300e-003	0.2476	2.0100e-003	0.2496	0.0662	1.8700e-003	0.0681	0.0000	232.8923	232.8923	9.5300e-003	0.0000	233.1305
Unmitigated	0.0808	0.3115	1.0335	3.9600e-003	0.4005	3.0200e-003	0.4035	0.1071	2.8100e-003	0.1099	0.0000	364.7990	364.7990	0.0137	0.0000	365.1426

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	369.92	434.52	398.48	1,058,888	654,622
Parking Lot	0.00	0.00	0.00		
Unenclosed Parking Structure	0.00	0.00	0.00		
Total	369.92	434.52	398.48	1,058,888	654,622

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	7.30	7.50	32.90	18.00	49.10	86	11	3
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Unenclosed Parking Structure	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.597457	0.040465	0.187858	0.105115	0.017041	0.006067	0.020072	0.018206	0.001182	0.001040	0.003816	0.000389	0.001293
Parking Lot	0.597457	0.040465	0.187858	0.105115	0.017041	0.006067	0.020072	0.018206	0.001182	0.001040	0.003816	0.000389	0.001293
Unenclosed Parking Structure	0.597457	0.040465	0.187858	0.105115	0.017041	0.006067	0.020072	0.018206	0.001182	0.001040	0.003816	0.000389	0.001293

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive 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	114.8511	114.8511	4.7400e-003	9.8000e-004	115.2620
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	115.1782	115.1782	4.7600e-003	9.8000e-004	115.5903
NaturalGas Mitigated	3.9300e-003	0.0336	0.0143	2.1000e-004		2.7200e-003	2.7200e-003		2.7200e-003	2.7200e-003	0.0000	38.8931	38.8931	7.5000e-004	7.1000e-004	39.1243
NaturalGas Unmitigated	4.1900e-003	0.0358	0.0152	2.3000e-004		2.8900e-003	2.8900e-003		2.8900e-003	2.8900e-003	0.0000	41.4673	41.4673	7.9000e-004	7.6000e-004	41.7137

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	777067	4.1900e-003	0.0358	0.0152	2.3000e-004		2.8900e-003	2.8900e-003		2.8900e-003	2.8900e-003	0.0000	41.4673	41.4673	7.9000e-004	7.6000e-004	41.7137
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
Unenclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**4.1900e-003**	**0.0358**	**0.0152**	**2.3000e-004**		**2.8900e-003**	**2.8900e-003**		**2.8900e-003**	**2.8900e-003**	**0.0000**	**41.4673**	**41.4673**	**7.9000e-004**	**7.6000e-004**	**41.7137**

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	728830	3.9300e-003	0.0336	0.0143	2.1000e-004		2.7200e-003	2.7200e-003		2.7200e-003	2.7200e-003	0.0000	38.8931	38.8931	7.5000e-004	7.1000e-004	39.1243
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
Unenclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**3.9300e-003**	**0.0336**	**0.0143**	**2.1000e-004**		**2.7200e-003**	**2.7200e-003**		**2.7200e-003**	**2.7200e-003**	**0.0000**	**38.8931**	**38.8931**	**7.5000e-004**	**7.1000e-004**	**39.1243**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	266651	84.9608	3.5100e-003	7.3000e-004	85.2647
Parking Lot	3138.1	0.9999	4.0000e-005	1.0000e-005	1.0034
Unenclosed Parking Structure	91700	29.2176	1.2100e-003	2.5000e-004	29.3221
Total		**115.1782**	**4.7600e-003**	**9.9000e-004**	**115.5903**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	265625	84.6337	3.4900e-003	7.2000e-004	84.9365
Parking Lot	3138.1	0.9999	4.0000e-005	1.0000e-005	1.0034
Unenclosed Parking Structure	91700	29.2176	1.2100e-003	2.5000e-004	29.3221
Total		**114.8511**	**4.7400e-003**	**9.8000e-004**	**115.2620**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

No Hearths Installed

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.2786	5.8300e-003	0.5060	3.0000e-005		2.8000e-003	2.8000e-003		2.8000e-003	2.8000e-003	0.0000	0.8273	0.8273	8.0000e-004	0.0000	0.8472
Unmitigated	0.2786	5.8300e-003	0.5060	3.0000e-005		2.8000e-003	2.8000e-003		2.8000e-003	2.8000e-003	0.0000	0.8273	0.8273	8.0000e-004	0.0000	0.8472

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	0.0310					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2323					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0153	5.8300e-003	0.5060	3.0000e-005		2.8000e-003	2.8000e-003		2.8000e-003	2.8000e-003	0.0000	0.8273	0.8273	8.0000e-004	0.0000	0.8472
Total	**0.2786**	**5.8300e-003**	**0.5060**	**3.0000e-005**		**2.8000e-003**	**2.8000e-003**		**2.8000e-003**	**2.8000e-003**	**0.0000**	**0.8273**	**0.8273**	**8.0000e-004**	**0.0000**	**0.8472**

6.2 Area by SubCategory

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	0.0310					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2323					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0153	5.8300e-003	0.5060	3.0000e-005		2.8000e-003	2.8000e-003		2.8000e-003	2.8000e-003	0.0000	0.8273	0.8273	8.0000e-004	0.0000	0.8472
Total	**0.2786**	**5.8300e-003**	**0.5060**	**3.0000e-005**		**2.8000e-003**	**2.8000e-003**		**2.8000e-003**	**2.8000e-003**	**0.0000**	**0.8273**	**0.8273**	**8.0000e-004**	**0.0000**	**0.8472**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	25.7166	0.1165	2.9400e-003	29.5046
Unmitigated	25.7166	0.1165	2.9400e-003	29.5046

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	3.54438 / 2.79312	25.7166	0.1165	2.9400e-003	29.5046
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**25.7166**	**0.1165**	**2.9400e-003**	**29.5046**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	3.54438 / 2.79312	25.7166	0.1165	2.9400e-003	29.5046
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**25.7166**	**0.1165**	**2.9400e-003**	**29.5046**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	1.5833	0.0936	0.0000	3.9226
Unmitigated	1.5833	0.0936	0.0000	3.9226

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	7.8	1.5833	0.0936	0.0000	3.9226
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Total		**1.5833**	**0.0936**	**0.0000**	**3.9226**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	7.8	1.5833	0.0936	0.0000	3.9226
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Total		**1.5833**	**0.0936**	**0.0000**	**3.9226**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

2800 Barry Street

Ventura County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	8.97	1000sqft	0.33	8,966.00	0
Unenclosed Parking Structure	131.00	Space	0.60	52,400.00	0
Apartments Mid Rise	68.00	Dwelling Unit	1.65	58,466.00	208

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2024
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - residential=units, community center, manager office, landscaping/open space. parking lot for hardscape paved area

Construction Phase - Applicant provided construction schedule

Off-road Equipment - applicant provided equipment

Off-road Equipment - applicant provided equipment

Off-road Equipment - Applicant provided equipment

Off-road Equipment - applicant provided equipment

Off-road Equipment - applicant provided equipment

Off-road Equipment - applicant provided equipment

Trips and VMT - 3780 cu yds / 16 cu yds per truck = 237 trips (1 in and 1 out) = 474

Grading - 3780 cu yds of fill

Vehicle Trips - Rate from Traffic Study

Area Coating - Rule 74.2

Energy Use - Redcued by 30 percent to account for requirements of 2019 title 24 standards

Water And Wastewater - 2016 CalGreen (Part 11 of Title 24) - 20 percent reduction in indoor water use

Solid Waste - AB 341 - 75 percent recycling

Construction Off-road Equipment Mitigation - VCAPCD Rule 55 - Watering and 15 MPH

Mobile Land Use Mitigation -

Area Mitigation - Rule 74.2 Arch Coatings

Energy Mitigation - 12 percent exceedance Title 24

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150
tblAreaCoating	Area_EF_Nonresidential_Interior	250	150
tblAreaCoating	Area_EF_Parking	250	150
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True

2800 Barry Street - Ventura County, Summer

tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	10.00	41.00
tblConstructionPhase	NumDays	220.00	444.00
tblConstructionPhase	NumDays	6.00	26.00
tblConstructionPhase	NumDays	10.00	25.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblEnergyUse	T24E	179.76	125.80
tblGrading	MaterialImported	0.00	3,780.00
tblLandUse	LandUseSquareFeet	8,970.00	8,966.00
tblLandUse	LandUseSquareFeet	68,000.00	58,466.00
tblLandUse	LotAcreage	0.21	0.33
tblLandUse	LotAcreage	1.18	0.60
tblLandUse	LotAcreage	1.79	1.65
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblSolidWaste	SolidWasteGenerationRate	31.28	7.80
tblTripsAndVMT	HaulingTripNumber	473.00	474.00

tblVehicleTrips	WD_TR	6.65	5.44
tblWater	IndoorWaterUseRate	4,430,473.74	3,544,379.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	2.4112	20.0613	21.5546	0.0461	1.4397	0.9302	1.8902	0.2155	0.9109	1.1075	0.0000	4,429.4728	4,429.4728	0.7750	0.0000	4,439.9340
2023	18.0250	22.1311	27.0534	0.0557	0.8543	0.9965	1.8097	0.2292	0.9668	1.1850	0.0000	5,337.8542	5,337.8542	0.6689	0.0000	5,354.5754
Maximum	**18.0250**	**22.1311**	**27.0534**	**0.0557**	**1.4397**	**0.9965**	**1.8902**	**0.2292**	**0.9668**	**1.1850**	**0.0000**	**5,337.8542**	**5,337.8542**	**0.7750**	**0.0000**	**5,354.5754**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	2.4112	20.0613	21.5546	0.0461	0.8452	0.9302	1.6613	0.1965	0.9109	1.1075	0.0000	4,429.4728	4,429.4728	0.7750	0.0000	4,439.9340
2023	18.0250	22.1311	27.0534	0.0557	0.8543	0.9965	1.8097	0.2292	0.9668	1.1850	0.0000	5,337.8542	5,337.8542	0.6689	0.0000	5,354.5754
Maximum	**18.0250**	**22.1311**	**27.0534**	**0.0557**	**0.8543**	**0.9965**	**1.8097**	**0.2292**	**0.9668**	**1.1850**	**0.0000**	**5,337.8542**	**5,337.8542**	**0.7750**	**0.0000**	**5,354.5754**

	ROG	NOx	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**	**25.92**	**0.00**	**6.19**	**4.27**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.6127	0.0647	5.6220	3.0000e-004		0.0311	0.0311		0.0311	0.0311	0.0000	10.1322	10.1322	9.7700e-003	0.0000	10.3765
Energy	0.0230	0.1962	0.0835	1.2500e-003		0.0159	0.0159		0.0159	0.0159		250.4649	250.4649	4.8000e-003	4.5900e-003	251.9533
Mobile	0.5384	1.8658	6.5532	0.0256	2.5411	0.0188	2.5599	0.6786	0.0175	0.6960		2,593.6678	2,593.6678	0.0945		2,596.0314
Total	**2.1741**	**2.1268**	**12.2587**	**0.0271**	**2.5411**	**0.0658**	**2.6069**	**0.6786**	**0.0645**	**0.7430**	**0.0000**	**2,854.2649**	**2,854.2649**	**0.1091**	**4.5900e-003**	**2,858.3611**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.6127	0.0647	5.6220	3.0000e-004		0.0311	0.0311		0.0311	0.0311	0.0000	10.1322	10.1322	9.7700e-003	0.0000	10.3765
Energy	0.0215	0.1840	0.0783	1.1700e-003		0.0149	0.0149		0.0149	0.0149		234.9169	234.9169	4.5000e-003	4.3100e-003	236.3129
Mobile	0.4718	1.5104	4.5210	0.0163	1.5709	0.0125	1.5835	0.4195	0.0116	0.4311		1,655.7789	1,655.7789	0.0650		1,657.4032
Total	**2.1061**	**1.7592**	**10.2213**	**0.0178**	**1.5709**	**0.0585**	**1.6295**	**0.4195**	**0.0576**	**0.4771**	**0.0000**	**1,900.8280**	**1,900.8280**	**0.0792**	**4.3100e-003**	**1,904.0927**

	ROG	NOx	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	**3.13**	**17.28**	**16.62**	**34.44**	**38.18**	**11.05**	**37.49**	**38.18**	**10.58**	**35.78**	**0.00**	**33.40**	**33.40**	**27.38**	**6.10**	**33.39**

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	3/1/2022	3/23/2022	6	20	
2	Site Preparation	Site Preparation	3/29/2022	3/31/2022	6	3	
3	Grading	Grading	4/1/2022	4/30/2022	6	26	
4	Building Construction	Building Construction	5/2/2022	9/30/2023	6	444	
5	Paving	Paving	7/1/2023	7/29/2023	6	25	
6	Architectural Coating	Architectural Coating	8/15/2023	9/30/2023	6	41	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 26

Acres of Paving: 0.93

Residential Indoor: 118,394; Residential Outdoor: 39,465; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 3,682 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	2	8.00	81	0.73
Demolition	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Site Preparation	Concrete/Industrial Saws	2	8.00	81	0.73
Site Preparation	Excavators	1	8.00	158	0.38
Grading	Excavators	1	8.00	158	0.38
Grading	Scrapers	1	8.00	367	0.48
Building Construction	Air Compressors	2	8.00	78	0.48
Building Construction	Cement and Mortar Mixers	2	8.00	9	0.56
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	1	7.00	89	0.20
Building Construction	Generator Sets	3	8.00	84	0.74
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
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	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	2	5.00	0.00	474.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	75.00	17.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0448	8.9536	11.8052	0.0187		0.4806	0.4806		0.4662	0.4662		1,787.8072	1,787.8072	0.2595		1,794.2950
Total	**1.0448**	**8.9536**	**11.8052**	**0.0187**		**0.4806**	**0.4806**		**0.4662**	**0.4662**		**1,787.8072**	**1,787.8072**	**0.2595**		**1,794.2950**

3.2 Demolition - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0322	0.0179	0.2364	7.4000e-004	0.0822	5.6000e-004	0.0827	0.0218	5.1000e-004	0.0223		74.1680	74.1680	1.7500e-003		74.2117
Total	**0.0322**	**0.0179**	**0.2364**	**7.4000e-004**	**0.0822**	**5.6000e-004**	**0.0827**	**0.0218**	**5.1000e-004**	**0.0223**		**74.1680**	**74.1680**	**1.7500e-003**		**74.2117**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0448	8.9536	11.8052	0.0187		0.4806	0.4806		0.4662	0.4662	0.0000	1,787.8072	1,787.8072	0.2595		1,794.2950
Total	**1.0448**	**8.9536**	**11.8052**	**0.0187**		**0.4806**	**0.4806**		**0.4662**	**0.4662**	**0.0000**	**1,787.8072**	**1,787.8072**	**0.2595**		**1,794.2950**

3.2 Demolition - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0322	0.0179	0.2364	7.4000e-004	0.0822	5.6000e-004	0.0827	0.0218	5.1000e-004	0.0223		74.1680	74.1680	1.7500e-003		74.2117
Total	**0.0322**	**0.0179**	**0.2364**	**7.4000e-004**	**0.0822**	**5.6000e-004**	**0.0827**	**0.0218**	**5.1000e-004**	**0.0223**		**74.1680**	**74.1680**	**1.7500e-003**		**74.2117**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9178	7.3793	10.5845	0.0177		0.3863	0.3863		0.3794	0.3794		1,685.3446	1,685.3446	0.2264		1,691.0039
Total	**0.9178**	**7.3793**	**10.5845**	**0.0177**		**0.3863**	**0.3863**		**0.3794**	**0.3794**		**1,685.3446**	**1,685.3446**	**0.2264**		**1,691.0039**

3.3 Site Preparation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0258	0.0143	0.1891	6.0000e-004	0.0657	4.4000e-004	0.0662	0.0174	4.1000e-004	0.0178		59.3344	59.3344	1.4000e-003		59.3693
Total	**0.0258**	**0.0143**	**0.1891**	**6.0000e-004**	**0.0657**	**4.4000e-004**	**0.0662**	**0.0174**	**4.1000e-004**	**0.0178**		**59.3344**	**59.3344**	**1.4000e-003**		**59.3693**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9178	7.3793	10.5845	0.0177		0.3863	0.3863		0.3794	0.3794	0.0000	1,685.3446	1,685.3446	0.2264		1,691.0039
Total	**0.9178**	**7.3793**	**10.5845**	**0.0177**		**0.3863**	**0.3863**		**0.3794**	**0.3794**	**0.0000**	**1,685.3446**	**1,685.3446**	**0.2264**		**1,691.0039**

3.3 Site Preparation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0258	0.0143	0.1891	6.0000e-004	0.0657	4.4000e-004	0.0662	0.0174	4.1000e-004	0.0178		59.3344	59.3344	1.4000e-003		59.3693
Total	**0.0258**	**0.0143**	**0.1891**	**6.0000e-004**	**0.0657**	**4.4000e-004**	**0.0662**	**0.0174**	**4.1000e-004**	**0.0178**		**59.3344**	**59.3344**	**1.4000e-003**		**59.3693**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.0809	0.0000	1.0809	0.1176	0.0000	0.1176			0.0000			0.0000
Off-Road	1.0217	10.7205	9.6309	0.0204		0.4350	0.4350		0.4002	0.4002		1,970.3092	1,970.3092	0.6372		1,986.2401
Total	**1.0217**	**10.7205**	**9.6309**	**0.0204**	**1.0809**	**0.4350**	**1.5160**	**0.1176**	**0.4002**	**0.5178**		**1,970.3092**	**1,970.3092**	**0.6372**		**1,986.2401**

3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1165	4.0838	1.0548	0.0134	0.3177	0.0152	0.3329	0.0870	0.0146	0.1016		1,471.4399	1,471.4399	0.1369		1,474.8629
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0161	8.9200e-003	0.1182	3.7000e-004	0.0411	2.8000e-004	0.0414	0.0109	2.6000e-004	0.0112		37.0840	37.0840	8.7000e-004		37.1058
Total	**0.1326**	**4.0927**	**1.1730**	**0.0138**	**0.3588**	**0.0155**	**0.3743**	**0.0979**	**0.0148**	**0.1127**		**1,508.5239**	**1,508.5239**	**0.1378**		**1,511.9687**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.4864	0.0000	0.4864	0.0529	0.0000	0.0529			0.0000			0.0000
Off-Road	1.0217	10.7205	9.6309	0.0204		0.4350	0.4350		0.4002	0.4002	0.0000	1,970.3092	1,970.3092	0.6372		1,986.2401
Total	**1.0217**	**10.7205**	**9.6309**	**0.0204**	**0.4864**	**0.4350**	**0.9215**	**0.0529**	**0.4002**	**0.4532**	**0.0000**	**1,970.3092**	**1,970.3092**	**0.6372**		**1,986.2401**

3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1165	4.0838	1.0548	0.0134	0.3177	0.0152	0.3329	0.0870	0.0146	0.1016		1,471.4399	1,471.4399	0.1369		1,474.8629
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0161	8.9200e-003	0.1182	3.7000e-004	0.0411	2.8000e-004	0.0414	0.0109	2.6000e-004	0.0112		37.0840	37.0840	8.7000e-004		37.1058
Total	**0.1326**	**4.0927**	**1.1730**	**0.0138**	**0.3588**	**0.0155**	**0.3743**	**0.0979**	**0.0148**	**0.1127**		**1,508.5239**	**1,508.5239**	**0.1378**		**1,511.9687**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1253	18.3844	19.3828	0.0362		0.9221	0.9221		0.9033	0.9033		3,409.0218	3,409.0218	0.3708		3,418.2914
Total	**2.1253**	**18.3844**	**19.3828**	**0.0362**		**0.9221**	**0.9221**		**0.9033**	**0.9033**		**3,409.0218**	**3,409.0218**	**0.3708**		**3,418.2914**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0444	1.5430	0.3987	4.3100e-003	0.1149	3.9400e-003	0.1189	0.0331	3.7700e-003	0.0369		464.1912	464.1912	0.0346		465.0553
Worker	0.2415	0.1339	1.7731	5.5800e-003	0.6161	4.1600e-003	0.6203	0.1634	3.8400e-003	0.1673		556.2597	556.2597	0.0131		556.5874
Total	**0.2859**	**1.6769**	**2.1718**	**9.8900e-003**	**0.7310**	**8.1000e-003**	**0.7392**	**0.1965**	**7.6100e-003**	**0.2041**		**1,020.4510**	**1,020.4510**	**0.0477**		**1,021.6426**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1253	18.3844	19.3828	0.0362		0.9221	0.9221		0.9033	0.9033	0.0000	3,409.0218	3,409.0218	0.3708		3,418.2914
Total	**2.1253**	**18.3844**	**19.3828**	**0.0362**		**0.9221**	**0.9221**		**0.9033**	**0.9033**	**0.0000**	**3,409.0218**	**3,409.0218**	**0.3708**		**3,418.2914**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0444	1.5430	0.3987	4.3100e-003	0.1149	3.9400e-003	0.1189	0.0331	3.7700e-003	0.0369		464.1912	464.1912	0.0346		465.0553
Worker	0.2415	0.1339	1.7731	5.5800e-003	0.6161	4.1600e-003	0.6203	0.1634	3.8400e-003	0.1673		556.2597	556.2597	0.0131		556.5874
Total	**0.2859**	**1.6769**	**2.1718**	**9.8900e-003**	**0.7310**	**8.1000e-003**	**0.7392**	**0.1965**	**7.6100e-003**	**0.2041**		**1,020.4510**	**1,020.4510**	**0.0477**		**1,021.6426**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9874	17.0130	19.2906	0.0362		0.8135	0.8135		0.7966	0.7966		3,409.0107	3,409.0107	0.3602		3,418.0167
Total	**1.9874**	**17.0130**	**19.2906**	**0.0362**		**0.8135**	**0.8135**		**0.7966**	**0.7966**		**3,409.0107**	**3,409.0107**	**0.3602**		**3,418.0167**

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0329	1.1784	0.3636	4.2000e-003	0.1149	1.4900e-003	0.1164	0.0331	1.4300e-003	0.0345		454.0151	454.0151	0.0309		454.7887
Worker	0.2273	0.1209	1.6387	5.3700e-003	0.6161	4.0700e-003	0.6202	0.1634	3.7500e-003	0.1672		534.9457	534.9457	0.0118		535.2412
Total	**0.2602**	**1.2993**	**2.0023**	**9.5700e-003**	**0.7311**	**5.5600e-003**	**0.7366**	**0.1965**	**5.1800e-003**	**0.2017**		**988.9607**	**988.9607**	**0.0428**		**990.0298**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9874	17.0130	19.2906	0.0362		0.8135	0.8135		0.7966	0.7966	0.0000	3,409.0107	3,409.0107	0.3602		3,418.0167
Total	**1.9874**	**17.0130**	**19.2906**	**0.0362**		**0.8135**	**0.8135**		**0.7966**	**0.7966**	**0.0000**	**3,409.0107**	**3,409.0107**	**0.3602**		**3,418.0167**

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0329	1.1784	0.3636	4.2000e-003	0.1149	1.4900e-003	0.1164	0.0331	1.4300e-003	0.0345		454.0151	454.0151	0.0309		454.7887
Worker	0.2273	0.1209	1.6387	5.3700e-003	0.6161	4.0700e-003	0.6202	0.1634	3.7500e-003	0.1672		534.9457	534.9457	0.0118		535.2412
Total	**0.2602**	**1.2993**	**2.0023**	**9.5700e-003**	**0.7311**	**5.5600e-003**	**0.7366**	**0.1965**	**5.1800e-003**	**0.2017**		**988.9607**	**988.9607**	**0.0428**		**990.0298**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4268	3.8026	5.5420	9.2600e-003		0.1769	0.1769		0.1645	0.1645		868.5567	868.5567	0.2643		875.1634
Paving	0.0346					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.4614**	**3.8026**	**5.5420**	**9.2600e-003**		**0.1769**	**0.1769**		**0.1645**	**0.1645**		**868.5567**	**868.5567**	**0.2643**		**875.1634**

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0303	0.0161	0.2185	7.2000e-004	0.0822	5.4000e-004	0.0827	0.0218	5.0000e-004	0.0223		71.3261	71.3261	1.5800e-003		71.3655
Total	**0.0303**	**0.0161**	**0.2185**	**7.2000e-004**	**0.0822**	**5.4000e-004**	**0.0827**	**0.0218**	**5.0000e-004**	**0.0223**		**71.3261**	**71.3261**	**1.5800e-003**		**71.3655**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4268	3.8026	5.5420	9.2600e-003		0.1769	0.1769		0.1645	0.1645	0.0000	868.5567	868.5567	0.2643		875.1634
Paving	0.0346					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.4614**	**3.8026**	**5.5420**	**9.2600e-003**		**0.1769**	**0.1769**		**0.1645**	**0.1645**	**0.0000**	**868.5567**	**868.5567**	**0.2643**		**875.1634**

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0303	0.0161	0.2185	7.2000e-004	0.0822	5.4000e-004	0.0827	0.0218	5.0000e-004	0.0223		71.3261	71.3261	1.5800e-003		71.3655
Total	**0.0303**	**0.0161**	**0.2185**	**7.2000e-004**	**0.0822**	**5.4000e-004**	**0.0827**	**0.0218**	**5.0000e-004**	**0.0223**		**71.3261**	**71.3261**	**1.5800e-003**		**71.3655**

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	15.5403					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	**15.7320**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**		**281.4481**	**281.4481**	**0.0168**		**281.8690**

3.7 Architectural Coating - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0455	0.0242	0.3277	1.0700e-003	0.1232	8.1000e-004	0.1240	0.0327	7.5000e-004	0.0334		106.9891	106.9891	2.3600e-003		107.0482
Total	**0.0455**	**0.0242**	**0.3277**	**1.0700e-003**	**0.1232**	**8.1000e-004**	**0.1240**	**0.0327**	**7.5000e-004**	**0.0334**		**106.9891**	**106.9891**	**2.3600e-003**		**107.0482**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	15.5403					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	**15.7320**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**	**0.0000**	**281.4481**	**281.4481**	**0.0168**		**281.8690**

3.7 Architectural Coating - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0455	0.0242	0.3277	1.0700e-003	0.1232	8.1000e-004	0.1240	0.0327	7.5000e-004	0.0334		106.9891	106.9891	2.3600e-003		107.0482
Total	**0.0455**	**0.0242**	**0.3277**	**1.0700e-003**	**0.1232**	**8.1000e-004**	**0.1240**	**0.0327**	**7.5000e-004**	**0.0334**		**106.9891**	**106.9891**	**2.3600e-003**		**107.0482**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Transit Accessibility

Integrate Below Market Rate Housing

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.4718	1.5104	4.5210	0.0163	1.5709	0.0125	1.5835	0.4195	0.0116	0.4311		1,655.7789	1,655.7789	0.0650		1,657.4032
Unmitigated	0.5384	1.8658	6.5532	0.0256	2.5411	0.0188	2.5599	0.6786	0.0175	0.6960		2,593.6678	2,593.6678	0.0945		2,596.0314

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	369.92	434.52	398.48	1,058,888	654,622
Parking Lot	0.00	0.00	0.00		
Unenclosed Parking Structure	0.00	0.00	0.00		
Total	369.92	434.52	398.48	1,058,888	654,622

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	7.30	7.50	32.90	18.00	49.10	86	11	3
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Unenclosed Parking Structure	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.597457	0.040465	0.187858	0.105115	0.017041	0.006067	0.020072	0.018206	0.001182	0.001040	0.003816	0.000389	0.001293
Parking Lot	0.597457	0.040465	0.187858	0.105115	0.017041	0.006067	0.020072	0.018206	0.001182	0.001040	0.003816	0.000389	0.001293
Unenclosed Parking Structure	0.597457	0.040465	0.187858	0.105115	0.017041	0.006067	0.020072	0.018206	0.001182	0.001040	0.003816	0.000389	0.001293

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0215	0.1840	0.0783	1.1700e-003		0.0149	0.0149		0.0149	0.0149		234.9169	234.9169	4.5000e-003	4.3100e-003	236.3129
NaturalGas Unmitigated	0.0230	0.1962	0.0835	1.2500e-003		0.0159	0.0159		0.0159	0.0159		250.4649	250.4649	4.8000e-003	4.5900e-003	251.9533

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	2128.95	0.0230	0.1962	0.0835	1.2500e-003		0.0159	0.0159		0.0159	0.0159		250.4649	250.4649	4.8000e-003	4.5900e-003	251.9533
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
Unenclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0230**	**0.1962**	**0.0835**	**1.2500e-003**		**0.0159**	**0.0159**		**0.0159**	**0.0159**		**250.4649**	**250.4649**	**4.8000e-003**	**4.5900e-003**	**251.9533**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	1.99679	0.0215	0.1840	0.0783	1.1700e-003		0.0149	0.0149		0.0149	0.0149		234.9169	234.9169	4.5000e-003	4.3100e-003	236.3129
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
Unenclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0215**	**0.1840**	**0.0783**	**1.1700e-003**		**0.0149**	**0.0149**		**0.0149**	**0.0149**		**234.9169**	**234.9169**	**4.5000e-003**	**4.3100e-003**	**236.3129**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

No Hearths Installed

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.6127	0.0647	5.6220	3.0000e-004		0.0311	0.0311		0.0311	0.0311	0.0000	10.1322	10.1322	9.7700e-003	0.0000	10.3765
Unmitigated	1.6127	0.0647	5.6220	3.0000e-004		0.0311	0.0311		0.0311	0.0311	0.0000	10.1322	10.1322	9.7700e-003	0.0000	10.3765

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1699					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.2729					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.1699	0.0647	5.6220	3.0000e-004		0.0311	0.0311		0.0311	0.0311		10.1322	10.1322	9.7700e-003		10.3765
Total	**1.6127**	**0.0647**	**5.6220**	**3.0000e-004**		**0.0311**	**0.0311**		**0.0311**	**0.0311**	**0.0000**	**10.1322**	**10.1322**	**9.7700e-003**	**0.0000**	**10.3765**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1699					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.2729					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.1699	0.0647	5.6220	3.0000e-004		0.0311	0.0311		0.0311	0.0311		10.1322	10.1322	9.7700e-003		10.3765
Total	**1.6127**	**0.0647**	**5.6220**	**3.0000e-004**		**0.0311**	**0.0311**		**0.0311**	**0.0311**	**0.0000**	**10.1322**	**10.1322**	**9.7700e-003**	**0.0000**	**10.3765**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

2800 Barry Street

Ventura County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	8.97	1000sqft	0.33	8,966.00	0
Unenclosed Parking Structure	131.00	Space	0.60	52,400.00	0
Apartments Mid Rise	68.00	Dwelling Unit	1.65	58,466.00	208

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2024
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - residential=units, community center, manager office, landscaping/open space. parking lot for hardscape paved area

Construction Phase - Applicant provided construction schedule

Off-road Equipment - applicant provided equipment

Off-road Equipment - applicant provided equipment

Off-road Equipment - Applicant provided equipment

Off-road Equipment - applicant provided equipment

Off-road Equipment - applicant provided equipment

Off-road Equipment - applicant provided equipment

Trips and VMT - 3780 cu yds / 16 cu yds per truck = 237 trips (1 in and 1 out) = 474

Grading - 3780 cu yds of fill

Vehicle Trips - Rate from Traffic Study

Area Coating - Rule 74.2

Energy Use - Redcued by 30 percent to account for requirements of 2019 title 24 standards

Water And Wastewater - 2016 CalGreen (Part 11 of Title 24) - 20 percent reduction in indoor water use

Solid Waste - AB 341 - 75 percent recycling

Construction Off-road Equipment Mitigation - VCAPCD Rule 55 - Watering and 15 MPH

Mobile Land Use Mitigation -

Area Mitigation - Rule 74.2 Arch Coatings

Energy Mitigation - 12 percent exceedance Title 24

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150
tblAreaCoating	Area_EF_Nonresidential_Interior	250	150
tblAreaCoating	Area_EF_Parking	250	150
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True

2800 Barry Street - Ventura County, Winter

tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	10.00	41.00
tblConstructionPhase	NumDays	220.00	444.00
tblConstructionPhase	NumDays	6.00	26.00
tblConstructionPhase	NumDays	10.00	25.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblEnergyUse	T24E	179.76	125.80
tblGrading	MaterialImported	0.00	3,780.00
tblLandUse	LandUseSquareFeet	8,970.00	8,966.00
tblLandUse	LandUseSquareFeet	68,000.00	58,466.00
tblLandUse	LotAcreage	0.21	0.33
tblLandUse	LotAcreage	1.18	0.60
tblLandUse	LotAcreage	1.79	1.65
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblSolidWaste	SolidWasteGenerationRate	31.28	7.80
tblTripsAndVMT	HaulingTripNumber	473.00	474.00

tblVehicleTrips	WD_TR	6.65	5.44
tblWater	IndoorWaterUseRate	4,430,473.74	3,544,379.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	2.4471	20.0802	21.5563	0.0457	1.4397	0.9305	1.8907	0.2155	0.9112	1.1077	0.0000	4,391.0552	4,391.0552	0.7793	0.0000	4,401.5576
2023	18.0652	22.1479	27.0363	0.0553	0.8543	0.9966	1.8098	0.2292	0.9669	1.1851	0.0000	5,297.2134	5,297.2134	0.6700	0.0000	5,313.9631
Maximum	**18.0652**	**22.1479**	**27.0363**	**0.0553**	**1.4397**	**0.9966**	**1.8907**	**0.2292**	**0.9669**	**1.1851**	**0.0000**	**5,297.2134**	**5,297.2134**	**0.7793**	**0.0000**	**5,313.9631**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	2.4471	20.0802	21.5563	0.0457	0.8452	0.9305	1.6615	0.1965	0.9112	1.1077	0.0000	4,391.0552	4,391.0552	0.7793	0.0000	4,401.5576
2023	18.0652	22.1479	27.0363	0.0553	0.8543	0.9966	1.8098	0.2292	0.9669	1.1851	0.0000	5,297.2134	5,297.2134	0.6700	0.0000	5,313.9631
Maximum	**18.0652**	**22.1479**	**27.0363**	**0.0553**	**0.8543**	**0.9966**	**1.8098**	**0.2292**	**0.9669**	**1.1851**	**0.0000**	**5,297.2134**	**5,297.2134**	**0.7793**	**0.0000**	**5,313.9631**

	ROG	NOx	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**	**25.92**	**0.00**	**6.19**	**4.27**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.6127	0.0647	5.6220	3.0000e-004		0.0311	0.0311		0.0311	0.0311	0.0000	10.1322	10.1322	9.7700e-003	0.0000	10.3765
Energy	0.0230	0.1962	0.0835	1.2500e-003		0.0159	0.0159		0.0159	0.0159		250.4649	250.4649	4.8000e-003	4.5900e-003	251.9533
Mobile	0.5072	1.9466	6.5659	0.0245	2.5411	0.0189	2.5600	0.6786	0.0176	0.6961		2,486.7351	2,486.7351	0.0956		2,489.1238
Total	**2.1429**	**2.2075**	**12.2714**	**0.0261**	**2.5411**	**0.0659**	**2.6070**	**0.6786**	**0.0645**	**0.7431**	**0.0000**	**2,747.3322**	**2,747.3322**	**0.1101**	**4.5900e-003**	**2,751.4536**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.6127	0.0647	5.6220	3.0000e-004		0.0311	0.0311		0.0311	0.0311	0.0000	10.1322	10.1322	9.7700e-003	0.0000	10.3765
Energy	0.0215	0.1840	0.0783	1.1700e-003		0.0149	0.0149		0.0149	0.0149		234.9169	234.9169	4.5000e-003	4.3100e-003	236.3129
Mobile	0.4414	1.5589	4.6779	0.0156	1.5709	0.0126	1.5835	0.4195	0.0117	0.4312		1,585.6815	1,585.6815	0.0667		1,587.3486
Total	**2.0756**	**1.8077**	**10.3782**	**0.0171**	**1.5709**	**0.0586**	**1.6296**	**0.4195**	**0.0577**	**0.4772**	**0.0000**	**1,830.7306**	**1,830.7306**	**0.0810**	**4.3100e-003**	**1,834.0380**

	ROG	NOx	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	**3.14**	**18.11**	**15.43**	**34.42**	**38.18**	**11.03**	**37.49**	**38.18**	**10.57**	**35.78**	**0.00**	**33.36**	**33.36**	**26.49**	**6.10**	**33.34**

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	3/1/2022	3/23/2022	6	20	
2	Site Preparation	Site Preparation	3/29/2022	3/31/2022	6	3	
3	Grading	Grading	4/1/2022	4/30/2022	6	26	
4	Building Construction	Building Construction	5/2/2022	9/30/2023	6	444	
5	Paving	Paving	7/1/2023	7/29/2023	6	25	
6	Architectural Coating	Architectural Coating	8/15/2023	9/30/2023	6	41	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 26

Acres of Paving: 0.93

Residential Indoor: 118,394; Residential Outdoor: 39,465; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 3,682 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	2	8.00	81	0.73
Demolition	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Site Preparation	Concrete/Industrial Saws	2	8.00	81	0.73
Site Preparation	Excavators	1	8.00	158	0.38
Grading	Excavators	1	8.00	158	0.38
Grading	Scrapers	1	8.00	367	0.48
Building Construction	Air Compressors	2	8.00	78	0.48
Building Construction	Cement and Mortar Mixers	2	8.00	9	0.56
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	1	7.00	89	0.20
Building Construction	Generator Sets	3	8.00	84	0.74
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
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	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	2	5.00	0.00	474.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	75.00	17.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0448	8.9536	11.8052	0.0187		0.4806	0.4806		0.4662	0.4662		1,787.8072	1,787.8072	0.2595		1,794.2950
Total	**1.0448**	**8.9536**	**11.8052**	**0.0187**		**0.4806**	**0.4806**		**0.4662**	**0.4662**		**1,787.8072**	**1,787.8072**	**0.2595**		**1,794.2950**

3.2 Demolition - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0366	0.0209	0.2297	7.1000e-004	0.0822	5.6000e-004	0.0827	0.0218	5.1000e-004	0.0223		70.5764	70.5764	1.6800e-003		70.6185
Total	**0.0366**	**0.0209**	**0.2297**	**7.1000e-004**	**0.0822**	**5.6000e-004**	**0.0827**	**0.0218**	**5.1000e-004**	**0.0223**		**70.5764**	**70.5764**	**1.6800e-003**		**70.6185**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0448	8.9536	11.8052	0.0187		0.4806	0.4806		0.4662	0.4662	0.0000	1,787.8072	1,787.8072	0.2595		1,794.2950
Total	**1.0448**	**8.9536**	**11.8052**	**0.0187**		**0.4806**	**0.4806**		**0.4662**	**0.4662**	**0.0000**	**1,787.8072**	**1,787.8072**	**0.2595**		**1,794.2950**

3.2 Demolition - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0366	0.0209	0.2297	7.1000e-004	0.0822	5.6000e-004	0.0827	0.0218	5.1000e-004	0.0223		70.5764	70.5764	1.6800e-003		70.6185
Total	**0.0366**	**0.0209**	**0.2297**	**7.1000e-004**	**0.0822**	**5.6000e-004**	**0.0827**	**0.0218**	**5.1000e-004**	**0.0223**		**70.5764**	**70.5764**	**1.6800e-003**		**70.6185**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9178	7.3793	10.5845	0.0177		0.3863	0.3863		0.3794	0.3794		1,685.3446	1,685.3446	0.2264		1,691.0039
Total	**0.9178**	**7.3793**	**10.5845**	**0.0177**		**0.3863**	**0.3863**		**0.3794**	**0.3794**		**1,685.3446**	**1,685.3446**	**0.2264**		**1,691.0039**

3.3 Site Preparation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0293	0.0167	0.1838	5.7000e-004	0.0657	4.4000e-004	0.0662	0.0174	4.1000e-004	0.0178		56.4612	56.4612	1.3500e-003		56.4948
Total	**0.0293**	**0.0167**	**0.1838**	**5.7000e-004**	**0.0657**	**4.4000e-004**	**0.0662**	**0.0174**	**4.1000e-004**	**0.0178**		**56.4612**	**56.4612**	**1.3500e-003**		**56.4948**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9178	7.3793	10.5845	0.0177		0.3863	0.3863		0.3794	0.3794	0.0000	1,685.3446	1,685.3446	0.2264		1,691.0039
Total	**0.9178**	**7.3793**	**10.5845**	**0.0177**		**0.3863**	**0.3863**		**0.3794**	**0.3794**	**0.0000**	**1,685.3446**	**1,685.3446**	**0.2264**		**1,691.0039**

3.3 Site Preparation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0293	0.0167	0.1838	5.7000e-004	0.0657	4.4000e-004	0.0662	0.0174	4.1000e-004	0.0178		56.4612	56.4612	1.3500e-003		56.4948
Total	**0.0293**	**0.0167**	**0.1838**	**5.7000e-004**	**0.0657**	**4.4000e-004**	**0.0662**	**0.0174**	**4.1000e-004**	**0.0178**		**56.4612**	**56.4612**	**1.3500e-003**		**56.4948**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.0809	0.0000	1.0809	0.1176	0.0000	0.1176			0.0000			0.0000
Off-Road	1.0217	10.7205	9.6309	0.0204		0.4350	0.4350		0.4002	0.4002		1,970.3092	1,970.3092	0.6372		1,986.2401
Total	**1.0217**	**10.7205**	**9.6309**	**0.0204**	**1.0809**	**0.4350**	**1.5160**	**0.1176**	**0.4002**	**0.5178**		**1,970.3092**	**1,970.3092**	**0.6372**		**1,986.2401**

3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1201	4.1211	1.1237	0.0132	0.3177	0.0157	0.3334	0.0870	0.0151	0.1020		1,447.6752	1,447.6752	0.1412		1,451.2056
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0183	0.0105	0.1149	3.5000e-004	0.0411	2.8000e-004	0.0414	0.0109	2.6000e-004	0.0112		35.2882	35.2882	8.4000e-004		35.3092
Total	**0.1384**	**4.1315**	**1.2386**	**0.0135**	**0.3588**	**0.0160**	**0.3748**	**0.0979**	**0.0153**	**0.1132**		**1,482.9634**	**1,482.9634**	**0.1421**		**1,486.5149**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.4864	0.0000	0.4864	0.0529	0.0000	0.0529			0.0000			0.0000
Off-Road	1.0217	10.7205	9.6309	0.0204		0.4350	0.4350		0.4002	0.4002	0.0000	1,970.3092	1,970.3092	0.6372		1,986.2401
Total	**1.0217**	**10.7205**	**9.6309**	**0.0204**	**0.4864**	**0.4350**	**0.9215**	**0.0529**	**0.4002**	**0.4532**	**0.0000**	**1,970.3092**	**1,970.3092**	**0.6372**		**1,986.2401**

3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1201	4.1211	1.1237	0.0132	0.3177	0.0157	0.3334	0.0870	0.0151	0.1020		1,447.6752	1,447.6752	0.1412		1,451.2056
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0183	0.0105	0.1149	3.5000e-004	0.0411	2.8000e-004	0.0414	0.0109	2.6000e-004	0.0112		35.2882	35.2882	8.4000e-004		35.3092
Total	**0.1384**	**4.1315**	**1.2386**	**0.0135**	**0.3588**	**0.0160**	**0.3748**	**0.0979**	**0.0153**	**0.1132**		**1,482.9634**	**1,482.9634**	**0.1421**		**1,486.5149**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1253	18.3844	19.3828	0.0362		0.9221	0.9221		0.9033	0.9033		3,409.0218	3,409.0218	0.3708		3,418.2914
Total	**2.1253**	**18.3844**	**19.3828**	**0.0362**		**0.9221**	**0.9221**		**0.9033**	**0.9033**		**3,409.0218**	**3,409.0218**	**0.3708**		**3,418.2914**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0472	1.5390	0.4507	4.2000e-003	0.1149	4.1800e-003	0.1191	0.0331	4.0000e-003	0.0371		452.7102	452.7102	0.0367		453.6277
Worker	0.2745	0.1569	1.7228	5.3100e-003	0.6161	4.1600e-003	0.6203	0.1634	3.8400e-003	0.1673		529.3233	529.3233	0.0126		529.6385
Total	**0.3218**	**1.6958**	**2.1735**	**9.5100e-003**	**0.7310**	**8.3400e-003**	**0.7394**	**0.1965**	**7.8400e-003**	**0.2043**		**982.0334**	**982.0334**	**0.0493**		**983.2662**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1253	18.3844	19.3828	0.0362		0.9221	0.9221		0.9033	0.9033	0.0000	3,409.0218	3,409.0218	0.3708		3,418.2914
Total	**2.1253**	**18.3844**	**19.3828**	**0.0362**		**0.9221**	**0.9221**		**0.9033**	**0.9033**	**0.0000**	**3,409.0218**	**3,409.0218**	**0.3708**		**3,418.2914**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0472	1.5390	0.4507	4.2000e-003	0.1149	4.1800e-003	0.1191	0.0331	4.0000e-003	0.0371		452.7102	452.7102	0.0367		453.6277
Worker	0.2745	0.1569	1.7228	5.3100e-003	0.6161	4.1600e-003	0.6203	0.1634	3.8400e-003	0.1673		529.3233	529.3233	0.0126		529.6385
Total	**0.3218**	**1.6958**	**2.1735**	**9.5100e-003**	**0.7310**	**8.3400e-003**	**0.7394**	**0.1965**	**7.8400e-003**	**0.2043**		**982.0334**	**982.0334**	**0.0493**		**983.2662**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9874	17.0130	19.2906	0.0362		0.8135	0.8135		0.7966	0.7966		3,409.0107	3,409.0107	0.3602		3,418.0167
Total	**1.9874**	**17.0130**	**19.2906**	**0.0362**		**0.8135**	**0.8135**		**0.7966**	**0.7966**		**3,409.0107**	**3,409.0107**	**0.3602**		**3,418.0167**

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0351	1.1717	0.4042	4.1000e-003	0.1149	1.5900e-003	0.1165	0.0331	1.5200e-003	0.0346		442.7164	442.7164	0.0326		443.5319
Worker	0.2590	0.1417	1.5878	5.1100e-003	0.6161	4.0700e-003	0.6202	0.1634	3.7500e-003	0.1672		509.0555	509.0555	0.0114		509.3392
Total	**0.2941**	**1.3134**	**1.9920**	**9.2100e-003**	**0.7311**	**5.6600e-003**	**0.7367**	**0.1965**	**5.2700e-003**	**0.2018**		**951.7719**	**951.7719**	**0.0440**		**952.8711**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9874	17.0130	19.2906	0.0362		0.8135	0.8135		0.7966	0.7966	0.0000	3,409.0107	3,409.0107	0.3602		3,418.0167
Total	**1.9874**	**17.0130**	**19.2906**	**0.0362**		**0.8135**	**0.8135**		**0.7966**	**0.7966**	**0.0000**	**3,409.0107**	**3,409.0107**	**0.3602**		**3,418.0167**

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0351	1.1717	0.4042	4.1000e-003	0.1149	1.5900e-003	0.1165	0.0331	1.5200e-003	0.0346		442.7164	442.7164	0.0326		443.5319
Worker	0.2590	0.1417	1.5878	5.1100e-003	0.6161	4.0700e-003	0.6202	0.1634	3.7500e-003	0.1672		509.0555	509.0555	0.0114		509.3392
Total	**0.2941**	**1.3134**	**1.9920**	**9.2100e-003**	**0.7311**	**5.6600e-003**	**0.7367**	**0.1965**	**5.2700e-003**	**0.2018**		**951.7719**	**951.7719**	**0.0440**		**952.8711**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4268	3.8026	5.5420	9.2600e-003		0.1769	0.1769		0.1645	0.1645		868.5567	868.5567	0.2643		875.1634
Paving	0.0346					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.4614**	**3.8026**	**5.5420**	**9.2600e-003**		**0.1769**	**0.1769**		**0.1645**	**0.1645**		**868.5567**	**868.5567**	**0.2643**		**875.1634**

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0345	0.0189	0.2117	6.8000e-004	0.0822	5.4000e-004	0.0827	0.0218	5.0000e-004	0.0223		67.8741	67.8741	1.5100e-003		67.9119
Total	**0.0345**	**0.0189**	**0.2117**	**6.8000e-004**	**0.0822**	**5.4000e-004**	**0.0827**	**0.0218**	**5.0000e-004**	**0.0223**		**67.8741**	**67.8741**	**1.5100e-003**		**67.9119**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4268	3.8026	5.5420	9.2600e-003		0.1769	0.1769		0.1645	0.1645	0.0000	868.5567	868.5567	0.2643		875.1634
Paving	0.0346					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.4614**	**3.8026**	**5.5420**	**9.2600e-003**		**0.1769**	**0.1769**		**0.1645**	**0.1645**	**0.0000**	**868.5567**	**868.5567**	**0.2643**		**875.1634**

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0345	0.0189	0.2117	6.8000e-004	0.0822	5.4000e-004	0.0827	0.0218	5.0000e-004	0.0223		67.8741	67.8741	1.5100e-003		67.9119
Total	**0.0345**	**0.0189**	**0.2117**	**6.8000e-004**	**0.0822**	**5.4000e-004**	**0.0827**	**0.0218**	**5.0000e-004**	**0.0223**		**67.8741**	**67.8741**	**1.5100e-003**		**67.9119**

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	15.5403					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	**15.7320**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**		**281.4481**	**281.4481**	**0.0168**		**281.8690**

3.7 Architectural Coating - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0518	0.0283	0.3176	1.0200e-003	0.1232	8.1000e-004	0.1240	0.0327	7.5000e-004	0.0334		101.8111	101.8111	2.2700e-003		101.8678
Total	**0.0518**	**0.0283**	**0.3176**	**1.0200e-003**	**0.1232**	**8.1000e-004**	**0.1240**	**0.0327**	**7.5000e-004**	**0.0334**		**101.8111**	**101.8111**	**2.2700e-003**		**101.8678**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	15.5403					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	**15.7320**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**	**0.0000**	**281.4481**	**281.4481**	**0.0168**		**281.8690**

3.7 Architectural Coating - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0518	0.0283	0.3176	1.0200e-003	0.1232	8.1000e-004	0.1240	0.0327	7.5000e-004	0.0334		101.8111	101.8111	2.2700e-003		101.8678
Total	**0.0518**	**0.0283**	**0.3176**	**1.0200e-003**	**0.1232**	**8.1000e-004**	**0.1240**	**0.0327**	**7.5000e-004**	**0.0334**		**101.8111**	**101.8111**	**2.2700e-003**		**101.8678**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Transit Accessibility

Integrate Below Market Rate Housing

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.4414	1.5589	4.6779	0.0156	1.5709	0.0126	1.5835	0.4195	0.0117	0.4312		1,585.6815	1,585.6815	0.0667		1,587.3486
Unmitigated	0.5072	1.9466	6.5659	0.0245	2.5411	0.0189	2.5600	0.6786	0.0176	0.6961		2,486.7351	2,486.7351	0.0956		2,489.1238

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	369.92	434.52	398.48	1,058,888	654,622
Parking Lot	0.00	0.00	0.00		
Unenclosed Parking Structure	0.00	0.00	0.00		
Total	369.92	434.52	398.48	1,058,888	654,622

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	7.30	7.50	32.90	18.00	49.10	86	11	3
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Unenclosed Parking Structure	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.597457	0.040465	0.187858	0.105115	0.017041	0.006067	0.020072	0.018206	0.001182	0.001040	0.003816	0.000389	0.001293
Parking Lot	0.597457	0.040465	0.187858	0.105115	0.017041	0.006067	0.020072	0.018206	0.001182	0.001040	0.003816	0.000389	0.001293
Unenclosed Parking Structure	0.597457	0.040465	0.187858	0.105115	0.017041	0.006067	0.020072	0.018206	0.001182	0.001040	0.003816	0.000389	0.001293

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0215	0.1840	0.0783	1.1700e-003		0.0149	0.0149		0.0149	0.0149		234.9169	234.9169	4.5000e-003	4.3100e-003	236.3129
NaturalGas Unmitigated	0.0230	0.1962	0.0835	1.2500e-003		0.0159	0.0159		0.0159	0.0159		250.4649	250.4649	4.8000e-003	4.5900e-003	251.9533

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	2128.95	0.0230	0.1962	0.0835	1.2500e-003		0.0159	0.0159		0.0159	0.0159		250.4649	250.4649	4.8000e-003	4.5900e-003	251.9533
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
Unenclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0230**	**0.1962**	**0.0835**	**1.2500e-003**		**0.0159**	**0.0159**		**0.0159**	**0.0159**		**250.4649**	**250.4649**	**4.8000e-003**	**4.5900e-003**	**251.9533**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	1.99679	0.0215	0.1840	0.0783	1.1700e-003		0.0149	0.0149		0.0149	0.0149		234.9169	234.9169	4.5000e-003	4.3100e-003	236.3129
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
Unenclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0215**	**0.1840**	**0.0783**	**1.1700e-003**		**0.0149**	**0.0149**		**0.0149**	**0.0149**		**234.9169**	**234.9169**	**4.5000e-003**	**4.3100e-003**	**236.3129**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

No Hearths Installed

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.6127	0.0647	5.6220	3.0000e-004		0.0311	0.0311		0.0311	0.0311	0.0000	10.1322	10.1322	9.7700e-003	0.0000	10.3765
Unmitigated	1.6127	0.0647	5.6220	3.0000e-004		0.0311	0.0311		0.0311	0.0311	0.0000	10.1322	10.1322	9.7700e-003	0.0000	10.3765

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1699					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.2729					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.1699	0.0647	5.6220	3.0000e-004		0.0311	0.0311		0.0311	0.0311		10.1322	10.1322	9.7700e-003		10.3765
Total	**1.6127**	**0.0647**	**5.6220**	**3.0000e-004**		**0.0311**	**0.0311**		**0.0311**	**0.0311**	**0.0000**	**10.1322**	**10.1322**	**9.7700e-003**	**0.0000**	**10.3765**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1699					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.2729					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.1699	0.0647	5.6220	3.0000e-004		0.0311	0.0311		0.0311	0.0311		10.1322	10.1322	9.7700e-003		10.3765
Total	**1.6127**	**0.0647**	**5.6220**	**3.0000e-004**		**0.0311**	**0.0311**		**0.0311**	**0.0311**	**0.0000**	**10.1322**	**10.1322**	**9.7700e-003**	**0.0000**	**10.3765**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

2800 Barry Street

Ventura County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	8.97	1000sqft	0.33	8,966.00	0
Unenclosed Parking Structure	131.00	Space	0.60	52,400.00	0
Apartments Mid Rise	68.00	Dwelling Unit	1.65	58,466.00	208

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2030
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	353.87	**CH4 Intensity (lb/MWhr)**	0.015	**N2O Intensity (lb/MWhr)**	0.003

1.3 User Entered Comments & Non-Default Data

Project Characteristics - 2030 RPS Adjustment - Intensity Factors

Land Use - residential=units, community center, manager office, landscaping/open space. parking lot for hardscape paved area

Construction Phase - Applicant provided construction schedule

Off-road Equipment - applicant provided equipment

Off-road Equipment - applicant provided equipment

Off-road Equipment - Applicant provided equipment

Off-road Equipment - applicant provided equipment

Off-road Equipment - applicant provided equipment

Off-road Equipment - applicant provided equipment

Trips and VMT - 3780 cu yds / 16 cu yds per truck = 237 trips (1 in and 1 out) = 474

Grading - 3780 cu yds of fill

Vehicle Trips - Rate from Traffic Study

Area Coating - Rule 74.2

Energy Use - Redcued by 30 percent to account for requirements of 2019 title 24 standards

Water And Wastewater - 2016 CalGreen (Part 11 of Title 24) - 20 percent reduction in indoor water use

Solid Waste - AB 341 - 75 percent recycling

Construction Off-road Equipment Mitigation - VCAPCD Rule 55 - Watering and 15 MPH

Mobile Land Use Mitigation -

Area Mitigation - Rule 74.2 Arch Coatings

Energy Mitigation - 12 percent exceedance Title 24

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150
tblAreaCoating	Area_EF_Nonresidential_Interior	250	150
tblAreaCoating	Area_EF_Parking	250	150
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True

tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	10.00	41.00
tblConstructionPhase	NumDays	220.00	444.00
tblConstructionPhase	NumDays	6.00	26.00
tblConstructionPhase	NumDays	10.00	25.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblEnergyUse	T24E	179.76	125.80
tblGrading	MaterialImported	0.00	3,780.00
tblLandUse	LandUseSquareFeet	8,970.00	8,966.00
tblLandUse	LandUseSquareFeet	68,000.00	58,466.00
tblLandUse	LotAcreage	0.21	0.33
tblLandUse	LotAcreage	1.18	0.60
tblLandUse	LotAcreage	1.79	1.65
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.015
tblProjectCharacteristics	CO2IntensityFactor	702.44	353.87

tblProjectCharacteristics	N2OIntensityFactor	0.006	0.003
tblSolidWaste	SolidWasteGenerationRate	31.28	7.80
tblTripsAndVMT	HaulingTripNumber	473.00	474.00
tblVehicleTrips	WD_TR	6.65	5.44
tblWater	IndoorWaterUseRate	4,430,473.74	3,544,379.00

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					
2022	0.2808	2.4045	2.5362	5.4700e-003	0.0949	0.1089	0.2039	0.0233	0.1063	0.1296	0.0000	479.4369	479.4369	0.0518	0.0000	480.7306
2023	0.5930	2.2202	2.6016	5.5300e-003	0.0875	0.0995	0.1870	0.0235	0.0973	0.1209	0.0000	481.7574	481.7574	0.0462	0.0000	482.9118
Maximum	**0.5930**	**2.4045**	**2.6016**	**5.5300e-003**	**0.0949**	**0.1089**	**0.2039**	**0.0235**	**0.1063**	**0.1296**	**0.0000**	**481.7574**	**481.7574**	**0.0518**	**0.0000**	**482.9118**

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					
2022	0.2808	2.4045	2.5362	5.4700e-003	0.0872	0.1089	0.1961	0.0225	0.1063	0.1288	0.0000	479.4365	479.4365	0.0518	0.0000	480.7302
2023	0.5930	2.2202	2.6016	5.5300e-003	0.0875	0.0995	0.1870	0.0235	0.0973	0.1209	0.0000	481.7569	481.7569	0.0462	0.0000	482.9114
Maximum	**0.5930**	**2.4045**	**2.6016**	**5.5300e-003**	**0.0875**	**0.1089**	**0.1961**	**0.0235**	**0.1063**	**0.1288**	**0.0000**	**481.7569**	**481.7569**	**0.0518**	**0.0000**	**482.9114**

	ROG	NOx	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**	**4.23**	**0.00**	**1.98**	**1.79**	**0.00**	**0.34**	**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	3-1-2022	5-31-2022	0.6041	0.6041
2	6-1-2022	8-31-2022	0.8861	0.8861
3	9-1-2022	11-30-2022	0.8779	0.8779
4	12-1-2022	2-28-2023	0.8204	0.8204
5	3-1-2023	5-31-2023	0.8113	0.8113
6	6-1-2023	8-31-2023	0.9888	0.9888
7	9-1-2023	9-30-2023	0.4843	0.4843
		Highest	0.9888	0.9888

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	0.2785	5.8200e-003	0.5049	3.0000e-005		2.8000e-003	2.8000e-003		2.8000e-003	2.8000e-003	0.0000	0.8273	0.8273	7.9000e-004	0.0000	0.8471
Energy	4.1900e-003	0.0358	0.0152	2.3000e-004		2.8900e-003	2.8900e-003		2.8900e-003	2.8900e-003	0.0000	99.4909	99.4909	3.2500e-003	1.2500e-003	99.9454
Mobile	0.0581	0.2442	0.7407	3.3400e-003	0.4003	2.1800e-003	0.4025	0.1070	2.0200e-003	0.1091	0.0000	308.8865	308.8865	0.0107	0.0000	309.1543
Waste						0.0000	0.0000		0.0000	0.0000	1.5833	0.0000	1.5833	0.0936	0.0000	3.9226
Water						0.0000	0.0000		0.0000	0.0000	1.1245	12.3889	13.5133	0.1160	2.8300e-003	17.2578
Total	**0.3408**	**0.2858**	**1.2608**	**3.6000e-003**	**0.4003**	**7.8700e-003**	**0.4082**	**0.1070**	**7.7100e-003**	**0.1148**	**2.7078**	**421.5935**	**424.3013**	**0.2243**	**4.0800e-003**	**431.1271**

2.2 Overall Operational

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	0.2785	5.8200e-003	0.5049	3.0000e-005		2.8000e-003	2.8000e-003		2.8000e-003	2.8000e-003	0.0000	0.8273	0.8273	7.9000e-004	0.0000	0.8471
Energy	3.9300e-003	0.0336	0.0143	2.1000e-004		2.7200e-003	2.7200e-003		2.7200e-003	2.7200e-003	0.0000	96.7520	96.7520	3.2000e-003	1.2000e-003	97.1906
Mobile	0.0502	0.2046	0.5183	2.1300e-003	0.2475	1.4600e-003	0.2490	0.0662	1.3600e-003	0.0675	0.0000	197.5499	197.5499	7.3400e-003	0.0000	197.7334
Waste						0.0000	0.0000		0.0000	0.0000	1.5833	0.0000	1.5833	0.0936	0.0000	3.9226
Water						0.0000	0.0000		0.0000	0.0000	1.1245	12.3889	13.5133	0.1160	2.8300e-003	17.2578
Total	**0.3326**	**0.2440**	**1.0374**	**2.3700e-003**	**0.2475**	**6.9800e-003**	**0.2545**	**0.0662**	**6.8800e-003**	**0.0731**	**2.7078**	**307.5180**	**310.2258**	**0.2209**	**4.0300e-003**	**316.9515**

	ROG	NOx	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	**2.41**	**14.65**	**17.72**	**34.17**	**38.18**	**11.31**	**37.66**	**38.18**	**10.77**	**36.34**	**0.00**	**27.06**	**26.89**	**1.52**	**1.23**	**26.48**

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	3/1/2022	3/23/2022	6	20	
2	Site Preparation	Site Preparation	3/29/2022	3/31/2022	6	3	
3	Grading	Grading	4/1/2022	4/30/2022	6	26	
4	Building Construction	Building Construction	5/2/2022	9/30/2023	6	444	
5	Paving	Paving	7/1/2023	7/29/2023	6	25	
6	Architectural Coating	Architectural Coating	8/15/2023	9/30/2023	6	41	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 26

Acres of Paving: 0.93

Residential Indoor: 118,394; Residential Outdoor: 39,465; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 3,682 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	2	8.00	81	0.73
Demolition	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Site Preparation	Concrete/Industrial Saws	2	8.00	81	0.73
Site Preparation	Excavators	1	8.00	158	0.38
Grading	Excavators	1	8.00	158	0.38
Grading	Scrapers	1	8.00	367	0.48
Building Construction	Air Compressors	2	8.00	78	0.48
Building Construction	Cement and Mortar Mixers	2	8.00	9	0.56
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	1	7.00	89	0.20
Building Construction	Generator Sets	3	8.00	84	0.74
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
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	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	2	5.00	0.00	474.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	75.00	17.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2022

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	0.0105	0.0895	0.1181	1.9000e-004		4.8100e-003	4.8100e-003		4.6600e-003	4.6600e-003	0.0000	16.2187	16.2187	2.3500e-003	0.0000	16.2776
Total	**0.0105**	**0.0895**	**0.1181**	**1.9000e-004**		**4.8100e-003**	**4.8100e-003**		**4.6600e-003**	**4.6600e-003**	**0.0000**	**16.2187**	**16.2187**	**2.3500e-003**	**0.0000**	**16.2776**

3.2 Demolition - 2022

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	3.3000e-004	2.0000e-004	2.2800e-003	1.0000e-005	8.1000e-004	1.0000e-005	8.1000e-004	2.1000e-004	1.0000e-005	2.2000e-004	0.0000	0.6455	0.6455	2.0000e-005	0.0000	0.6458
Total	**3.3000e-004**	**2.0000e-004**	**2.2800e-003**	**1.0000e-005**	**8.1000e-004**	**1.0000e-005**	**8.1000e-004**	**2.1000e-004**	**1.0000e-005**	**2.2000e-004**	**0.0000**	**0.6455**	**0.6455**	**2.0000e-005**	**0.0000**	**0.6458**

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	0.0105	0.0895	0.1181	1.9000e-004		4.8100e-003	4.8100e-003		4.6600e-003	4.6600e-003	0.0000	16.2187	16.2187	2.3500e-003	0.0000	16.2776
Total	**0.0105**	**0.0895**	**0.1181**	**1.9000e-004**		**4.8100e-003**	**4.8100e-003**		**4.6600e-003**	**4.6600e-003**	**0.0000**	**16.2187**	**16.2187**	**2.3500e-003**	**0.0000**	**16.2776**

3.2 Demolition - 2022

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	3.3000e-004	2.0000e-004	2.2800e-003	1.0000e-005	8.1000e-004	1.0000e-005	8.1000e-004	2.1000e-004	1.0000e-005	2.2000e-004	0.0000	0.6455	0.6455	2.0000e-005	0.0000	0.6458
Total	**3.3000e-004**	**2.0000e-004**	**2.2800e-003**	**1.0000e-005**	**8.1000e-004**	**1.0000e-005**	**8.1000e-004**	**2.1000e-004**	**1.0000e-005**	**2.2000e-004**	**0.0000**	**0.6455**	**0.6455**	**2.0000e-005**	**0.0000**	**0.6458**

3.3 Site Preparation - 2022

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	1.3800e-003	0.0111	0.0159	3.0000e-005		5.8000e-004	5.8000e-004		5.7000e-004	5.7000e-004	0.0000	2.2934	2.2934	3.1000e-004	0.0000	2.3011
Total	**1.3800e-003**	**0.0111**	**0.0159**	**3.0000e-005**		**5.8000e-004**	**5.8000e-004**		**5.7000e-004**	**5.7000e-004**	**0.0000**	**2.2934**	**2.2934**	**3.1000e-004**	**0.0000**	**2.3011**

3.3 Site Preparation - 2022

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	4.0000e-005	2.0000e-005	2.7000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0775	0.0775	0.0000	0.0000	0.0775
Total	**4.0000e-005**	**2.0000e-005**	**2.7000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0775**	**0.0775**	**0.0000**	**0.0000**	**0.0775**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.3800e-003	0.0111	0.0159	3.0000e-005		5.8000e-004	5.8000e-004		5.7000e-004	5.7000e-004	0.0000	2.2934	2.2934	3.1000e-004	0.0000	2.3011
Total	**1.3800e-003**	**0.0111**	**0.0159**	**3.0000e-005**		**5.8000e-004**	**5.8000e-004**		**5.7000e-004**	**5.7000e-004**	**0.0000**	**2.2934**	**2.2934**	**3.1000e-004**	**0.0000**	**2.3011**

3.3 Site Preparation - 2022

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	4.0000e-005	2.0000e-005	2.7000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0775	0.0775	0.0000	0.0000	0.0775
Total	**4.0000e-005**	**2.0000e-005**	**2.7000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0775**	**0.0775**	**0.0000**	**0.0000**	**0.0775**

3.4 Grading - 2022

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					0.0141	0.0000	0.0141	1.5300e-003	0.0000	1.5300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0133	0.1394	0.1252	2.6000e-004		5.6600e-003	5.6600e-003		5.2000e-003	5.2000e-003	0.0000	23.2367	23.2367	7.5200e-003	0.0000	23.4245
Total	**0.0133**	**0.1394**	**0.1252**	**2.6000e-004**	**0.0141**	**5.6600e-003**	**0.0197**	**1.5300e-003**	**5.2000e-003**	**6.7300e-003**	**0.0000**	**23.2367**	**23.2367**	**7.5200e-003**	**0.0000**	**23.4245**

3.4 Grading - 2022

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	1.5300e-003	0.0542	0.0141	1.7000e-004	4.0600e-003	2.0000e-004	4.2600e-003	1.1100e-003	1.9000e-004	1.3100e-003	0.0000	17.2356	17.2356	1.6400e-003	0.0000	17.2765
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	2.1000e-004	1.3000e-004	1.4800e-003	0.0000	5.2000e-004	0.0000	5.3000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4195	0.4195	1.0000e-005	0.0000	0.4198
Total	**1.7400e-003**	**0.0544**	**0.0156**	**1.7000e-004**	**4.5800e-003**	**2.0000e-004**	**4.7900e-003**	**1.2500e-003**	**1.9000e-004**	**1.4500e-003**	**0.0000**	**17.6551**	**17.6551**	**1.6500e-003**	**0.0000**	**17.6963**

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					6.3200e-003	0.0000	6.3200e-003	6.9000e-004	0.0000	6.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0133	0.1394	0.1252	2.6000e-004		5.6600e-003	5.6600e-003		5.2000e-003	5.2000e-003	0.0000	23.2366	23.2366	7.5200e-003	0.0000	23.4245
Total	**0.0133**	**0.1394**	**0.1252**	**2.6000e-004**	**6.3200e-003**	**5.6600e-003**	**0.0120**	**6.9000e-004**	**5.2000e-003**	**5.8900e-003**	**0.0000**	**23.2366**	**23.2366**	**7.5200e-003**	**0.0000**	**23.4245**

3.4 Grading - 2022

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	1.5300e-003	0.0542	0.0141	1.7000e-004	4.0600e-003	2.0000e-004	4.2600e-003	1.1100e-003	1.9000e-004	1.3100e-003	0.0000	17.2356	17.2356	1.6400e-003	0.0000	17.2765
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	2.1000e-004	1.3000e-004	1.4800e-003	0.0000	5.2000e-004	0.0000	5.3000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4195	0.4195	1.0000e-005	0.0000	0.4198
Total	**1.7400e-003**	**0.0544**	**0.0156**	**1.7000e-004**	**4.5800e-003**	**2.0000e-004**	**4.7900e-003**	**1.2500e-003**	**1.9000e-004**	**1.4500e-003**	**0.0000**	**17.6551**	**17.6551**	**1.6500e-003**	**0.0000**	**17.6963**

3.5 Building Construction - 2022

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	0.2232	1.9304	2.0352	3.8000e-003		0.0968	0.0968		0.0949	0.0949	0.0000	324.7243	324.7243	0.0353	0.0000	325.6073
Total	**0.2232**	**1.9304**	**2.0352**	**3.8000e-003**		**0.0968**	**0.0968**		**0.0949**	**0.0949**	**0.0000**	**324.7243**	**324.7243**	**0.0353**	**0.0000**	**325.6073**

3.5 Building Construction - 2022

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	4.7900e-003	0.1636	0.0444	4.5000e-004	0.0119	4.2000e-004	0.0123	3.4300e-003	4.1000e-004	3.8300e-003	0.0000	43.7570	43.7570	3.3800e-003	0.0000	43.8415
Worker	0.0256	0.0159	0.1793	5.6000e-004	0.0635	4.4000e-004	0.0639	0.0169	4.0000e-004	0.0173	0.0000	50.8289	50.8289	1.2100e-003	0.0000	50.8591
Total	**0.0304**	**0.1795**	**0.2237**	**1.0100e-003**	**0.0754**	**8.6000e-004**	**0.0762**	**0.0203**	**8.1000e-004**	**0.0211**	**0.0000**	**94.5859**	**94.5859**	**4.5900e-003**	**0.0000**	**94.7005**

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	0.2232	1.9304	2.0352	3.8000e-003		0.0968	0.0968		0.0949	0.0949	0.0000	324.7239	324.7239	0.0353	0.0000	325.6069
Total	**0.2232**	**1.9304**	**2.0352**	**3.8000e-003**		**0.0968**	**0.0968**		**0.0949**	**0.0949**	**0.0000**	**324.7239**	**324.7239**	**0.0353**	**0.0000**	**325.6069**

3.5 Building Construction - 2022

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	4.7900e-003	0.1636	0.0444	4.5000e-004	0.0119	4.2000e-004	0.0123	3.4300e-003	4.1000e-004	3.8300e-003	0.0000	43.7570	43.7570	3.3800e-003	0.0000	43.8415
Worker	0.0256	0.0159	0.1793	5.6000e-004	0.0635	4.4000e-004	0.0639	0.0169	4.0000e-004	0.0173	0.0000	50.8289	50.8289	1.2100e-003	0.0000	50.8591
Total	**0.0304**	**0.1795**	**0.2237**	**1.0100e-003**	**0.0754**	**8.6000e-004**	**0.0762**	**0.0203**	**8.1000e-004**	**0.0211**	**0.0000**	**94.5859**	**94.5859**	**4.5900e-003**	**0.0000**	**94.7005**

3.5 Building Construction - 2023

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	0.2325	1.9905	2.2570	4.2300e-003		0.0952	0.0952		0.0932	0.0932	0.0000	361.8345	361.8345	0.0382	0.0000	362.7904
Total	**0.2325**	**1.9905**	**2.2570**	**4.2300e-003**		**0.0952**	**0.0952**		**0.0932**	**0.0932**	**0.0000**	**361.8345**	**361.8345**	**0.0382**	**0.0000**	**362.7904**

3.5 Building Construction - 2023

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	3.9600e-003	0.1387	0.0448	4.9000e-004	0.0132	1.8000e-004	0.0134	3.8200e-003	1.7000e-004	3.9900e-003	0.0000	47.6858	47.6858	3.3600e-003	0.0000	47.7698
Worker	0.0269	0.0160	0.1843	6.0000e-004	0.0708	4.8000e-004	0.0712	0.0188	4.4000e-004	0.0192	0.0000	54.4690	54.4690	1.2100e-003	0.0000	54.4993
Total	**0.0309**	**0.1547**	**0.2291**	**1.0900e-003**	**0.0840**	**6.6000e-004**	**0.0847**	**0.0226**	**6.1000e-004**	**0.0232**	**0.0000**	**102.1548**	**102.1548**	**4.5700e-003**	**0.0000**	**102.2691**

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	0.2325	1.9905	2.2570	4.2300e-003		0.0952	0.0952		0.0932	0.0932	0.0000	361.8341	361.8341	0.0382	0.0000	362.7900
Total	**0.2325**	**1.9905**	**2.2570**	**4.2300e-003**		**0.0952**	**0.0952**		**0.0932**	**0.0932**	**0.0000**	**361.8341**	**361.8341**	**0.0382**	**0.0000**	**362.7900**

3.5 Building Construction - 2023

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	3.9600e-003	0.1387	0.0448	4.9000e-004	0.0132	1.8000e-004	0.0134	3.8200e-003	1.7000e-004	3.9900e-003	0.0000	47.6858	47.6858	3.3600e-003	0.0000	47.7698
Worker	0.0269	0.0160	0.1843	6.0000e-004	0.0708	4.8000e-004	0.0712	0.0188	4.4000e-004	0.0192	0.0000	54.4690	54.4690	1.2100e-003	0.0000	54.4993
Total	**0.0309**	**0.1547**	**0.2291**	**1.0900e-003**	**0.0840**	**6.6000e-004**	**0.0847**	**0.0226**	**6.1000e-004**	**0.0232**	**0.0000**	**102.1548**	**102.1548**	**4.5700e-003**	**0.0000**	**102.2691**

3.6 Paving - 2023

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	5.3300e-003	0.0475	0.0693	1.2000e-004		2.2100e-003	2.2100e-003		2.0600e-003	2.0600e-003	0.0000	9.8493	9.8493	3.0000e-003	0.0000	9.9242
Paving	4.3000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.7600e-003**	**0.0475**	**0.0693**	**1.2000e-004**		**2.2100e-003**	**2.2100e-003**		**2.0600e-003**	**2.0600e-003**	**0.0000**	**9.8493**	**9.8493**	**3.0000e-003**	**0.0000**	**9.9242**

3.6 Paving - 2023

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	3.8000e-004	2.3000e-004	2.6300e-003	1.0000e-005	1.0100e-003	1.0000e-005	1.0100e-003	2.7000e-004	1.0000e-005	2.7000e-004	0.0000	0.7759	0.7759	2.0000e-005	0.0000	0.7763
Total	**3.8000e-004**	**2.3000e-004**	**2.6300e-003**	**1.0000e-005**	**1.0100e-003**	**1.0000e-005**	**1.0100e-003**	**2.7000e-004**	**1.0000e-005**	**2.7000e-004**	**0.0000**	**0.7759**	**0.7759**	**2.0000e-005**	**0.0000**	**0.7763**

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	5.3300e-003	0.0475	0.0693	1.2000e-004		2.2100e-003	2.2100e-003		2.0600e-003	2.0600e-003	0.0000	9.8493	9.8493	3.0000e-003	0.0000	9.9242
Paving	4.3000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.7600e-003**	**0.0475**	**0.0693**	**1.2000e-004**		**2.2100e-003**	**2.2100e-003**		**2.0600e-003**	**2.0600e-003**	**0.0000**	**9.8493**	**9.8493**	**3.0000e-003**	**0.0000**	**9.9242**

3.6 Paving - 2023

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	3.8000e-004	2.3000e-004	2.6300e-003	1.0000e-005	1.0100e-003	1.0000e-005	1.0100e-003	2.7000e-004	1.0000e-005	2.7000e-004	0.0000	0.7759	0.7759	2.0000e-005	0.0000	0.7763
Total	**3.8000e-004**	**2.3000e-004**	**2.6300e-003**	**1.0000e-005**	**1.0100e-003**	**1.0000e-005**	**1.0100e-003**	**2.7000e-004**	**1.0000e-005**	**2.7000e-004**	**0.0000**	**0.7759**	**0.7759**	**2.0000e-005**	**0.0000**	**0.7763**

3.7 Architectural Coating - 2023

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	0.3186					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.9300e-003	0.0267	0.0371	6.0000e-005		1.4500e-003	1.4500e-003		1.4500e-003	1.4500e-003	0.0000	5.2342	5.2342	3.1000e-004	0.0000	5.2420
Total	**0.3225**	**0.0267**	**0.0371**	**6.0000e-005**		**1.4500e-003**	**1.4500e-003**		**1.4500e-003**	**1.4500e-003**	**0.0000**	**5.2342**	**5.2342**	**3.1000e-004**	**0.0000**	**5.2420**

3.7 Architectural Coating - 2023

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	9.4000e-004	5.6000e-004	6.4600e-003	2.0000e-005	2.4800e-003	2.0000e-005	2.5000e-003	6.6000e-004	2.0000e-005	6.7000e-004	0.0000	1.9087	1.9087	4.0000e-005	0.0000	1.9098
Total	**9.4000e-004**	**5.6000e-004**	**6.4600e-003**	**2.0000e-005**	**2.4800e-003**	**2.0000e-005**	**2.5000e-003**	**6.6000e-004**	**2.0000e-005**	**6.7000e-004**	**0.0000**	**1.9087**	**1.9087**	**4.0000e-005**	**0.0000**	**1.9098**

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	0.3186					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.9300e-003	0.0267	0.0371	6.0000e-005		1.4500e-003	1.4500e-003		1.4500e-003	1.4500e-003	0.0000	5.2342	5.2342	3.1000e-004	0.0000	5.2420
Total	**0.3225**	**0.0267**	**0.0371**	**6.0000e-005**		**1.4500e-003**	**1.4500e-003**		**1.4500e-003**	**1.4500e-003**	**0.0000**	**5.2342**	**5.2342**	**3.1000e-004**	**0.0000**	**5.2420**

3.7 Architectural Coating - 2023

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	9.4000e-004	5.6000e-004	6.4600e-003	2.0000e-005	2.4800e-003	2.0000e-005	2.5000e-003	6.6000e-004	2.0000e-005	6.7000e-004	0.0000	1.9087	1.9087	4.0000e-005	0.0000	1.9098
Total	**9.4000e-004**	**5.6000e-004**	**6.4600e-003**	**2.0000e-005**	**2.4800e-003**	**2.0000e-005**	**2.5000e-003**	**6.6000e-004**	**2.0000e-005**	**6.7000e-004**	**0.0000**	**1.9087**	**1.9087**	**4.0000e-005**	**0.0000**	**1.9098**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Transit Accessibility

Integrate Below Market Rate Housing

	ROG	NOx	CO	SO2	Fugitive 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	0.0502	0.2046	0.5183	2.1300e-003	0.2475	1.4600e-003	0.2490	0.0662	1.3600e-003	0.0675	0.0000	197.5499	197.5499	7.3400e-003	0.0000	197.7334
Unmitigated	0.0581	0.2442	0.7407	3.3400e-003	0.4003	2.1800e-003	0.4025	0.1070	2.0200e-003	0.1091	0.0000	308.8865	308.8865	0.0107	0.0000	309.1543

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	369.92	434.52	398.48	1,058,888	654,622
Parking Lot	0.00	0.00	0.00		
Unenclosed Parking Structure	0.00	0.00	0.00		
Total	369.92	434.52	398.48	1,058,888	654,622

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	7.30	7.50	32.90	18.00	49.10	86	11	3
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Unenclosed Parking Structure	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.611155	0.038739	0.187677	0.096955	0.013383	0.005563	0.020646	0.018593	0.001209	0.001094	0.003654	0.000418	0.000914
Parking Lot	0.611155	0.038739	0.187677	0.096955	0.013383	0.005563	0.020646	0.018593	0.001209	0.001094	0.003654	0.000418	0.000914
Unenclosed Parking Structure	0.611155	0.038739	0.187677	0.096955	0.013383	0.005563	0.020646	0.018593	0.001209	0.001094	0.003654	0.000418	0.000914

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive 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	57.8589	57.8589	2.4500e-003	4.9000e-004	58.0663
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	58.0236	58.0236	2.4600e-003	4.9000e-004	58.2317
NaturalGas Mitigated	3.9300e-003	0.0336	0.0143	2.1000e-004		2.7200e-003	2.7200e-003		2.7200e-003	2.7200e-003	0.0000	38.8931	38.8931	7.5000e-004	7.1000e-004	39.1243
NaturalGas Unmitigated	4.1900e-003	0.0358	0.0152	2.3000e-004		2.8900e-003	2.8900e-003		2.8900e-003	2.8900e-003	0.0000	41.4673	41.4673	7.9000e-004	7.6000e-004	41.7137

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	777067	4.1900e-003	0.0358	0.0152	2.3000e-004		2.8900e-003	2.8900e-003		2.8900e-003	2.8900e-003	0.0000	41.4673	41.4673	7.9000e-004	7.6000e-004	41.7137
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
Unenclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**4.1900e-003**	**0.0358**	**0.0152**	**2.3000e-004**		**2.8900e-003**	**2.8900e-003**		**2.8900e-003**	**2.8900e-003**	**0.0000**	**41.4673**	**41.4673**	**7.9000e-004**	**7.6000e-004**	**41.7137**

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	728830	3.9300e-003	0.0336	0.0143	2.1000e-004		2.7200e-003	2.7200e-003		2.7200e-003	2.7200e-003	0.0000	38.8931	38.8931	7.5000e-004	7.1000e-004	39.1243
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
Unenclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**3.9300e-003**	**0.0336**	**0.0143**	**2.1000e-004**		**2.7200e-003**	**2.7200e-003**		**2.7200e-003**	**2.7200e-003**	**0.0000**	**38.8931**	**38.8931**	**7.5000e-004**	**7.1000e-004**	**39.1243**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	266651	42.8009	1.8100e-003	3.6000e-004	42.9544
Parking Lot	3138.1	0.5037	2.0000e-005	0.0000	0.5055
Unenclosed Parking Structure	91700	14.7190	6.2000e-004	1.2000e-004	14.7718
Total		**58.0236**	**2.4500e-003**	**4.8000e-004**	**58.2317**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	265625	42.6361	1.8100e-003	3.6000e-004	42.7890
Parking Lot	3138.1	0.5037	2.0000e-005	0.0000	0.5055
Unenclosed Parking Structure	91700	14.7190	6.2000e-004	1.2000e-004	14.7718
Total		**57.8589**	**2.4500e-003**	**4.8000e-004**	**58.0663**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

No Hearths Installed

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.2785	5.8200e-003	0.5049	3.0000e-005		2.8000e-003	2.8000e-003		2.8000e-003	2.8000e-003	0.0000	0.8273	0.8273	7.9000e-004	0.0000	0.8471
Unmitigated	0.2785	5.8200e-003	0.5049	3.0000e-005		2.8000e-003	2.8000e-003		2.8000e-003	2.8000e-003	0.0000	0.8273	0.8273	7.9000e-004	0.0000	0.8471

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	0.0310					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2323					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0152	5.8200e-003	0.5049	3.0000e-005		2.8000e-003	2.8000e-003		2.8000e-003	2.8000e-003	0.0000	0.8273	0.8273	7.9000e-004	0.0000	0.8471
Total	**0.2785**	**5.8200e-003**	**0.5049**	**3.0000e-005**		**2.8000e-003**	**2.8000e-003**		**2.8000e-003**	**2.8000e-003**	**0.0000**	**0.8273**	**0.8273**	**7.9000e-004**	**0.0000**	**0.8471**

6.2 Area by SubCategory

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	0.0310					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2323					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0152	5.8200e-003	0.5049	3.0000e-005		2.8000e-003	2.8000e-003		2.8000e-003	2.8000e-003	0.0000	0.8273	0.8273	7.9000e-004	0.0000	0.8471
Total	**0.2785**	**5.8200e-003**	**0.5049**	**3.0000e-005**		**2.8000e-003**	**2.8000e-003**		**2.8000e-003**	**2.8000e-003**	**0.0000**	**0.8273**	**0.8273**	**7.9000e-004**	**0.0000**	**0.8471**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	13.5133	0.1160	2.8300e-003	17.2578
Unmitigated	13.5133	0.1160	2.8300e-003	17.2578

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	3.54438 / 2.79312	13.5133	0.1160	2.8300e-003	17.2578
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**13.5133**	**0.1160**	**2.8300e-003**	**17.2578**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	3.54438 / 2.79312	13.5133	0.1160	2.8300e-003	17.2578
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**13.5133**	**0.1160**	**2.8300e-003**	**17.2578**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	1.5833	0.0936	0.0000	3.9226
Unmitigated	1.5833	0.0936	0.0000	3.9226

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	7.8	1.5833	0.0936	0.0000	3.9226
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Total		**1.5833**	**0.0936**	**0.0000**	**3.9226**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	7.8	1.5833	0.0936	0.0000	3.9226
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Total		**1.5833**	**0.0936**	**0.0000**	**3.9226**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

2800 Barry Street

Ventura County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	8.97	1000sqft	0.33	8,966.00	0
Unenclosed Parking Structure	131.00	Space	0.60	52,400.00	0
Apartments Mid Rise	68.00	Dwelling Unit	1.65	58,466.00	208

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2030
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	353.87	**CH4 Intensity (lb/MWhr)**	0.015	**N2O Intensity (lb/MWhr)**	0.003

1.3 User Entered Comments & Non-Default Data

2800 Barry Street - Ventura County, Summer

Project Characteristics - 2030 RPS Adjustment - Intensity Factors

Land Use - residential=units, community center, manager office, landscaping/open space. parking lot for hardscape paved area

Construction Phase - Applicant provided construction schedule

Off-road Equipment - applicant provided equipment

Off-road Equipment - applicant provided equipment

Off-road Equipment - Applicant provided equipment

Off-road Equipment - applicant provided equipment

Off-road Equipment - applicant provided equipment

Off-road Equipment - applicant provided equipment

Trips and VMT - 3780 cu yds / 16 cu yds per truck = 237 trips (1 in and 1 out) = 474

Grading - 3780 cu yds of fill

Vehicle Trips - Rate from Traffic Study

Area Coating - Rule 74.2

Energy Use - Redcued by 30 percent to account for requirements of 2019 title 24 standards

Water And Wastewater - 2016 CalGreen (Part 11 of Title 24) - 20 percent reduction in indoor water use

Solid Waste - AB 341 - 75 percent recycling

Construction Off-road Equipment Mitigation - VCAPCD Rule 55 - Watering and 15 MPH

Mobile Land Use Mitigation -

Area Mitigation - Rule 74.2 Arch Coatings

Energy Mitigation - 12 percent exceedance Title 24

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150
tblAreaCoating	Area_EF_Nonresidential_Interior	250	150
tblAreaCoating	Area_EF_Parking	250	150
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True

tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	10.00	41.00
tblConstructionPhase	NumDays	220.00	444.00
tblConstructionPhase	NumDays	6.00	26.00
tblConstructionPhase	NumDays	10.00	25.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblEnergyUse	T24E	179.76	125.80
tblGrading	MaterialImported	0.00	3,780.00
tblLandUse	LandUseSquareFeet	8,970.00	8,966.00
tblLandUse	LandUseSquareFeet	68,000.00	58,466.00
tblLandUse	LotAcreage	0.21	0.33
tblLandUse	LotAcreage	1.18	0.60
tblLandUse	LotAcreage	1.79	1.65
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.015
tblProjectCharacteristics	CO2IntensityFactor	702.44	353.87

tblProjectCharacteristics	N2OIntensityFactor	0.006	0.003
tblSolidWaste	SolidWasteGenerationRate	31.28	7.80
tblTripsAndVMT	HaulingTripNumber	473.00	474.00
tblVehicleTrips	WD_TR	6.65	5.44
tblWater	IndoorWaterUseRate	4,430,473.74	3,544,379.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	2.4112	20.0613	21.5546	0.0461	1.4397	0.9302	1.8902	0.2155	0.9109	1.1075	0.0000	4,429.4728	4,429.4728	0.7750	0.0000	4,439.9340
2023	18.0250	22.1311	27.0534	0.0557	0.8543	0.9965	1.8097	0.2292	0.9668	1.1850	0.0000	5,337.8542	5,337.8542	0.6689	0.0000	5,354.5754
Maximum	**18.0250**	**22.1311**	**27.0534**	**0.0557**	**1.4397**	**0.9965**	**1.8902**	**0.2292**	**0.9668**	**1.1850**	**0.0000**	**5,337.8542**	**5,337.8542**	**0.7750**	**0.0000**	**5,354.5754**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	2.4112	20.0613	21.5546	0.0461	0.8452	0.9302	1.6613	0.1965	0.9109	1.1075	0.0000	4,429.4728	4,429.4728	0.7750	0.0000	4,439.9340
2023	18.0250	22.1311	27.0534	0.0557	0.8543	0.9965	1.8097	0.2292	0.9668	1.1850	0.0000	5,337.8542	5,337.8542	0.6689	0.0000	5,354.5754
Maximum	**18.0250**	**22.1311**	**27.0534**	**0.0557**	**0.8543**	**0.9965**	**1.8097**	**0.2292**	**0.9668**	**1.1850**	**0.0000**	**5,337.8542**	**5,337.8542**	**0.7750**	**0.0000**	**5,354.5754**

	ROG	NOx	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**	**25.92**	**0.00**	**6.19**	**4.27**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.6115	0.0646	5.6095	3.0000e-004		0.0312	0.0312		0.0312	0.0312	0.0000	10.1322	10.1322	9.7000e-003	0.0000	10.3748
Energy	0.0230	0.1962	0.0835	1.2500e-003		0.0159	0.0159		0.0159	0.0159		250.4649	250.4649	4.8000e-003	4.5900e-003	251.9533
Mobile	0.3894	1.4765	4.7081	0.0215	2.5403	0.0136	2.5539	0.6782	0.0126	0.6908		2,194.1078	2,194.1078	0.0735		2,195.9459
Total	**2.0238**	**1.7373**	**10.4011**	**0.0231**	**2.5403**	**0.0606**	**2.6009**	**0.6782**	**0.0596**	**0.7378**	**0.0000**	**2,454.7048**	**2,454.7048**	**0.0880**	**4.5900e-003**	**2,458.2739**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.6115	0.0646	5.6095	3.0000e-004		0.0312	0.0312		0.0312	0.0312	0.0000	10.1322	10.1322	9.7000e-003	0.0000	10.3748
Energy	0.0215	0.1840	0.0783	1.1700e-003		0.0149	0.0149		0.0149	0.0149		234.9169	234.9169	4.5000e-003	4.3100e-003	236.3129
Mobile	0.3396	1.2477	3.2293	0.0138	1.5704	9.1200e-003	1.5796	0.4193	8.4500e-003	0.4277		1,403.3555	1,403.3555	0.0500		1,404.6062
Total	**1.9726**	**1.4964**	**8.9170**	**0.0152**	**1.5704**	**0.0552**	**1.6256**	**0.4193**	**0.0545**	**0.4738**	**0.0000**	**1,648.4046**	**1,648.4046**	**0.0642**	**4.3100e-003**	**1,651.2939**

	ROG	NOx	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	**2.53**	**13.87**	**14.27**	**34.01**	**38.18**	**8.99**	**37.50**	**38.18**	**8.62**	**35.79**	**0.00**	**32.85**	**32.85**	**27.04**	**6.10**	**32.83**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	3/1/2022	3/23/2022	6	20	
2	Site Preparation	Site Preparation	3/29/2022	3/31/2022	6	3	
3	Grading	Grading	4/1/2022	4/30/2022	6	26	
4	Building Construction	Building Construction	5/2/2022	9/30/2023	6	444	
5	Paving	Paving	7/1/2023	7/29/2023	6	25	
6	Architectural Coating	Architectural Coating	8/15/2023	9/30/2023	6	41	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 26

Acres of Paving: 0.93

Residential Indoor: 118,394; Residential Outdoor: 39,465; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 3,682 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	2	8.00	81	0.73
Demolition	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Site Preparation	Concrete/Industrial Saws	2	8.00	81	0.73
Site Preparation	Excavators	1	8.00	158	0.38
Grading	Excavators	1	8.00	158	0.38
Grading	Scrapers	1	8.00	367	0.48
Building Construction	Air Compressors	2	8.00	78	0.48
Building Construction	Cement and Mortar Mixers	2	8.00	9	0.56
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	1	7.00	89	0.20
Building Construction	Generator Sets	3	8.00	84	0.74
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
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	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	2	5.00	0.00	474.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	75.00	17.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0448	8.9536	11.8052	0.0187		0.4806	0.4806		0.4662	0.4662		1,787.8072	1,787.8072	0.2595		1,794.2950
Total	**1.0448**	**8.9536**	**11.8052**	**0.0187**		**0.4806**	**0.4806**		**0.4662**	**0.4662**		**1,787.8072**	**1,787.8072**	**0.2595**		**1,794.2950**

3.2 Demolition - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0322	0.0179	0.2364	7.4000e-004	0.0822	5.6000e-004	0.0827	0.0218	5.1000e-004	0.0223		74.1680	74.1680	1.7500e-003		74.2117
Total	**0.0322**	**0.0179**	**0.2364**	**7.4000e-004**	**0.0822**	**5.6000e-004**	**0.0827**	**0.0218**	**5.1000e-004**	**0.0223**		**74.1680**	**74.1680**	**1.7500e-003**		**74.2117**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0448	8.9536	11.8052	0.0187		0.4806	0.4806		0.4662	0.4662	0.0000	1,787.8072	1,787.8072	0.2595		1,794.2950
Total	**1.0448**	**8.9536**	**11.8052**	**0.0187**		**0.4806**	**0.4806**		**0.4662**	**0.4662**	**0.0000**	**1,787.8072**	**1,787.8072**	**0.2595**		**1,794.2950**

3.2 Demolition - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0322	0.0179	0.2364	7.4000e-004	0.0822	5.6000e-004	0.0827	0.0218	5.1000e-004	0.0223		74.1680	74.1680	1.7500e-003		74.2117
Total	**0.0322**	**0.0179**	**0.2364**	**7.4000e-004**	**0.0822**	**5.6000e-004**	**0.0827**	**0.0218**	**5.1000e-004**	**0.0223**		**74.1680**	**74.1680**	**1.7500e-003**		**74.2117**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9178	7.3793	10.5845	0.0177		0.3863	0.3863		0.3794	0.3794		1,685.3446	1,685.3446	0.2264		1,691.0039
Total	**0.9178**	**7.3793**	**10.5845**	**0.0177**		**0.3863**	**0.3863**		**0.3794**	**0.3794**		**1,685.3446**	**1,685.3446**	**0.2264**		**1,691.0039**

3.3 Site Preparation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0258	0.0143	0.1891	6.0000e-004	0.0657	4.4000e-004	0.0662	0.0174	4.1000e-004	0.0178		59.3344	59.3344	1.4000e-003		59.3693
Total	**0.0258**	**0.0143**	**0.1891**	**6.0000e-004**	**0.0657**	**4.4000e-004**	**0.0662**	**0.0174**	**4.1000e-004**	**0.0178**		**59.3344**	**59.3344**	**1.4000e-003**		**59.3693**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9178	7.3793	10.5845	0.0177		0.3863	0.3863		0.3794	0.3794	0.0000	1,685.3446	1,685.3446	0.2264		1,691.0039
Total	**0.9178**	**7.3793**	**10.5845**	**0.0177**		**0.3863**	**0.3863**		**0.3794**	**0.3794**	**0.0000**	**1,685.3446**	**1,685.3446**	**0.2264**		**1,691.0039**

3.3 Site Preparation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0258	0.0143	0.1891	6.0000e-004	0.0657	4.4000e-004	0.0662	0.0174	4.1000e-004	0.0178		59.3344	59.3344	1.4000e-003		59.3693
Total	**0.0258**	**0.0143**	**0.1891**	**6.0000e-004**	**0.0657**	**4.4000e-004**	**0.0662**	**0.0174**	**4.1000e-004**	**0.0178**		**59.3344**	**59.3344**	**1.4000e-003**		**59.3693**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.0809	0.0000	1.0809	0.1176	0.0000	0.1176			0.0000			0.0000
Off-Road	1.0217	10.7205	9.6309	0.0204		0.4350	0.4350		0.4002	0.4002		1,970.3092	1,970.3092	0.6372		1,986.2401
Total	**1.0217**	**10.7205**	**9.6309**	**0.0204**	**1.0809**	**0.4350**	**1.5160**	**0.1176**	**0.4002**	**0.5178**		**1,970.3092**	**1,970.3092**	**0.6372**		**1,986.2401**

3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1165	4.0838	1.0548	0.0134	0.3177	0.0152	0.3329	0.0870	0.0146	0.1016		1,471.4399	1,471.4399	0.1369		1,474.8629
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0161	8.9200e-003	0.1182	3.7000e-004	0.0411	2.8000e-004	0.0414	0.0109	2.6000e-004	0.0112		37.0840	37.0840	8.7000e-004		37.1058
Total	**0.1326**	**4.0927**	**1.1730**	**0.0138**	**0.3588**	**0.0155**	**0.3743**	**0.0979**	**0.0148**	**0.1127**		**1,508.5239**	**1,508.5239**	**0.1378**		**1,511.9687**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.4864	0.0000	0.4864	0.0529	0.0000	0.0529			0.0000			0.0000
Off-Road	1.0217	10.7205	9.6309	0.0204		0.4350	0.4350		0.4002	0.4002	0.0000	1,970.3092	1,970.3092	0.6372		1,986.2401
Total	**1.0217**	**10.7205**	**9.6309**	**0.0204**	**0.4864**	**0.4350**	**0.9215**	**0.0529**	**0.4002**	**0.4532**	**0.0000**	**1,970.3092**	**1,970.3092**	**0.6372**		**1,986.2401**

3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1165	4.0838	1.0548	0.0134	0.3177	0.0152	0.3329	0.0870	0.0146	0.1016		1,471.4399	1,471.4399	0.1369		1,474.8629
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0161	8.9200e-003	0.1182	3.7000e-004	0.0411	2.8000e-004	0.0414	0.0109	2.6000e-004	0.0112		37.0840	37.0840	8.7000e-004		37.1058
Total	**0.1326**	**4.0927**	**1.1730**	**0.0138**	**0.3588**	**0.0155**	**0.3743**	**0.0979**	**0.0148**	**0.1127**		**1,508.5239**	**1,508.5239**	**0.1378**		**1,511.9687**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1253	18.3844	19.3828	0.0362		0.9221	0.9221		0.9033	0.9033		3,409.0218	3,409.0218	0.3708		3,418.2914
Total	**2.1253**	**18.3844**	**19.3828**	**0.0362**		**0.9221**	**0.9221**		**0.9033**	**0.9033**		**3,409.0218**	**3,409.0218**	**0.3708**		**3,418.2914**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0444	1.5430	0.3987	4.3100e-003	0.1149	3.9400e-003	0.1189	0.0331	3.7700e-003	0.0369		464.1912	464.1912	0.0346		465.0553
Worker	0.2415	0.1339	1.7731	5.5800e-003	0.6161	4.1600e-003	0.6203	0.1634	3.8400e-003	0.1673		556.2597	556.2597	0.0131		556.5874
Total	**0.2859**	**1.6769**	**2.1718**	**9.8900e-003**	**0.7310**	**8.1000e-003**	**0.7392**	**0.1965**	**7.6100e-003**	**0.2041**		**1,020.4510**	**1,020.4510**	**0.0477**		**1,021.6426**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1253	18.3844	19.3828	0.0362		0.9221	0.9221		0.9033	0.9033	0.0000	3,409.0218	3,409.0218	0.3708		3,418.2914
Total	**2.1253**	**18.3844**	**19.3828**	**0.0362**		**0.9221**	**0.9221**		**0.9033**	**0.9033**	**0.0000**	**3,409.0218**	**3,409.0218**	**0.3708**		**3,418.2914**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0444	1.5430	0.3987	4.3100e-003	0.1149	3.9400e-003	0.1189	0.0331	3.7700e-003	0.0369		464.1912	464.1912	0.0346		465.0553
Worker	0.2415	0.1339	1.7731	5.5800e-003	0.6161	4.1600e-003	0.6203	0.1634	3.8400e-003	0.1673		556.2597	556.2597	0.0131		556.5874
Total	**0.2859**	**1.6769**	**2.1718**	**9.8900e-003**	**0.7310**	**8.1000e-003**	**0.7392**	**0.1965**	**7.6100e-003**	**0.2041**		**1,020.4510**	**1,020.4510**	**0.0477**		**1,021.6426**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9874	17.0130	19.2906	0.0362		0.8135	0.8135		0.7966	0.7966		3,409.0107	3,409.0107	0.3602		3,418.0167
Total	**1.9874**	**17.0130**	**19.2906**	**0.0362**		**0.8135**	**0.8135**		**0.7966**	**0.7966**		**3,409.0107**	**3,409.0107**	**0.3602**		**3,418.0167**

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0329	1.1784	0.3636	4.2000e-003	0.1149	1.4900e-003	0.1164	0.0331	1.4300e-003	0.0345		454.0151	454.0151	0.0309		454.7887
Worker	0.2273	0.1209	1.6387	5.3700e-003	0.6161	4.0700e-003	0.6202	0.1634	3.7500e-003	0.1672		534.9457	534.9457	0.0118		535.2412
Total	**0.2602**	**1.2993**	**2.0023**	**9.5700e-003**	**0.7311**	**5.5600e-003**	**0.7366**	**0.1965**	**5.1800e-003**	**0.2017**		**988.9607**	**988.9607**	**0.0428**		**990.0298**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9874	17.0130	19.2906	0.0362		0.8135	0.8135		0.7966	0.7966	0.0000	3,409.0107	3,409.0107	0.3602		3,418.0167
Total	**1.9874**	**17.0130**	**19.2906**	**0.0362**		**0.8135**	**0.8135**		**0.7966**	**0.7966**	**0.0000**	**3,409.0107**	**3,409.0107**	**0.3602**		**3,418.0167**

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0329	1.1784	0.3636	4.2000e-003	0.1149	1.4900e-003	0.1164	0.0331	1.4300e-003	0.0345		454.0151	454.0151	0.0309		454.7887
Worker	0.2273	0.1209	1.6387	5.3700e-003	0.6161	4.0700e-003	0.6202	0.1634	3.7500e-003	0.1672		534.9457	534.9457	0.0118		535.2412
Total	**0.2602**	**1.2993**	**2.0023**	**9.5700e-003**	**0.7311**	**5.5600e-003**	**0.7366**	**0.1965**	**5.1800e-003**	**0.2017**		**988.9607**	**988.9607**	**0.0428**		**990.0298**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4268	3.8026	5.5420	9.2600e-003		0.1769	0.1769		0.1645	0.1645		868.5567	868.5567	0.2643		875.1634
Paving	0.0346					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.4614**	**3.8026**	**5.5420**	**9.2600e-003**		**0.1769**	**0.1769**		**0.1645**	**0.1645**		**868.5567**	**868.5567**	**0.2643**		**875.1634**

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0303	0.0161	0.2185	7.2000e-004	0.0822	5.4000e-004	0.0827	0.0218	5.0000e-004	0.0223		71.3261	71.3261	1.5800e-003		71.3655
Total	**0.0303**	**0.0161**	**0.2185**	**7.2000e-004**	**0.0822**	**5.4000e-004**	**0.0827**	**0.0218**	**5.0000e-004**	**0.0223**		**71.3261**	**71.3261**	**1.5800e-003**		**71.3655**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4268	3.8026	5.5420	9.2600e-003		0.1769	0.1769		0.1645	0.1645	0.0000	868.5567	868.5567	0.2643		875.1634
Paving	0.0346					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.4614**	**3.8026**	**5.5420**	**9.2600e-003**		**0.1769**	**0.1769**		**0.1645**	**0.1645**	**0.0000**	**868.5567**	**868.5567**	**0.2643**		**875.1634**

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0303	0.0161	0.2185	7.2000e-004	0.0822	5.4000e-004	0.0827	0.0218	5.0000e-004	0.0223		71.3261	71.3261	1.5800e-003		71.3655
Total	**0.0303**	**0.0161**	**0.2185**	**7.2000e-004**	**0.0822**	**5.4000e-004**	**0.0827**	**0.0218**	**5.0000e-004**	**0.0223**		**71.3261**	**71.3261**	**1.5800e-003**		**71.3655**

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	15.5403					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	**15.7320**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**		**281.4481**	**281.4481**	**0.0168**		**281.8690**

3.7 Architectural Coating - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0455	0.0242	0.3277	1.0700e-003	0.1232	8.1000e-004	0.1240	0.0327	7.5000e-004	0.0334		106.9891	106.9891	2.3600e-003		107.0482
Total	**0.0455**	**0.0242**	**0.3277**	**1.0700e-003**	**0.1232**	**8.1000e-004**	**0.1240**	**0.0327**	**7.5000e-004**	**0.0334**		**106.9891**	**106.9891**	**2.3600e-003**		**107.0482**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	15.5403					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	**15.7320**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**	**0.0000**	**281.4481**	**281.4481**	**0.0168**		**281.8690**

3.7 Architectural Coating - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0455	0.0242	0.3277	1.0700e-003	0.1232	8.1000e-004	0.1240	0.0327	7.5000e-004	0.0334		106.9891	106.9891	2.3600e-003		107.0482
Total	**0.0455**	**0.0242**	**0.3277**	**1.0700e-003**	**0.1232**	**8.1000e-004**	**0.1240**	**0.0327**	**7.5000e-004**	**0.0334**		**106.9891**	**106.9891**	**2.3600e-003**		**107.0482**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Transit Accessibility

Integrate Below Market Rate Housing

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.3396	1.2477	3.2293	0.0138	1.5704	9.1200e-003	1.5796	0.4193	8.4500e-003	0.4277		1,403.3555	1,403.3555	0.0500		1,404.6062
Unmitigated	0.3894	1.4765	4.7081	0.0215	2.5403	0.0136	2.5539	0.6782	0.0126	0.6908		2,194.1078	2,194.1078	0.0735		2,195.9459

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	369.92	434.52	398.48	1,058,888	654,622
Parking Lot	0.00	0.00	0.00		
Unenclosed Parking Structure	0.00	0.00	0.00		
Total	369.92	434.52	398.48	1,058,888	654,622

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	7.30	7.50	32.90	18.00	49.10	86	11	3
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Unenclosed Parking Structure	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.611155	0.038739	0.187677	0.096955	0.013383	0.005563	0.020646	0.018593	0.001209	0.001094	0.003654	0.000418	0.000914
Parking Lot	0.611155	0.038739	0.187677	0.096955	0.013383	0.005563	0.020646	0.018593	0.001209	0.001094	0.003654	0.000418	0.000914
Unenclosed Parking Structure	0.611155	0.038739	0.187677	0.096955	0.013383	0.005563	0.020646	0.018593	0.001209	0.001094	0.003654	0.000418	0.000914

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0215	0.1840	0.0783	1.1700e-003		0.0149	0.0149		0.0149	0.0149		234.9169	234.9169	4.5000e-003	4.3100e-003	236.3129
NaturalGas Unmitigated	0.0230	0.1962	0.0835	1.2500e-003		0.0159	0.0159		0.0159	0.0159		250.4649	250.4649	4.8000e-003	4.5900e-003	251.9533

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	2128.95	0.0230	0.1962	0.0835	1.2500e-003		0.0159	0.0159		0.0159	0.0159		250.4649	250.4649	4.8000e-003	4.5900e-003	251.9533
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
Unenclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0230**	**0.1962**	**0.0835**	**1.2500e-003**		**0.0159**	**0.0159**		**0.0159**	**0.0159**		**250.4649**	**250.4649**	**4.8000e-003**	**4.5900e-003**	**251.9533**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	1.99679	0.0215	0.1840	0.0783	1.1700e-003		0.0149	0.0149		0.0149	0.0149		234.9169	234.9169	4.5000e-003	4.3100e-003	236.3129
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
Unenclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0215**	**0.1840**	**0.0783**	**1.1700e-003**		**0.0149**	**0.0149**		**0.0149**	**0.0149**		**234.9169**	**234.9169**	**4.5000e-003**	**4.3100e-003**	**236.3129**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

No Hearths Installed

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.6115	0.0646	5.6095	3.0000e-004		0.0312	0.0312		0.0312	0.0312	0.0000	10.1322	10.1322	9.7000e-003	0.0000	10.3748
Unmitigated	1.6115	0.0646	5.6095	3.0000e-004		0.0312	0.0312		0.0312	0.0312	0.0000	10.1322	10.1322	9.7000e-003	0.0000	10.3748

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1699					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.2729					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.1687	0.0646	5.6095	3.0000e-004		0.0312	0.0312		0.0312	0.0312		10.1322	10.1322	9.7000e-003		10.3748
Total	**1.6115**	**0.0646**	**5.6095**	**3.0000e-004**		**0.0312**	**0.0312**		**0.0312**	**0.0312**	**0.0000**	**10.1322**	**10.1322**	**9.7000e-003**	**0.0000**	**10.3748**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1699					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.2729					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.1687	0.0646	5.6095	3.0000e-004		0.0312	0.0312		0.0312	0.0312		10.1322	10.1322	9.7000e-003		10.3748
Total	**1.6115**	**0.0646**	**5.6095**	**3.0000e-004**		**0.0312**	**0.0312**		**0.0312**	**0.0312**	**0.0000**	**10.1322**	**10.1322**	**9.7000e-003**	**0.0000**	**10.3748**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

2800 Barry Street

Ventura County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	8.97	1000sqft	0.33	8,966.00	0
Unenclosed Parking Structure	131.00	Space	0.60	52,400.00	0
Apartments Mid Rise	68.00	Dwelling Unit	1.65	58,466.00	208

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2030
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	353.87	**CH4 Intensity (lb/MWhr)**	0.015	**N2O Intensity (lb/MWhr)**	0.003

1.3 User Entered Comments & Non-Default Data

Project Characteristics - 2030 RPS Adjustment - Intensity Factors

Land Use - residential=units, community center, manager office, landscaping/open space. parking lot for hardscape paved area

Construction Phase - Applicant provided construction schedule

Off-road Equipment - applicant provided equipment

Off-road Equipment - applicant provided equipment

Off-road Equipment - Applicant provided equipment

Off-road Equipment - applicant provided equipment

Off-road Equipment - applicant provided equipment

Off-road Equipment - applicant provided equipment

Trips and VMT - 3780 cu yds / 16 cu yds per truck = 237 trips (1 in and 1 out) = 474

Grading - 3780 cu yds of fill

Vehicle Trips - Rate from Traffic Study

Area Coating - Rule 74.2

Energy Use - Redcued by 30 percent to account for requirements of 2019 title 24 standards

Water And Wastewater - 2016 CalGreen (Part 11 of Title 24) - 20 percent reduction in indoor water use

Solid Waste - AB 341 - 75 percent recycling

Construction Off-road Equipment Mitigation - VCAPCD Rule 55 - Watering and 15 MPH

Mobile Land Use Mitigation -

Area Mitigation - Rule 74.2 Arch Coatings

Energy Mitigation - 12 percent exceedance Title 24

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150
tblAreaCoating	Area_EF_Nonresidential_Interior	250	150
tblAreaCoating	Area_EF_Parking	250	150
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True

tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	10.00	41.00
tblConstructionPhase	NumDays	220.00	444.00
tblConstructionPhase	NumDays	6.00	26.00
tblConstructionPhase	NumDays	10.00	25.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblEnergyUse	T24E	179.76	125.80
tblGrading	MaterialImported	0.00	3,780.00
tblLandUse	LandUseSquareFeet	8,970.00	8,966.00
tblLandUse	LandUseSquareFeet	68,000.00	58,466.00
tblLandUse	LotAcreage	0.21	0.33
tblLandUse	LotAcreage	1.18	0.60
tblLandUse	LotAcreage	1.79	1.65
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.015
tblProjectCharacteristics	CO2IntensityFactor	702.44	353.87

tblProjectCharacteristics	N2OIntensityFactor	0.006	0.003
tblSolidWaste	SolidWasteGenerationRate	31.28	7.80
tblTripsAndVMT	HaulingTripNumber	473.00	474.00
tblVehicleTrips	WD_TR	6.65	5.44
tblWater	IndoorWaterUseRate	4,430,473.74	3,544,379.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	2.4471	20.0802	21.5563	0.0457	1.4397	0.9305	1.8907	0.2155	0.9112	1.1077	0.0000	4,391.0552	4,391.0552	0.7793	0.0000	4,401.5576
2023	18.0652	22.1479	27.0363	0.0553	0.8543	0.9966	1.8098	0.2292	0.9669	1.1851	0.0000	5,297.2134	5,297.2134	0.6700	0.0000	5,313.9631
Maximum	**18.0652**	**22.1479**	**27.0363**	**0.0553**	**1.4397**	**0.9966**	**1.8907**	**0.2292**	**0.9669**	**1.1851**	**0.0000**	**5,297.2134**	**5,297.2134**	**0.7793**	**0.0000**	**5,313.9631**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	2.4471	20.0802	21.5563	0.0457	0.8452	0.9305	1.6615	0.1965	0.9112	1.1077	0.0000	4,391.0552	4,391.0552	0.7793	0.0000	4,401.5576
2023	18.0652	22.1479	27.0363	0.0553	0.8543	0.9966	1.8098	0.2292	0.9669	1.1851	0.0000	5,297.2134	5,297.2134	0.6700	0.0000	5,313.9631
Maximum	**18.0652**	**22.1479**	**27.0363**	**0.0553**	**0.8543**	**0.9966**	**1.8098**	**0.2292**	**0.9669**	**1.1851**	**0.0000**	**5,297.2134**	**5,297.2134**	**0.7793**	**0.0000**	**5,313.9631**

	ROG	NOx	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**	**25.92**	**0.00**	**6.19**	**4.27**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.6115	0.0646	5.6095	3.0000e-004		0.0312	0.0312		0.0312	0.0312	0.0000	10.1322	10.1322	9.7000e-003	0.0000	10.3748
Energy	0.0230	0.1962	0.0835	1.2500e-003		0.0159	0.0159		0.0159	0.0159		250.4649	250.4649	4.8000e-003	4.5900e-003	251.9533
Mobile	0.3643	1.5222	4.6999	0.0207	2.5403	0.0136	2.5539	0.6782	0.0126	0.6909		2,105.4002	2,105.4002	0.0745		2,107.2618
Total	**1.9987**	**1.7830**	**10.3929**	**0.0222**	**2.5403**	**0.0607**	**2.6009**	**0.6782**	**0.0597**	**0.7379**	**0.0000**	**2,365.9973**	**2,365.9973**	**0.0890**	**4.5900e-003**	**2,369.5898**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.6115	0.0646	5.6095	3.0000e-004		0.0312	0.0312		0.0312	0.0312	0.0000	10.1322	10.1322	9.7000e-003	0.0000	10.3748
Energy	0.0215	0.1840	0.0783	1.1700e-003		0.0149	0.0149		0.0149	0.0149		234.9169	234.9169	4.5000e-003	4.3100e-003	236.3129
Mobile	0.3147	1.2728	3.3208	0.0132	1.5704	9.1600e-003	1.5796	0.4193	8.4900e-003	0.4278		1,344.6947	1,344.6947	0.0513		1,345.9778
Total	**1.9477**	**1.5215**	**9.0086**	**0.0147**	**1.5704**	**0.0552**	**1.6256**	**0.4193**	**0.0545**	**0.4738**	**0.0000**	**1,589.7438**	**1,589.7438**	**0.0655**	**4.3100e-003**	**1,592.6655**

	ROG	NOx	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	**2.55**	**14.67**	**13.32**	**34.01**	**38.18**	**8.99**	**37.50**	**38.18**	**8.60**	**35.79**	**0.00**	**32.81**	**32.81**	**26.35**	**6.10**	**32.79**

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	3/1/2022	3/23/2022	6	20	
2	Site Preparation	Site Preparation	3/29/2022	3/31/2022	6	3	
3	Grading	Grading	4/1/2022	4/30/2022	6	26	
4	Building Construction	Building Construction	5/2/2022	9/30/2023	6	444	
5	Paving	Paving	7/1/2023	7/29/2023	6	25	
6	Architectural Coating	Architectural Coating	8/15/2023	9/30/2023	6	41	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 26

Acres of Paving: 0.93

Residential Indoor: 118,394; Residential Outdoor: 39,465; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 3,682 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	2	8.00	81	0.73
Demolition	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Site Preparation	Concrete/Industrial Saws	2	8.00	81	0.73
Site Preparation	Excavators	1	8.00	158	0.38
Grading	Excavators	1	8.00	158	0.38
Grading	Scrapers	1	8.00	367	0.48
Building Construction	Air Compressors	2	8.00	78	0.48
Building Construction	Cement and Mortar Mixers	2	8.00	9	0.56
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	1	7.00	89	0.20
Building Construction	Generator Sets	3	8.00	84	0.74
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
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	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	2	5.00	0.00	474.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	75.00	17.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0448	8.9536	11.8052	0.0187		0.4806	0.4806		0.4662	0.4662		1,787.8072	1,787.8072	0.2595		1,794.2950
Total	**1.0448**	**8.9536**	**11.8052**	**0.0187**		**0.4806**	**0.4806**		**0.4662**	**0.4662**		**1,787.8072**	**1,787.8072**	**0.2595**		**1,794.2950**

3.2 Demolition - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0366	0.0209	0.2297	7.1000e-004	0.0822	5.6000e-004	0.0827	0.0218	5.1000e-004	0.0223		70.5764	70.5764	1.6800e-003		70.6185
Total	**0.0366**	**0.0209**	**0.2297**	**7.1000e-004**	**0.0822**	**5.6000e-004**	**0.0827**	**0.0218**	**5.1000e-004**	**0.0223**		**70.5764**	**70.5764**	**1.6800e-003**		**70.6185**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0448	8.9536	11.8052	0.0187		0.4806	0.4806		0.4662	0.4662	0.0000	1,787.8072	1,787.8072	0.2595		1,794.2950
Total	**1.0448**	**8.9536**	**11.8052**	**0.0187**		**0.4806**	**0.4806**		**0.4662**	**0.4662**	**0.0000**	**1,787.8072**	**1,787.8072**	**0.2595**		**1,794.2950**

3.2 Demolition - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0366	0.0209	0.2297	7.1000e-004	0.0822	5.6000e-004	0.0827	0.0218	5.1000e-004	0.0223		70.5764	70.5764	1.6800e-003		70.6185
Total	**0.0366**	**0.0209**	**0.2297**	**7.1000e-004**	**0.0822**	**5.6000e-004**	**0.0827**	**0.0218**	**5.1000e-004**	**0.0223**		**70.5764**	**70.5764**	**1.6800e-003**		**70.6185**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9178	7.3793	10.5845	0.0177		0.3863	0.3863		0.3794	0.3794		1,685.3446	1,685.3446	0.2264		1,691.0039
Total	**0.9178**	**7.3793**	**10.5845**	**0.0177**		**0.3863**	**0.3863**		**0.3794**	**0.3794**		**1,685.3446**	**1,685.3446**	**0.2264**		**1,691.0039**

3.3 Site Preparation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0293	0.0167	0.1838	5.7000e-004	0.0657	4.4000e-004	0.0662	0.0174	4.1000e-004	0.0178		56.4612	56.4612	1.3500e-003		56.4948
Total	**0.0293**	**0.0167**	**0.1838**	**5.7000e-004**	**0.0657**	**4.4000e-004**	**0.0662**	**0.0174**	**4.1000e-004**	**0.0178**		**56.4612**	**56.4612**	**1.3500e-003**		**56.4948**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9178	7.3793	10.5845	0.0177		0.3863	0.3863		0.3794	0.3794	0.0000	1,685.3446	1,685.3446	0.2264		1,691.0039
Total	**0.9178**	**7.3793**	**10.5845**	**0.0177**		**0.3863**	**0.3863**		**0.3794**	**0.3794**	**0.0000**	**1,685.3446**	**1,685.3446**	**0.2264**		**1,691.0039**

3.3 Site Preparation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0293	0.0167	0.1838	5.7000e-004	0.0657	4.4000e-004	0.0662	0.0174	4.1000e-004	0.0178		56.4612	56.4612	1.3500e-003		56.4948
Total	**0.0293**	**0.0167**	**0.1838**	**5.7000e-004**	**0.0657**	**4.4000e-004**	**0.0662**	**0.0174**	**4.1000e-004**	**0.0178**		**56.4612**	**56.4612**	**1.3500e-003**		**56.4948**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.0809	0.0000	1.0809	0.1176	0.0000	0.1176			0.0000			0.0000
Off-Road	1.0217	10.7205	9.6309	0.0204		0.4350	0.4350		0.4002	0.4002		1,970.3092	1,970.3092	0.6372		1,986.2401
Total	**1.0217**	**10.7205**	**9.6309**	**0.0204**	**1.0809**	**0.4350**	**1.5160**	**0.1176**	**0.4002**	**0.5178**		**1,970.3092**	**1,970.3092**	**0.6372**		**1,986.2401**

3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1201	4.1211	1.1237	0.0132	0.3177	0.0157	0.3334	0.0870	0.0151	0.1020		1,447.6752	1,447.6752	0.1412		1,451.2056
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0183	0.0105	0.1149	3.5000e-004	0.0411	2.8000e-004	0.0414	0.0109	2.6000e-004	0.0112		35.2882	35.2882	8.4000e-004		35.3092
Total	**0.1384**	**4.1315**	**1.2386**	**0.0135**	**0.3588**	**0.0160**	**0.3748**	**0.0979**	**0.0153**	**0.1132**		**1,482.9634**	**1,482.9634**	**0.1421**		**1,486.5149**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.4864	0.0000	0.4864	0.0529	0.0000	0.0529			0.0000			0.0000
Off-Road	1.0217	10.7205	9.6309	0.0204		0.4350	0.4350		0.4002	0.4002	0.0000	1,970.3092	1,970.3092	0.6372		1,986.2401
Total	**1.0217**	**10.7205**	**9.6309**	**0.0204**	**0.4864**	**0.4350**	**0.9215**	**0.0529**	**0.4002**	**0.4532**	**0.0000**	**1,970.3092**	**1,970.3092**	**0.6372**		**1,986.2401**

3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1201	4.1211	1.1237	0.0132	0.3177	0.0157	0.3334	0.0870	0.0151	0.1020		1,447.6752	1,447.6752	0.1412		1,451.2056
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0183	0.0105	0.1149	3.5000e-004	0.0411	2.8000e-004	0.0414	0.0109	2.6000e-004	0.0112		35.2882	35.2882	8.4000e-004		35.3092
Total	**0.1384**	**4.1315**	**1.2386**	**0.0135**	**0.3588**	**0.0160**	**0.3748**	**0.0979**	**0.0153**	**0.1132**		**1,482.9634**	**1,482.9634**	**0.1421**		**1,486.5149**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1253	18.3844	19.3828	0.0362		0.9221	0.9221		0.9033	0.9033		3,409.0218	3,409.0218	0.3708		3,418.2914
Total	**2.1253**	**18.3844**	**19.3828**	**0.0362**		**0.9221**	**0.9221**		**0.9033**	**0.9033**		**3,409.0218**	**3,409.0218**	**0.3708**		**3,418.2914**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0472	1.5390	0.4507	4.2000e-003	0.1149	4.1800e-003	0.1191	0.0331	4.0000e-003	0.0371		452.7102	452.7102	0.0367		453.6277
Worker	0.2745	0.1569	1.7228	5.3100e-003	0.6161	4.1600e-003	0.6203	0.1634	3.8400e-003	0.1673		529.3233	529.3233	0.0126		529.6385
Total	**0.3218**	**1.6958**	**2.1735**	**9.5100e-003**	**0.7310**	**8.3400e-003**	**0.7394**	**0.1965**	**7.8400e-003**	**0.2043**		**982.0334**	**982.0334**	**0.0493**		**983.2662**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1253	18.3844	19.3828	0.0362		0.9221	0.9221		0.9033	0.9033	0.0000	3,409.0218	3,409.0218	0.3708		3,418.2914
Total	**2.1253**	**18.3844**	**19.3828**	**0.0362**		**0.9221**	**0.9221**		**0.9033**	**0.9033**	**0.0000**	**3,409.0218**	**3,409.0218**	**0.3708**		**3,418.2914**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0472	1.5390	0.4507	4.2000e-003	0.1149	4.1800e-003	0.1191	0.0331	4.0000e-003	0.0371		452.7102	452.7102	0.0367		453.6277
Worker	0.2745	0.1569	1.7228	5.3100e-003	0.6161	4.1600e-003	0.6203	0.1634	3.8400e-003	0.1673		529.3233	529.3233	0.0126		529.6385
Total	**0.3218**	**1.6958**	**2.1735**	**9.5100e-003**	**0.7310**	**8.3400e-003**	**0.7394**	**0.1965**	**7.8400e-003**	**0.2043**		**982.0334**	**982.0334**	**0.0493**		**983.2662**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9874	17.0130	19.2906	0.0362		0.8135	0.8135		0.7966	0.7966		3,409.0107	3,409.0107	0.3602		3,418.0167
Total	**1.9874**	**17.0130**	**19.2906**	**0.0362**		**0.8135**	**0.8135**		**0.7966**	**0.7966**		**3,409.0107**	**3,409.0107**	**0.3602**		**3,418.0167**

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0351	1.1717	0.4042	4.1000e-003	0.1149	1.5900e-003	0.1165	0.0331	1.5200e-003	0.0346		442.7164	442.7164	0.0326		443.5319
Worker	0.2590	0.1417	1.5878	5.1100e-003	0.6161	4.0700e-003	0.6202	0.1634	3.7500e-003	0.1672		509.0555	509.0555	0.0114		509.3392
Total	**0.2941**	**1.3134**	**1.9920**	**9.2100e-003**	**0.7311**	**5.6600e-003**	**0.7367**	**0.1965**	**5.2700e-003**	**0.2018**		**951.7719**	**951.7719**	**0.0440**		**952.8711**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9874	17.0130	19.2906	0.0362		0.8135	0.8135		0.7966	0.7966	0.0000	3,409.0107	3,409.0107	0.3602		3,418.0167
Total	**1.9874**	**17.0130**	**19.2906**	**0.0362**		**0.8135**	**0.8135**		**0.7966**	**0.7966**	**0.0000**	**3,409.0107**	**3,409.0107**	**0.3602**		**3,418.0167**

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0351	1.1717	0.4042	4.1000e-003	0.1149	1.5900e-003	0.1165	0.0331	1.5200e-003	0.0346		442.7164	442.7164	0.0326		443.5319
Worker	0.2590	0.1417	1.5878	5.1100e-003	0.6161	4.0700e-003	0.6202	0.1634	3.7500e-003	0.1672		509.0555	509.0555	0.0114		509.3392
Total	**0.2941**	**1.3134**	**1.9920**	**9.2100e-003**	**0.7311**	**5.6600e-003**	**0.7367**	**0.1965**	**5.2700e-003**	**0.2018**		**951.7719**	**951.7719**	**0.0440**		**952.8711**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4268	3.8026	5.5420	9.2600e-003		0.1769	0.1769		0.1645	0.1645		868.5567	868.5567	0.2643		875.1634
Paving	0.0346					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.4614**	**3.8026**	**5.5420**	**9.2600e-003**		**0.1769**	**0.1769**		**0.1645**	**0.1645**		**868.5567**	**868.5567**	**0.2643**		**875.1634**

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0345	0.0189	0.2117	6.8000e-004	0.0822	5.4000e-004	0.0827	0.0218	5.0000e-004	0.0223		67.8741	67.8741	1.5100e-003		67.9119
Total	**0.0345**	**0.0189**	**0.2117**	**6.8000e-004**	**0.0822**	**5.4000e-004**	**0.0827**	**0.0218**	**5.0000e-004**	**0.0223**		**67.8741**	**67.8741**	**1.5100e-003**		**67.9119**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4268	3.8026	5.5420	9.2600e-003		0.1769	0.1769		0.1645	0.1645	0.0000	868.5567	868.5567	0.2643		875.1634
Paving	0.0346					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.4614**	**3.8026**	**5.5420**	**9.2600e-003**		**0.1769**	**0.1769**		**0.1645**	**0.1645**	**0.0000**	**868.5567**	**868.5567**	**0.2643**		**875.1634**

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0345	0.0189	0.2117	6.8000e-004	0.0822	5.4000e-004	0.0827	0.0218	5.0000e-004	0.0223		67.8741	67.8741	1.5100e-003		67.9119
Total	**0.0345**	**0.0189**	**0.2117**	**6.8000e-004**	**0.0822**	**5.4000e-004**	**0.0827**	**0.0218**	**5.0000e-004**	**0.0223**		**67.8741**	**67.8741**	**1.5100e-003**		**67.9119**

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	15.5403					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	**15.7320**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**		**281.4481**	**281.4481**	**0.0168**		**281.8690**

3.7 Architectural Coating - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0518	0.0283	0.3176	1.0200e-003	0.1232	8.1000e-004	0.1240	0.0327	7.5000e-004	0.0334		101.8111	101.8111	2.2700e-003		101.8678
Total	**0.0518**	**0.0283**	**0.3176**	**1.0200e-003**	**0.1232**	**8.1000e-004**	**0.1240**	**0.0327**	**7.5000e-004**	**0.0334**		**101.8111**	**101.8111**	**2.2700e-003**		**101.8678**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	15.5403					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	**15.7320**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**	**0.0000**	**281.4481**	**281.4481**	**0.0168**		**281.8690**

3.7 Architectural Coating - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0518	0.0283	0.3176	1.0200e-003	0.1232	8.1000e-004	0.1240	0.0327	7.5000e-004	0.0334		101.8111	101.8111	2.2700e-003		101.8678
Total	**0.0518**	**0.0283**	**0.3176**	**1.0200e-003**	**0.1232**	**8.1000e-004**	**0.1240**	**0.0327**	**7.5000e-004**	**0.0334**		**101.8111**	**101.8111**	**2.2700e-003**		**101.8678**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Transit Accessibility

Integrate Below Market Rate Housing

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.3147	1.2728	3.3208	0.0132	1.5704	9.1600e-003	1.5796	0.4193	8.4900e-003	0.4278		1,344.6947	1,344.6947	0.0513		1,345.9778
Unmitigated	0.3643	1.5222	4.6999	0.0207	2.5403	0.0136	2.5539	0.6782	0.0126	0.6909		2,105.4002	2,105.4002	0.0745		2,107.2618

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	369.92	434.52	398.48	1,058,888	654,622
Parking Lot	0.00	0.00	0.00		
Unenclosed Parking Structure	0.00	0.00	0.00		
Total	369.92	434.52	398.48	1,058,888	654,622

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	7.30	7.50	32.90	18.00	49.10	86	11	3
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Unenclosed Parking Structure	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.611155	0.038739	0.187677	0.096955	0.013383	0.005563	0.020646	0.018593	0.001209	0.001094	0.003654	0.000418	0.000914
Parking Lot	0.611155	0.038739	0.187677	0.096955	0.013383	0.005563	0.020646	0.018593	0.001209	0.001094	0.003654	0.000418	0.000914
Unenclosed Parking Structure	0.611155	0.038739	0.187677	0.096955	0.013383	0.005563	0.020646	0.018593	0.001209	0.001094	0.003654	0.000418	0.000914

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0215	0.1840	0.0783	1.1700e-003		0.0149	0.0149		0.0149	0.0149		234.9169	234.9169	4.5000e-003	4.3100e-003	236.3129
NaturalGas Unmitigated	0.0230	0.1962	0.0835	1.2500e-003		0.0159	0.0159		0.0159	0.0159		250.4649	250.4649	4.8000e-003	4.5900e-003	251.9533

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	2128.95	0.0230	0.1962	0.0835	1.2500e-003		0.0159	0.0159		0.0159	0.0159		250.4649	250.4649	4.8000e-003	4.5900e-003	251.9533
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
Unenclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0230**	**0.1962**	**0.0835**	**1.2500e-003**		**0.0159**	**0.0159**		**0.0159**	**0.0159**		**250.4649**	**250.4649**	**4.8000e-003**	**4.5900e-003**	**251.9533**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	1.99679	0.0215	0.1840	0.0783	1.1700e-003		0.0149	0.0149		0.0149	0.0149		234.9169	234.9169	4.5000e-003	4.3100e-003	236.3129
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
Unenclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0215**	**0.1840**	**0.0783**	**1.1700e-003**		**0.0149**	**0.0149**		**0.0149**	**0.0149**		**234.9169**	**234.9169**	**4.5000e-003**	**4.3100e-003**	**236.3129**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

No Hearths Installed

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.6115	0.0646	5.6095	3.0000e-004		0.0312	0.0312		0.0312	0.0312	0.0000	10.1322	10.1322	9.7000e-003	0.0000	10.3748
Unmitigated	1.6115	0.0646	5.6095	3.0000e-004		0.0312	0.0312		0.0312	0.0312	0.0000	10.1322	10.1322	9.7000e-003	0.0000	10.3748

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1699					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.2729					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.1687	0.0646	5.6095	3.0000e-004		0.0312	0.0312		0.0312	0.0312		10.1322	10.1322	9.7000e-003		10.3748
Total	**1.6115**	**0.0646**	**5.6095**	**3.0000e-004**		**0.0312**	**0.0312**		**0.0312**	**0.0312**	**0.0000**	**10.1322**	**10.1322**	**9.7000e-003**	**0.0000**	**10.3748**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1699					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.2729					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.1687	0.0646	5.6095	3.0000e-004		0.0312	0.0312		0.0312	0.0312		10.1322	10.1322	9.7000e-003		10.3748
Total	**1.6115**	**0.0646**	**5.6095**	**3.0000e-004**		**0.0312**	**0.0312**		**0.0312**	**0.0312**	**0.0000**	**10.1322**	**10.1322**	**9.7000e-003**	**0.0000**	**10.3748**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

N2O Operational GHG Emission Mobile Calculations

Project Title: 2800 Barry Street

Vehicle Population Breakdown*		
516976	Gasoline vehicles	
26574	Diesel vehicles	
95.1%	Gasoline vehicle %	
4.9%	Diesel vehicle %	

VMT per Vehicle Type	
654622	Project VMT (CalEEMod output)
622617	Gasoline vehicle VMT
32005	Diesel vehicle VMT

Gasoline Vehicles	
95.1%	Gasoline vehicle %
0.24	Tons per year mobile NOX emissions (annual output in CalEEMod)
0.23	Gasoline vehicle tons per year NOX emissions
0.0218	Tons per year N2O emissions for gasoline vehicles**
0.0198	Metric tons per year N2O emissions for gasoline vehicles

Diesel Vehicles	
1.60	grams N2O per gallon of fuel for diesel vehicles**
194920.28	Diesel average miles per gallon*
0.00001	grams per mile N2O for diesel vehicles
0.3	grams per year N2O for diesel vehicles
0.0000003	Metric tons per year N2O emissions for diesel vehicles

CO2e Emissions from N2O	
0.0198	Metric tons per year from gasoline + diesel vehicles
298	GWP of N2O***
5.9	**CO2e emissions per year from N2O emissions from gasoline + diesel vehicles**

Sources
***Vehicle population source:** EMFAC2017 (v1.0.2) Emissions Inventory Region Type: County Region: VENTURA Calendar Year: 2022 Season: Annual Vehicle Classification: EMFAC2011 Categories Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption ****Methodology source:** EMFAC2017 Volume III - Technical Documentation https://www.arb.ca.gov/msei/emfac2011-faq.htm *****GWP source:** Intergovernmental Panel on Climate Change (IPCC). 2007. AR4 Climate Change 2007: The Physical Science Basis. Contrbution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change.

2800 Barry Street

Last Updated: May 1, 2020

Compression-Ignition Engine Brake-Specific Fuel Consumption (BSFC) Factors **[1]**:

HP: 0 to 100	0.0588	HP: Greater than 100	0.0529

Values above are expressed in gallons per horsepower-hour/BSFC.

CONSTRUCTION EQUIPMENT

Construction Equipment	#	Hours per Day	Horsepower	Load Factor	Construction Phase	Fuel Used (gallons)
Concrete/Industrial Saws	2	8	81	0.73	Demo	1,111.91
Tractors/Loaders/Backhoes	2	6	97	0.37	Demo	506.17
Concrete/Industrial Saws	2	8	81	0.73	Site Prep	166.79
Excavator	1	8	158	0.38	Site Prep	76.17
Excavator	1	8	158	0.38	Grading	660.12
Scraper	1	8	367	0.48	Grading	1,936.82
Cranes	1	8	231	0.29	Building	12,577.72
Air Compressors	2	8	78	0.48	Building	15,629.74
Cement and Mortar Mixer	2	8	9	0.56	Building	2,104.00
Forklifts	1	7	89	0.20	Building	3,250.98
Generator Sets	3	8	84	0.74	Building	38,924.07
Air Compressors	1	6	78	0.48	Arch Coating	541.23
Pavers	1	7	130	0.42	Paving	505.07
Paving Equipment	1	8	132	0.36	Paving	502.37
Air Compressors	1	6	78	0.48	Paving	330.02
					Total Fuel Used	**78,823.18**
						(Gallons)

Construction Phase	Days of Operation
Demolition Phase	20
Site Preparation Phase	3
Grading Phase	26
Building Construction Phase	444
Paving Phase	25
Architectural Coating Phase	41
Total Days	559

WORKER TRIPS

Constuction Phase	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
Demolition	24.0	10	10.8	90.00
Site Prep Phase	24.0	8	10.8	10.80
Grading Phase	24.0	5	10.8	58.50
Building Phase	24.0	75	10.8	14985.00
Paving Phase	24.0	10	10.8	112.50
Architectural Coating Phase	24.0	15	10.8	276.75
			Total	**15,533.55**

HAULING AND VENDOR TRIPS

Trip Class	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
HAULING TRIPS				
Demolition	7.4	0	20.0	0.00
Site Prep Phase	7.4	0	20.0	0.00
Grading Phase	7.4	474	20.0	1281.08
Building Phase	7.4	0	20.0	0.00
Paving Phase	7.4	0	20.0	0.00
Architectural Coating Phase	7.4	0	20.0	0.00
			Total	**1,281.08**
VENDOR TRIPS				
Demolition	7.4	0	7.3	0.00
Site Prep Phase	7.4	0	7.3	0.00
Grading Phase	7.4	0	7.3	0.00
Building Phase	7.4	17	7.3	7446.00
Paving Phase	7.4	0	7.3	0.00
Architectural Coating Phase	7.4	0	7.3	0.00
			Total	**7,446.00**

Total Gasoline Consumption (gallons)	**15,533.55**
Total Diesel Consumption (gallons)	**87,550.26**

Sources:

[1] United States Environmental Protection Agency. 2018. *Exhaust and Crankcase Emission Factors for Nonroad Compression-Ignition Engines in MOVES2014b* . July 2018. Available at: https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100UXEN.pdf.

[2] United States Department of Transportation, Bureau of Transportation Statistics. 2018. *National Transportation Statistics 2018* . Available at: https://www.bts.gov/sites/bts.dot.gov/files/docs/browse-statistical-products-and-data/national-transportation-statistics/223001/ntsentire2018q4.pdf.

2800 Barry Street

Last Updated: May 1, 2020

Populate one of the following tables (Leave the other blank):

Annual VMT		OR	Daily Vehicle Trips	
Annual VMT:	469,332		Daily Vehicle Trips:	
			Average Trip Distance:	

Fleet Class	Fleet Mix
Light Duty Auto (LDA)	0.597457
Light Duty Truck 1 (LDT1)	0.040465
Light Duty Truck 2 (LDT2)	0.187858
Medium Duty Vehicle (MDV)	0.105115
Light Heavy Duty 1 (LHD1)	0.017041
Light Heavy Duty 2 (LHD2)	0.006067
Medium Heavy Duty (MHD)	0.020072
Heavy Heavy Duty (HHD)	0.018206
Other Bus (OBUS)	0.001182
Urban Bus (UBUS)	0.001040
School Bus (SBUS)	0.000389
Motorhome (MH)	0.001293
Motorcycle (MCY)	0.003816

Fuel Economy (MPG)	
Passenger Vehicles	24.0
Light-Med Duty Trucks	17.4
Heavy Trucks/Other	7.4
Motorcycles	43.9

Fleet Mix

Vehicle Type	Percent	Fuel Type	Annual VMT: VMT	Vehicle Trips: VMT	Fuel Consumption (Gallons)
Passenger Vehicles	*59.75%*	*Gasoline*	280406	0.00	11683.57
Light-Medium Duty Trucks	*33.34%*	*Gasoline*	156493	0.00	8993.86
Heavy Trucks/Other	*6.53%*	*Diesel*	30643	0.00	4140.90
Motorcycle	*0.38%*	*Gasoline*	1791	0.00	40.80

Total Gasoline Consumption (gallons)	**20718.22**
Total Diesel Consumption (gallons)	**4140.90**

Appendix C

Health Risk Assessment



2800 Barry Street Affordable Housing Project

Health Risk Assessment

prepared for

City of Camarillo
Department of Community Development
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Camarillo, California 93010
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August 2020

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Appendix A Health Risk Assessment Modeling Inputs and Results

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1 Project Description and Executive Summary

1.1 Introduction

This Health Risk Assessment (HRA) analyzes the possible health effects associated with existing toxic air contaminant (TAC) emission sources for the 2800 Barry Street Affordable Housing Project. The project site is an approximately 2.58-acre parcel located at the southwestern corner of SR 34 (North Lewis Road) and Barry Street in Camarillo, California (Assessor's Parcel Number 162-0-023-030). The report was prepared by Rincon Consultants, Inc., under contract to the City of Camarillo.

1.2 Executive Summary

The 2800 Barry Street Project (herein referred to as "proposed project" or "project") would involve the construction of 68 units of affordable housing (including 60 rental apartments and eight for-sale townhomes) in five buildings on an approximately 2.58-acre project site located at the southwestern corner of SR 34 (North Lewis Road) and Barry Street in Camarillo. The project site is approximately 0.1 mile west of existing warehouse/distribution center land uses and approximately 0.2 mile north of U.S. 101. This HRA presents the results of site-specific air dispersion modeling to determine whether health risks to future residents from existing sources of TAC emissions would exceed the Ventura County Air Pollution Control District's (VCAPCD) health risk criteria for residences.

The VCAPCD has health risk criteria for cancer and non-cancer risk (i.e., chronic and acute). Cancer risk is expressed as the maximum number of new cancer cases projected to occur in a population of one million people due to exposure to a cancer-causing substance. Potential acute health risks include severe symptoms that develop rapidly and lead quickly to a health issue due to exposure to a harmful substance, whereas chronic health risks include health crises, such as lung inflammation, immune suppression, and immune sensitization, which develop due to exposure to a harmful substance over a long period of time.

The California Air Resources Board's (CARB) *Air Quality and Land Use Handbook: A Community Health Perspective* recommends that local agencies avoid siting new, sensitive land uses within specific distances of potential sources of TACs, such as freeways, high-traffic roads, distribution centers, railroads, and ports (CARB 2005). Specifically, CARB recommends that local agencies avoid siting new, sensitive land uses within 500 feet of a freeway, within 1,000 feet of a distribution center that accommodate more than 100 diesel trucks per day, or within 1,000 feet of rail yards. The primary concern is the effect of diesel exhaust particulate, a TAC, on sensitive uses. The primary source of diesel exhaust particulates near the project site is heavy traffic traveling on U.S. 101 and SR 34. In addition to diesel exhaust particulates from U.S. 101 and SR 34, this analysis also examined five other vehicle exhaust pollutants of concern that are emitted from both diesel and gasoline-fueled vehicles: acrolein, acetaldehyde, formaldehyde, benzene, and 1,3-butadiene.

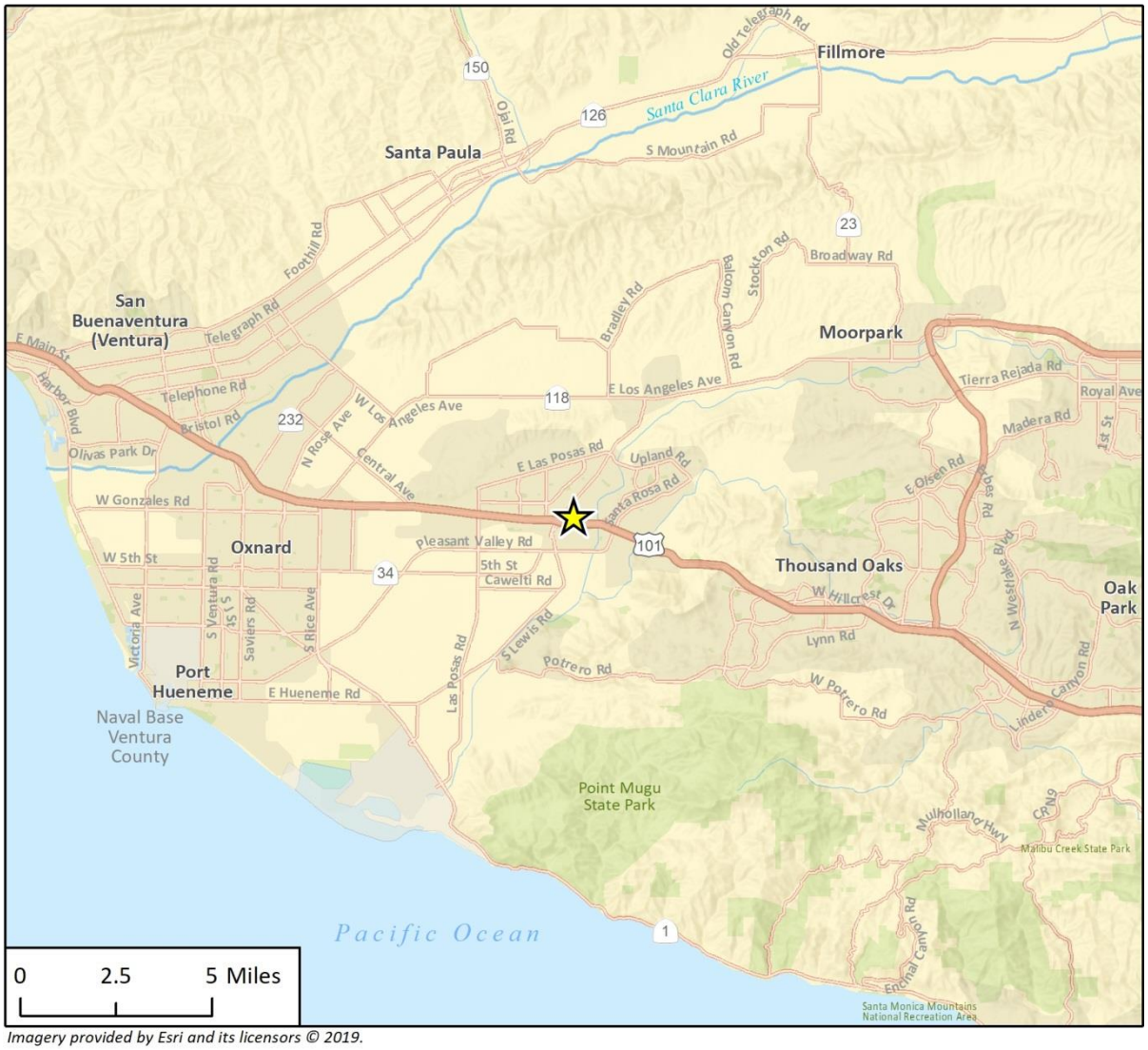
A refined analysis using air dispersion modeling was completed using the U.S. Environmental Protection Agency's (U.S. EPA) AERMOD dispersion model and CARB's Hotspots Analysis and Reporting Program Version (HARP) risk analysis tool. This analysis determined that the maximum

exposed individual receptor (MEIR) on the project site would be exposed to a high end (95-percentile), 30-year excess cancer risk of approximately 8.6 in one million, which does not exceed the VCAPCD-recommended health risk criteria of 10 excess cases of cancer in one million individuals (VCAPCD 2003). Potential acute and chronic health risks at the MEIR were also determined to be below the VCAPCD hazard index of 1.0.

1.3 Project Description

The proposed project would involve construction of 68 units of affordable housing (including 60 rental apartments and eight for-sale townhomes) in five buildings on an approximately 2.58 acre project site located at the southwestern corner of SR 34 (North Lewis Road) and Barry Street in Camarillo, California (Assessor's Parcel Number 162-0-023-030). The project would also include approximately 36,300 square feet of landscaping and common open space and 153 parking spaces. The project site is surrounded by Barry Street and single-family residences to the north, SR 34 and UPRR tracks to the east, a self-storage facility to the south, and single-family residences to the west. The project site is approximately 0.1 mile west of existing warehouse/distribution center land uses and approximately 0.2 mile north of U.S. 101. Figure 1 and Figure 2 show the project site location in regional and local contexts, respectively. Figure 3 shows the project site plan.

Figure 1 Regional Location



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Project Location

N

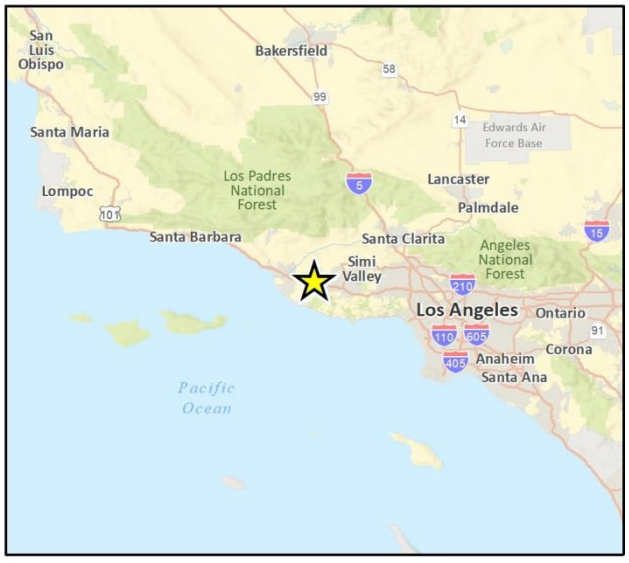
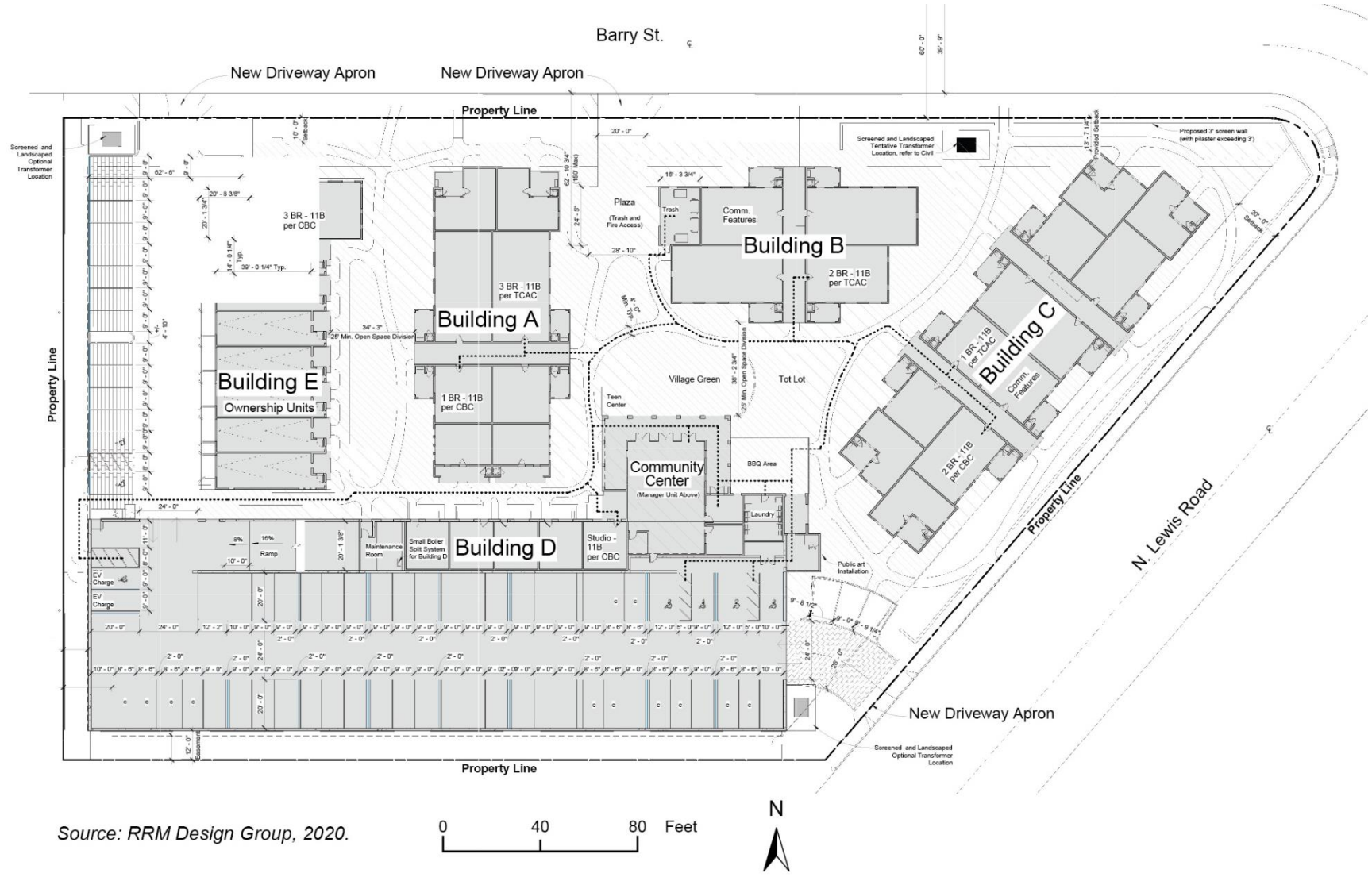


Figure 2 Project Location



Imagery provided by Microsoft Bing and its licensors © 2020.

Figure 3 Proposed Site Plan



Source: RRM Design Group, 2020.

2 Air Quality Background

2.1 Local Climate and Meteorology

The project site is located in the South Central Coast Air Basin (SCCAB), which covers San Luis Obispo, Santa Barbara, and Ventura Counties. The VCAPCD monitors and regulates local air quality in the Ventura County portion of the SCCAB and implements the Air Quality Management Plan (AQMP).

The climate of the SCCAB is strongly influenced by its proximity to the Pacific Ocean and the location of the high-pressure cell in the northeastern Pacific. With a Mediterranean type climate, the SCCAB is characterized by warm, dry summers and cool winters with occasional rainy periods. Cool, humid, marine air causes frequent fog and low clouds along the coast, generally during the night and morning hours in the late spring and early summer months. The project area is subject to a diurnal cycle in which daily onshore winds from the west and northwest are replaced by mild offshore breezes flowing from warm inland valleys during night and early morning hours. This alternating cycle can create a situation where suspended pollutants are swept offshore at night, and then carried back onshore the following day. Dispersion of pollutants is further degraded when the wind velocity for both day and nighttime breezes is low. The region is also subject to seasonal "Santa Ana" winds. These are typically hot, dry northerly winds which blow offshore at 15 to 20 miles per hour (mph), but can reach speeds in excess of 60 mph.

Two types of temperature inversions (warmer air on top of cooler air) are created in the area: subsidence and radiational. The subsidence inversion is a regional effect created by the Pacific high in which air is heated as it is compressed when it flows from a high pressure area to low pressure areas inland. This type of inversion generally forms at about 1,000 to 2,000 feet and can occur throughout the year, but it is most evident during the summer months. Radiational, or surface, inversions are formed by the more rapid cooling of air near the ground during the night, especially during winter. This type of inversion is typically lower (0 to 500 feet at Vandenberg Air Force Base, for example) and is generally accompanied by stable air. Both types of inversions limit the dispersal of air pollutants within the regional airshed, with the more stable the air (low wind speeds, uniform temperatures), the lower the amount of pollutant dispersion.

Stationary and mobile sources are the primary sources of air pollutant emissions in the SCCAB. Stationary sources can be divided into two major subcategories: point and area sources. Point sources occur at a specific location and are often identified by an exhaust vent or stack. Examples include boilers or combustion equipment that produce electricity or generate heat. Area sources are widely distributed and include such sources as residential and commercial water heaters, painting operations, lawn mowers, agricultural fields, landfills, and some consumer products. Mobile sources refer to emissions from motor vehicles, including tailpipe and evaporative emissions, and are classified as either on-road or off-road. On-road sources may be legally operated on roadways and highways. Off-road sources include aircraft, ships, trains, and self-propelled construction equipment. The natural environment can also generate air pollutants, such as when high winds suspend fine dust particles.

2.2 Toxic Air Contaminants

Diesel Particulate Matter

PM_{10} is small particulate matter measuring no more than 10 microns in diameter, and $PM_{2.5}$ is fine particulate matter measuring no more than 2.5 microns in diameter. Both PM_{10} and $PM_{2.5}$ are composed mostly of dust particles, nitrates, and sulfates. The characteristics, sources, and potential health effects associated with the small particulates (those between 2.5 and 10 microns in diameter) and fine particulates ($PM_{2.5}$) can be very different. PM_{10} is a by-product of fuel combustion and wind erosion of soil and unpaved roads, and it is directly emitted into the atmosphere through these processes. Chemical reactions in the atmosphere can also create PM_{10}. $PM_{2.5}$ is generally associated with combustion processes and forms in the atmosphere as a secondary pollutant through chemical reactions. $PM_{2.5}$ poses a serious health threat to all groups, but particularly to the elderly, children, and those with respiratory problems. More than half of the fine particulates that are inhaled into the lungs remains there, which can cause permanent lung damage. These materials can damage health by interfering with the body's mechanisms for clearing the respiratory tract or by acting as carriers of an adsorbed toxic substance. Elevated levels of PM_{10} can cause respiratory irritation, reduced lung function, aggravation of cardiovascular disease, and cancer, and elevated levels of $PM_{2.5}$ can cause respiratory stress and decreased lung function and increase the risk of long-term disease (VCAPCD 2003).

Particulate emissions from diesel engine fuel combustion form an important fraction of the PM emission inventory because particulates in diesel emissions are very small and readily respirable. These particles have hundreds of chemicals adsorbed onto their surfaces, including many known or suspected mutagens and carcinogens. The California Office of Environmental Health Hazard Assessment (OEHHA) reviewed and evaluated the potential for diesel exhaust to affect human health and the associated scientific uncertainties (CARB 1998). Based on the available scientific evidence, it was determined that a level of diesel PM exposure below which no carcinogenic effects are anticipated has not been identified. The Scientific Review Panel that approved the OEHHA report determined that, based on studies to date, 3×10^{-4} micrograms per cubic meter ($\mu g/m^3$) is a reasonable estimate of the unit risk for diesel PM. This means that a person exposed to a diesel PM concentration of 1 $\mu g/m^3$ continuously over the course of a lifetime has a 3 in 10,000 chance (or 300 in one million chance) of contracting cancer due to this exposure. In 2000, the statewide estimated average concentration of diesel PM was 1.26 $\mu g/m^3$ for indoor and outdoor ambient air. If diesel PM concentrations remained at this level, about 380 excess cancer cases per one million population could be expected (CARB 2000). Therefore, CARB has classified diesel PM as a TAC.

Diesel PM emissions are estimated to be responsible for approximately 70 percent of the total ambient air toxics risk. In addition to these general risks, diesel PM can also be responsible for elevated localized or near-source exposures ("hot spots"). Depending on the activity and proximity to receptors, these potential risks can range from low to 1,500 excess cancer cases per million population or more (CARB 2000).

CARB staff have conducted risk characterization scenarios to determine the potential excess cancer risks involved when individuals are near various sources of diesel engine emissions, ranging from school buses to high volume freeways. The purpose of the risk characterization was to estimate, through air dispersion modeling, the cancer risk associated with typical diesel-fueled engine or vehicle activities based on modeled PM concentrations at the point of maximum impact. The study included various sources of diesel PM emissions, including idling school buses, truck stops, low- and

high-volume freeways, and other sources. High-volume freeways (i.e., freeways with approximately 20,000 daily heavy-duty truck trips) were estimated to cause 800 to 1,700 potential excess cases of cancers per one million population, while low-volume freeways (i.e., freeways with approximately 2,000 daily heavy-duty truck trips) were estimated to cause about 100 to 200 per million potential excess cases of cancers per one million population (CARB 2000).

Other Vehicle-Related TACs

Several other pollutants emitted by vehicle exhaust are a public health concern. The U.S. EPA has identified six pollutants of highest priority: diesel PM, acrolein, acetaldehyde, formaldehyde, benzene, and 1,3-butadiene. The latter five pollutants are part of the total organic gases emitted by diesel- and gasoline-fueled vehicles. The following list provides a brief description of each of these chemicals:

- **Acrolein** is the simplest unsaturated aldehyde. It is a widely-produced substance with a piercing, disagreeable, acrid smell similar to that of burning fat. Acrolein is an unstable toxic substance that can burn the nose and throat and is a severe pulmonary irritant. It is a flammable and poisonous substance prepared industrially by the oxidation of propene. Small amounts of acrolein are formed and enter the air when trees, tobacco, other plants, gasoline, and oil are burned.
- **Acetaldehyde**, sometimes known as ethanol, is an organic chemical compound used as an intermediate in the production of acetic acid, certain esters, and a number of other chemicals. It is a flammable liquid with a fruity smell. Acetaldehyde is a toxic when applied externally for prolonged periods, an irritant, and a probable carcinogen.
- **Formaldehyde** is an organic chemical compound containing a terminal carbonyl group. It is produced in the atmosphere by the action of sunlight and oxygen on atmospheric methane and other hydrocarbons, becoming a part of smog. Additionally, formaldehyde is an intermediate in the oxidation (or combustion) of methane as well as other carbon compounds including automobile exhaust. Formaldehyde is a flammable substance that can be toxic, allergenic, and carcinogenic. It is naturally made in small amounts in human bodies and is found in small amounts in household sources, such as fiberglass, carpets, permanent press fabrics, paper products, and some household cleaners.
- **Benzene**, or benzol, is an organic chemical compound and a known carcinogen. It is a colorless and highly flammable liquid with a sweet smell and a relatively high melting point. Benzene is an important industrial solvent and precursor in the production of drugs, plastics, synthetic rubber, and dyes. Benzene is a natural constituent of crude oil and may be synthesized from other compounds present in petroleum. It is found in gasoline and cigarette smoke. Natural sources of benzene include emissions from volcanoes and forest fires.
- **1,3-Butadiene** is an important industrial chemical used in the production of synthetic rubber (about 75 percent of manufactured 1,3-butadiene), which is then used primarily in the production of automobile tires. It is a colorless gas with a mild gasoline-like odor. Gasoline contains small amounts of 1,3-butadiene that are exhausted into the air after the combustion process. It is a carcinogen, highly irritative, and flammable.

2.3 Air Quality Regulation

Regulatory Agencies

Federal and state governments have established ambient air quality standards for the protection of public health. The U.S. EPA is the federal agency designated to administer air quality regulation, while CARB is the state equivalent in the California Environmental Protection Agency. County- and regional-level Air Quality Management Districts provide local management of air quality. CARB has established air quality standards and is responsible for the control of mobile emission sources, while the local Air Quality Management Districts are responsible for enforcing standards and regulating stationary sources.

The VCAPCD has jurisdiction over the SCCAB, which includes the city of Camarillo. The VCAPCD is primarily responsible for assuring that the national and state ambient air quality standards are attained and maintained in the SCCAB. The VCAPCD is also responsible for adopting and enforcing rules and regulations concerning air pollutant sources, issuing permits for stationary sources of air pollutants, inspecting stationary sources of air pollutants, responding to citizen complaints, monitoring ambient air quality and meteorological conditions, awarding grants to reduce motor vehicle emissions, and conducting public education campaigns as well as many other activities.

Toxic Air Contaminants

The Air Toxic "Hot Spots" Information and Assessment Act of 1987 (Assembly Bill 2588) seeks to identify and evaluate risk from air toxics sources but does not directly regulate air toxics emissions. Under Assembly Bill 2588, TAC emissions from individual facilities are quantified and prioritized. "High priority" facilities are required to perform an HRA and, if specific thresholds are violated, are required to communicate the results to the public in the form of notices and public meetings. Although TAC emissions tend to be localized and are found in relatively low concentrations in ambient air, exposure to low concentrations over long periods can result in increased risk of cancer and/or adverse health effects in local communities.

VCAPCD's *Air Quality Assessment Guidelines* (2003) include risk and hazard thresholds that are intended to apply to projects that would site new permitted or non-permitted sources of TAC emissions in proximity to sensitive receptors and for projects that would site new sensitive receptors in proximity to permitted or non-permitted sources of TAC emissions. According to VCAPCD, proposed new land uses that will be sited within 0.25 mile of an existing source of TAC emissions should be evaluated for the potential to be impacted by TAC emissions (VCAPCD 2003).

2.4 Sensitive Receptors

VCAPCD defines sensitive receptors as facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and the chronically ill. These facilities include residences, schools, daycare centers, and hospitals. Because the project involves construction of multi-family residential units, the project would site new sensitive receptors.

3 Impact Analysis

3.1 Methodology

According to VCAPCD, proposed new land uses that will be sited within 0.25 mile of an existing source of TAC emissions should be evaluated for the potential to be impacted by TAC emissions (VCAPCD 2003). The project site is located within 0.25 mile of several potential TAC emission sources, including U.S. 101, SR 34, the UPRR tracks, and warehouse/distribution centers. The methodology used to assess each of these sources is discussed in the following subsections, which incorporate CARB's *Air Quality and Land Use Handbook* (2005) advisory siting recommendations for proposed sensitive land uses in proximity to major TAC emissions sources.

U.S. Highway 101 and State Route 34

Emissions Calculations and Air Dispersion Modeling

Rincon Consultants conducted site-specific air dispersion modeling for U.S. Highway 101 and SR 34. Modeling did not include other nearby roads, such as Barry Street, due to the relatively low traffic volumes on roads in the vicinity of the project site. CARB recommends avoiding siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles per day, or rural roads with 50,000 vehicles per day (CARB 2005). The annual average daily traffic (AADT) volume along SR 34 north of its junction with U.S. Highway 101 in the project area is only 18,200 vehicles, which is below the CARB-recommended threshold for residential siting (Caltrans 2020a). However, SR 34 is part of the state highway system with linkage to major interstate transportation corridors and warehousing/distribution centers and is therefore more likely to contain substantial truck traffic, which is the primary source of diesel PM. In addition, although U.S. 101 is located approximately 600 feet away from the project site, this analysis conservatively includes impacts from this roadway in the analysis.

Mobile source TACs associated with vehicle traffic on U.S. 101 and SR 34 were estimated based on the methodology developed by the UC Davis-Caltrans Air Quality Project, Estimating Mobile Source Air Toxics Emissions [MSAT]: A Step-By-Step Project Analysis Methodology (2006). This spreadsheet application was designed to generate the total amount of the six pollutants of highest priority (acrolein, acetaldehyde, formaldehyde, benzene, 1,3-butadiene, diesel PM) described in Section 2.2, *Toxic Air Contaminants* based on total organic gases emission factors and particulate emission factors from EMFAC2017. Vehicle emission rates for Ventura County for year 2024 (the earliest anticipated project buildout year) were utilized in the calculations.[1] The UC Davis-Caltrans spreadsheet contains speciation factors from CARB, and the U.S. EPA's Motor Vehicle Emission Simulator (MOVES 2014) was used to supplement missing values for acrolein (U.S. EPA 2014). These emission and speciation factors were multiplied against traffic volumes for U.S. 101 and SR 34 to obtain total emissions for roadway/freeway segments within 0.5 mile of the project site. The mainlines were divided into segments for each direction of travel that were sized not to exceed ten

[1] If the proposed project is completed in a later year, the emissions estimates used in the analysis would be conservative overestimates because vehicles are anticipated to emit fewer pollutants in future years due to increasingly stringent vehicle emissions standards.

times the width of the roadway. Emission factors for this study were expressed in grams per mile.[2] Spreadsheet outputs adapted from the UC Davis-Caltrans MSAT model and composite emission rates are contained in Appendix A.

The speed limit on U.S. Highway 101 in the project site vicinity is 65 mph; therefore, emission factors were reviewed for speeds between 50 and 65 mph.[3] The reasonable worst case speed (i.e., highest emission levels) for diesel PM emissions was 65 mph for cars and light duty and heavy-duty trucks. The reasonable worst case speed for total organic gas emissions was 65 mph for cars and heavy-duty trucks and 60 mph for light-duty trucks. The traffic volume for U.S. Highway 101 was calculated using the California Department of Transportation (Caltrans) *2018 Traffic Volumes on California State Highways*, the most recent year for which freeway traffic data was available. According to the Caltrans traffic data, the AADT volume along the segment of U.S. Highway 101 at its junction with SR 34 ranges between 136,000 and 144,000 vehicles and approximately 4.38 percent of the estimated traffic volume consists of trucks (Caltrans 2020a and 2020b). According to the project traffic study (Associated Transportation Engineers 2020), the proposed project would add approximately 74 vehicle trips to U.S. 101; therefore, daily traffic volumes on U.S. 101 under existing plus project conditions would be approximately 144,074 vehicle trips (144,000 + 74).

The speed limit on SR 34 in the project site vicinity is 40 miles per hour; therefore, emission factors were reviewed for speeds between 25 and 40 mph. The reasonable worst case speed for diesel PM and total organic gas emissions was 25 mph for all vehicles.[4] As with U.S. 101, the traffic volume for SR 34 was calculated using the Caltrans *2018 Traffic Volumes on California State Highways*. According to the Caltrans traffic data, the AADT volume along the SR 34 north of its junction with U.S. Highway 101 is 18,200 vehicles and approximately 20.01 percent of the estimated traffic volume consists of trucks (Caltrans 2020a and 2020b). According to the project traffic study (Associated Transportation Engineers 2020), the proposed project would add approximately 130 vehicle trips to SR 34; therefore, daily traffic volumes on SR 34 under existing plus project conditions would be approximately 18,330 vehicle trips (18,200 + 130).

Six representative sensitive receptor locations on the project site were chosen. Health risks at the sensitive receptors were analyzed on each floor of the proposed three-story residential buildings. The Point of Maximum Impact, which is typically at the border of the source (freeway fence), was not calculated since it is not relevant to the analysis given the specific proposed location of the residences. A 25-by-15 point receptor grid with 10-meter spacing was used to evaluate whether sensitive receptor locations reflected the pattern of exposure and to capture potential risk at outdoor locations of the project site. Evaluation of the grid receptors confirmed that the selected sensitive receptor locations captured the greatest impacts at the project site. Figure 4 depicts the

[2] Initial lateral dimension (SYINIT) for roadway emissions sources is equal to the length of the segment divided by 4.3, consistent with AERMOD guidance (U.S. EPA 2018). Initial vertical dimension (SZINIT) for all circulation sources is based on CALINE4 methodology where SZINIT is equal to the residence time divided by 10, plus 1.5.

[3] Between 10 and 55 miles per hour, emission rates generally decrease with increasing speed. Some vehicles may drive at speeds above or below the posted speed limit in low-traffic or congested conditions, respectively; however, data is not available on the percentage of time that motorists are either speeding or experiencing congested conditions on U.S. 101. Therefore, the range of 50 to 65 mph reasonably captures the average speed of vehicles traveling along the roadway and is the most appropriate speed to use for estimating emissions.

[4] Between 10 and 55 miles per hour, emission rates generally decrease with increasing speed. Some vehicles may drive at speeds above or below the posted speed limit in low-traffic or congested conditions, respectively; however, data is not available on the percentage of time that motorists are either speeding or experiencing congested conditions on SR 34. Therefore, the range of 25 to 40 mph reasonably captures the average speed of vehicles traveling along the roadway and is the most appropriate speed to use for estimating emissions.

Figure 4 Map of Sources and Receptors



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sources (U.S. 101 and SR 34), receptor grid, sensitive receptors, and location of the maximally exposed individual resident (MEIR).

The American Meteorological Society/U.S. EPA air dispersion model, AERMOD version 19121, was utilized to calculate the concentrations of source emissions at the project site. AERMOD is a steady-state, multiple-source, Gaussian dispersion model designed for use with emission sources situated in terrain where ground elevations can exceed the stack heights of the emission sources. The AERMOD model requires hourly meteorological data consisting of wind vector, wind speed, temperature, stability class, and mixing height. Specific meteorology and terrain for the site were included in the model using the nearest available meteorological data set for VCAPCD's Camarillo Airport station (located approximately 2.1 miles west of the project site) and United States Geological Survey Digital Elevation Model data for Camarillo. SR 34 varies in elevation between approximately 42 and 51 meters (138 and 167 feet) above mean sea level (amsl) and U.S. 101 varies in elevation between approximately 46 and 54 meters (151 and 177 feet) amsl along the length of the approximately 0.5-mile segments modeled. The project site's base elevation is approximately 47 meters amsl. The dispersion model considers these differences in topography. The presence of buildings and other structures disturbs downwind air flow. However, building downwash is only calculated for point sources and not appropriate to include in AERMOD for this HRA. Based on the project site plans, receptors on the project site were modeled for each of the three floors by adjusting the flagpole height to 1.5, 4.6, and 7.7 meters (5, 15, and 25 feet) above the base elevation of the project site. The segments of U.S. 101 and SR 34 within 0.5 mile of the project site were modeled as a series of volume sources in AERMOD. AERMOD provides X/Q (CHI/Q = chi/q = χ/q) values, which are the concentrations estimated by the air quality model based on an emission rate of one gram per second.

Risk Assessment

Version 19121 of CARB's Hot Spots Analysis and Reporting Program (HARP) 2.0 was used to calculate the potential risk values associated with the worst case one-hour and average annual toxic emission concentrations across the project site. HARP 2.0 considers early life exposure adjustment factors when calculating chronic, acute, and carcinogenic health risk. Risk was assessed by including all mandatory minimum pathways in the risk analysis and calculated using the OEHHA Derived Method. Carcinogenic health risks are based on the OEHHA-recommended lifetime residency period of 30 years. A 73 percent fraction of time at home was applied for residents 16 years of age or older, consistent with OEHHA guidance (OEHHA 2015). To provide a conservative estimate of risk, this analysis utilized Tier 2 breathing rates adjusted using the 95th percentile (high end). Toxicity values for the pollutants of concern were acquired from the OEHHA (2015) *Air Toxics Hot Spots Program Risk Assessment Guidelines, Appendix L: OEHHA/ARB Approved Health Values for Use in Hot Spot Facility Risk Assessments* and *Inhalation RELs* as of August 2015 (http://www.oehha.ca.gov/air/Allrels.html).

The calculated risk using air dispersion modeling is based on constant exposure to outdoor air during time spent at the project site, but the U.S. EPA *Exposure Factors Handbook* indicates that the recommended daily activity pattern includes 16.6 hours per day spent inside and 2.3 hours per day spent outside (U.S. EPA 2011). However, as a conservative simplifying assumption, this analysis assumes that residents would have the windows open sufficiently to equalize the concentration of pollutants between the indoor and outdoor environment. A likely mitigating factor is that the diesel particulates would settle out to some unknown extent on window screens and other surfaces as outdoor air enters the indoor air environment, although at least a portion of this settled material would become re-suspended during cleaning and other activities. Therefore, the simplifying

assumption that outdoor air concentrations would be equal to indoor air concentrations results in a calculated risk that is likely to be nearly an order of magnitude higher than actual indoor risk and, subsequently, the model provides a conservative estimate of health risk.

Union Pacific Railroad Tracks

CARB recommends siting new sensitive land uses more than 1,000 feet from rail yards. Rail yards are defined as rail facilities usually located near inter-modal facilities, which attract heavy truck traffic, such as the Roseville Rail Yard which is a 950-acre rail facility (CARB 2005). This guidance does not identify individual rail stations and rail lines, such as the UPRR tracks and Camarillo Metrolink train station, as sources of concern. Therefore, this analysis does not include emissions from rail operations on the UPRR tracks or at the Camarillo Metrolink train station.

Warehouse/Distribution Centers

CARB recommends siting new sensitive land uses more than 1,000 feet from distribution centers, which are defined as facilities that accommodate more than 100 diesel trucks per day, more than 40 diesel trucks with operating transport refrigeration units (TRUs) per day, or where TRU operations exceed 300 hours per week (CARB 2005). An approximately 749,726 square-foot warehouse/distribution center with 25 dock-high positions is located within 1,000 feet of the project site at 3001 and 3175 Mission Oaks Boulevard. This distribution facility is expected to accommodate 30 diesel truck trips per day (NV5 2019); therefore, the volume of truck traffic associated with this facility would not exceed CARB's criterion of 100 diesel trucks per day. Therefore, this analysis does not evaluate emissions from this warehouse/distribution center.

3.2 Significance Thresholds

The U.S. EPA considers those pollutants that could cause cancer risks between one in 10,000 (1.0×10^{-4}) and one in one million (1.0×10^{-6}) for risk management. Proposition 65 (California Health and Safety Code Section 25249.6), enacted in 1986, prohibits a person in the course of doing business from knowingly and intentionally exposing any individual to a chemical that has been listed as known to the state to cause cancer or reproductive toxicity without first giving clear and reasonable warning. For a chemical that is listed as a carcinogen, the "no significant risk" level under Proposition 65 is defined as the level calculated to result in not more than one excess case of cancer in 100,000 individuals (1.0×10^{-5}). The VCAPCD recommends the use of this risk level (also reportable as 10 in one million) as the significance threshold for TACs (VCAPCD 2003).

To provide a perspective on risk, the American Cancer Society (2019) reports that in the United States, men have about a 39 in 100 chance (0.39 probability) and women about a 38 in 100 chance (0.38) of developing cancer during a lifetime. Based on this background cancer risk level in the general population, application of a 1.0×10^{-5} excess risk limit means that the contribution from a toxic hazard should not cause the resultant cancer risk for the exposed population to exceed 0.40001 for men or 0.38001 for women.

The VCAPCD also recommends that the non-carcinogenic hazards of toxic air contaminants should not exceed a hazard index (the summation of the hazard quotients for all chemicals to which an individual would be exposed) of 1.0 for either chronic or acute effects (VCAPCD 2003).

3.3 Results

Health risks for 16 sensitive receptor locations distributed throughout the project site were modeled. Each of these receptors represents a proposed location of residential structures or common outdoor use areas and includes first, second, and third floor elevations for the residential structures. A receptor grid was used to confirm that these sensitive receptor locations reflected the overall pattern of exposure on the project site.

Cancer, acute, and chronic risks were determined for a 30-year residency scenario at all receptor locations. Risk levels for the MEIR are shown in Table 1. Figure 4 in Section 3.1, *Methodology*, shows the location of the MEIR for cancer, chronic, and acute risk. Refer to Appendix A for more detailed accounting of health risks at each receptor per pollutant of concern.

As shown in Table 1, the MEIR would be exposed to a high end (95th percentile), 30-year excess cancer risk of approximately 8.6 in one million, which does not exceed VCAPCD's recommended health risk criteria of ten excess cases of cancer in one million individuals (1.0×10^{-5}) (VCAPCD 2003). In addition, as shown in Table 1, potential chronic and acute hazard indices (such as lung inflammation, immune suppression, and immune sensitization) would be approximately 0.005 and 0.02, respectively, which are also less than VCAPCD's health risk criteria of one (VCAPCD 2003).

Table 1 Potential Health Risks at the MEIR

	Maximally Exposed Individual Resident (MEIR)[1]
Cancer Risk	
Incremental Excess Cancer Risk[2]	8.6 in one million
Threshold	10 in one million
Threshold Exceeded?	No
Chronic Risk	
Chronic Hazard Index[2]	0.005
Threshold	1.0
Threshold Exceeded?	No
Acute Risk	
Acute Hazard Index[3]	0.02
Threshold	1.0
Threshold Exceeded?	No

[1] Based on 30-year resident exposure.

[2] The MEIR for cancer and chronic risk is the first floor of Building C located on the eastern portion of the project site along its SR 34 frontage.

[3] The MEIR for acute risk is the first floor of Building D located along the southern portion of the project site.

See Appendix A for model outputs.

4 Conclusion

Based on VCAPCD health risk guidelines and existing vehicle travel on U.S. 101 and SR 34, the proposed residential use of the site would not expose future on-site residents to significant excess cancer and non-cancer risks associated with vehicle emissions. The calculated risk using air dispersion modeling is based on continuous exposure to outdoor air even though the U.S. EPA *Exposure Factors Handbook* indicates that the recommended on-site daily activity pattern includes 16.6 hours per day spent inside and 2.3 hours per day spent outside (U.S. EPA 2011). Because the remaining daily time is spent off-site, this analysis provides a conservative estimate of health risk at the project site.

The proposed project would be required to include Minimum Efficiency Reporting Value (MERV) 13 filters in the building ventilation systems, pursuant to the 2019 California Energy Code Subchapter 7, Section 150(m). The analysis in this report does not account for the inclusion of MERV 13 filters, which remove approximately 90 percent of diesel PM from the intake air (Singer et al. 2016). Therefore, given the simplifying model assumptions that outdoor air pollutant concentrations would be equal to indoor air concentrations and that MERV 13 filters would not be used, the calculated risk presented in this analysis is likely to be nearly an order of magnitude higher than actual indoor risk. Subsequently, the model provides a conservative estimate of health risk for future residents at the project site.

Furthermore, current regulatory action by CARB is intended to reduce the amount of diesel PM associated with on-road diesel trucks in the future (note that the analysis was based on year 2024 composite emission factors). Vehicle emissions estimated in this HRA are based on 2018 traffic estimates plus project-generated traffic; truck traffic growth that may occur in the future along these segments of U.S. 101 and SR 34 may result in increased emissions on a per mile basis, but such increases in truck traffic would be offset to some degree by changes in both the truck and non-diesel vehicle fleets as newer, less polluting vehicles become the majority portion of the fleet populations. Nonetheless, residents at the site would not be exposed to significant carcinogenic, chronic, or acute health risks associated with vehicle traffic on U.S. 101 and SR 34.

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Appendix A

Health Risk Assessment Modeling Inputs and Results

Emissions Calculations: U.S. 101

AADT	AADT per direction	Caltrans Truck %	Number of daily trucks per direction	Diesel Trucks[1]	Gas Trucks[1]	LD Vehicles	LD Diesel[2]	All Gas
144,074	72,037	4.38%	3,155	1,717	1,438	68,882	711	69,609

Closest marker: SR 34 junction

Sources: Caltrans. 2018 Traffic Volumes on California State Highways; 2018 Annual Average Daily Truck Traffic on the California Highway System; ATE 2020 Traffic Study

[1] "Translation Factors" (% of trucks that are diesel-powered; they translate Caltrans truck data into an estimate of diesel vehicles)

Diesel Proportion:	54.4%
Non-Diesel Proportion:	45.6%

Source: UC Davis-Caltrans Air Quality Project, Project-Level Mobile Source Air Toxics Analysis

[2] Light Duty Diesel proportion based on vehicle miles traveled for LDA, LDT1, and LDT2 for Year 2022, EMFAC2017.

	Truck Diesel Vehicles		Light Duty Diesel Vehicles		All Gas Vehicles
Speed (miles/hour)	**hot stabilized exhaust PM10** (grams/mile)	**hot stabilized exhaust TOG** (grams/mile)	**hot stabilized exhaust PM** (grams/mile)	**hot stabilized exhaust TOG** (grams/mile)	**hot stabilized exhaust TOG** (grams/mile)
Various speeds for trucks, light duty and gas	0.0230	0.0452	0.0054	0.0098	0.0267

Source: EMFAC2017 Emissions Database

Mobile Source Air Toxics (MSAT) Speciation Factors Based on Proportion In TOG

Analysis Year	Diesel					Non-Diesel				
	Hot Stabilized Exhaust					Hot Stabilized Exhaust				
	benzene (45201)	1,3-butadiene (43218)	Acetaldehyde (43503)	Acrolein* (43505)	Formaldehyde (43502)	benzene	1,3-butadiene	Acetaldehyde	Acrolein	Formaldehyde
2024	0.0200	0.0019	0.0735	0.0061	0.1471	0.0209	0.0046	0.0024	0.0011	0.0134
Total Daily Emissions (g/mi)	1.69	0.16	6.22	0.52	12.45	38.85	8.55	4.46	2.04	24.91

Source: UC Davis-Caltrans Air Quality Project, Project-Level Mobile Source Air Toxics Analysis

Diesel: OG profile name = Farm equipment - diesel - light&heavy

Non-Diesel: OG profile name = Cat Stablized exhaust 2020 SSD etoh 2% O (MTBE phaseout)

* Acrolein for diesel was unavailable, so this analysis used U.S. Environmental Protection Agency Motor Vehicle Emission Simulator (MOVES2014).

Derivation of Emission Rates for US 101 Sources

Roadway width, one way	59.1	feet	18	m	3 mainline lanes in each direction	
Each direction segment at	590.6	feet long	180	m long		

	Emissions					
	Diesel PM	Benzene	1,3-Butadiene	Acetaldehyde	Acrolein	Formaldehyde
grams/mi/day **	43.3834	40.5472	8.7123	10.6846	2.5602	37.3637
lbs/hour/segment	0.00045	0.000417	0.000090	0.000110	0.000026	0.000384
lbs/day/segment	0.0107	0.0100	0.0021	0.0026	0.0006	0.0092
lbs/year/segment ***	3.9046	3.6493	0.7841	0.9616	0.2304	3.3628

** Total emissions per mile calculated using the above speciation factors.

*** Based on 365 day/year

HARP ID:	**9901**	**71432**	**106990**	**75070**	**107028**	**50000**

Emissions Calculations: SR 34

AADT	AADT per direction	Caltrans Truck %	Number of daily trucks per direction	Diesel Trucks[1]	Gas Trucks[1]	LD Vehicles	LD Diesel[2]	All Gas
18,245	9,123	4.38%	400	218	182	8,723	90	8,814

Closest marker: U.S. 101 junction

Sources: Caltrans 2018 Traffic Volumes on California State Highways; Caltrans 2018 Annual Average Daily Truck Traffic on the California Highway System; ATE 2020 Traffic Study

[1] "Translation Factors" (% of trucks that are diesel-powered; they translate Caltrans truck data into an estimate of diesel vehicles)

Diesel Proportion:	54.4%
Non-Diesel Proportion:	45.6%

Source: UC Davis-Caltrans Air Quality Project, Project-Level Mobile Source Air Toxics Analysis

[2] Light Duty Diesel proportion based on vehicle miles traveled for LDA, LDT1, and LDT2 for Year 2022, EMFAC2017.

	Truck Diesel Vehicles		Light Duty Diesel Vehicles		All Gas Vehicles
Speed (miles/hour)	**hot stabilized exhaust PM10** (grams/mile)	**hot stabilized exhaust TOG** (grams/mile)	**hot stabilized exhaust PM** (grams/mile)	**hot stabilized exhaust TOG** (grams/mile)	**hot stabilized exhaust TOG** (grams/mile)
Various speeds b/t 30-40mph	0.0125	0.0562	0.0077	0.0227	0.0412

Source: EMFAC2017 Emissions Database

Mobile Source Air Toxics (MSAT) Speciation Factors Based on Proportion In TOG

Analysis Year	Diesel					Non-Diesel				
	Hot Stabilized Exhaust					Hot Stabilized Exhaust				
	benzene (45201)	1,3-butadiene (43218)	Acetaldehyde (43503)	Acrolein* (43505)	Formaldehyde (43502)	benzene	1,3-butadiene	Acetaldehyde	Acrolein	Formaldehyde
2024	0.0200	0.0019	0.0735	0.0061	0.1471	0.0209	0.0046	0.0024	0.0011	0.0134
Total Daily Emissions (g/mi)	0.29	0.03	1.05	0.09	2.10	7.59	1.67	0.87	0.40	4.87

Source: UC Davis-Caltrans Air Quality Project, Project-Level Mobile Source Air Toxics Analysis

Diesel: OG profile name = Farm equipment - diesel - light&heavy

Non-Diesel: OG profile name = Cat Stablized exhaust 2020 SSD etoh 2% O (MTBE phaseout)

* Acrolein for diesel was unavailable, so this analysis used U.S. Environmental Protection Agency Motor Vehicle Emission Simulator (MOVES2014).

Derivation of Emission Rates for SR 34 Sources

Each direction segment at 229.7 feet long 70 m long

	Emissions					
	Diesel PM	Benzene	1,3-Butadiene	Acetaldehyde	Acrolein	Formaldehyde
grams/mi/day **	3.4161	7.8757	1.6976	1.9230	0.4865	6.9702
lbs/hour/segment	0.00001	0.000031	0.000007	0.000008	0.000002	0.000028
lbs/day/segment	0.0003	0.0008	0.0002	0.0002	0.0000	0.0007
lbs/year/segment ***	0.1196	0.2757	0.0594	0.0673	0.0170	0.2440

** Total emissions per mile calculated using the above speciation factors.

*** Based on 365 day/year

HARP ID:	9901	71432	106990	75070	107028	50000

AERMOD Summary Results for Health Risk Analysis

							Formaldehyde	DieselExhPM	Benzene	Acrolein	Acetaldehyde	1,3-Butadiene
Floor	Flag Pole Elevation (height from floor)	Receptor #	Receptor ID	Group	X (m)	Y (m)	Concentration	DPM Concentration	Concentration	Concentration	Concentration	Concentration
1	1.5	A	376	SENSITIV	566561	4215187	0.007715529	0.005423683	0.008608483	0.000534724	0.002152889	0.001853149
1	1.5	B	379	SENSITIV	566600	4215233	0.008361401	0.005643144	0.009344739	0.000579891	0.002329566	0.002011869
1	1.5	C	382	SENSITIV	566649	4215268	0.01120251	0.007020159	0.012556	0.000777864	0.003112965	0.002703755
1	1.5	D	385	SENSITIV	566694	4215299	0.00876257	0.005980969	0.009788615	0.000607598	0.002442349	0.002107368
1	1.5	E	388	SENSITIV	566726	4215274	0.006864727	0.004626136	0.007645638	0.000475408	0.001918563	0.00164568
1	1.5	F	391	SENSITIV	566710	4215223	0.009219418	0.006136956	0.01030935	0.000639545	0.002567331	0.002219625
2	4.6	A	377	SENSITIV	566561	4215187	0.006623393	0.004743777	0.007384096	0.000458882	0.001849473	0.00158949
2	4.6	B	380	SENSITIV	566600	4215233	0.007139698	0.004903235	0.007973717	0.000495016	0.001990466	0.001716614
2	4.6	C	383	SENSITIV	566649	4215268	0.009396516	0.005988911	0.0105251	0.000652288	0.002612631	0.002266334
2	4.6	D	386	SENSITIV	566694	4215299	0.007422649	0.005173113	0.008284686	0.000514503	0.002070491	0.001783488
2	4.6	E	389	SENSITIV	566710	4215223	0.00596963	0.004453121	0.006643411	0.000413282	0.001669601	0.00142988
3	7.7	A	378	SENSITIV	566561	4215187	0.004451649	0.003552681	0.00493864	0.000307791	0.001248552	0.001062733
3	7.7	B	381	SENSITIV	566600	4215233	0.004543324	0.003513411	0.005047839	0.000314323	0.001272565	0.00108634
3	7.7	C	384	SENSITIV	566649	4215268	0.005070668	0.003754079	0.005644881	0.000351095	0.001417748	0.001214991
3	7.7	D	387	SENSITIV	566694	4215299	0.004708278	0.003486767	0.005226338	0.000325612	0.00131985	0.001124686
3	7.7	E	390	SENSITIV	566710	4215223	0.004254269	0.003147312	0.00471356	0.000293986	0.001194576	0.00101421

Note: Sensitive Receptor F only has one floor.

HARP 2.0 Health Risk Summary By Most Exposed Individual Receptor

Cancer

Flagpole Elevation (Height from Floor, m)	REC	GRP	NETID	X	Y	RISK_SUM	SCENARIO	INH_RISK	1ST_DRIVER
1.5	382	SENSITIV		312802.9	3788325	8.55E-06	30YrCancerDerived_InhSoilDermMMilk_FAH16to70	8.55E-06	INHALATION

Chronic

Flagpole Elevation (Height from Floor, m)	REC	GRP	NETID	X	Y	MAXHI	SCENARIO	REPRO/DEVEL	RESP	BLOOD
1.5	382	SENSITIV		312802.9	3788325	4.89E-03	NonCancerChronicDerived_InhSoilDermMMilk	1.35E-03	4.89E-03	4.19E-03

Acute

Flagpole Elevation (Height from Floor, m)	REC	GRP	NETID	X	Y	MAXHI	SCENARIO	IMMUN	REPRO/DEVEL	RESP	EYE	BLOOD
1.5	385	SENSITIV		312747	3788298	2.15E-02	NonCancerAcute	1.88E-02	1.89E-02	1.32E-02	2.15E-02	1.88E-02

Appendix D

Historic Resources Evaluation

Rincon Consultants, Inc.
180 North Ashwood Avenue
Ventura, California 93003

805 644 4455 OFFICE AND FAX

info@rinconconsultants.com
www.rinconconsultants.com

November 5, 2018
Project No: 18-06616

City of Camarillo
Department of Community Development
601 Carmen Drive
Camarillo, California 93010
Attention: Joseph R. Vacca

Subject: **Historic Resources Evaluation, 2800 Barry Street, Camarillo, Ventura County, California**

Dear Mr. Vacca:

This memorandum presents our findings of a Historic Resources Evaluation for the property at 2800 Barry Street, located in Camarillo, California. This analysis has been prepared for the City of Camarillo by Rincon Consultants, Inc. (Rincon) as part of the environmental analysis of the project being conducted in conformance with the California Environmental Quality Act (CEQA). The purpose of this study is to evaluate the project's potential to result in impacts to historical resources. This technical memorandum documents the results of the tasks performed by Rincon, specifically a cultural resources records search, archival background research, and an intensive-level field survey of the project site. All work was completed in accordance with CEQA and applicable local regulations.

Project Description

In order to address the attractive nuisance, the City of Camarillo plans to demolish the existing buildings and structures on the site, which formerly housed Stock Building Supply.

Cultural Setting

Background Research

To identify previous cultural resources work and previously recorded cultural resources within a 0.25-mile radius of the project site, Rincon conducted background research that included a search of the California Historical Resources Information System (CHRIS) at the South Central Coast Information Center (SCCIC) at the California State University, Fullerton on October 31, 2018. Rincon reviewed the listings of the National Register of Historic Places (NRHP), California Register of Historical Resources (CRHR), California Points of Historical Interest, California Historical Landmarks, and the California State Historic Resources Inventory list.

The SCCIC records search identified 14 previous studies within a 0.25-mile radius of the project site. Of these studies, none were located within the project site, two were adjacent to the project site, and 12 were located outside of the project site. The two adjacent studies are described below.

Study VN-1557 was conducted in 1994 and consisted of a Historic Property Survey Report for the construction of a full interchange at Lewis Road (SR-30) and U.S. Route 101. The study did not identify any prehistoric or historical archaeological sites within the project area. It identified two built environment resources and a grove of trees that were determined eligible for the NRHP with concurrence from the State Historic Preservation Officer: the St. Mary Magdalen Church, the Evangelical Free Church, and the Adolfo Camarillo Heritage Grove. The remaining 21 pre-1945 buildings in the project area were ineligible for the NRHP, and none of the 34 post-1945 buildings in the project area were found to have overriding significance to qualify for the NRHP.

Study VN-2155 was conducted in 2000 and consisted of a Negative Historic Property Survey Report for the U.S. Route 101-SR-34 Interchange Project in Camarillo, California. The study amended the previously discussed 1994 study (VN-1557) and considered an additional 31 properties for historical significance. Eight were formally evaluated; none were found eligible for the NRHP or CRHR.

The records search completed for the current study also identified 22 previously recorded built environment resources within a 0.25-mile radius of the project site, none of which are located within or adjacent to the project site. A summary of the results of the CHRIS records search is included in Attachment A.

In addition to the CHRIS records search, Rincon also reviewed the list of Ventura County Historical Landmarks and Points of Interest. No resources were identified within or adjacent to the project site.

Methods

Rincon Architectural Historian Susan Zamudio-Gurrola, MHP conducted an intensive-level built environment survey of the project site on October 18, 2018. The purpose of the survey was to identify and photograph any built environment resources on the project site to evaluate them for historic significance. The survey consisted of a visual inspection of all built environment features within the subject property, including buildings, structures, and associated features, to assess their overall condition and integrity, and to identify and document any potential character-defining features. Ms. Zamudio-Gurrola documented the field survey using field notes and digital photographs.

Archival research was subsequently completed in October 2018. Research methodology focused on the review of a variety of primary and secondary source materials relating to the history and development of the project site. Sources included, but were not limited to, historical maps, aerial photographs, newspapers and written histories of the area. The following repositories, publications, and individuals were contacted to identify known historical land uses and the locations of research materials pertinent to the project site:

- Museum of Ventura County research library
- Ventura County Genealogical Society
- Historic maps on file at the Ventura County Clerk's office
- Historic aerial photographs from the University of California Santa Barbara (UCSB) Map and Imagery Lab
- Historic United States Geological Survey (USGS) topographic maps
- *Oxnard Press-Courier*
- Aerial photographs archived by Google Earth and NETROnline

- Phase I Environmental Site Assessment Report by Certified Environmental Consultants (2017)

Historical Context

The following section provides a brief history of the development of Camarillo, and a brief history of the Peoples Lumber Company, which historically occupied the project site.

Camarillo

The land on which the city of Camarillo was developed was part of a large land grant called Rancho Calleguas, a 10,000 acre property granted to Jose Pedro Ruiz by the Mexican government in 1837. Juan Camarillo, Sr. purchased the rancho from Ruiz's descendants and others in 1875. After Juan's death, the rancho passed to his widow and sons, with the eldest, Adolfo Camarillo, taking over ranch operations. Adolfo Camarillo was a generous citizen, donating land for a high school, park, and rights-of-way for the railroad and widening of the highway. Rancho Calleguas and other area ranchos that had once been dependent on raising livestock such as cattle and sheep eventually gave way in the 1870s to other agricultural development, such as the planting of vegetables, nuts, and orchards (Impact Sciences 2017; Camarillo Ranch Foundation 2018; San Buenaventura Research Associates 2014).

Camarillo was named as such in approximately 1898 after the prominent family who owned Rancho Calleguas. Following the arrival of the Southern Pacific Railroad in 1900, the town developed slowly serving the many farmers in the surrounding area. William T. Fulton laid out the town site in 1910 which included the railroad depot, a church site, and residential parcels, Camarillo remained a relatively small, rural community serving local farmers until circa the 1950s. However, development increased after the completion of U.S. Route 101 through the community in 1954 (Romani 1994). Dramatic population growth and an improved means of transportation resulted in many local farmers selling their land for residential development (Triem 1985). By 1964, when it formally incorporated, the city had grown to approximately 10,000 residents. Today, the city encompasses nearly twenty square miles and boats of a population of over 66,000 residents (City of Camarillo, n.d.).

Peoples Lumber Company

The following history of the Peoples Lumber Company (PLC) is largely derived from Margaret Jennings' article on the same subject, included in a 1985 issue of the *Ventura County Historical Society Quarterly*.

The city of Ventura experienced an economic and population boom during the late 1800s and early 1900s. Commercial, retail and residential construction occurred at a rapid pace, and lumber sales were a major dealing. A group of approximately one hundred local famers and businessmen met in early 1890 to discuss forming the PLC, due to dissatisfaction with the high price of lumber and resentment that they were selling at wholesale prices but buying needed lumber at retail prices. The PLC incorporated later that year with 136 original members. It had strong competition from the Ventura County Lumber Company, but by 1902 that company sold out to the PLC, and some of their lumber yards were combined. In 1916 PLC also acquired properties operated by the Ventura Mill and Lumber Company. PLC appeared to have the monopoly on the lumber business in Ventura County during these early years.

Soon after its organization the company began adding retail lumber yards in surrounding Ventura County communities. By 1920 PLC had established additional branches in Hueneme, Oxnard, Santa Paula, Fillmore, Ojai, Moorpark and Santa Susanna (Ventura County Genealogical Society, n.d.). PLC also

moved its brick and tile manufacturing plant from the Front Street yard to a location on Ventura Avenue, and established planing mills in Ventura, Oxnard and Santa Paula.

During the late 1920s to early 1930s PLC financed the building of a number of single-family residences, primarily in Ventura, in an effort to increase its lumber sales. Subsequently, PLC was put in the position of repossessing homes and properties when buyers struggled to make payments due to the Great Depression. PLC divested itself of these properties and by the end of 1945 the corporation only owned its yards and plants, three vacant lots, and houses rented to PLC employees.

In 1949 a wholesale building materials branch was added in Ventura, and in 1952, the company added an additional retail yard in Camarillo. This appears to have been the last of their retail lumber yards to be established, and coincided with the development of the modern freeway through the area and resulting expansion of Camarillo over the next decade.

By the early 1950s PLC had considerable competition, brought into the area by improved transportation methods and the introduction of large tract housing development in the county. At this time, PLC's facilities were outdated and the corporation struggled to stay abreast with modern merchandising techniques. Despite population and construction increases during the 1950s, the corporation's sales decreased. By 1960 the company was posting financial losses. In late 1959 the board of directors and shareholders discussed selling the lumber business and broadening the scope of their business to include ownership and management of properties. The company's articles of incorporation were officially revised in 1960 allowing this change in business practices.

Sun Lumber bought PLC in 1961, with Sun Lumber acquiring the lumber and building material inventories, equipment, furniture, fixtures, the name "Peoples Lumber Company", and authority to lease the retail yards in Ventura, Oxnard, Santa Paula and Camarillo and the wholesale yard in Ventura. PLC's remaining assets - land and buildings - were kept by the Anacapa Corporation, which was the successor company formed when PLC changed its name in 1961. This new corporation was created specifically to manage real estate investments. Between 1961 and 1969 the Anacapa Corporation slowly increased the number of properties it owned from 16 to 24. It also dissolved the corporation and created a trust in its place, which was more favorable for tax purposes. In 1969 the Anacapa Trust had over $2 million in total assets. In addition, the trust also adopted a new name that same year: Real Estate Investment Trust of California (REIT-CAL). By 1970 stock was publicly traded on NASDAQ.

Over the years, many prominent residents of Ventura County served on PLC's board of directors, including Adolfo Camarillo. A former office of the PLC is extant and located at 216 North 8th Street in Santa Paula. It is a one-story brick building (built circa 1924) with concrete trim in the form of window casings, a pediment over the primary double-door entrance, and an entablature with a decorative leaf design and the words "Peoples Lumber Company" incised on it. The building is a City of Santa Paula Historic Landmark (Santa Paula Conservancy 2018).

Findings

One built environment resource was identified within the project site, a 2.52-acre property which was originally developed by the PLC as a retail lumber yard in 1952 (subject property). It was recorded and evaluated on California Department of Parks and Recreation (DPR) 523 series forms, which are attached to this memorandum (Attachment B).

Property History

The subject property appears to have been undeveloped through the 1940s and remained on the outskirts of town at that time. Located slightly west of Somis Road (today's Lewis Road) and near the Southern Pacific Railroad tracks, the property was surrounded to the north and east by large expanses of agricultural land (USGS 1951; UCSB Map and Imagery Lab, various). In the early 1950s the County of Ventura re-zoned land in the immediate area which allowed the subject property to be developed. The PLC had the property surveyed and subdivided into the Peoples Tract No. 1 in February 1952. Included in the subdivision was a strip of residential parcels west of Somis Road and north of the newly created Barry Street, a cul-de-sac (called Peoples Avenue) flanked by residential parcels, and the large parcel on which the subject property is located (City of Camarillo, various; Ventura County Clerk 1952a and 1952b).

Representatives of the PLC applied for zoning clearance and building permits between March and May of 1952 to develop the property, including permits to construct various storage buildings, a mill and plumbing storage building, and move and alter an office and storage building (City of Camarillo, various). Over the decades, some buildings have been altered, some have been removed or demolished, others have been relocated within the property, and a new building was erected as recently as 2005.

Other businesses operating at the location subsequent to PLC were also lumber yards and included L&P Lumber (or Louisiana Pacific Corporation), Terry Lumber (or Terry Industries Corporation), and Stock Building Supply (Certified Environmental Consultants, Inc. 2017; City of Camarillo, various). In 2015 Stock Building Supply merged with Building Materials Holding Corporation to form BMC Stock Holdings, Inc. (BMC Stock Holdings, Inc. 2015). The City of Camarillo purchased the property in 2018 (City of Camarillo 2018).

Evaluation

As discussed further in the attached DPR forms, the subject property does not appear eligible for listing in the NRHP, the CRHR, or local designation under any criteria. While the property was a former retail yard of the PLC, a successful local lumber business that operated for many decades in various cities throughout Ventura County and supported the growth of those communities, the subject property was one of many facilities that the company owned and operated, which included offices, lumber yards, planing mills, and a brick and tile manufacturing plant. In addition, the subject property appears to have been the last yard developed by PLC, significantly later than its other facilities some of which were established as early as 1890. Another property that was once owned and operated by PLC is extant in Santa Paula and is a designated historic resource, and the subject property is not the best or last remaining example of a property associated with PLC. Although the subject property was associated with the development of Camarillo during its mid-twentieth century expansion, there were other competitors in the market by that time which reduced PLC's role and significance in the industry. The property is not the location of any events significant to national, state, or local history. Over the decades, PLC had numerous members serving on its board of directors, and while some of these individuals were prominent in their communities, none had a direct association with the subject property during its use as a PLC retail lumber yard. Therefore, the property is not eligible under NRHP and CRHR Criteria A/1 or B/2, or City of Camarillo Criteria B.1 or B.2.

The extant buildings on the property are mostly vernacular in their construction and include many shed-type structures. Because of this, and visible alterations, none of the buildings embody any distinctive characteristics of a type, style, period or method of construction. The property has undergone numerous

changes including the demolition (or partial demolition) of several buildings, various alterations to the original main showroom/sales building, relocation of buildings throughout the site, and the recent addition of a new building to the site. As a result, the property's integrity of location, design, and workmanship is diminished. For these reasons, the property is not eligible under NRHP and CRHR Criteria C/3 or City of Camarillo Criteria B.3.

Project Impacts Assessment

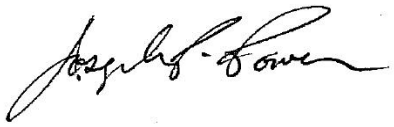
The City of Camarillo plans to demolish the existing structures on the property to address the attractive nuisance. The subject property is recommended ineligible for federal, state, and local designation, thus, is not considered a historical resource as defined by CEQA. Therefore, the project would not result in an impact to historical resources.

Should you have any questions concerning this study, please do not hesitate to contact any of the undersigned.

Sincerely,
Rincon Consultants, Inc.



Susan Zamudio-Gurrola, MHP
Architectural Historian



Joseph Power, AICP CEP
Vice President and Principal

Attachment A – CHRIS Records Search Results
Attachment B –California DPR 523 Series Forms

References

BMC Stock Holdings, Inc.
2015 Letter from Peter Alexander, President and Chief Executive Officer, to stock holders. http://s22.q4cdn.com/428639663/files/doc_financials/annual/2015_BMC_Stock_Letter_to_Shareholders.pdf. Accessed October 29, 2018.

Certified Environmental Consultants, Inc.
2017 Phase I Environmental Site Assessment Report for Commercial Property Located at 2800 Barry Street in the City of Camarillo, Ventura County, California, February 22.

City of Camarillo
2018 Agenda Report regarding Stock Lumber Property (2800 Barry Street) – Property Purchase, June 27, 2018. https://www.cityofcamarillo.org/City%20Clerk/Meetings%20&%20Agendas/City%20Council/2018/00%20Meeting%20Packets/0%20CC%20Agenda%20Packet%2006-27-2018.pdf. Accessed October 29, 2018.

City of Camarillo
No date"Camarillo" brochure. https://www.ci.camarillo.ca.us/Visitors/Discover%20Camarillo.pdf

City of Camarillo
Various Building records on file for 2800 Barry Street.

Google Earth
Various Aerial photographs of project site and surrounding area.

Jennings, Margaret
1985 "Peoples Lumber Company". In the *Ventura County Historical Society Quarterly*, Volume 30, Issue 2, Winter 1985. Available at the Museum of Ventura County Research Library.

San Buenaventura Research Associates
2014 Historic Context Statement and Reconnaissance Survey for the Eastern Oxnard Plain of Ventura County, CA. Prepared for the County of Ventura Planning Division.

Santa Paula Conservancy
2018 "Santa Paula Landmarks". https://santapaulaconservancy.org/spl/

UCSB Map and Imagery Lab. Aerials database. http://mil.library.ucsb.edu/ap_indexes/FrameFinder/
1945 Flight C-9800, Frame 3-313
1952 Flight AXI-1952, Frame 1K-36
1963 Flight HA-RR, Frame 139
1963 Flight HA-SH, Frame 72
1977 Flight USDA-40-06111, Frame 178-95
1994 Flight NAPP-2C, Frame 6921-222
2002 Flight NAPP-3c, Frame 12467-166

United States Geological Survey (USGS)
1951 Camarillo Quadrangle (7.5 minute series topographic map).

Ventura County Clerk's Office
1952a Map 19-MR-87
1952b Map 19-MR-88

Ventura County Genealogical Society
No date "1920 Business Directory: Index to the Merchants, Tradesmen and Manufacturer's Business and Credit Directory for Communities in Ventura County, California. Accessible at https://venturacogensoc.org/cpage.php?pt=52

Attachment A

Cultural Resources Records Search Results

CHRIS Information Center Records Search Data Sheet

Project Name: 2800 Barry Street Project

Project Number: 18-06616 Date: 10/31/18

Information Center: SCCIC

Search Radius: Half Mile: _____ One Mile: _____ Other: 1/4 mile

USGS Quadrangle: Camarillo

Public Land Survey System (PLSS): Township: 2N Range: 21W Section: 25, 36

County: Ventura

Previously Recorded Sites: 22

Previous Studies: 14

National Register of Historic Places:	Copies:	Y	~~N~~
California Register of Historical Resources:	Copies:	Y	N
California Points of Historical Interest:	Copies:	Y	N
California Historical Landmarks List:	Copies:	Y	N
Archaeological Determinations of Eligibility:	Copies:	Y	N
California Historical Resources Inventory:	Copies:	Y	N

Historic Maps: online

Notes:

rincon

Record Search Report Proximity Sheet

Project Name: 2600 Barry Street Project

	Report Number	Within Project Site	Adjacent to Project Site	Outside of Project Site
1.	VN 575			✓
2.	1102			✓
3.	1040			✓
4.	2504			✓
5.	120			✓
6.	1153			✓
7.	1205			✓
8.	3094			✓
9.	572			✓
10.	2155	~~✓~~	✓	
11.	1557	~~✓~~	✓	
12.	2992			✓
13.	1520			✓
14.	1539			✓

Report List

#18-06616 2800 Barry St

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
VN-00120		1978	Rosen, Martin D.	Archaeological Impact Assessment of Proposed Additions to the Calleguas Municipal Water District, Ventura County, California	University of California, Los Angeles Archaeological Survey	
VN-00572		1988	Dames and Moore	Phase 1 Cultural Resources Survey Fiber Optic Cable Project, Burbank to Santa Barbara, California for Us Sprint Communications Company	Dames & Moore	56-000027, 56-000196, 56-000202, 56-000240, 56-000241, 56-000341, 56-000342, 56-000550, 56-000643, 56-000644, 56-000655, 56-000729, 56-000789, 56-000895, 56-000896, 56-000916, 56-000917, 56-000918
VN-00575		1988	Lopez, Robert	An Archaeological Reconnaissance of the Areas Involved in the Proposed Swepi Well Locations and Pipeline Routes Oxnard Plain, Ventura County, California	Robert Lopez, Archaeological Consultant	56-000631, 56-000665, 56-000666
VN-01040		1982	Stelle, Kenneth and Albert Gallardo	For Improvement of the Operational Characteristics of Route 101, the Ventura Freeway in Los Angeles and Ventura Counties, Between Route 405 in Los Angeles, and the Santa Clara River in Oxnard	Caltrans and Federal Highway Administration	56-000654
VN-01102		1977	Singer, Clay A.	Preliminary Cultural Resource Survey and Potential Impact Assessment for Thirteen Areas in Southern Ventura County, California	ARI	56-000003, 56-000004, 56-000005, 56-000013, 56-000014, 56-000031, 56-000032, 56-000033, 56-000075, 56-000076, 56-000077, 56-000087, 56-000135, 56-000136, 56-000137, 56-000138, 56-000140, 56-000142, 56-000148, 56-000149, 56-000150, 56-000158, 56-000163, 56-000164, 56-000165, 56-000458, 56-000478, 56-000479, 56-000481, 56-000490
VN-01153		1991	Peak and Associates, Inc.	Class 3 Cultural Resource Assessment of the Proposed Carpinteria and Southern Reroutes, Santa Barbara, Ventura, and Los Angeles Counties, California	Peak & Associates	56-001089
VN-01265		1992	Reed, L.W.	Consolidated Report: Cultural Resources Studies for the Proposed Pacific Pipeline Project	Peak and Associates	19-000007, 19-000021, 19-000034, 19-000089, 19-000251, 19-000357, 19-000385, 19-000389, 19-000390, 19-000407, 19-000409, 19-000668, 19-000781, 19-000830, 19-000887, 19-000901, 19-000963, 19-001097, 19-001112, 19-001124, 19-001575, 19-001620

Report List

#18-06616 2800 Barry St

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
VN-01520		1982	Romani, John F.	Archaeological Survey Report for the 07-la/ven 101 Project P.m. 17.1-38.2/0.0-22.7 07351 - 076620	California Department of Transportation	19-000041, 19-000042, 19-000044, 19-000111, 19-000133, 19-000238, 19-000315, 19-000320, 19-000321, 19-000345, 19-000420, 19-000461, 19-000462, 19-000463, 19-000464, 19-000466, 19-000642, 19-000669, 19-000776, 19-000862, 19-000890, 19-000964, 19-000970, 19-000972, 19-001027, 19-001064, 19-001099, 56-000271, 56-000565, 56-000620, 56-000654, 56-000761
VN-01539		1978	Huey, Gene	Phase 1 Archaeological Survey Ven 101 P.m. 4.1/23.0 Freeway Widening and Pavement Reconstruction	Caltrans	56-000015, 56-000069, 56-000186, 56-000223, 56-000224, 56-000251, 56-000490
VN-01557		1994	Romani, John F.	Historic Property Survey Report for the Proposed Construction of a Full Interchange at Lewis Road (sr-30) and the 101 Freeway	Greenwood and Associates	56-150038, 56-150039, 56-150040, 56-150041, 56-150042, 56-150043, 56-150044, 56-150045, 56-150046, 56-150047, 56-150048, 56-150049, 56-150050, 56-150051, 56-150052, 56-150053, 56-150054, 56-150055, 56-150057, 56-150058, 56-150059, 56-150060, 56-150061
VN-02155		2000	Harbert, Claudia	Negative Historic Property Survey Report for US 101 - Sr 34 Interchange Project in the City of Camarillo, Ventura County, California	Caltrans District 7	
VN-02504		2006	Arrington, Cindy and Nancy Sikes	Cultural Resources Final Report of Monitoring and Findings for the Qwest Network Construction Project State of California: Volumes I and Ii	SWCA Environmental Consultants, Inc.	
VN-02992		2008	Maki, Mary	Phase I Cultural Resources Investigation of Approximately 6.3 Linear Miles and 9.5 Acres for the Calleguas Municipal Water District's Regional Salinity Management Pipeline - Phase 2 Revision, Ventura County, California		
VN-03094		2002	Foster, John A.	Historic Resource Evaluation Report- Mason Avenue At-Grade Crossing and Safety Improvements Project, Los Angeles City, California	Greenwood and Associates	

Record Search Resources Proximity Sheet

Project Name: 2800 Barry Street Project

	Resource Number	Within Project Site	Adjacent to Project Site	Outside of Project Site
1.	P-56-152829			✓
2.	152830			✓
3.	152831			✓
4.	152828			✓
5.	150060			✓
6.	150059			✓
7.	150058			✓
8.	150040			✓
9.	150042			✓
10.	152825			✓
11.	150041			✓
12.	152826			✓
13.	150038			✓
14.	152832			✓
15.	150057			✓
16.	150056			✓

Record Search Resources Proximity Sheet

Project Name: 2800 Barry Street Project

	Resource Number	Within Project Site	Adjacent to Project Site	Outside of Project Site
17.	P-56-150055			✓
18.	150054			✓
19.	150053			✓
20.	150052			✓
21.	150051			✓
22.	150050			✓

Resource List

#18-06616 2800 Barry St

Primary No.	Trinomial	Other IDs	Type	Age	Attribute codes	Recorded by	Reports
P-56-150038		Resource Name - Structure 5 - Camarillo Moose Lodge #2047	Building	Historic	HP13 (Community center/social hall)	1994 (D. Slawson, Greenwood & Associates)	VN-01557
P-56-150040		Resource Name - Structure 2 - Buckhorn Saloon, A-1 Anthony's Upholstery, Paradise Clothing Company	Building	Historic	HP06 (1-3 story commercial building)	1994 (D. Slawson, Greenwood & Associates)	VN-01557
P-56-150041		Resource Name - Structure 4 - The Male Roon	Building	Historic	HP06 (1-3 story commercial building)	1994 (D. Slawson, Greenwood & Associates)	VN-01557
P-56-150042		Resource Name - Structure 3 - Camarillo Taxi Stand	Building	Historic	HP06 (1-3 story commercial building)	1994 (D. Slawson, Greenwood & Associates)	VN-01557
P-56-150050		Resource Name - Structure 13	Building, Other	Historic	HP02 (Single family property)	1994 (D. Slawson, Greenwood & Associates)	VN-01557
P-56-150051		Resource Name - Structure 14	Building	Historic	HP02 (Single family property)	1994 (D. Slawson, Greenwood & Associates)	VN-01557
P-56-150052		Resource Name - Structure 15	Building	Historic	HP02 (Single family property)	1994 (D. Slawson, Greenwood and Associates)	VN-01557
P-56-150053		Resource Name - Structure 16	Building	Historic	HP02 (Single family property)	1994 (D. Slawson, Greenwood & Associates)	VN-01557
P-56-150054		Resource Name - Structure 17	Building	Historic	HP02 (Single family property)	1994 (D. Slawson, Greenwood & Associates)	VN-01557
P-56-150055		Resource Name - Structure 18	Building	Historic	HP02 (Single family property)	1994 (D. Slawson, Greenwood & Associates)	VN-01557
P-56-150056		Resource Name - Structure 19	Building	Historic	HP02 (Single family property)	1994 (D. Slawson, Greenwood & Associates)	
P-56-150057		Resource Name - Structure 20	Building	Historic	HP02 (Single family property)	1994 (D. Slawson, Greenwood & Associates)	VN-01557
P-56-150058		Resource Name - Structure 21	Building	Historic	HP02 (Single family property)	1993 (D. Slawson, Greenwood & Associates)	VN-01557
P-56-150059		Resource Name - Structure 22	Building	Historic	HP02 (Single family property)	1993 (D. Slawson, Greenwood & Associates)	VN-01557
P-56-150060		Resource Name - Structure 23	Building	Historic	HP02 (Single family property)	1993 (D. Slawson, Greenwood & Associates)	VN-01557
P-56-152825		Resource Name - Gabe's Blvd Barber Shop; OHP Property Number - 126741	Building	Historic	HP06 (1-3 story commercial building)	2000 (C. Harbert, Caltrans)	

Resource List

#18-06616 2800 Barry St

Primary No.	Trinomial	Other IDs	Type	Age	Attribute codes	Recorded by	Reports
P-56-152826		Resource Name - Camarillo Liquor; OHP Property Number - 126742	Building	Historic	HP06 (1-3 story commercial building)	2000 (C. Harbert, Caltrans)	
P-56-152828		Resource Name - 2677 E Daily Dr or 166 Nellora St; OHP Property Number - 126744	Building	Historic	HP02 (Single family property)	2000 (C. Harbert, Caltrans)	
P-56-152829		Resource Name - Ed's Haircutting; OHP Property Number - 126745	Building	Historic	HP06 (1-3 story commercial building)	2000 (C. Harbert, Caltrans)	
P-56-152830		Resource Name - Spiritual Psychic Reader; OHP Property Number - 126746	Building	Historic	HP06 (1-3 story commercial building)	2000 (C. Harbert, Caltrans)	
P-56-152831		Resource Name - 191 Nellora Street; OHP Property Number - 126747	Building	Historic	HP02 (Single family property)	2000 (C. Harbert, Caltrans)	
P-56-152832		Resource Name - 177 Fulton Street; OHP Property Number - 126748	Building	Historic	HP02 (Single family property)	2000 (C. Harbert, Caltrans)	

Attachment B

Resource Records

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 6Z

Other Listings
Review Code | Reviewer | Date

*Resource Name or #: 2800 Barry Street

P1. Other Identifier:

***P2. Location:** ☐ **Not for Publication** ☒ **Unrestricted** ***a. County:** Ventura

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

***b. USGS 7.5' Quad:** Camarillo **Date:** 1950 (1968 edition) **T** 2N;**R** 21W; **¼ of ¼ of Sec ;** S.B. **B.M.**

c. Address: 2800 Barry Street City: Camarillo Zip: 93010

d. UTM: Zone: ; mE/mN (G.P.S.)

e. Other Locational Data: APN 162-0-023-030 Elevation:

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)
The subject property is an irregularly-shaped 2.52-acre parcel located at the southwest corner of Barry Street and Lewis Road. Currently unoccupied, the property is the former site of Stock Building Supply, a lumber and construction supply business, and contains a total of seven buildings and structures, some of which appear to be impermanent.

Building No. 1 (built 1952)
Building No. 1 is located near the center of the property and is sited with a north-south orientation. It served as sales, showroom and warehouse space. With the appearance of a monitor barn, the building has a rectangular footprint and a raised center aisle flanked by lower side aisles. A one-story, gabled-roof section at the rear (south) end of the building is incongruous with the remainder of the building. Exterior cladding includes wide horizontal siding (mostly visible on the upper portion of the building) and stucco (mostly visible on the lower portion of the building). The raised center aisle features a gabled roof and a wide parapet at the northern end of the building, while the two side aisles feature shed roofs. These are all covered with composite shingles. Parapets were also added to the edges of the western aisle and a portion of the eastern aisle. Signage on the northern and eastern parapets announce "Stock Building Supply". See continuation sheet, p. 4.

***P3b. Resource Attributes:** HP6. 1-3 story commercial building; HP4. Ancillary buildings

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



P5b. Description of Photo:
View of main building and property, camera facing southwest, October 18, 2018

***P6. Date Constructed/Age and Sources:** ☒Historic
☐Prehistoric ☐Both
1952 – 2005
(City of Camarillo; Google Earth)

***P7. Owner and Address:**
City of Camarillo

***P8. Recorded by:**
Susan Zamudio-Gurrola
Rincon Consultants, Inc.
180 N. Ashwood Avenue
Ventura, CA 93003

***P9. Date Recorded:** 10/26/2018

***P10. Survey Type:** Intensive

***P11. Report Citation:**
Zamudio-Gurrola, Susan and Steven Treffers. Historical Resource Evaluation of 2800 Barry Street, Camarillo, Ventura County, California. Rincon Consultants Project #18-06616. Report on file with the South Central Coast Information Center, CSU Fullerton, Fullerton, 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):

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

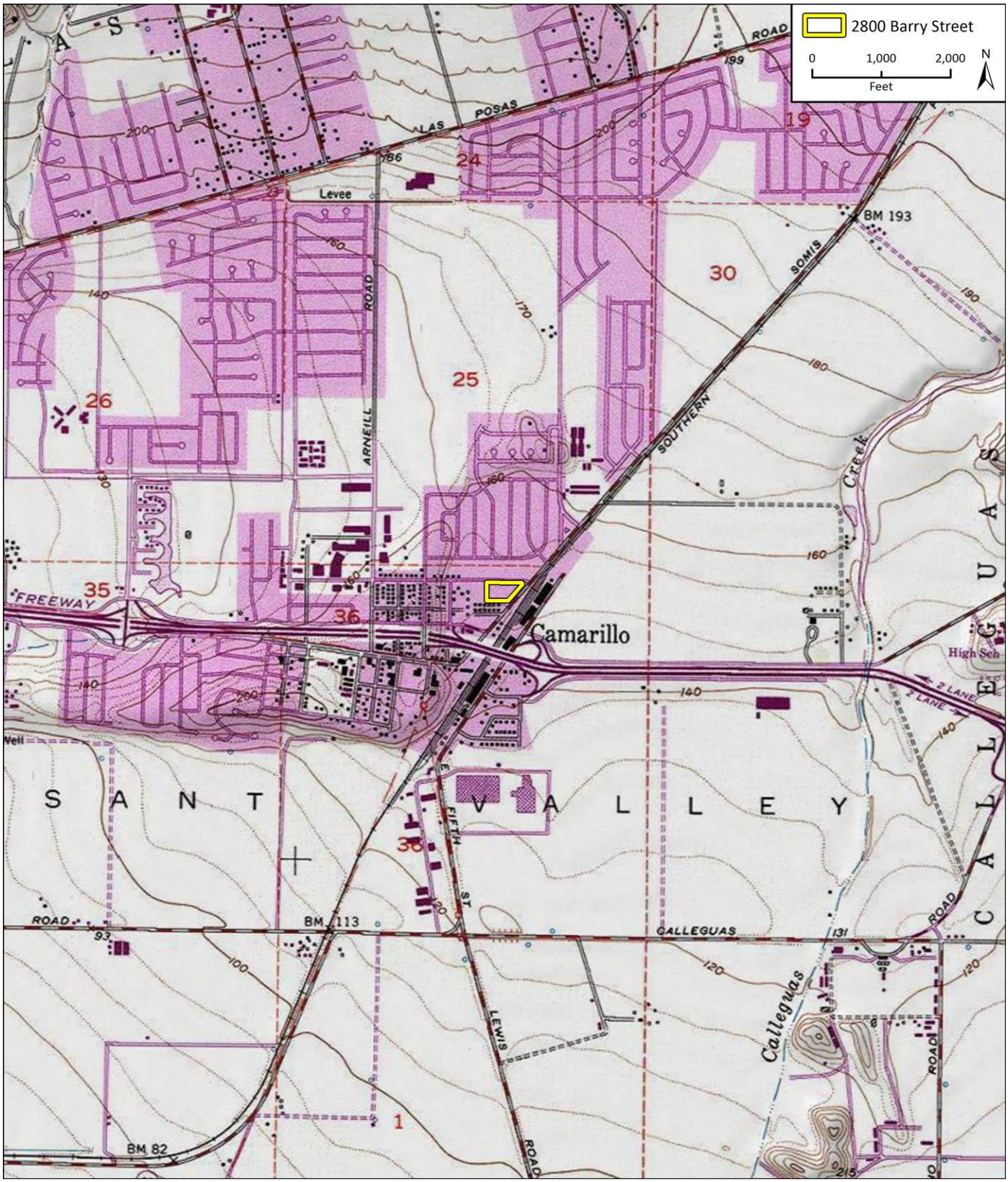
LOCATION MAP

Primary #
HRI#
Trinomial

***Resource Name or #:** 2800 Barry Street

***Map Name:** USGS *Camarillo* quadrangle

***Scale:** 1:24,000 ***Date of Map:** 1950 (1968 edition)



*Required information

BUILDING, STRUCTURE, AND OBJECT RECORD

***NRHP Status Code** 6Z

***Resource Name or #** (Assigned by recorder) 2800 Barry Street

B1. Historic Name: Peoples Lumber Company
B2. Common Name: Stock Building Supply
B3. Original Use: Lumber yard and sales
B4. Present Use: Vacant

***B5. Architectural Style:** Vernacular

***B6. Construction History:** (Construction date, alterations, and date of alterations)
Building Nos. 1 and 5 constructed in 1952. Covered porch and shed roof added to Building No. 1 between 1977 and 1994 (UCSB Map and Imagery Lab, various). Several doors and windows enclosed at unknown dates. Building No. 3 was constructed in 2005. Building No. 4 appears to have been larger and was partially demolished in 2006, resulting in the extant smaller building. Building No. 2 was shortened at its east end in approximately 2015, which is not currently represented on the sketch map below (Google Earth; City of Camarillo, various).

***B7. Moved?** ☐No ☒Yes ☐Unknown **Date:** **Original Location:**
Accessory buildings and sheds appear to be relocated as needed throughout the property.

***B8. Related Features:**

B9a. Architect: Unknown
b. Builder: Original builder in 1952: Geo. Baker

***B10. Significance: Theme:** N/A **Area:** N/A
Period of Significance: N/A **Property Type:** N/A **Applicable Criteria:** N/A
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

The subject property appears to have been undeveloped through the 1940s and remained on the outskirts of town at that time. Located slightly west of Somis Road (today's Lewis Road) and near the Southern Pacific Railroad tracks, the property was surrounded to the north and east by large expanses of agricultural land (USGS 1951; UCSB Map and Imagery Lab, various). In the early 1950s the County of Ventura re-zoned land in the immediate area which allowed the subject property to be developed. The Peoples Lumber Company had the property surveyed and subdivided into the Peoples Tract No. 1 in February 1952. Included in the subdivision was a strip of residential parcels west of Somis Road and north of the newly created Barry Street, a cul-de-sac (called Peoples Avenue) flanked by residential parcels, and the large parcel on which the subject property is located (City of Camarillo, various; Ventura County Clerk 1952a and 1952b).

The Peoples Lumber Company, or PLC, was formed after a group of approximately 100 local famers and businessmen met in early 1890 to discuss forming their own lumber company, due to dissatisfaction with high prices and resentment that they were selling at wholesale prices but buying needed lumber at retail prices. The Peoples Lumber Company incorporated later that year with 136 original members. It had strong competition in the form of the Ventura County Lumber Company, but by 1902 that company sold out to Peoples Lumber Company, and some of their lumber yards were combined. In 1916 PLC also acquired properties operated by the Ventura Mill and Lumber Company. PLC appeared to have the monopoly on the lumber business in Ventura County during these early years (Jennings 1985).

Soon after its organization the company began adding retail lumber yards and other facilities in surrounding Ventura County communities (Jennings 1985). See continuation sheet, p. 5.



B11. Additional Resource Attributes: (List attributes and codes)

***B12. References:** See continuation sheet, p. 6.

B13. Remarks:

***B14. Evaluator:** S. Zamudio-Gurrola and S. Treffers
***Date of Evaluation:** October 26, 2018

(This space reserved for official comments.)

P3a. Description, continued…

Shed roofs covered with metal panels were added to the east and west sides of the building, creating covered porches, which are supported by square wooden posts and Y braces. The porch on the east side of the building features various types of railings which illustrate the building's use as a showroom: the different railings would have served as examples of available building materials to customers. Additionally, the porch decking varies in different areas, and a display of differently-colored siding is set up on the east wall.

Fenestration includes nearly-square, multi-paned windows with wide casings on the raised center aisle, and large multi-paned windows at the building's northeast corner. Window openings at the northwest corner appear to have been partially filled in with wooden panels, but still contain a rectangular window and a vinyl tripartite window. Two entrances on the east elevation consist of contemporary double doors each with a single rectangular glass pane. The west elevation also has a single entry door featuring a single rectangular pane. An additional single entry door and a roll-up metal door are located on the south elevation. The one-story southern section of the building shows patchwork indicating possible alterations, and several large door openings have been enclosed with plyboard.

Building No. 2 (built 1952)
Building No. 2, located at the southern edge of the property, is a large storage building with a rectangular footprint and a side-gabled roof covered with corrugated metal panels. The building has three walls, and its north elevation is open for access. Its construction is wood frame and its exterior walls are made of plyboard. Inside the building, various types of shelving once held lumber and related products.

Building No. 3 (built 2005)
Building No. 3, located near the southwest corner of the property, is a very large storage building with a rectangular footprint and a shed roof. Its construction is wood frame, and its exterior walls and roof are made of vertical, corrugated metal panels. Interior roof support is provided by thick wooden poles.

Building No. 4 (believed to have been built in 1952 as a larger building)
Building No. 4, located slightly west of Building No. 1, serves as the shop building. Historic aerial photographs indicate this was once a longer building sited parallel to Building No. 1, but was partially demolished, resulting in its present size. The wood-framed building has a rectangular plan and a gabled roof; the north side is covered with ridged metal panels and the south side appears to be covered with rolled roofing material. The building's north and south elevations are partially open; in this area the roof is supported by wooden posts. Damage to the west wall exposed the lath and plaster. Alterations to the roof are visible; it appears that the overhang was extended on the south elevation by the addition of a shed roof covered with corrugated metal panels, and a similar shed roof was added to the west elevation. The building has no windows but features two entries on the north elevation, one with a single wooden door and the other with double wooden doors. These lead to small rooms containing shelves and cabinets.

Building No. 5
Building No. 5 is located adjacent to Building No. 1's southwest corner. Signage indicates that this small building was used for shipping and receiving. It has a nearly-square footprint and a gabled roof covered with composite shingles. Its exterior cladding is vertical wooden board and windows include aluminum and vinyl sliders with varying styles of wooden casings. A single entry on the north elevation appears to be a hollow core door surrounded by wooden casing. The building is raised off the ground, resting on wooden boards, suggesting it can be relocated throughout the site. Its construction date was not ascertained.

Ancillary Buildings
Additional buildings and structures noted on the site include a small three-sided shed near the northwest corner of the site. Constructed of wood, it has a narrow rectangular footprint and a shed roof. It appears to be an impermanent building, likely relocated throughout the property as needed.

A small ancillary building is located near Building No. 1's northeast corner. The small building has a nearly-square footprint and a gabled roof with overhanging eaves, covered with composite shingles. Its construction is wood-frame with plyboard and battens. Windows are vinyl sliders and multi-paned casements, surrounded by wooden casings. It features a single entry: a wood paneled entry door. The building is raised off the ground, resting on wooden boards. This, and the building's absence on aerial photographs of the site suggest that it is an impermanent building and relocatable throughout the property as needed.

The property is completely paved and encircled by a chain link fence. No landscaping was observed, except for vines and shrubs growing on the western fence that shield the adjacent resident's view of the subject property.

*Recorded by: Susan Zamudio-Gurrola *Date: October 26, 2018 ☒ Continuation ☐ Update

B10. Significance, continued:

By 1920 PLC had established additional branches in Hueneme, Oxnard, Santa Paula, Fillmore, Ojai, Moorpark and Santa Susanna (Ventura County Genealogical Society, n.d.). PLC also moved its brick and tile manufacturing plant from the Front Street yard to a location on Ventura Avenue, and established planing mills in Ventura, Oxnard and Santa Paula (Jennings 1985).

During the late 1920s to early 1930s PLC financed the building of a number of single-family residences, primarily in Ventura, in an effort to increase its lumber sales. Subsequently, PLC was put in the position of repossessing homes and properties when buyers struggled to make payments due to the Great Depression. PLC divested itself of these properties and by the end of 1945 the corporation only owned its yards and plants, three vacant lots, and houses rented to PLC employees (Jennings 1985).

In 1949 a wholesale building materials branch was added in Ventura, and in 1952, the company added an additional retail yard in Camarillo. This appears to have been the last of their retail lumber yards to be established, and coincided with the development of the modern freeway through the area and resulting expansion of Camarillo over the next decade (Jennings 1985).

By the early 1950s PLC had considerable competition, brought into the area by improved transportation methods and the introduction of large tract housing development in the county. At this time, PLC's facilities were outdated and the corporation did not seem to be savvy about modern merchandising techniques. Despite population and construction increases during the 1950s, the corporation's sales decreased, resulting in financial losses. In late 1959 the board of directors and shareholders discussed selling the lumber business and broadening the scope of their business to include ownership and management of properties. The company's articles of incorporation were officially revised in 1960 allowing this change in business practices (Jennings 1985).

Sun Lumber bought PLC in 1961, with Sun Lumber acquiring the lumber and building material inventories, equipment, furniture, fixtures, the name "Peoples Lumber Company", and authority to lease the retail yards in Ventura, Oxnard, Santa Paula and Camarillo and the wholesale yard in Ventura. PLC's remaining assets - land and buildings - were kept by the Anacapa Corporation, which was the successor company formed when PLC changed its name in 1961. This new corporation was created specifically to manage real estate investments. Between 1961 and 1969 the Anacapa Corporation slowly increased the number of properties it owned from sixteen to twenty-four. It eventually dissolved the corporation and created a trust in its place, which was more favorable for tax purposes. The trust adopted a new name in 1969, Real Estate Investment Trust of California (REIT-CAL), and by the following year, its stock was publicly traded on NASDAQ (Jennings 1985).

Over the years, many prominent residents of Ventura County served on PLC's board of directors, including Adolfo Camarillo. A former office of the Peoples Lumber Company is extant and located at 216 North 8th Street in Santa Paula. It is a one-story brick building (built circa 1924) with concrete trim in the form of window casings, a pediment over the primary double-door entrance, and an entablature with a decorative leaf design and the words "Peoples Lumber Company" incised on it. The building is a City of Santa Paula Historic Landmark (Santa Paula Conservancy 2018). Additionally, a Stock Building Supply continues to operate at the location of PLC's "Santa Susana Yard" at 2000 Tapo Street in Simi Valley.

Property Developmental History

Representatives of the PLC applied for zoning clearance and building permits between March and May of 1952 to develop the subject property, including permits to construct various storage buildings, a mill and plumbing storage building, and move and alter an office and storage building (City of Camarillo, various).

The earliest structures built on the property in 1952 include: the large building resembling a monitor barn near the center of the property (Building No. 1); a long narrow building located parallel and to the west (likely altered into the extant Building No. 4); and a long narrow building located along the southern edge of the property (Building No. 2) (UCSB Map and Imagery Lab 1952).

By 1963 the remainder of the site was largely occupied by materials and supplies related to the lumber business. Additionally, a Phase I Environmental Site Assessment prepared for the subject property reports that a structure once located near the northeast corner of the property served as a pump-island canopy during the 1960s (Certified Environmental Consultants 2017).

Louisiana Pacific Corporation (also known as L&P Lumber) was listed as the property owner by 1979. Over the next two years, the company obtained permits to install new wall signs, at least one of which was mounted onto Building No. 1 and identified the business as "LP Home Center".

See continuation sheet, p. 6.

*Recorded by: Susan Zamudio-Gurrola *Date: October 26, 2018 ☒ Continuation ☐ Update

B10. Significance, continued:

By late 1985 the property owner was listed as Terry Lumber Company (later referred to as Terry Industries Corp). Under Terry Industries Corp. the business was re-named "Stock Building Supply". Work on the property undertaken by the company included re-roofing in 1998, new signage erected in 2004, construction of a new building in 2005, and demolition (or partial demolition) of a building in 2006.

Building No. 1, the main showroom/sales/storage building, was widened through additions which are composed of a large covered porch that spans the length of the eastern elevation (originally built between 1977 and 1994 per historic aerials), and a shed roof that spans the length of the western elevation. Other alterations include the enclosure of various doors and windows, and the installation of non-original doors. Some of the roof parapets may be alterations as well. The covered porch has been further altered through the installation of different types and colors of railings.

Building No. 3, a large, three-sided lumber storage shed, was erected in 2005 near the southwest corner of the property. Aerial photos and building records demonstrate that the following year, the building parallel to and west of Building No. 1 was either demolished and replaced with a smaller building, or partially demolished, resulting in a smaller building (now labeled Building No. 4) (City of Camarillo, various; UCSB Map and Imagery Lab, various). Based on visible construction materials, it seems likely that the extant building was once part of an older building. In 2007 repairs and re-roofing were completed on the porch on the eastern side of Building No. 1 (City of Camarillo, various). Building No. 2 was shortened at its east end in 2015 (Google Earth, various).

BMC Stock Holdings, Inc. became the property owner after Stock Building Supply merged with Building Materials Holding Corp. in 2015. The City of Camarillo purchased the property in 2018 (BMC Stock Holdings, Inc. 2015; City of Camarillo 2018).

Evaluation

The subject property, the former Camarillo retail yard of the PLC, does not appear eligible for listing in the National Register of Historic Places (NRHP),the California Register of Historical Resources (CRHR), or local designation under any criteria. While the property was associated with PLC, a successful local lumber business that operated for many decades in various cities throughout Ventura County and supported the growth of those communities, the subject property was one of many facilities that the company owned and operated, which included offices, lumber yards, planing mills, and a brick and tile manufacturing plant. In addition, the subject property appears to have been the last yard developed by PLC, significantly later than its other facilities some of which were established as early as 1890. Other properties that were once owned and operated by PLC are extant in Santa Paula and Simi Valley, and the subject property is not the best or last remaining example of a property associated with PLC. While the subject property was associated with the development of Camarillo during its mid-twentieth century expansion, there were other competitors in the market by that time which reduced PLC's role and significance in the industry. The property is not the location of any events significant to national, state, or local history. Over the decades, PLC had numerous members serving on its board of directors, and while some of these individuals were prominent in their communities, none had a direct association with the subject property during its use as a retail lumber yard. Therefore, the property is not eligible under NRHP and CRHR Criteria A/1 or B/2, or City of Camarillo Criteria B.1 or B.2.

The extant buildings on the property are mostly vernacular in their construction and include many shed-type structures. Because of this, and visible alterations, none of the buildings embody any distinctive characteristics of a type, style, period or method of construction. The property has undergone numerous changes including the demolition (or partial demolition) of several buildings, various alterations to the original main showroom/sales building, relocation of buildings throughout the site, and the recent addition of a new building to the site. As a result, the property's integrity of location, design, and workmanship is diminished. Therefore, it is not eligible under NRHP and CRHR Criteria C/3 or City of Camarillo Criteria B.3.

B12. References, continued:

BMC Stock Holdings, Inc. 2015. Letter from Peter Alexander, President and Chief Executive Officer, to stock holders. http://s22.q4cdn.com/428639663/files/doc_financials/annual/2015_BMC_Stock_Letter_to_Shareholders.pdf

Certified Environmental Consultants, Inc. 2017. Phase I Environmental Site Assessment Report for Commercial Property Located at 2800 Barry Street in the City of Camarillo, Ventura County, California, February 22.

See continuation sheet, p. 7.

B12. References, continued:

City of Camarillo. 2018. Agenda Report regarding Stock Lumber Property (2800 Barry Street) – Property Purchase, June 27, 2018. https://www.cityofcamarillo.org/City%20Clerk/Meetings%20&%20Agendas/City%20Council/2018/00%20Meeting%20Packets/0%20CC%20Agenda%20Packet%2006-27-2018.pdf

City of Camarillo. Various. Building records on file for 2800 Barry Street.

Google Earth. Various. Aerial photographs of project site and surrounding area.

Jennings, Margaret. 1985. "Peoples Lumber Company". In the *Ventura County Historical Society Quarterly*, Volume 30, Issue 2, Winter 1985.

Santa Paula Conservancy. 2018. "Santa Paula Landmarks". https://santapaulaconservancy.org/spl/

UCSB Map and Imagery Lab. Various. Accessible at http://mil.library.ucsb.edu/ap_indexes/FrameFinder/
Flight C-9800, Frame 3-313 (1945)
Flight AXI-1952, Frame 1K-36 (1952)
Flight HA-RR, Frame 139 (1963)
Flight HA-SH, Frame 72 (1963)
Flight USDA-40-06111, Frame 178-95 (1977)
Flight NAPP-2C, Frame 6921-222 (1994)
Flight NAPP-3c, Frame 12467-166 (2002)

United States Geological Survey (USGS). 1951. Camarillo Quadrangle (7.5 minute series topographic map).

Ventura County Clerk's Office
1952a Map 19-MR-87
1952b Map 19-MR-88

Ventura County Genealogical Society, n.d. "1920 Business Directory: Index to the Merchants, Tradesmen and Manufacturer's Business and Credit Directory for Communities in Ventura County, California. Accessible at https://venturacogensoc.org/cpage.php?pt=52



Covered porch on east side of Building No. 1, view to the south.



One-story section at rear of Building No. 1, view to the west.



Building No. 2, view to the southwest.



Building No. 3, view to the southwest.



Building No. 4 (Shop Building), view to the southeast.



Building No. 5 (Shipping & Receiving), view to the northeast.



Shed at northwest corner of site, view to the northwest.



Ancillary building (relocatable) observed to the east of Building No. 1, view to the northwest.

Appendix E

Geotechnical Investigation

advanced geotechnical services, inc.

September 3, 2019
Client Number 4959
Report Number 10373

Area Housing Authority of the County of Ventura
1400 W. Hillcrest Drive
Newbury Park, CA 91320

Geotechnical Engineering Study
Proposed Affordable Housing Development
2800 Barry Street
Camarillo, California

In accordance with our proposal and your authorization, Advanced Geotechnical Services, Inc., (AGS) has prepared this *Geotechnical Engineering Study* for the proposed affordable housing development to be constructed at the subject site. This report presents the results of our data research, subsurface exploration, laboratory testing, and our professional opinions regarding the geotechnical engineering factors that may affect the proposed development.

Based on the results of this study, it is our opinion that the site is *suitable* for construction of the proposed development, provided the recommendations contained in this report are properly incorporated into the design and implemented during construction.

This opportunity to be of service is sincerely appreciated. This report should be read from cover to cover to understand its limitations and to avoid taking a recommendation out-of-context. If you have any questions, or if we may be of any further assistance, please do *not* hesitate to call. We look forward to being of continued service.

Respectfully submitted,
Advanced Geotechnical Services, Inc.

Kenneth J. Palo
President

Scott Moore, GE
Principal Geotechnical Engineer

REGISTERED PROFESSIONAL ENGINEER
SCOTT W. MOORE
No. 2560
GEOTECHNICAL
STATE OF CALIFORNIA

Enclosure: *Report No. 10373*

cc: (5) Addressee (1) File Copy

5251 Verdugo Way, Suite L, Camarillo, California 93012
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info@advancedgeotechnical.com

advanced geotechnical services, inc.

GEOTECHNICAL ENGINEERING STUDY

Proposed Affordable Housing Development
2800 Barry Street
Camarillo, California

Report to
Area Housing Authority of Ventura County
Newbury Park, California

September 3, 2019
Client Number 4959
Report Number 10373

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1. INTRODUCTION

1.1 General Remarks

This *Geotechnical Engineering Study* has been prepared for the proposed affordable housing development to be constructed at the subject site. The purposes of this study are to (1) evaluate the seismicity of the site, and potential seismic hazards; (2) identify on-site soil conditions that may affect the proposed development, and (3) provide geotechnical recommendations for the development of the site. This report presents the findings of our data review, subsurface exploration, laboratory testing, engineering analyses and evaluations, and our conclusions and recommendations.

Appendices are attached following the main report. Appendix A includes the field exploration and logs; Appendix B includes the laboratory test results; Appendix C includes the results of the seismicity study; Appendix D includes the results of the liquefaction and dynamic dry settlement analysis; Appendix E includes the references used in this study, and the Figures and Plates referenced in this report are included in Appendix F.

1.2 Site Description

The site of the proposed housing development is located at 2800 Barry Street, in the City of Camarillo, California, and is bounded by Lewis Road to the east, Barry Street to the north, single-family residences to the west and a self-storage facility to the south. The site measures 2.52 acres and was formerly in use as a lumber supply yard. All of the structures, covered storage areas, outbuildings and other materials associated with the lumber yard operation had been removed by the time of our field exploration program, but the majority of the site was still paved with asphalt, and concrete slabs were also still present in some areas. A number of excavations had been made at the site, up to an estimated 3 feet +/-deep, with orange and yellow safety fencing surrounding the excavations.

The site is roughly level with no pronounced highs or lows. The site is essentially void of vegetation, with the exception of vines and shrubbery growing along portions of the north and west perimeter of the site.

1.3 Proposed Development

Based on the currently proposed plans, and project description provided in the *Request for Proposal* dated June 22, 2019, the proposed development will consist of the construction of five multi-family housing buildings, ranging from two to three stories in height, and a two story parking garage, with a solar panel roof. The proposed housing structure to be located immediately adjacent to the parking structure will also contain a community center and laundry room. The latest project layout is shown on the attached Plate 2, *Proposed Site Plan*, which was developed from a *Conceptual Design Revisions* plan by RRM Design Group, dated 7/7/2019. The proposed housing structures will be constructed utilizing wood framing with possible limited steel framing, and the proposed parking structure is expected to be constructed utilizing masonry and/or concrete. All of the proposed structures will be constructed at or near future site grade, with no subterranean levels or podium decks planned. The future site grade is expected to be within a few feet of current existing site grade.

A new parking lot and driveway entrance to the parking structure will be constructed at the west end of the site, and another driveway entrance to the parking structure and a few parking spaces will be constructed at the southeast corner of the site. Various walkways, common areas and a playground will be located in the spaces between and around the housing structures, and a new 6-foot wall will be constructed around portions of the site perimeter.

Site grading is anticipated to consist of removal and recompaction of the upper site soils for support of the proposed structures and other miscellaneous improvements. Grading plans were not available as of the date of this report, however, the existing site topography is not expected to be modified significantly, with permanent cuts and fills of less than a few feet anticipated, to establish the building pad and parking lot grades, and site drainage.

Wall loads for the proposed new housing structures are not expected to exceed approximately 1 to 2 kips per foot, and column loads are not expected to exceed approximately 50 to 100 kips. Wall and column loads for the proposed

new parking structure are not expected to exceed approximately 2 to 3 kips per foot, and 100 to 200 kips, respectively.

1.4 Scope of Services

This geotechnical engineering study included:

a. Site observation and review of geotechnical and geologic data of the general study area. A *Site Location Map* is provided as Figure 1, and an *Existing Site Plan* is provided as Plate 1. Both of these exhibits were developed from images obtained from the Google Earth web app (2019).

b. Reconnaissance of the subject site and the immediate vicinity.

c. Drilling, sampling, and logging of 17 exploratory borings (B-1 through B-17) throughout the site to depths between approximately 16.5 and 51.5 feet below the existing ground surface, and 6 borings (P-1 through P-6) in the proposed infiltration areas to depths between 6 and 17 feet. The borings were excavated utilizing 8-inch diameter hollow-stem auger drilling equipment. The boring locations are shown on the attached *Existing Site Plan*, (Plate 1), and *Proposed Site Plan*, (Plate 2). The exploratory boring locations were determined in the field using a tape measure and approximate reference points, and therefore the actual locations may deviate slightly from the locations shown on the attached Plates 2 and 3. The boring logs are included in Appendix A, along with a general description of the field operations.

d. Laboratory testing of selected samples to determine the engineering properties of the on-site soils. The results of the laboratory testing are presented in Appendix B, and on the boring logs in Appendix A. Soil samples will be *discarded* 30 days after the date of this report, unless this office receives a specific request and fee to retain the samples for a longer period of time.

e. Determination of seismic parameters for potential earthquake-induced ground motions.

f. Engineering analysis of the data and information obtained from our field study, laboratory testing, and literature review.

g. Development of geotechnical recommendations for the proposed development, including site preparation and grading, and geotechnical design criteria for building foundations, floor slabs, temporary excavations, paving, and drainage.

h. Preparation of this report summarizing our findings, conclusions, and recommendations regarding the geotechnical aspects of the project site.

The scope of this geotechnical study did *not* include an assessment of potential environmental issues.

2. GEOLOGIC SETTING

2.1 Geology

Geologic conditions beneath the subject property have been interpreted and characterized based upon our review of published and unpublished references, our observations of isolated earth material exposures onsite, and our subsurface exploration. Our interpretations involve projections of data and assume that geologic conditions are reasonably constant between points of exposure. Work should continue under the review of the Geotechnical Engineer to ensure that geologic conditions different from those described below are recognized and evaluated as

soon as possible. Certain subsurface conditions such as groundwater levels and the consistency of near-surface soils will vary with the seasons.

The subject site is located within the Camarillo USGS 7.5-minute quadrangle. According to Dibblee (1990), the subject site is underlain by younger alluvial materials. See the enclosed *Regional Geological Map,* Figure 3, and *City of Camarillo Geological Map,* Figure 4.

2.2 Faulting

Southern California is a tectonically active region subject to hazards associated with earthquakes and faulting. Faults are classified as either active, potentially active, or inactive. Active faults are defined by the State of California as faults that have exhibited surface displacement within the last 11,000 years. Potentially active faults are defined by the State of California as those with a history of movement between 11,000 and 1.6 million years ago. Alquist-Priolo Earthquake Fault Zones are areas that have been established by the State that contain active surface fault traces, and projects that are located within these zones require that a fault investigation be performed to determine if active faulting affects the site. Other undiscovered active faults without surface expression, called blind faults, are also capable of generating earthquakes, and may be present beneath the subject site.

The subject site is not located within an Alquist-Priolo Earthquake Fault Zone (CDMG 1999), and is also not within a City of Camarillo Earthquake Fault Zone (Fugro-West, 2013), as shown on the *Alquist-Priolo Earthquake Fault Zones Map,* Figure 5, and the *City of Camarillo Earthquake Fault Zones Map*, Figure 6. Therefore, a fault trenching study of the site is not required.

3. EARTH MATERIALS AND SUBSURFACE CONDITIONS

3.1 Existing Asphalt Pavement

All 23 borings (B-1 through B-17 and P-1 through P-6) were drilled through existing asphalt pavement, with the asphalt pavement ranging in thickness from approximately 1.5 to 6 inches. The asphalt paving was underlain by base in 20 of the 23 borings, with the base ranging in thickness from approximately 2 to 14 inches. Asphalt and base thicknesses are given on the boring logs in Appendix A.

3.2 Alluvium (Qa)

Native alluvial soils were encountered in the exploratory borings below the existing pavement section, and extending to the total depth explored, a maximum of approximately 51.5 feet below the existing ground surface. The alluvial soils consist of highly variable mixtures and layers of mostly silty sand, sand and sandy silt, with lesser amounts of clayey materials. These materials range from fine to coarse grained, medium dense to very dense and stiff, and slightly moist to moist. The native soils generally increase in density with depth. More detailed descriptions of the alluvium can be found on the attached boring logs.

3.3 Soil Parameters

3.3.1 Compaction

Two compaction curves were developed in this study for representative samples of the near surface earth materials encountered during our field exploration program. The maximum dry density was 130 pcf at an optimum moisture content of 8.5% for a sample collected from Boring B-3 between the ground surface and a depth of approximately 5 feet, and the maximum dry density was 131.5 pcf at an optimum moisture content of 7.0% for a sample collected from Boring B-10 between the ground surface and a depth of approximately 5 feet.

3.3.2 Compressibility

Consolidation tests were performed on representative undisturbed samples of the onsite soils. The consolidation test results showed a relatively low potential of overall compressibility at the anticipated loads, on all the samples tested. Consolidation test results are attached in Appendix B.

3.3.3 Hydroconsolidation

As part of the consolidation testing, the potential for hydroconsolidation was also determined, should the soils beneath the proposed development become saturated due to unforeseen circumstances in the future. To determine the potential for hydroconsolidation, the samples were inundated with water at a constant pressure of 2000 psf. The results of the hydroconsolidation testing for the samples collected from Borings B-1 and B-2 are provided in the table below, with the consolidation test result utilized for each layer shown.

HYDROCONSOLIDATION SETTLEMENT BORING B-1

Consolidation Test Used	Depth Range (feet)	Hydroconsol %	Layer Thickness (feet)	Layer Settlement (inches)	Cumulative Settlement (inches)
B3-0'-5'	0-7	0.04	7.0	0.03	0.00
B2-5'	7-10	0.20	3.0	0.07	0.07
B1-10'	10-15	0.08	5.0	0.05	0.12
B1-15'	15-25	0.06	10.0	0.07	0.19
B1-25'	25-32	0.31	7.0	0.26	0.45
B1-35'	32-40	0.11	8.0	0.11	0.56
B1-45'	40-50	0.13	10.0	0.16	0.71
				TOTAL	0.71

HYDROCONSOLIDATION SETTLEMENT BORING B-2

Consolidation Test	Depth Range (feet)	Hydroconsol %	Layer Thickness (feet)	Layer Settlement (inches)	Cumulative Settlement (inches)
B3-0'-5'	0-7	0.04	7.0	0.03	0.00
B2-5'	7-10	0.20	3.0	0.07	0.07
B2-12.5'	10-15	0.03	5.0	0.02	0.09
B2-20'	15-25	0.11	10.0	0.13	0.22
B2-30'	25-35	0.23	10.0	0.28	0.50
B2-40'	35-45	0.00	10.0	0.00	0.50
B1-45'	45-50	0.13	5.0	0.08	0.58
				TOTAL	0.58

The results based on consolidation tests showed a maximum potential of 0.71 inches of hydroconsolidation settlement in Boring B-1, and 0.58 inches in Boring B-2, from the ground surface to a depth of 50 feet below the existing grade. As described in subsequent sections of this report, it is recommended to remove and recompact a minimum of the upper 7 feet of existing earth materials across the site, with a minimum of 5 feet of newly placed compacted fill below the bottom of all proposed building foundations.

It is the opinion of AGS that these maximum potential hydroconsolidation settlements of 0.58 to 0.71 inches represent a higher degree of hydroconsolidation than would actually occur on the existing in-situ earth materials. This would also represent the worst case scenario, which would occur only in the event of a significant underground water pipe leak in the immediate vicinity of the proposed structures, or immediately underlying the structures, which remained undetected for an extended period of time. The presence of newly placed compacted fill extending to a minimum depth of 7 feet below future site grade, 5 feet below bottom of building footings, and 5 feet beyond the perimeter of all building footings is also expected to significantly impede the infiltration of water to significant depths in the vicinity of the proposed buildings. The site grading will also be such that surface runoff will be

directed away from the structures. Based on these considerations, it is the opinion of AGS that the actual potential maximum hydroconsolidation settlement within the footprint of the proposed building structures would likely be less than the values calculated above. The potential maximum hydroconsolidation settlement in areas outside the proposed building structures may be as high as, or even slightly higher than the values calculated above, since other areas of the site will not have a 7-foot thick blanket of compacted fill.

3.3.4 Shear Strength

Direct shear testing was used to measure the peak and ultimate shear strength properties of representative samples of the onsite soils, both remolded and undisturbed, in terms of a cohesion value and a friction angle. The results of the direct shear testing are presented in Appendix B of this report.

3.3.5 Expansion Category

The potential of the soil to swell or expand increases with an increase in soil density, a decrease in initial moisture content (low percent saturation), an increase in clay content, and an increase in the activity of the clay content. Expansive soils change in volume (shrink or swell) due to changes in the soil moisture content. The risk of soil expansion increases with an increase in expansion index.

The expansion index of the upper onsite soils was found to range from 5 to 25, which is in the *very low to low* expansion category. It is recommended that additional expansion index testing be performed on the completed building pads, to verify the expansion potential after the upper earth materials have been over-excavated, mixed and recompacted.

3.3.6 Corrosivity

The risk of corrosion of construction materials relates to the potential for soil-induced chemical reaction. The rate of deterioration depends on soil resistivity, texture, acidity, and chemical concentration. To provide a basis for a preliminary corrosion evaluation, one sample of the near surface soils on the site was analyzed. The results of these tests are summarized in the following table, and the test results data sheet from American Analytics is attached in Appendix B. Sulfate and chloride concentrations are expressed in mg/kg on a dry weight basis.

Boring	Depth, Ft	Description	pH	Chloride, mg/kg	Sulfate, mg/kg	Specific Conductance, umhos/cm
B-3	0-5	SILTY SAND	7.0	6.0	60	290

The sulfate content is in the *S0* exposure category (negligible sulfate content) based on ACI 318, and therefore special considerations for concrete which will be in contact with the onsite soils is not required. Additional testing should be performed on the finished pad to confirm the negligible sulfate content, in accordance with typical City of Camarillo requirements.

3.4 Groundwater

At the time of our field exploration, groundwater was not encountered during exploration, which was extended to a maximum depth of approximately 51.5 feet below the existing ground surface. The historically highest groundwater level in the vicinity of the site appears to be deeper than 50 feet below the existing ground surface, based on the trend of the nearest depth contours shown on the historically highest groundwater contour map contained in the Seismic Hazard Zone Report of the Camarillo Quadrangle (CDMG, 2002), as shown on the attached Figure 7, which was created utilizing a portion of this map. Groundwater elevations are dependent on seasonal precipitation, irrigation, land use, and climatic conditions, among other factors, and as a result fluctuate. Therefore, water levels at the time of construction and during the life of the proposed development may vary from the observations or conditions at the time of our field exploration.

3.5 Field Percolation Testing and Infiltration

The field percolation testing program was performed in accordance with the specifications for the falling-head borehole infiltration test method as specified in section C.6 of Appendix C of the **Ventura County Technical Manual for Stormwater Quality Control Measures, Manual Update 2011** (Geosyntec, 2011). Our percolation testing program consisted of:

a. Drilling, sampling, and logging of six percolation borings (Borings P-1 through P-6) in areas where it has been proposed to install stormwater infiltration features. The percolation test borings were excavated to depths ranging from 6 feet to 17 feet below the existing ground surface with a truck mounted hollow stem auger drill rig at each of the locations for the purpose of evaluating the subsurface soil conditions, and to perform percolation testing. The locations of the percolation test borings are shown on the enclosed Plates 1 and 2.

b. Performing field percolation testing as described below.

The falling head borehole infiltration test method used consisted of the excavation of the percolation test holes utilizing a truck mounted hollow stem auger drill rig with an 8-inch diameter auger. Three of the test holes (P-2, P-4, P-6) were excavated to a depth equal to the estimated bottom of the proposed infiltration features (6 feet below grade), and then another test hole (P-1, P-3, P-5) was excavated in close proximity to each of these holes a depth of approximately 11 feet below the bottom of the proposed infiltration BMP (17 feet below grade), in order to verify the earth material conditions and infiltration characteristics to a depth of 11 feet below the proposed infiltration features, as required. Upon completion of the excavation operations, each test hole was prepared by installing an appropriate length of 3-inch diameter perforated PVC pipe, surrounded by ¾-inch gravel, and filling the casing with water to initiate the 24-hour pre-saturation period.

At the completion of the 24-hour pre-saturation period, each test hole was observed to be empty, and was then refilled with water to a height of 12 inches above the bottom of the boring. After a period of 1 hour, the water drop in each test hole was recorded, and each test hole was refilled to bring the water level back to 12 inches above the bottom of the boring. The height of the water drop was recorded and the test hole was refilled after each 1 hour interval for a 4 hour test period. The percolation test data is shown on the attached Figures 10 and 11 in Appendix F.

The final stabilized field percolation rates obtained through field testing are summarized in the following table, along with the corrected rates utilizing the correction factor provided in the County of Los Angeles Department of Public Works **Guidelines for Design, Investigation, and Reporting Low Impact Development Stormwater Infiltration** document GS200.1, dated December 31, 2014. It is anticipated that the proposed infiltration basins will utilize infiltration through the bottom of the pit, and therefore the L.A. County correction factors were utilized to eliminate the component of infiltration which occurs through the sides of the percolation test borings, thereby more accurately modeling the infiltration rate at the bottom of the future infiltration basins.

Percolation Test Data Summary

Boring #	Depth (ft)	Stabilized Field Absorption Rate (min/in)	Stabilized Field Absorption Rate (in/hr)	Reduction Factor Per page 8 of LA County Document GS200.1	Corrected Infiltration Rate (min/in)	Corrected Infiltration Rate (in/hr)
P-1	17.0	20.0	3.0	3.63	72.5	0.83
P-2	6.0	15.0	4.0	3.50	52.5	1.14
P-3	17.0	13.3	4.5	3.44	45.7	1.31
P-4	6.0	24.0	2.5	3.69	88.5	0.68
P-5	17.0	13.3	4.5	3.44	45.7	1.31
P-6	6.0	20.0	3.0	3.63	72.5	0.83

Upon completion of the field testing program, the PVC piping was pulled from each test hole, and the test holes were backfilled.

3.5.1 Infiltration Discussion

The intentional introduction of enormous amounts of water into the ground via the infiltration of onsite stormwater is a relatively new concept, and is inherently risky, regardless of any precautions which may be taken. On the subject site in particular, the earth materials from the ground surface to a depth of 50 feet, if they become saturated, would be subject to hydroconsolidation, resulting in ground surface settlement, as described in the *Hydroconsolidation* section of this report. In addition, there are significant thicknesses of shallow earth materials above the historically highest groundwater level which have corrected, equivalent SPT blow counts lower than 30, and would therefore may be prone to liquefaction if saturated as a result of infiltration at the time of strong ground shaking, as described in the *Evaluation of Liquefaction Potential* section of this report. Therefore, in the vicinity of any proposed infiltration facilities which may be utilized on the subject site, settlement and cracking of any overlying pavements site walls or other improvements *should be expected* as a result of hydroconsolidation. In addition, in the event of the simultaneous saturation of the earth materials underlying the site as a result of infiltration, and strong ground shaking from an earthquake, liquefaction of some of the saturated earth material layers may occur. The results of liquefaction in the vicinity of any infiltration basins may include differential ground settlement, ground fissuring, sand boils and lateral spreading.

Based on these considerations, it is our recommendation that infiltration only be implemented in areas as far removed from the proposed onsite structures and nearby offsite structures as possible, although it would be difficult to determine a 'safe distance.'

4. SEISMICITY

4.1 Seismic Design Criteria

The 2016 California Building Code (CBC) is utilized in the seismic design of structures, and is based on the *Maximum Considered Earthquake Ground Motion*. The maximum considered earthquake spectral response accelerations are then adjusted for the general type of earth materials within approximately the upper 100 feet underlying the site to obtain a *Site Class*, which would be D for the subject site, based on parameters such as shear wave velocity, standard penetration test resistance, undrained shear strength, and earth material type.

The site-specific seismic design criteria required by the 2016 California Building Code (CBC) were determined utilizing the SEAOC/OSHPD (2019) Seismic Design Maps web app. The output from this app is included as an attachment in Appendix C of this report, and the primary design criteria are summarized in the table below. The remaining seismic design parameters used in structural analyses are shown in the attached printout. For certain types of analysis, the 2016 CBC specifies the use of the *Mapped Maximum Considered Geometric Mean (MCEG) Peak Ground Acceleration, PGA*, which is adjusted for site class effects to obtain PGA_M. For the subject site, PGA and PGA_M are both 0.817g.

Site Class	Spectral Accelerations, 0.2-Second Period, S_S	Spectral Accelerations, 1-Second Period, S_1	Site Coefficient, F_a	Site Coefficient, F_v	Adjusted Spectral Accelerations, 0.2-Second Period, S_{MS}	Adjusted Spectral Accelerations, 1-Second Period, S_{M1}	Adjusted Spectral Accelerations, 0.2-Second Period, S_{DS}	Adjusted Spectral Accelerations, 1-Second Period, S_{D1}
D	2.134	0.809	1.0	1.5	2.134	1.213	1.423	0.809

Conformance to these criteria does *not* constitute a guarantee or assurance that significant structural damage or ground failure will *not* occur if a maximum level earthquake occurs. The primary goal of seismic design is to protect life and *not* to avoid all damage, since such design may be economically prohibitive.

4.2 Earthquake Effects

The intensity of ground shaking during an earthquake can result in a number of phenomena classified as ground failure, which include ground rupture due to faulting, landslides, liquefaction, lateral spreading, and seismically induced settlement. Other seismic hazards include seiches and tsunamis. An assessment of each of these phenomena, as they may affect the proposed development, are included in the following sections. The Seismic Hazards Mapping Act of 1990, which became effective in 1991, requires mitigation of seismic hazards to a level that does *not* cause collapse of a building intended for human occupancy, but it does *not* require mitigation to a level of no ground failure or structural damage.

4.2.1 Shallow Ground Rupture

Ground surface rupture occurs when movement along a fault is sufficient to cause a gap or rupture where the upper edge of the fault zone intersects the ground surface. Where associated with reverse faults, such ruptures rarely occur as single breaks or are confined to a narrow zone. More commonly, ground rupture associated with faulting is characterized by relatively short segments of faulting that occur over a broad area of the upper plate.

Since there are *no* known surface traces of active or potentially active faults crossing the site, as discussed previously in this report, the potential for ground rupture affecting the proposed development is *not* considered a significant hazard, although it is a possibility at any site.

4.2.2 Earthquake-Induced Landsliding

Earthquake-induced landslides are slope failures that occur where the horizontal seismic forces act to induce soil failure. State of California Seismic Hazard Zone Maps delineate areas that have been subject to, or are potentially subject to landsliding or permanent ground displacement as a result of earthquake-induced ground shaking. The subject site is not located in an area that is subject to potential seismically-induced landslides, as indicated on the attached Figure 8, *State of California Seismic Hazard Zones Map*. In addition, the subject site and surrounding area are relatively flat to only gently sloping. Based on these considerations, seismically-induced landsliding is *not* considered to be a hazard at the subject site.

4.2.3 Seiches and Tsunamis

Seiches are an oscillation of the surface of an inland body of water that varies in period from a few minutes to several hours, and can be caused by earthquake-induced ground shaking. Tsunamis are large sea waves produced by submarine earthquakes or volcanic eruptions. Since the site is *not* located close to, or within the potential inundation path of an inland body of water, and is at an elevation sufficiently above sea level to be outside the zone of a tsunami runup, the risk of these two hazards is *not* pertinent to this site.

4.2.4 Evaluation of Liquefaction Potential

The subject site is not located in an area designated as being potentially liquefiable on the *State of California Seismic Hazard Zones* map of the Camarillo Quadrangle (CDMG, 2002), as shown on the attached Figure 8. The site is, however, located in an area designated as potentially liquefiable on the *City of Camarillo Liquefaction Hazards Map* (Fugro-West, 2013), as shown on the attached Figure 9. Therefore, liquefaction analysis was performed.

The historically highest groundwater level in the vicinity of the site appears to be deeper than 50 feet below the existing ground surface, as shown on the attached Figure 7, *Depth to Historically High Groundwater* (CDMG, 2002). However, in the interest of conservatism, the potential for liquefaction was analyzed below a depth of 40 feet (i.e. a historically highest groundwater level of 40 feet below the ground surface was assumed). The ring sample blow counts from the modified California sampler utilized were multiplied by 2/3 to convert to equivalent SPT blow counts, and further corrected utilizing the factors shown on the attached liquefaction analysis calculations, Plates D-1 and D-2 in Appendix D. A design-level earthquake magnitude of 6.90, and a site acceleration of 0.817g (PGA_M) were utilized to perform the liquefaction evaluation.

The corrected, equivalent SPT blow counts were all above 30 for the samples taken at a depth of 40 feet and below. Therefore, based on the 'preliminary screening criteria' for liquefaction contained in Martin and Lew (SCEC, 1999), the subject site would not be considered prone to liquefaction or associated effects, including lateral spread, sand boils or other surface disruption, or bearing capacity failure.

Note that an energy correction factor of 1.33 was utilized for the automatic hammer utilized during sampling. This was based on specific energy calibration for this particular hammer and drill rig provided by the drilling subcontractor, Choice Drilling. Note also that a slightly conservative wet soil density of 135 pcf was utilized in the calculations for both liquefaction and dynamic dry settlement.

Where corrected equivalent SPT blow counts are below 30, earth materials below any proposed infiltration features which may be saturated at the time of strong ground shaking may be subject to liquefaction, and the associated effects of liquefaction, including differential ground settlement, fissuring, sand boils, and lateral spreading. Therefore, for this and other reasons, as discussed further in the *Field Percolation Testing and Infiltration* section of this report, it is our recommendation that any infiltration features which may be utilized onsite be located as far as possible from the proposed structures.

4.2.5 Dynamic Dry Settlement

The potential for seismically-induced dry settlement of the soils underlying the subject site as a result of densification of the sandier earth materials underlying the site during seismic shaking was analyzed, and the results are shown on the attached Plates D-3 and D-4 in Appendix D. The calculations were performed utilizing the corrected, equivalent SPT blow counts, and the methods of Pradel (1998). The ring sample blow counts from the modified California sampler were multiplied by 2/3 to convert to equivalent SPT blow counts. In accordance with standard local practice, the acceleration to be utilized in the dynamic dry settlement is the greater of $S_{DS}/2.5$ or $(2/3)PGA_M$ (Blake, 2015). The greater of these values is $S_{DS}/2.5 = 0.569$ (which is greater than $(2/3)PGA_M = 0.545$). The upper 7 feet of earth materials underlying the proposed structures will consist of future compacted fill, which would not be considered subject to significant dynamic dry settlement (blow count of 50 assumed).

The results show maximum potential seismically-induced dry settlements of approximately 0.53 and 0.87 inches for Borings B-1 and B-2, respectively. The potential differential dynamic dry settlement is typically assumed to be approximately ½ of the total settlement over a distance of 30 feet, which would be approximately 0.27 to 0.44 inches.

5. CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions and Design Requirements

Based on the findings of our data review, subsurface exploration, laboratory testing, field testing, and engineering analysis, and within the scope of this study, the proposed improvements are considered *feasible* from a geotechnical engineering viewpoint, provided the recommendations in this report are incorporated into the project plans and implemented during construction. The following sections discuss conditions that should be anticipated, and provide specific recommendations for mitigation during the design and construction phase of improvements.

In order to provide more uniform support for the proposed structures, and help to mitigate the potential for excessive hydroconsolidation settlement, it is recommended that the upper earth materials be removed and recompacted for support of the proposed structures. The depth of removal and recompaction should extend to a minimum of 7 feet below existing or future site grade, whichever is deeper, and a minimum of 5 feet below the bottom of all foundations, including deeper foundations in elevator pit or other areas. Subsequent to the required removal and recompaction, the proposed structures may then be supported on conventional shallow foundations bearing exclusively in newly placed compacted fill. All proposed building foundations should be underlain by a minimum of 5 feet of newly placed compacted fill.

Miscellaneous site walls and retaining walls not connected to the proposed buildings may be supported on conventional shallow foundations bearing in undisturbed native soils, although these structures may then be subject to the potential hydroconsolidation settlements discussed herein. When final plans become available, the locations and design of site walls and retaining walls should be reviewed by AGS, and the pros and cons of supporting any given site walls or retaining walls on native soils vs the expense of providing a compacted fill blanket for support of these walls could be discussed with the project team.

5.1.1 Faults / Seismicity

Although no known active surface fault traces traverse through the subject site, like most of Southern California, the site lies within a seismically active area. Earthquake resistant structural design is recommended. Designing structures to be earthquake-proof is generally considered to be impractical, especially for private projects, due to cost limitations. Significant damage to structures may be unavoidable during large earthquakes. Structural design based on the 2016 CBC (California Building Code) structural analysis procedures specifies the use of the seismic parameters given previously in the *Seismic Design Criteria* section of this report. These minimum code values are intended to protect life and may not provide an acceptable level of protection against significant cosmetic damage and serious economic loss. Significantly higher than code parameter values would be necessary to further reduce potential economic loss during a major seismic event. Structural Engineers, however, often regard higher than code values or procedures as impractical for use in structural design. The Structural Engineer and project Owner must decide if the level of risk associated with code values is acceptable and, if not, to assign appropriate seismic values above code values for use in structural design.

5.1.2 Hazardous Materials

AGS has *not* been retained to provide any type of environmental assessment of the subject property, *nor* to provide recommendations with respect to any contamination that might be present.

5.1.3 Cut or Fill Slopes

No cut or fill slopes are proposed to be constructed at the subject site.

5.1.4 Excavation Characteristics

It is anticipated that conventional earthmoving equipment could be utilized during grading on the subject site. Extremely hard or cemented earth materials are not expected to be encountered.

5.1.5 Shrinkage / Bulking

Shrinkage results when the soil being placed as fill is compacted to a dry density greater than the in-place source materials, and bulking occurs when the soil is compacted to a dry density less than the in-place source materials. Based on experience and laboratory test data, it is estimated that an average shrinkage factor of about 15% will result from recompaction of the upper onsite soils. This estimate does not account for the effects of volume losses due to clearing, grubbing and stripping operations, or unanticipated variations which may occur in the density of the in-place materials. If the actual average degree of compaction differs from that used to estimate shrinkage, the actual shrinkage may also differ. Variations in the estimated shrinkage factors shall be anticipated and provisions for such variations should be included in the project specifications.

5.1.6 Drainage

All surface runoff must be carefully controlled and must remain a crucial element of site maintenance. Proper drainage and irrigation are important to reduce the potential for excessive infiltration adjacent to foundations. Final grading should provide positive drainage away from footings in compliance with the City of Camarillo's grading requirements. All pad drainage shall be collected and diverted away from proposed buildings and foundations in non-erosive devices. Gutters and roof drains should be provided, properly maintained, and discharge directly into glue-joined, watertight subsurface piping. A drainage system consisting of area drains, catch basins, and connecting

lines should be provided to capture landscape/hardscape sheetflow discharge water. All drainage piping should be watertight and discharge to an appropriate location, as determined by the project Civil Engineer.

All underground plumbing fixtures should be absolutely leak-free. As part of the maintenance program, utility lines should be checked for leaks for early detection of water infiltrating the soils that could cause detrimental soil movements. Detected leaks should be promptly repaired. Proper drainage shall also be provided away from the building footings during construction. This is especially important when construction takes place during the rainy season.

Seepage of surface irrigation water or the spread of extensive root systems into the subgrade of footings, slabs, concrete flatwork or pavements can cause differential movements and consequent distress in these structural elements. Trees and large shrubbery should *not* be planted so that roots grow under foundations and flatwork when they reach maturity. Landscaping and watering schedules should be planned with consideration for these potential problems.

Drainage systems should be well maintained, and care should be taken to *not over* or *under* irrigate the site. Landscape watering should be held to a minimum while maintaining a uniformly moist condition without allowing the soil to dry out. During extreme hot and dry periods, adequate watering may be necessary to keep soil from separating or pulling back from the foundations. Cracks in paved surfaces should be sealed to limit infiltration of surface waters.

5.1.7 Plan Review

When final Grading and Structural Plans become available, they should be reviewed by AGS *prior* to submittal to regulatory agencies for approval. Additional analysis *may* be required at that time depending on specific details of the proposed grading and improvements. Approval by this office will be indicated on the plans by *manual* signature and stamp.

Please be aware that the contract fee for our services to prepare this report does not include additional work that may be required, such as grading observation and testing, footing observations, plan review, or responses to governmental (regulatory) plan reviews associated with you obtaining a building permit. Where additional services are requested or required, you will be billed on an hourly basis for consultation or analysis. AGS requests a minimum of 24 hours be provided for plan reviews. Please anticipate additional time for plan corrections if all of our geotechnical recommendations have not been added to the plans, prior to our approving and stamping the plans.

5.1.8 Additional Recommendations

The following additional geotechnical recommendations should be incorporated into the final design and construction practice. All such work and design should be in conformance with local governmental regulations or the recommendations contained herein, whichever are more restrictive. The following recommendations have *not* been reviewed or approved by the City at this time. These recommendations may change based on obtaining approval from the City. Design of the proposed project should be made following approval from the City.

5.2 Site Preparation

General guidelines are presented below to provide a basis for quality control during site grading. It is recommended that all compacted fills be placed and compacted with engineering control under continuous observation and testing by the Geotechnical Engineer, and/or their field representative.

5.2.1 Removals

a. When demolishing any existing improvements in the vicinity of the proposed structures or other improvements, the contractor should locate all existing foundations, floor slabs, debris pits, uncertified fill, and subsurface trash which may be present. These soils and structures

should be completely removed. The resulting excavations should be cleaned of all loose or organic material, and the excavation backfilled with compacted fill. In the areas of the proposed new structures or pavement, deeper removals may be required, as discussed below.

b. Remove all vegetation and loose soil *prior* to fill placement. The general depth of stripping should be sufficiently deep to remove any root systems or organic topsoil which may be present. A careful search shall be made for subsurface trash, abandoned masonry, abandoned septic systems, and other debris (including uncertified fill) during grading. All such materials shall be removed *prior* to fill placement. The removal of trees and large shrubs should include complete removal of their root structures.

c. The proposed building areas should be over-excavated to a minimum depth of 7 feet below the existing or future site grade, whichever is deeper, and a minimum of 5 feet below the bottom of the proposed foundations, including deeper foundations in elevator pits or other areas. In addition, all building foundations should be underlain by a relatively uniform blanket of compacted fill, where the ratio of the maximum to minimum depths of newly placed compacted fill below bottom of footings does not exceed approximately 2.5:1.

d. The limits of over-excavation should extend a minimum of 5 feet beyond the outside perimeter of all building foundations.

e. In areas to receive new exterior pavement or other miscellaneous surface improvements, all existing fill materials and any other loose or disturbed soil should be removed and recompacted. The depth of over-excavation in these areas should be a minimum of either 12 inches below existing grade, or 12 inches below the bottom of any proposed improvements, or supporting aggregate base section, whichever is deeper.

f. A careful search shall be made for any deeper areas of existing fill or loose soil during grading operations. If encountered, these loose areas should be properly removed to firm underlying native soil, and properly backfilled and compacted as directed by a field representative of the Project Geotechnical Engineer.

g. Compacted fill should be moisture conditioned to at least optimum moisture content, but no more than approximately 5% over optimum, and compacted to a minimum of 90% of the maximum dry density, except in areas which will be subject to vehicular traffic, where the upper 12 inches should be compacted to a minimum of 95% of the maximum density. The laboratory maximum dry density should be determined by ASTM D1557. Additional lifts should *not* be placed until the present lift has been tested and shown to meet the compaction requirements.

5.2.2 Bottom Stabilization

a. Depending on the time of year, recent precipitation, the exact type of earth materials exposed at the bottom of over-excavation in any given area, and type of equipment utilized, the bottom of over-excavation may be found to be wet or 'pumping', although it is not currently anticipated, based on the condition of the earth materials encountered at the time of exploration. In the event of pumping soils, significant drying and/or stabilization of the bottom of over-excavation may be required, or the use of equipment not as prone to cause pumping may be required (i.e. track mounted equipment instead of wheel-mounted, or the use of excavators staged outside the excavation instead of scrapers inside the excavation). If necessary, stabilization methods may include the use of geogrid such as Mirafi 600X, and/or float rock

consisting of 2 to 3 inch gravel. If float rock is utilized, a geofabric such as Mirafi 140N should be placed over the top of the float rock, prior to placing compacted fill.

5.2.3 Suitable Fill Material

a. The excavated site soils, cleaned of deleterious material, can be re-used for fill. Rock larger than 6 inches should *not* be buried or placed in compacted fill. Rock fragments less than 6 inches may be used provided the fragments are *not* placed in concentrated pockets, and a sufficient percentage of finer grained material surrounds and infiltrates the rock voids. Furthermore, the placement of any rock must be under the continuous observation of the Geotechnical Engineer, and/or his field representative.

b. Imported material should have engineering properties similar to, or more favorable than the onsite soils. Any proposed import material will require testing, and should be approved by the Geotechnical Engineer *prior* to placement. The expansion index of any potential import should be less than 25, and for import to be utilized in proposed parking areas, the R-value should be greater than or equal to 32.

5.2.4 Placement of Compacted Fill

a. All fill materials should be placed in controlled, horizontal layers *not* exceeding 6 to 8 inches in loose thickness, and moisture conditioned to at least optimum moisture content, but no more than approximately 5% over optimum. Fill materials should be compacted to a minimum 90% of the laboratory maximum dry density (95% for the upper 12 inches in areas subject to vehicular traffic), as determined by ASTM D1557. If either the relative compaction or moisture content do *not* meet these criteria, the contractor should rework the fill until it does meet the criteria. If the fill materials pump (flex) under the weight of construction equipment, difficulties in obtaining the required minimum compaction may be experienced. Therefore, if soil pumping occurs, it may be necessary to control the moisture content to a closer tolerance (e.g., 2 to 3% above optimum) or use construction equipment that is not as prone to cause pumping.

b. The field test methods to be used to determine the in-place dry density of the compacted fill shall be in conformance with either ASTM D1556 (sand cone test method) or ASTM D2922 (nuclear gauge method).

c. Subgrade to be utilized for the support of any exterior surface improvements shall be moisture conditioned, as required, to at least optimum moisture content, but no more than approximately 5% over optimum, and be recompacted to at least 90% of the maximum dry density to a depth of at least 12 inches (95% in areas subject to vehicular traffic).

5.2.5 Testing of Compacted Fill

a. At least one compaction test shall be performed for every 500 yd^3 of the fill material. In addition, at least one test shall be performed for every 2 feet of fill thickness.

5.2.6 Inclement Weather and Construction Delays

a. If construction delays or the weather result in the surface of the fill drying, the surface should be scarified and moisture conditioned before the next layer of fill is added. Each new layer of fill should be placed on a rough surface so planes of weakness are not created in the fill.

b. During periods of wet weather and before stopping work, all loose material shall be spread and compacted, surfaces shall be sloped to drain to areas where water can be removed, and erosion protection or drainage provisions shall be made in accordance with the plans provided by the

Civil Engineer. After the rainy period, the Geotechnical Engineer and/or his field representative shall *review* the site for authorization to resume grading and to provide any specific recommendations that may be required. As a minimum, however, surface materials previously compacted before the wet weather shall be scarified, brought to the proper moisture content, and recompacted *prior* to placing additional fill.

c. During foundation construction, including any concrete flatwork, construction sequences should be scheduled to reduce the time interval between subgrade preparation and concrete placement to avoid drying and cracking of the subgrade, or the surface should be covered or periodically wetted to prevent drying and cracking.

*5.2.7 **Responsibilities***

a. Representative samples of material to be used as compacted fill should be analyzed in the laboratory by the Geotechnical Engineer to determine the physical properties of the materials. If any materials other than those previously tested are encountered during grading, the appropriate analysis of this material shall be conducted by the Geotechnical Engineer as soon as practicable. Any imported soil from off-site sources shall be approved *prior* to placement.

b. All grading work shall be observed and tested by the Project Geotechnical Engineer or their field representative to confirm proper site preparation, excavation, scarification, compaction of on-site soil, selection of satisfactory fill materials, and placement and compaction of fill. All removal areas and footing excavations shall be observed by the field representative of the Project Geotechnical Engineer before any fill or steel is placed.

c. The lateral limits and the depths of the required over-excavation should be shown by the Civil Engineer on the grading plans.

d. The grading contractor has the ultimate responsibility to achieve uniform compaction in accordance with the geotechnical report and grading specifications.

5.3 Utility Trench Backfill

The on-site soils are suitable for backfill of utility trenches from 1-foot above the top of the pipe to the surface, provided the material is free of organic matter and deleterious substances. The native soils should provide a firm foundation for site utilities, but any soft or unstable material encountered at pipe invert should be removed and replaced with an adequate bedding material.

The site Civil Engineer in accordance with manufacturer's requirements should specify the type of bedding materials. Granular soils will need to be imported for bedding or shading of utilities. Jetting of bedding materials should *not* be permitted unless appropriate drainage is provided and the bedding has a sand equivalent greater than 50.

Trench backfill should be placed in 8-inch lifts, moisture conditioned, and properly compacted in accordance with the recommendations provided in the *Site Preparation* section of this report. Jetting of trench backfill is *not* acceptable to compact the backfill.

In areas where utility trenches pass through an existing pavement section, the trench width at the surface shall be enlarged a minimum of 6 inches on each side to provide bearing on undisturbed material for the new base and paving section to match the existing section.

Major underground utilities shall *not* cross beneath buildings unless specifically approved by the Project Civil Engineer and respective utility company. If approved, trenches crossing building areas shall be backfilled with a

select gravelly sand compacted to 95% relative compaction and at a moisture content at least optimum moisture but no more than 5% above optimum moisture.

5.4 Temporary Excavations

Unsurcharged, temporary excavations of 5 feet or less in height in on-site soils may not require any special shoring. Where there is sufficient space, excavations over 5 feet in height may be laid back at a 1(H):1(V) gradient. All other excavations would require conventional shoring per CAL/OSHA Regulations.

Excavations should *not* be allowed to become soaked with water or to dry out. Surcharge loads should *not* be permitted within a horizontal distance equal to the height of the excavation from the top of the excavation, unless the excavation is properly shored. Excavations that might extend below an imaginary plane inclined at 45 degrees below the edge of an existing foundation should be properly shored to maintain foundation support of the existing structure.

5.5 Foundation Design

After removal and recompaction of all existing fill material and the upper native soils, as described previously in this report, conventional, shallow foundations bearing entirely into certified compacted fill can be utilized for support of the proposed housing buildings and parking structure. All proposed building foundations should be underlain by a minimum of 5 feet of newly placed compacted fill. Foundations for any free-standing site walls or small retaining walls may be supported on conventional, shallow foundations bearing either entirely within compacted fill, or entirely within undisturbed native soils. In order to avoid potential excessive differential settlement, it is recommended that any given length of free standing site or retaining walls bear either entirely within compacted fill, or entirely within native soils.

The following foundation design criteria may be utilized in the design of conventional, shallow foundations.

5.5.1 Minimum Footing Dimensions

Structure Type	Minimum Footing Embedment Depth (inches)	Minimum Wall Footing Width (inches)	Minimum Isolated or Pad Footing Width, (inches)
Buildings	18 (2-story) 24 (3-story)	12	24
Free-Standing Site Walls or Retaining Walls	18	12	---

These embedment depths are below the lowest adjacent, final grade. Where located adjacent to utility trenches, footings shall extend below a 1:1 plane projected upward from the inside bottom of the trench.

5.5.2 Allowable Bearing Pressure and Lateral Resistance

Allowable net vertical soil bearing pressure, including dead and live loads, are given below for footings founded at the minimum required embedment depths into the recommended bearing material, provided the footing width and depth equals or exceeds the recommended minimum. The bearing capacity can be increased by ⅓ when considering short duration wind or seismic loads.

Bearing Material	Allowable Bearing Pressure (psf)	Allowable Sliding Friction Coefficient	Allowable Passive Resistance (psf/ft)	Maximum Passive Resistance (psf)
COMPACTED FILL (ALL BUILDING FOUNDATIONS)	2000	0.30	250	2500
NATIVE SOILS (FREE-STANDING SITE WALLS OR RETAINING WALLS ONLY)	1500	0.25	200	2000

Resistance to lateral loads can be assumed to be provided by friction along the base of the foundation, and by passive earth pressure on the side of the footing. The allowable friction coefficient may be used with the vertical dead loads, and the allowable lateral passive pressure can be utilized for the sides of footings poured against the recommended bearing material. These allowable values can be increased by a factor of 1.5 to convert from allowable to ultimate values. When combining passive and friction for lateral resistance, the passive component should be reduced by one-third.

5.5.3 Foundation Settlement

Static settlement of new foundations is not expected to exceed approximately ½ inch under the assumed loading conditions, and is expected to occur primarily upon initial application of loading. Differential settlement is not expected to exceed approximately ¼ inch over a span of 30 feet.

The maximum settlement of the foundations as a result of dynamic dry settlement of the underlying soils in response to seismic shaking is anticipated to be in the range of approximately 0.53 to 0.87 inches. The potential differential dynamic dry settlement is typically assumed to be approximately ½ of the total settlement over a distance of 30 feet, which would be approximately 0.27 to 0.44 inches.

5.5.4 Steel Reinforcement

All continuous foundations should be reinforced with a minimum of four #4 steel bars. Two bars should be placed near the top of the foundation, and two should be placed near the bottom. Final structural details of the footings, such as footing thickness, concrete strength, and amount of reinforcement, should be established by the project Structural Engineer, but should comply with the minimum requirements provided above.

5.5.5 Required Observations

Prior to placing concrete in the footing excavations, an observation should be made by the field representative of the Project Geotechnical Engineer to confirm that the footing excavations are free of loose and disturbed soils and are embedded in the recommended bearing material.

5.6 Floor Slab Design

Concrete slabs-on-grade should be a minimum of 4 inches thick, and be reinforced with a minimum of #4 steel bars placed a minimum of 24 inches on center each way. The exact structural details such as slab thickness, concrete strength, reinforcement, and joint spacing, should be determined by the project Structural Engineer, but should comply with the minimum requirements given above. The onsite soils were determined to be in the *very low* to *low* expansion range, with an expansion index ranging from 5 to 25.

Cracking of concrete flatwork can occur and is relatively common. Steel reinforcement and crack control joints are intended to reduce the risk of concrete slab cracking, as are the use of fiber reinforced concrete and proper concrete curing. Also, concrete slabs are generally not perfectly level, but they should be within tolerances included in the project specifications.

Tile flooring can crack, reflecting cracks in the underlying concrete slab. Therefore, if tile flooring is used, the slab designer should consider additional steel reinforcement, above minimum requirements, in the design of concrete

slab-on-grade where tile will be installed. Furthermore, the tile installer should consider installation methods, such as using a vinyl crack isolation membrane between the tile and concrete slab, to reduce the potential for tile cracking.

If earthwork operations are conducted such that the construction sequence is not continuous, or if construction operations disturb the surface soils, it is recommended that the exposed subgrade to support concrete slabs be tested within a day of the concrete pour (or prior to placing the sand and vapor barrier, if utilized) to verify adequate compaction and moisture conditions. If adequate compaction and moisture conditions are not demonstrated, the disturbed subgrade should be over-excavated, scarified, and recompacted in accordance with the guidelines in the *Site Preparation* section of this report *prior* to the slab being poured.

5.6.1 Vapor Barrier

It is recommended that a minimum 15-mil thick plastic vapor barrier be used under floor slabs in moisture sensitive areas. The vapor barrier should be installed in accordance with the recommendations contained in the latest version of ASTM E1643. In accordance with our understanding of the latest standard of practice, it is recommended that the concrete slab be poured directly on top of the vapor barrier. No sand should be placed atop the vapor barrier, however, 2 to 4 inches of sand could be placed below the vapor barrier, if desired by the project team, although this is not a geotechnical requirement. Seams of the vapor barrier should be overlapped and sealed. Where pipes extend through the vapor barrier, the barrier should be sealed to the pipes. Tears or punctures in the vapor barrier should be completely repaired *prior* to placement of concrete. The concrete mix should be designed so as to minimize possible curling of the slab. The concrete slab should be allowed to cure properly before placing vinyl or other moisture-sensitive floor covering.

5.7 Pavement Design

All areas to be paved should be graded in accordance with the recommendations provided in the "Site Preparation" section of this report. Compaction tests will be required for the recommended asphalt concrete and aggregate base. A minimum relative compaction of 95% is required for the asphalt concrete, aggregate base, and upper 12 inches of subgrade soils. The aggregate base should have a minimum *R*-value of 78 and meet Caltrans Class II specifications. Base materials should be placed and compacted in lifts not exceeding 6 inches. Asphalt should *not* be placed if the base is pumping. Base materials are *not* required beneath curbs and gutters. However, if base materials are not utilized beneath the curbs and gutters, it is recommended that the subgrade soils be scarified to a minimum depth of 12 inches below the bottom of curb, and recompacted to at least 95% relative compaction.

5.7.1 Asphalt Pavements

Asphalt pavement section calculations were performed for asphalt pavement design for a range in traffic indices. Selection of the appropriate traffic index to use should be made by the Project Civil Engineer based on their knowledge of traffic flow and loadings.

The structural sections for asphalt pavement were computed in general accordance with the Caltrans method (**California Department of Transportation Highway Design Manual**), using an *R*-value of 32, based on the results of R-value testing of a representative sample of the upper onsite soils (R-value = 48), and applying a factor of safety of 1.5. The results of the R-value testing are included in Appendix B of this report, and recommended pavement sections are summarized in the following table.

Traffic Index	Thickness, Inches	
	Asphalt Concrete	Aggregate Base
5.0	4.0	5.0
6.0	4.0	6.0
7.0	5.0	7.0

5.7.2 Concrete Pavements

It is recommended that all exterior concrete pavement subject to vehicular traffic be a minimum of 6 inches thick, and be underlain by a minimum of 4 inches of aggregate base. Concrete flatwork subject only to pedestrian traffic (i.e. walkways, patios, etc.) should be a minimum of 4 inches thick, and may be placed directly on compacted subgrade. All exterior concrete should be reinforced with a minimum of #4 steel bars placed on 24-inch centers each way.

5.7.3 Pavement Maintenance

Pavement section design assumes that proper maintenance practices, such as sealing and repair of localized areas of distress, are employed throughout the design life of the pavement.

5.8 Retaining Wall Design Criteria

The exact locations and heights of any proposed retaining walls are not yet known, however it is anticipated that any proposed retaining walls will retain less than 6 feet of earth materials. It is anticipated that there will be elevator pit retaining walls within some or all buildings, and there may also be free-standing retaining walls, which are not connected to the proposed structures. Retaining walls can be supported on conventional, shallow foundations, bearing in either compacted fill, or native soils, as follows. It is recommended that elevator pit retaining wall foundations, which will be integrally connected to the proposed structures, be supported on a blanket of newly placed compacted fill, along with the remainder of the proposed structures. Free-standing retaining walls not connected to the proposed structures may be supported on native earth materials. Criteria for use in the design of retaining wall foundations is provided in the *Foundation Design* section of this report.

5.8.1 Lateral Earth Pressures

The earth pressure behind retaining walls depends on the allowable wall movement, type of backfill materials, backfill slopes, wall inclination, surcharges, any hydrostatic pressures, and compaction effort. The following equivalent fluid pressures are recommended for vertical walls with no hydrostatic pressure, no surcharge, no seismic effects, and a backfill slope with a gradient less (flatter) than 5(H):1(V). Seismic lateral forces would be in addition to the static wall pressures provided below, and would be required for walls retaining more than 6 feet, which is not currently anticipated.

	Equivalent Fluid Unit Weight, pcf			
Wall Movement	Clean Sand or Gravel Backfill (GW, GP, SW, SP)	Silty Sand or Silty Gravel Backfill (SM, GM)	Clayey Sand, Clayey Gravel Backfill (SC, GC)	Silts, Clays (ML, CL)
FREE TO DEFLECT	30	40	45	55
RESTRAINED	40	50	60	80

In areas where the retaining walls retain sloping ground steeper than 5(H):1(V), the equivalent unit weights in the above table should be increased by 13 pcf for gradients up to 2(H):1(V).

These values are applicable for backfill placed between the wall stem and an imaginary plane rising at a 45-degree angle from below the edge (heel) of the wall footing. If the onsite soil is used as backfill within this zone, the equivalent fluid unit weight associated with a soil classification of SM should be used.

The surcharging effect of anticipated adjacent loads on the wall backfill due to traffic, footings, or other loads, should be included in the wall design. The magnitude of lateral load due to surcharging depends on the magnitude of the surcharge, the size of the surcharge-loaded area, the distance of the surcharge from the wall, and the restraint of the wall. We can provide assistance in evaluating the effects of surcharge loading, if desired, once details are known and provided.

5.8.2 Backfill and Drainage

Except for the upper 18 to 24 inches, the soil immediately adjacent to backfilled retaining walls should be free-draining filter material (such as Caltrans Class 2 permeable material), or gravel wrapped in filter fabric, within a minimum horizontal distance of 1-foot from the back face of the wall. As an alternative to either one of these, a drainage tile product such as Miradrain may be applied to the back face of wall, over the waterproofing. Weep holes and/or a subdrain pipe, as appropriate, should be installed at the base of retaining walls. Subdrain pipe should consist of a minimum 4-inch diameter perforated PVC pipe meeting ASTM D2729 or better, surrounded by a minimum of 1 cubic foot of gravel per lineal foot of pipe, and the entire pipe and gravel system should be wrapped in filter fabric, such as Mirafi 140N. Accordion or similar type pipe is *not* acceptable for subdrain pipe. The top 18 to 24 inches should be backfilled with less permeable compacted fill to reduce infiltration.

During grading and backfilling operations adjacent to any wall, heavy equipment should not be allowed to operate within 5 feet laterally of the wall or within a lateral distance equal to the wall height, whichever is greater, to avoid developing excessive lateral pressures. Within this zone, only hand-operated equipment should be used to compact the backfill soils.

6. OBSERVATIONS AND TESTING

Prior to the start of site preparation and/or construction, *it is recommended that a meeting be held with the Contractor to discuss the project*. It is recommended that AGS be retained to perform the following tasks prior to and/or during construction. Please *advise* AGS a minimum 24 hours *prior* to any required site visit. *All approved plans, permits, and geotechnical reports must be at the jobsite and be made available during inspections.*

a. *Review* grading, foundation, and drainage plans to *verify* that the recommendations contained in this report have been properly interpreted and are incorporated into the project specifications. *If we are not accorded the opportunity to review these documents, we can take no responsibility for misinterpretation of our conclusions and recommendations.*

b. *Observe and advise* during all grading activities, including site preparation, foundation excavation, and placement of fill, to *confirm* that suitable fill soils are placed upon competent material and to allow design changes if subsurface conditions differ from those anticipated *prior* to the start of construction.

c. *Observe* the installation of all drainage devices.

d. *Test* all fill placed for engineering purposes to *confirm* that suitable fill materials are used and properly compacted.

7. LIMITS AND LIABILITY

All building sites are subject to elements of risk that cannot be wholly identified and/or entirely eliminated. Building sites are subject to many detrimental geotechnical hazards, including but *not* limited to the effects of water infiltration, erosion, concentrated drainage, total settlement, differential settlement, expansive soil movement, seismic shaking, fault rupture, landsliding, and slope creep. The risks from these hazards can be reduced by employing subsurface exploration, laboratory testing, analyses, and experienced geotechnical judgment. Many geotechnical hazards, however, are highly dependent on the property owner properly maintaining the site, drainage facilities, and slope and by correcting any deficiencies found during occupancy of the property in a timely manner. Even with a thorough subsurface exploration and testing program, significant variability between test locations and between sample intervals may exist. Ultimately, geotechnical recommendations are based on the experience and judgment of the geotechnical professionals in evaluating the available data from site observations, subsurface exploration, and laboratory tests. Latent defects can be concealed by earth materials, deposition, geologic history,

and existing improvements. If such defects are present, they are beyond the evaluation of the geotechnical professionals. No warranty, expressed or implied, is made or intended in connection with this report, by furnishing of this report, or by any other oral or written statement. Owners and developers are responsible for retaining appropriate design professionals and qualified contractors in developing their property and for properly maintaining the property. Retaining the services of a geotechnical consultant should *not* be construed to relieve the Owner, Developer, or Contractors of their responsibilities or liabilities.

The analysis and recommendations submitted in this report are based in part on our subsurface exploration, laboratory testing, site observations, and provided data on geology and the proposed site development. Our descriptions and the boring logs may show distinctions between fill and native soils, between native (e.g., alluvium, colluvium, slopewash) and bedrock formation, and between soil type (e.g., sands and silty sands). Such distinctions were based on geologic information, grading plans when available, intermittent recovered soil/bedrock samples, and judgment. Delineations between these categories of materials may not be perfect and may be subject to change as more information becomes available. For example, judgments may be clouded when recovered samples are intermittent and small in comparison to the volume of soil under study, and macrostructure that would aid the identification process are not as apparent as they would be when the borehole is geologically downhole logged by entering the excavation. When the age of the fill is old, the difference between the structure of the fill and native materials may be less pronounced, or the degree of bedrock formation weathering sometimes makes it difficult to distinguish between overlying alluvium, colluvium, or slopewash and weathered bedrock formational material. In general, our recommendations are based more on the properties of the materials than on the category of the material type such as fill, alluvium, colluvium, slopewash, or bedrock formation. Furthermore, the actual stratigraphy may be more variable than shown on the logs.

Although this report may comment or discuss construction techniques or procedures for the design engineer's guidance, this report should *not* be interpreted to prescribe or dictate construction procedures or to relieve the contractor in any way of their responsibility for the construction.

Please be aware that the contract fee for our services to prepare this report does not include additional work that may be required, such as grading observation and testing, footing observations, plan review, or responses to governmental (regulatory) plan reviews associated with you obtaining a building permit. Where additional services are requested or required, you will be billed for any equipment costs and on an hourly basis for consultation or analysis.

The Geotechnical Engineer's actual scope of work during construction is very limited and does *not* assume the day-to-day physical direction of the work, minute examination of the elements, or responsibility for the safety of the contractor's workers. Our scope of services during construction consists of taking soil tests and making visual observations, sometimes on only an intermittent basis, relating to earthwork or foundation excavations for the project. We do *not* guarantee the contractor's performance, but rather look for general conformance to the intent of the plans and geotechnical report. Any discrepancy noted by us regarding earthwork or foundations will be referred to the Owner, project Engineer, Architect, or Contractor for action.

This report is issued with the understanding that it is the responsibility of the Owner, or of their representative, to ensure that the information and recommendations contained herein are called to the attention of the Architect and Engineers for the project and incorporated into the plan and that the necessary steps are taken to see that the Contractor carry out such recommendations in the field. Advanced Geotechnical Services, Inc., (AGS) has prepared this report for the exclusive use of the Client and authorized agents, and this report should *not* be considered transferable. We do recommend, however, that the report be given to future property Owners for the sole purpose of disclosing the report findings.

Findings of this report are valid as of the date of issuance. Changes in conditions of a property may occur with the passage of time whether attributable to natural processes or works of man on this or adjacent properties.

Furthermore, changes in applicable or appropriate standards occur due, for example, to legislation and broadening of knowledge. Accordingly, findings of this report may be invalidated wholly or partially by changes outside our control. Therefore, *this report is subject to our review and remains valid for a maximum period of one year*, unless we issue a written opinion of its continued applicability thereafter.

In the event that any changes in the nature and design (including structural loadings different from those anticipated), or other improvements are planned, the conclusions and recommendations contained in this report shall *not* be considered valid unless the changes are reviewed and conclusions of this report modified or verified in writing.

This report may be subject to review by controlling agencies, and any modifications they deem necessary should be made a part thereof, subject to our technical acceptance of such modifications. All submissions of this report should be in its entirety. Under no circumstances should this report be summarized and synthesized to be quoted out of context for any purpose.

Test findings and statements of professional opinion do *not* constitute a guarantee or warranty, and *no* warranties, either expressed or implied, are made as to the professional advice provided under the terms of this agreement. We have strived, however, to provide our services in accordance with generally accepted geotechnical engineering practices in this community at the time of this report.

Appendix A

Field Exploration and Boring Logs

Appendix A
Field Exploration and Boring Logs

The field exploration included a site reconnaissance and subsurface exploration. During the site reconnaissance, the surface site conditions were noted, and the approximate locations of any exploration points were determined. The following descriptions of exploration methods are generic and may include methods not used on this project. Reference to the boring logs can be made to determine which methods are applicable to this project, and any differences between what is described below and actually occurred is described on the boring logs or in the main body of the report.

The test borings were advanced by either hand digging, digging with a backhoe, or drilling. In the case of drilling, a truck-mounted rotary drilling rig with a hollow-stem auger or bucket was used to advance the borings. When we expect to encounter shallow groundwater, a wet rotary drilling operation is usually used. The method actually used is noted on the boring logs. For geologic studies when the need for visual examination of the bedding and other stratigraphic features is needed along with engineering data, the larger bucket augers are used to allow a geologist to enter the excavation for visually logging the hole. When geologically logging borings and trenches, the sides are scraped prior to logging. A prefix B is used to designate a boring made with a drilling rig. When hand dug, the boring numbers have a prefix HB. When a backhoe was used, prefixes TP (test pit) or T (trench) are used. The difference between a trench and test pit being the length of the exploration; a trench being a long narrow exploration, most commonly used for fault studies. In each case, the soils were logged by technical personnel from our office and visually classified in the field in general accordance with the Unified Soil Classification system. The field descriptions have been modified as appropriate to reflect laboratory results when preparing the final boring logs.

Relatively undisturbed samples of the subsurface materials were obtained at appropriate intervals in the borings using a steel drive sampler (2.5-inches inside diameter, 3-inches outside diameter) lined with brass, one-inch-high sample rings with a diameter of 2.4 inches. This is referred to as a modified California sampler. The boring may be advanced by drilling with a hollow-stem auger or with a wet rotary operation. If below the groundwater, the hollow-stem is filled with water or drilling mud to counteract the fluid pressure of the groundwater. The sampler was usually driven into the bottom of the borehole with successive drops of a 140-pound safety hammer connected to the sampler with either A or AW rod and falling 30 inches. An automatic hammer is usually used when drilling with a CME dill rig, and a Safe-T-Driver is used when drilling with a Mobile drill rig. When above the groundwater level, a downhole Safe-T-Driver is usually used. Studies have shown that hammer efficiencies of the automatic hammer is over 90% while that of the Safe-T-Driver is about 70%, based on impact velocities. When a bucket auger is used to advance the boring, the driving weights change with depth, depending on the weight characteristics of the telescoping kelley bar, but the height of fall is usually 18 inches. Sampler driving resistance, expressed as blows per 6 inches of penetration, is presented on the boring logs at the respective sampling depths. When the borings or trenches are excavated with a backhoe, the sampler is pushed into the soil with the force of the backhoe. A hand sampler is used when the borings or trenches are advanced by hand digging or in some cases when a backhoe is used to make the excavation. This hand sampler is similar to the conventional California sampler, but lighter weight. An approximately 8-pound hammer falling about 18 inches is used to drive the hand sampler about 6 inches into the bottom of the exploration. The type of sampler used is noted on the boring logs. In some cases the hammer weight and falling distance deviate from those given above. The actual conditions are shown on the boring logs and supersede the conditions given above.

Ring samples were retained in close-fitting, moisture tight containers for transport to our laboratory for testing. Bulk samples, which were collected from cuttings, were placed in bags and transported to our laboratory for testing.

When noted on the boring logs, standard penetration test (SPT) samples were obtained using either a 20-inch or a 32-inch long split-barrel sampler with a 2-inch outside diameter and a 1.375-inch inside diameter when liners are used (1.5-inch inside diameter without liners). Unless noted otherwise, liners are used. This sampler is driven into the soil with successive drops of a 140-pound, safety hammer falling 30 inches. The blows are recorded for each 6 inches of penetration for a total penetration of 18 or 24 inches. The sum of the number of blows for the last 12 inches of an 18-inch penetration or the middle 12 inches of a 24-inch penetration is referred to as the *N* value.

Logs, which are presented on Plates at the end of this Appendix, include a description and classification of each stratum, sample locations, blow counts, groundwater conditions encountered during drilling, results from selected types of laboratory tests, and drilling information. Keys to *Soil and Bedrock Symbols and Terms* are included on Plates A-1 and A-2.

Each boring or trench, unless noted otherwise, was backfilled with cuttings at the completion of the logging and sampling. The backfill, however, may settle with time, and it is the responsibility of our client to ensure that such settlement does *not* become a liability.

Major Divisions			USCS Group Symbols	Typical Names
Coarse-Grained Soils (More than half of material is larger than No. 200 sieve)	Gravels (More than half of coarse fraction is larger than No. 4 sieve)	Clean gravels (Little or no fines)	GW	Well-graded gravels, gravel-sand mixtures, little or no fines
			GP	Poorly graded gravels, gravel-sand mixtures, little or no fines
		Gravels with fines (Appreciable amount of fines)	GM	Silty gravels, gravel-sand-silt mixtures
			GC	Clayey gravels, gravel-sand, clay mixtures
	Sands (More than half of coarse fraction is smaller than No. 4 sieve)	Clean sands (Little or no fines)	SW	Well-graded sands, gravelly sand, little or no fines
			SP	Poorly graded sands, gravelly sands little or no fines
		Sands and fines (Appreciable amount of fines)	SM	Silty sands, sand-silt mixtures
			SC	Clayey sands, sand-clay mixtures
Fine-Grained Soils (More than half of material is smaller than No. 200 sieve)	Silts and Clays Liquid Limit < 50		ML	Silts and very fine sands, rock-flour, silty or clayey fine sands, or clayey silts with slight plasticity
			CL	Inorganic clays of low or medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
			OL	Organic silts and organic silty clays of low plasticity
	Silts and Clays Liquid Limit > 50		MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
			CH	Inorganic clays of high plasticity, fat clays
	Highly Organic Soils		OH	Organic clays of medium to high plasticity, organic silts
			Pt	Peat and other highly organic soils

Legend of Laboratory Tests

G - Grain Size	C - Consolidation	PP - Pocket Penetrometer
A - Atterberg Limits	DS - Direct Shear	CH - Chemical
P - Compaction	U - Unconfined	
S - Swell/Expansion	T - Triaxial	

Sampler Type

Modified California / Hand Sampler — SPT / Shelby Tube — Rock Core / Bulk — No Recovery

Terms used in this report for describing soils according to their texture or grain size distributions are generally in accordance with the Unified Soil Classification System.

Terms Describing Density and Consistency

Coarse Grained soils (major portion retained on No. 200 sieve) include (1) clean gravels, (2) silty or clayey gravels, and (3) silty, clayey, or gravelly sands. Relative density is related to SPT blow count corrected for overburden pressure or drive energy.

Density		SPT *N* Value Blows/Ft	Relative Density %
Very Loose	vl	0 to 4	0 to 15
Loose	l	4 to 10	15 to 35
Medium Dense	md	10 to 30	35 to 65
Dense	d	30 to 50	65 to 85
Very Dense	vd	> 50	85 to 100

Fine Grained soils (major portions passing No. 200 sieve) include (1) inorganic and organic silts and clays, (2) gravelly, sandy, or silty clays, and (3) clayey silts. Consistency is rated according to shear strength as indicated by penetrometer readings, direct shear, or SPT blow count.

Consistency	Shear Strength, ksf	SPT *N* Value
Very Soft	< 0.25	0 to 2
Soft	0.25 to 0.50	2 to 4
Firm	0.50 to 1.00	4 to 8
Stiff	1.00 to 2.00	8 to 16
Very Stiff	2.00 to 4.00	16 to 32
Hard	> 4.00	> 32

Terms Characterizing Soil Structure

Slickensided	Having inclined planes of weakness that are slick and glossy in appearance.
Fissured	Containing shrinkage cracks, frequently filled with fine sand or silt; usually more or less vertical.
Laminated	Composed of thin layers of varying color and texture.
Interbedded	Composed of alternate layers of different soil types.
Calcareous	Containing appreciable quantities of calcium carbonate.
Well Graded	Having wide range in grain sizes and substantial amounts of intermediate particle sizes.
Poorly Graded	Predominately one grain size, or having a range of grain sizes with some intermediate sizes missing.
Porous	Having visibly apparent void spaces through which water, air, or light may pass.

Soil Moisture

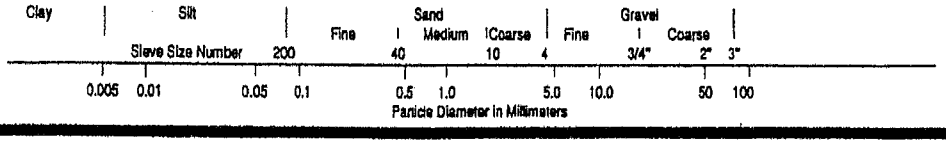
From low to high, the moisture content is indicated by:

Dry	D
Slightly Moist	Sl M
Moist (near optimum for compaction)	M
Very Moist	V M
Wet	W

Size Proportions

Designation	Percent by Weight
Trace	< 5
Few	5 to 10
Little	15 to 25
Some	30 to 45

Grain Size Distribution



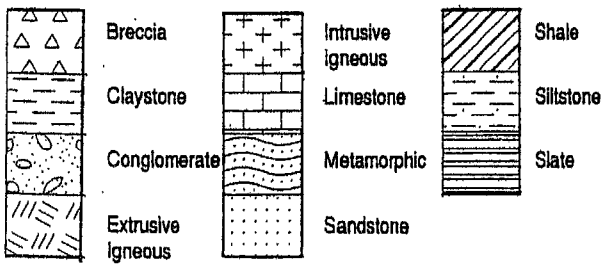
Degree of Weathering
Diagnostic Feature

Descriptive Term	Discoloration Extent	Fracture Condition	Surface Characteristics	Original Texture	Grain Boundary Condition
Unweathered	None	Closed or discolored	Unchanged	Preserved	Tight
Slightly Weathered	Less 20% of fracture spacing on both sides of fracture	Discolored, may contain thin filling	Partial discoloration	Preserved	Tight
Moderately Weathered	Greater than 20% of fracture spacing on both sides of fracture	Discolored, may contain thick filling, cemented rock	Partial to complete discoloration, not friable except poorly cemented rocks	Preserved	Partial Opening
Highly Weathered	Throughout		Friable and possibly pitted	Mainly Preserved	Partial Separation
Completely Weathered	Throughout		Resembles a soil	Partly Preserved	Complete Separation

Discontinuity Spacing

Description for Structural Feature: Bedding, Foliation, or Flow Banding	Spacing		Description for Joints, Faults, or Other Fractures
Very Thickly (Bedded, Foliated, or Banded)	More than 2 m	More than 6 ft	Very Widely (Fractured or Jointed)
Thickly	60 cm to 2 m	2 to 6 ft	Widely
Moderately	20 to 60 cm	8 to 24 in.	Medium
Thinly	60 to 200 mm	2.5 to 8 in.	Closely
Very Thinly	20 to 60 mm	0.75 to 2.5 in.	Very Closely
Description for Microstructural Features: Bedding, Foliation, or Cleavage			
Intensely (Laminated, Foliated, or Cleaved)	6 to 20 mm	0.25 to 0.75 in.	Extremely Close
Very Intensely	< 6 mm	< 0.25 in.	

Graphic Symbols - Bedrock



Rock Hardness

Classification	Field Test
Very Weak	Can be dug by hand and crushed with fingers.
Weak	Friable, can be gouged deeply with a knife and will crumble readily under light hammer blows.
Moderately Strong	Can be peeled with a knife. Material crumbles under firm blows with the sharp end of a geologic pick.
Strong	Cannot be scaped or peeled with a knife point. Hand held specimen breaks with firm blows of the pick.
Very Strong	Difficult to scratch with knife point. Cannot break hand held specimen.

Separation of Fracture Walls

Description	Separation of Walls, mm
Closed	0
Very Narrow	0 to 0.1
Narrow	0.1 to 1.0
Wide	1.0 to 5.0
Very Wide	> 5.0

Fracture Filling

Description	Definition
Clean	No fracture filling material
Stained	Discoloration of rock only. No recognizable filling material.
Filled	Fracture filled with recognizable filling material.

Surface Roughness

Description	Classification
Smooth	Appears smooth and is essentially smooth to the touch. May be slickensided.
Slightly Rough	Asperities on the fracture surfaces are visible and can be distinctly felt.
Medium Rough	Asperites are clearly visible and fracture surface feels abrasive to the touch.
Rough	Large angular asperites can be seen. Some ridge and high-side angle steps evident.
Very Rough	Near vertical steps and ridges occur on the fracture surface.

Where slickensides are observed, the direction of the slickensides should be recorded after the standard discontinuity surface description.

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Boring Log B-1

Sheet 1 of 2

Project **Area Housing Authority of the County of Ventura** Client No. **4959** Date Drilled **7/25/19**

Comment **2800 Barry Street, Camarillo**

Drilling Company/Driller **Choice Drilling** Equipment **Hollow Stem Auger**

Driving Weight (lbs) **140** Average Drop (in.) **30** Hole Diameter (in.) **8**

Elevation _____ ft Depth to Water _____ ft After _____ hrs on _____ Logged By **BW**

Description of Material

This log, which is part of the report prepared by Advanced Geotechnical Services, Inc. for the named project, should be read together with that report for complete interpretation. This summary applies only at this boring location and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.

Depth, ft	Sample	Blows/6"	Graphic Symbol	Description of Material	Attitudes	Dry Unit Weight, pcf	Moisture Content, %	#200, %	Other Tests
				Asphalt, 3 inches thick					
				Base, 14 inches thick					
				Alluvium (Qa)					
		7 9 12		Yellowish brown Silty SAND, slightly moist, medium dense		108.9	0.8		
5		7 11 16		Yellowish brown medium to coarse grained SAND in shoe of sampler		124.2	1.5		
		11 15 22		minor clay binder		114.0	11.3		
10		10 13 18		Tan fine grained SAND, slightly moist, dense		110.7	2.6		
		14 19 23		Moderate yellowish brown Clayey Silty SAND, moist, dense		95.2	21.5		
15		6 10 12		Tan fine grained SAND, slightly moist, dense		96.7	4.0		
20		6 9 15		Moderate yellowish brown Silty Clayey SAND, slightly moist, dense		118.7	5.3	42.0	
25		10 13 19		Moderate yellowish brown Sandy SILT, moist, stiff		94.1	24.0	71.0	

Plate A- 3

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Boring Log B-1

Sheet 2 of 2

Project **Area Housing Authority of the County of Ventura** Client No. **4959** Date Drilled **7/25/19**

Comment **2800 Barry Street, Camarillo**

Drilling Company/Driller **Choice Drilling** Equipment **Hollow Stem Auger**

Driving Weight (lbs) **140** Average Drop (in.) **30** Hole Diameter (in.) **8**

Elevation _____ ft Depth to Water _____ ft After _____ hrs on _____ Logged By **BW**

Depth, ft	Sample	Blows/6"	Graphic Symbol	Description of Material	Attitudes	Dry Unit Weight, pcf	Moisture Content, %	#200, %	Other Tests
		10 16 23		Light brown fine to medium grained Silty SAND, moist, dense		125.5	3.6		
				Light brown Gravelly SAND, slightly moist, dense					
35		25 40 50@5"		with light brown iron oxide staining, slightly moist, very dense		111.6	0.9		
40		38 50@6"		Interbedded tan Silty SAND and fine grained SAND, slightly moist, very dense		117.0	9.4		
45		30 45 50@5"		Tan fine grained Silty SAND, slightly moist, dense		107.2	9.4		
				Tan fine to medium grained SAND, slightly moist, very dense					
50		50@6"				106.7	3.2		
				Total Depth Explored = 50.5 ft. No Groundwater Encountered Backfilled with Spoils 7/25/2019					
55									

This log, which is part of the report prepared by Advanced Geotechnical Services, Inc. for the named project, should be read together with that report for complete interpretation. This summary applies only at this boring location and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.

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Boring Log B-2

Sheet 1 of 2

Project **Area Housing Authority of the County of Ventura** Client No. **4959** Date Drilled **7/25/19**

Comment **2800 Barry Street, Camarillo**

Drilling Company/Driller **Choice Drilling** Equipment **Hollow Stem Auger**

Driving Weight (lbs) **140** Average Drop (in.) **30** Hole Diameter (in.) **8**

Elevation _____ ft Depth to Water _____ ft After _____ hrs on _____ Logged By **BW**

Depth, ft	Sample	Blows/6"	Graphic Symbol	Description of Material	Attitudes	Dry Unit Weight, pcf	Moisture Content, %	-#200, %	Other Tests
				This log, which is part of the report prepared by Advanced Geotechnical Services, Inc. for the named project, should be read together with that report for complete interpretation. This summary applies only at this boring location and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.					
				Asphalt, 4.5 inches thick					
				Base, 5.5 inches thick					
				Alluvium (Qa)					
				Dark yellowish brown Silty Clayey SAND, slightly moist, medium dense					
		5 7 8				115.1	8.1		
5				grades to					
				Yellowish brown Silty SAND, moist, dense					
		6 7 10				104.2	11.3		
		7 9 13		calcium carbonate stringers @ 7.5 ft.		106.8	16.4		
10		7 9 14		Tan fine to medium grained SAND, slightly moist, dense		92.2	26.1		
		8 10 15		Moderate yellowish brown Sandy SILT, moist, stiff		104.5	14.7		
15		16 10 14		Interbedded tan fine to medium grained SAND and moderate yellowish brown Silty SAND, moist, dense		87.7	25.5		
20		12 16 20				110.3	14.1		
25		11 15 18				109.8	6.4		

Plate A- 5

advanced geotechnical services, inc.

Boring Log B-2

Sheet 2 of 2

Project **Area Housing Authority of the County of Ventura** Client No. **4959** Date Drilled **7/25/19**

Comment **2800 Barry Street, Camarillo**

Drilling Company/Driller **Choice Drilling** Equipment **Hollow Stem Auger**

Driving Weight (lbs) **140** Average Drop (in.) **30** Hole Diameter (in.) **8**

Elevation _____ ft Depth to Water _____ ft After _____ hrs on _____ Logged By **BW**

Depth, ft	Sample	Blows/6"	Graphic Symbol	Description of Material	Attitudes	Dry Unit Weight, pcf	Moisture Content, %	-#200, %	Other Tests
		8 11 16		Moderate yellowish brown to olive Sandy SILT with calcium carbonate stringers, light brown iron oxide staining, moist, stiff		92.0	25.2		
35		13 16 25				95.2	22.2		
40		18 21 28				107.1	10.3	67.0	
45		40 50@6"		Tan coarse grained Gravelly SAND, slightly moist, dense		112.5	3.4		
50		15 20 24		Moderate yellowish brown to light grayish brown fine grained Sandy SILT, light brown iron oxide staining, moist, stiff		103.2	17.4	56.0	
55				Depth Explored = 51.5 ft. No Groundwater Encountered Backfilled with Spoils 7/25/2019					

This log, which is part of the report prepared by Advanced Geotechnical Services, Inc. for the named project, should be read together with that report for complete interpretation. This summary applies only at this boring location and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.

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Boring Log B-3

Sheet 1 of 1

Project **Area Housing Authority of the County of Ventura** Client No. **4959** Date Drilled **7/25/19**

Comment **2800 Barry Street, Camarillo**

Drilling Company/Driller **Choice Drilling** Equipment **Hollow Stem Auger**

Driving Weight (lbs) **140** Average Drop (in.) **30** Hole Diameter (in.) **8**

Elevation _____ ft Depth to Water _____ ft After _____ hrs on _____ Logged By **BW**

Depth, ft	Sample	Blows/6"	Graphic Symbol	Description of Material	Attitudes	Dry Unit Weight, pcf	Moisture Content, %	#200, %	Other Tests
				This log, which is part of the report prepared by Advanced Geotechnical Services, Inc. for the named project, should be read together with that report for complete interpretation. This summary applies only at this boring location and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.					
				Asphalt, 1.5 inches thick					E.I.=25
				Base, 7.5 inches thick					
				Alluvium (Qa) Dark yellowish brown Silty SAND, moist, medium dense					
		6 6 8				115.3	5.2		
5		6 9 10		becomes light brown color		110.1	6.6		
		7 9 12		Yellowish brown Sandy SILT with calcium carbonate stringers, moist, stiff		101.4	12.1		
10		8 11 16		interbedded with tan fine to medium grained SAND, moist, dense		95.7	17.6		
15		8 9 10				104.4	13.3		
				Yellowish brown medium grained Silty SAND, moist, dense					
20		8 12 16				111.4	13.8		
25				Total Depth Explored = 21.5 ft. No Groundwater Encountered Backfilled with Spoils 7/25/2019					

Plate A- 7

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Boring Log B-4

Sheet 1 of 1

Project **Area Housing Authority of the County of Ventura** Client No. **4959** Date Drilled **7/25/19**

Comment **2800 Barry Street, Camarillo**

Drilling Company/Driller **Choice Drilling** Equipment **Hollow Stem Auger**

Driving Weight (lbs) **140** Average Drop (in.) **30** Hole Diameter (in.) **8**

Elevation _____ ft Depth to Water _____ ft After _____ hrs on _____ Logged By **BW**

Description of Material

This log, which is part of the report prepared by Advanced Geotechnical Services, Inc. for the named project, should be read together with that report for complete interpretation. This summary applies only at this boring location and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.

Depth, ft	Sample	Blows/6"	Graphic Symbol	Description of Material	Attitudes	Dry Unit Weight, pcf	Moisture Content, %	#200, %	Other Tests
				Asphalt, 5.5 inches thick, no base					
				Dark grayish brown Silty SAND, moist, dense					
		5 6 5				110.8	7.4		
				grades to dark yellowish brown Silty SAND, moist, medium dense					
5		3 5 8		becomes tan Silty SAND, slightly moist, dense		101.0	11.2		
		7 9 13				110.4	13.3		
10		6 10 15		Yellowish brown fine grained Sandy SILT with calcium carbonate stringers, moist, stiff		92.6	22.3		
				Tan fine grained Silty SAND, slightly moist, dense					
15		8 10 14				98.6	15.4		
20		7 10 12				109.0	14.8		
25				Total Depth Explored = 21.5 ft. No Groundwater Encountered Backfilled with Spoils 7/25/2019					

Plate A- 8

advanced geotechnical services, inc.

Boring Log B-5

Sheet 1 of 1

Project **Area Housing Authority of the County of Ventura** Client No. **4959** Date Drilled **7/25/19**

Comment **2800 Barry Street, Camarillo**

Drilling Company/Driller **Choice Drilling** Equipment **Hollow Stem Auger**

Driving Weight (lbs) **140** Average Drop (in.) **30** Hole Diameter (in.) **8**

Elevation _____ ft Depth to Water _____ ft After _____ hrs on _____ Logged By **BW**

Description of Material

This log, which is part of the report prepared by Advanced Geotechnical Services, Inc. for the named project, should be read together with that report for complete interpretation. This summary applies only at this boring location and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.

Depth, ft	Sample	Blows/6"	Graphic Symbol	Description of Material	Attitudes	Dry Unit Weight, pcf	Moisture Content, %	-#200, %	Other Tests
				Asphalt, 3 inches thick					
				Base, 2 inches thick					
				Alluvium (Qa) Dark grayish brown Silty SAND, moist, medium dense					
		6 7 8				112.0	9.5		
				Tan fine grained Silty SAND, slightly moist, dense					
5		7 9 11				100.4	16.7		
		7 8 10				101.2	15.2		
10		9 10 15		Tan fine grained Sandy SILT, moist, stiff		94.0	22.8		
		8 12 18				95.6	25.7		
15		10 12 15		Moderate yellowish brown SILT, moist, stiff		90.7	16.0		
				Moderate yellowish brown Sandy SILT, moist, stiff					
20		9 13 16				120.2	9.2		
25				Total Depth Explored = 21.5 ft. No Groundwater Encountered Backfilled with Spoils 7/25/2019					

Plate A- 9

advanced geotechnical services, inc.

Boring Log B-6

Sheet 1 of 1

Project **Area Housing Authority of the County of Ventura** Client No. **4959** Date Drilled **7/25/19**

Comment **2800 Barry Street, Camarillo**

Drilling Company/Driller **Choice Drilling** Equipment **Hollow Stem Auger**

Driving Weight (lbs) **140** Average Drop (in.) **30** Hole Diameter (in.) **8**

Elevation _____ ft Depth to Water _____ ft After _____ hrs on _____ Logged By **BW**

Description of Material

This log, which is part of the report prepared by Advanced Geotechnical Services, Inc. for the named project, should be read together with that report for complete interpretation. This summary applies only at this boring location and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.

Depth, ft	Sample	Blows/6"	Graphic Symbol	Description of Material	Attitudes	Dry Unit Weight, pcf	Moisture Content, %	-#200, %	Other Tests
				Asphalt, 3 inches thick					
				Base, 4 inches thick					
				Alluvium (Qa) Dark yellowish brown Silty SAND, moist, medium dense					
		6 7 10				112.9	6.7		
				Tan Silty SAND, moist, dense					
5		8 10 13		Tan Sandy SILT to SILT, calcium carbonate nodules, moist, stiff		101.0	17.4		
		7 10 14		Tan Silty SAND, moist, dense		101.2	10.9		
10		8 9 12		Tan Sandy SILT, moist, stiff		108.2	6.3		
		9 13 20				93.6	24.3		
15		6 9 15				99.2	17.4		
				Moderate yellowish brown Silty SAND to Sandy SILT, moist, dense					
20		7 10 14				117.6	12.8		
25				Total Depth Explored = 21.5 ft. No Groundwater Encountered Backfilled with Spoils 7/25/2019					

Plate A- 10

advanced geotechnical services, inc.

Boring Log B-7

Sheet 1 of 1

Project **Area Housing Authority of the County of Ventura** Client No. **4959** Date Drilled **7/25/19**

Comment **2800 Barry Street, Camarillo**

Drilling Company/Driller **Choice Drilling** Equipment **Hollow Stem Auger**

Driving Weight (lbs) **140** Average Drop (in.) **30** Hole Diameter (in.) **8**

Elevation _____ ft Depth to Water _____ ft After _____ hrs on _____ Logged By **BW**

Depth, ft	Sample	Blows/6"	Graphic Symbol	Description of Material	Attitudes	Dry Unit Weight, pcf	Moisture Content, %	#200, %	Other Tests
				This log, which is part of the report prepared by Advanced Geotechnical Services, Inc. for the named project, should be read together with that report for complete interpretation. This summary applies only at this boring location and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.					
				Asphalt, 4 inches thick **Base**, 3 inches thick **Alluvium (Qa)** Dark brown Silty SAND, moist, medium dense					
		13 15 15		grades to light brown color		117.4	5.9		
5		6 8 11		Tan fine grained Silty SAND, slightly moist, dense		95.4	19.3		
		7 10 12		Tan fine grained Silty SAND to Sandy SILT, moist, dense		98.9	14.4		
10		8 12 13		Moderate yellowish brown Sandy SILT, moist, stiff		96.3	21.8		
		9 12 15		Moderate yellowish brown Silty SAND, moist, dense		111.5	7.6		
15		7 9 11				93.5	23.9		
20		7 11 19				123.4	10.1		
25				Total Depth Explored = 21.5 ft. No Groundwater Encountered Backfilled with Spoils 7/25/2019					

Plate A- 11

advanced geotechnical services, inc.

Boring Log B-8

Sheet 1 of 1

Project **Area Housing Authority of the County of Ventura** Client No. **4959** Date Drilled **7/26/19**

Comment **2800 Barry Street, Camarillo**

Drilling Company/Driller **Choice Drilling** Equipment **Hollow Stem Auger**

Driving Weight (lbs) **140** Average Drop (in.) **30** Hole Diameter (in.) **8**

Elevation _____ ft Depth to Water _____ ft After _____ hrs on _____ Logged By **BW**

Depth, ft	Sample	Blows/6"	Graphic Symbol	Description of Material	Attitudes	Dry Unit Weight, pcf	Moisture Content, %	-#200, %	Other Tests
				This log, which is part of the report prepared by Advanced Geotechnical Services, Inc. for the named project, should be read together with that report for complete interpretation. This summary applies only at this boring location and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.					
				Asphalt, 3 inches thick					
				Base, 4 inches thick					
				Alluvium (Qa)					
				Grayish brown Silty SAND, slightly moist, medium dense					
		6 6 5				110.2	7.5		
				grades to yellowish brown color					
5		3 5 9		Moderate yellowish brown to tan Sandy SILT to Silty SAND, moist, dense		104.0	12.4		
		6 11 14				101.6	15.1		
10		4 7 9				91.8	24.0		
		6 12 15		Tan Silty SAND, slightly moist, dense		108.8	8.7		
15		6 8 9				91.9	138.0		
20		5 6 8				108.5	16.0		
25				Total Depth Explored = 21.5 ft. No Groundwater Encountered Backfilled with Spoils 7/26/2019					

Plate A- 12

advanced geotechnical services, inc.

Boring Log B-9

Sheet 1 of 1

Project **Area Housing Authority of the County of Ventura** Client No. **4959** Date Drilled **7/26/19**

Comment **2800 Barry Street, Camarillo**

Drilling Company/Driller **Choice Drilling** Equipment **Hollow Stem Auger**

Driving Weight (lbs) **140** Average Drop (in.) **30** Hole Diameter (in.) **8**

Elevation _____ ft Depth to Water _____ ft After _____ hrs on _____ Logged By **BW**

Depth, ft	Sample	Blows/6"	Graphic Symbol	Description of Material	Attitudes	Dry Unit Weight, pcf	Moisture Content, %	#200, %	Other Tests
				This log, which is part of the report prepared by Advanced Geotechnical Services, Inc. for the named project, should be read together with that report for complete interpretation. This summary applies only at this boring location and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.					
				Asphalt, 3 inches thick					
				Base, 4 inches thick					
				Alluvium (Qa)					
				Grayish brown Silty SAND, slightly moist, medium dense					
		4 4 5		grades to yellowish brown color		114.0	6.0		
5		3 4 6		Tan Silty SAND, moist, dense		99.8	19.5		
		5 10 19		minor interbeds to dense fine grained SAND and stiff SILT		113.6	5.5		
10		5 7 10				89.7	24.1		
		4 8 12		Moderate yellowish brown fine grained Silty SAND, moist, dense		105.4	12.0		
15		5 8 9				89.0	11.4		
20		6 8 11		with calcium carbonate nodules		123.0	7.1		
25				Total Depth Explored = 21.5 ft. No Groundwater Encountered Backfilled with Spoils 7/26/2019					

Plate A- 13

advanced geotechnical services, inc.

Boring Log B-10

Sheet 1 of 1

Project **Area Housing Authority of the County of Ventura** Client No. **4959** Date Drilled **7/26/19**

Comment **2800 Barry Street, Camarillo**

Drilling Company/Driller **Choice Drilling** Equipment **Hollow Stem Auger**

Driving Weight (lbs) **140** Average Drop (in.) **30** Hole Diameter (in.) **8**

Elevation _____ ft Depth to Water _____ ft After _____ hrs on _____ Logged By **BW**

Depth, ft	Sample	Blows/6"	Graphic Symbol	Description of Material	Attitudes	Dry Unit Weight, pcf	Moisture Content, %	#200, %	Other Tests
				This log, which is part of the report prepared by Advanced Geotechnical Services, Inc. for the named project, should be read together with that report for complete interpretation. This summary applies only at this boring location and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.					
				Asphalt, 6 inches thick, no base					E.I.=5
				Alluvium (Qa) Grayish brown Silty SAND, moist, dense					
		6 8 11		grades to yellowish brown Silty SAND, moist, medium dense		105.2	9.6		
5		3 5 6				96.1	16.5		
		6 14 22				116.1	3.2		
				Tan fine to medium grained SAND, slightly moist, dense					
10		6 9 12		Tan Silty SAND, slightly moist, dense		92.6	22.1		
		7 11 13				107.4	14.8		
15		9 12 12				94.0	9.3		
20		7 8 12		becomes yellowish brown color, with minor calcium carbonate nodules, slightly moist, dense		119.9	8.0		
25				Total Depth Explored = 21.5 ft. No Groundwater Encountered Backfilled with Spoils 7/26/2019					

Plate A- 14

advanced geotechnical services, inc.

Boring Log B-11

Sheet 1 of 1

Project **Area Housing Authority of the County of Ventura** Client No. **4959** Date Drilled **7/26/19**

Comment **2800 Barry Street, Camarillo**

Drilling Company/Driller **Choice Drilling** Equipment **Hollow Stem Auger**

Driving Weight (lbs) **140** Average Drop (in.) **30** Hole Diameter (in.) **8**

Elevation _____ ft Depth to Water _____ ft After _____ hrs on _____ Logged By **BW**

Depth, ft	Sample	Blows/6"	Graphic Symbol	Description of Material	Attitudes	Dry Unit Weight, pcf	Moisture Content, %	-#200, %	Other Tests
				This log, which is part of the report prepared by Advanced Geotechnical Services, Inc. for the named project, should be read together with that report for complete interpretation. This summary applies only at this boring location and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.					
				Asphalt, 5 inches thick, no base					
				Alluvium (Qa)					
				Light brown Silty SAND, slightly moist, medium dense					
		9 11 12				113.1	4.7		
5		5 6 10		becomes tan color, with minor gravel		98.0	8.9		
		9 21 27		becomes tan fine to medium grained color		112.4	12.4		
10		7 9 11		with minor calcium carbonate deposits		107.2	13.0		
		6 12 15				104.1	8.0		
15		11 12 15				94.0	9.8		
20		7 15 23		becomes yellowish brown color, with calcium carbonate deposits		109.3	10.2		
25				Total Depth Explored = 21.5 ft. No Groundwater Encountered Backfilled with Spoils 7/26/2019					

Plate A- 15

advanced geotechnical services, inc.

Boring Log B-12

Sheet 1 of 1

Project **Area Housing Authority of the County of Ventura** Client No. **4959** Date Drilled **7/26/19**

Comment **2800 Barry Street, Camarillo**

Drilling Company/Driller **Choice Drilling** Equipment **Hollow Stem Auger**

Driving Weight (lbs) **140** Average Drop (in.) **30** Hole Diameter (in.) **8**

Elevation _____ ft Depth to Water _____ ft After _____ hrs on _____ Logged By **BW**

Description of Material

This log, which is part of the report prepared by Advanced Geotechnical Services, Inc. for the named project, should be read together with that report for complete interpretation. This summary applies only at this boring location and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.

Depth, ft	Sample	Blows/6"	Graphic Symbol	Description of Material	Attitudes	Dry Unit Weight, pcf	Moisture Content, %	#200, %	Other Tests
				Asphalt, 5 inches thick					
				Base, 7 inches thick					
				Alluvium (Qa)					
				Grayish brown Silty SAND, slightly moist, medium dense					
		6 6 7				102.5	5.5		
5		6 12 22		with calcium carbonate deposits		121.8	8.6		
		7 11 13		becomes tan fine to medium grained Silty SAND, slightly moist, dense		106.7	4.8		
10		7 12 13				97.8	4.6		
		5 10 11				106.4	11.5		
15		6 12 13				103.4	11.7		
20		5 9 10		becomes moderate yellowish brown Silty SAND, slightly moist, dense		108.7	17.1		
25				Total Depth Explored = 21.5 ft. No Groundwater Encountered Backfilled with Spoils 7/26/2019					

Plate A- 16

advanced geotechnical services, inc.

Boring Log B-13

Sheet 1 of 1

Project **Area Housing Authority of the County of Ventura** Client No. **4959** Date Drilled **7/26/19**

Comment **2800 Barry Street, Camarillo**

Drilling Company/Driller **Choice Drilling** Equipment **Hollow Stem Auger**

Driving Weight (lbs) **140** Average Drop (in.) **30** Hole Diameter (in.) **8**

Elevation _____ ft Depth to Water _____ ft After _____ hrs on _____ Logged By **BW**

Depth, ft	Sample	Blows/6"	Graphic Symbol	Description of Material	Attitudes	Dry Unit Weight, pcf	Moisture Content, %	-#200, %	Other Tests
				This log, which is part of the report prepared by Advanced Geotechnical Services, Inc. for the named project, should be read together with that report for complete interpretation. This summary applies only at this boring location and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.					
				Asphalt, 4 inches thick					
				Base, 7 inches thick					
				Alluvium (Qa)					
				Grayish brown Silty SAND, slightly moist, medium dense					
		14 14 15		grades to light brown Silty SAND, slightly moist, dense		114.5	6.2		
5		5 8 10		grades to tan color		101.6	11.9		
		6 10 11		becomes moderate yellowish brown fine to medium grained Silty SAND, moist, dense		116.2	3.6		
10		6 7 8		becomes tan very coarse grained Silty SAND, moist, dense		111.2	3.7		
				Tan fine grained SAND, moist, dense					
15		6 10 12				104.0	7.0		
20									
25				Total Depth Explored = 16.5 ft. No Groundwater Encountered Backfilled with Spoils 7/26/2019					

Plate A- 17

advanced geotechnical services, inc.

Boring Log B-14

Sheet 1 of 1

Project **Area Housing Authority of the County of Ventura** Client No. **4959** Date Drilled **7/26/19**

Comment **2800 Barry Street, Camarillo**

Drilling Company/Driller **Choice Drilling** Equipment **Hollow Stem Auger**

Driving Weight (lbs) **140** Average Drop (in.) **30** Hole Diameter (in.) **8**

Elevation _____ ft Depth to Water _____ ft After _____ hrs on _____ Logged By **BW**

Description of Material

This log, which is part of the report prepared by Advanced Geotechnical Services, Inc. for the named project, should be read together with that report for complete interpretation. This summary applies only at this boring location and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.

Depth, ft	Sample	Blows/6"	Graphic Symbol	Description of Material	Attitudes	Dry Unit Weight, pcf	Moisture Content, %	#200, %	Other Tests
				Asphalt, 3 inches thick					
				Base, 3 inches thick					
				Alluvium (Qa)					
				Yellowish brown coarse grained Silty SAND, moist, medium dense					
		5 7 7				142.2	4.9		
5		6 9 9		becomes moderate yellowish brown color		101.3	16.4		
		7 10 11		becomes moderate yellowish brown very fine grained Silty SAND, moist, dense		109.3	13.8		
10		5 7 9				92.1	26.1		
				interbedded tan Silty SAND and fine grained SAND, moist, dense					
15		6 10 13				79.3	27.3		
20									
25				Total Depth Explored = 16.5 ft. No Groundwater Encountered Backfilled with Spoils 7/26/2019					

Plate A- 18

advanced geotechnical services, inc.

Boring Log B-15

Sheet 1 of 1

Project **Area Housing Authority of the County of Ventura** Client No. **4959** Date Drilled **7/26/19**

Comment **2800 Barry Street, Camarillo**

Drilling Company/Driller **Choice Drilling** Equipment **Hollow Stem Auger**

Driving Weight (lbs) **140** Average Drop (in.) **30** Hole Diameter (in.) **8**

Elevation _____ ft Depth to Water _____ ft After _____ hrs on _____ Logged By **BW**

Depth, ft	Sample	Blows/6"	Graphic Symbol	Description of Material	Attitudes	Dry Unit Weight, pcf	Moisture Content, %	-#200, %	Other Tests
				This log, which is part of the report prepared by Advanced Geotechnical Services, Inc. for the named project, should be read together with that report for complete interpretation. This summary applies only at this boring location and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.					
				Asphalt, 5 inches thick					
				Base, 8 inches thick					
				Alluvium (Qa)					
				Grayish brown Silty SAND, moist, medium dense					
		3 4 4		grades to moderate yellowish brown color, moist, dense		110.1	9.8		
5		3 4 7		becomes tan color, with calcium carbonate stringers		95.8	16.8		
		5 10 17				119.3	5.3		
10		3 4 8		becomes interbedded tan fine grained SAND and yellowish brown Silty SAND, moist, dense		86.5	31.2		
15		4 6 10				94.0	19.4		
20									
25				Total Depth Explored = 16.5 ft. No Groundwater Encountered Backfilled with Spoils 7/26/2019					

Plate A- 19

advanced geotechnical services, inc.

Boring Log B-16

Sheet 1 of 1

Project **Area Housing Authority of the County of Ventura** Client No. **4959** Date Drilled **8/1/19**

Comment **2800 Barry Street, Camarillo**

Drilling Company/Driller **Choice Drilling** Equipment **Hollow Stem Auger**

Driving Weight (lbs) **140** Average Drop (in.) **30** Hole Diameter (in.) **8**

Elevation _____ ft Depth to Water _____ ft After _____ hrs on _____ Logged By **BW**

Depth, ft	Sample	Blows/6"	Graphic Symbol	Description of Material	Attitudes	Dry Unit Weight, pcf	Moisture Content, %	-#200, %	Other Tests
				This log, which is part of the report prepared by Advanced Geotechnical Services, Inc. for the named project, should be read together with that report for complete interpretation. This summary applies only at this boring location and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.					
				Asphalt, 3.5 inches thick					
				Base, 2.5 inches thick					
				Alluvium (Qa)					
		6 6 8		Dark grayish brown Silty SAND with gravel, slightly moist, medium dense		115.6	6.1		
				becomes moderate yellowish brown to light grayish brown coarse grained Silty SAND, moist, dense					
5		6 8 11		with calcium carbonate stringers		96.8	22.4		
		8 13 17		Tan fine grained SAND, slightly moist, dense		98.8	7.4		
10		5 7 9		Moderate yellowish brown fine grained Sandy SILT, moist, stiff		84.1	32.3		
				Moderate yellowish brown to tan fine grained Silty SAND, slightly moist, dense					
15		9 12 14				84.1	34.1		
20									
25				Total Depth Explored = 16.5 ft. No Groundwater Encountered Backfilled with Spoils 8/1/2019					

Plate A- 20

advanced geotechnical services, inc.

Boring Log B-17

Sheet 1 of 1

Project **Area Housing Authority of the County of Ventura** Client No. **4959** Date Drilled **8/1/19**

Comment **2800 Barry Street, Camarillo**

Drilling Company/Driller **Choice Drilling** Equipment **Hollow Stem Auger**

Driving Weight (lbs) **140** Average Drop (in.) **30** Hole Diameter (in.) **8**

Elevation _____ ft Depth to Water _____ ft After _____ hrs on _____ Logged By **BW**

Depth, ft	Sample	Blows/6"	Graphic Symbol	Description of Material	Attitudes	Dry Unit Weight, pcf	Moisture Content, %	#200, %	Other Tests
				This log, which is part of the report prepared by Advanced Geotechnical Services, Inc. for the named project, should be read together with that report for complete interpretation. This summary applies only at this boring location and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.					
				Asphalt, 2.5 inches thick					
				Base, 3.5 inches thick					
				Alluvium (Qa)					
				Dark grayish brown Silty SAND, slightly moist, medium dense					
		12 6 7				112.3	8.5		
				becomes yellowish brown Silty SAND, slightly moist, dense					
5		4 10 6				109.9	8.2		
		7 11 14		becomes moist, dense		105.2	18.3		
10		5 6 8		with interbeds to tan fine to medium grained Sand, moist, dense		86.2	30.2		
15		7 10 11				74.1	23.4		
20									
25				Total Depth Explored = 16.5 ft. No Groundwater Encountered Backfilled with Spoils 8/1/2019					

Plate A- 21

advanced geotechnical services, inc.

Boring Log P-1

Sheet 1 of 1

Project **Area Housing Authority of the County of Ventura** Client No. **4959** Date Drilled **8/1/19**

Comment **2800 Barry Street, Camarillo**

Drilling Company/Driller **Choice Drilling** Equipment **Hollow Stem Auger**

Driving Weight (lbs) **140** Average Drop (in.) **30** Hole Diameter (in.) **8**

Elevation _____ ft Depth to Water _____ ft After _____ hrs on _____ Logged By **BW**

Description of Material

This log, which is part of the report prepared by Advanced Geotechnical Services, Inc. for the named project, should be read together with that report for complete interpretation. This summary applies only at this boring location and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.

Depth, ft	Sample	Blows/6"	Graphic Symbol	Description of Material	Attitudes	Dry Unit Weight, pcf	Moisture Content, %	#200, %	Other Tests
				Asphalt, 4 inches thick					
				Base, 4 inches thick					
				Alluvium (Qa)					
				Dark grayish brown Silty SAND, slightly moist, medium dense					
		6 6 7				117.2	10.6		
5				becomes light brown to moderate yellowish brown Silty SAND, slightly moist, dense		104.1	9.7		
		5 8 9							
		9 12 18		color change to light grayish brown to tan		109.9	15.0		
10									
		9 9 9		Tan fine to medium grained SAND, slightly moist, dense		101.6	6.1		
				Light gray Silty SAND, slightly moist, dense					
15		5 11 12		becomes tan fine to medium grained Silty SAND, slightly moist, dense		90.0	17.6		
20									
25				Total Depth Explored = 17 ft. No Groundwater Encountered					

advanced geotechnical services, inc.

Boring Log P-2

Sheet 1 of 1

Project **Area Housing Authority of the County of Ventura** Client No. **4959** Date Drilled **8/1/19**

Comment **2800 Barry Street, Camarillo**

Drilling Company/Driller **Choice Drilling** Equipment **Hollow Stem Auger**

Driving Weight (lbs) **140** Average Drop (in.) **30** Hole Diameter (in.) **8**

Elevation _____ ft Depth to Water _____ ft After _____ hrs on _____ Logged By **BW**

Depth, ft	Sample	Blows/6"	Graphic Symbol	Description of Material	Attitudes	Dry Unit Weight, pcf	Moisture Content, %	-#200, %	Other Tests
				This log, which is part of the report prepared by Advanced Geotechnical Services, Inc. for the named project, should be read together with that report for complete interpretation. This summary applies only at this boring location and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.					
				Asphalt, 3.5 inches thick					
				Base, 5 inches thick					
				Alluvium (Qa) Dark grayish brown Silty SAND, slightly moist, medium dense					
5				Light grayish brown to moderate yellowish brown to tan Silty SAND, slightly moist, dense					
10				Total Depth Explored = 6 ft. No Groundwater Encountered					
15									
20									
25									

Plate A- 23

advanced geotechnical services, inc.

Boring Log P-3

Sheet 1 of 1

Project **Area Housing Authority of the County of Ventura** Client No. **4959** Date Drilled **8/1/19**

Comment **2800 Barry Street, Camarillo**

Drilling Company/Driller **Choice Drilling** Equipment **Hollow Stem Auger**

Driving Weight (lbs) **140** Average Drop (in.) **30** Hole Diameter (in.) **8**

Elevation _____ ft Depth to Water _____ ft After _____ hrs on _____ Logged By **BW**

Depth, ft	Sample	Blows/6"	Graphic Symbol	Description of Material	Attitudes	Dry Unit Weight, pcf	Moisture Content, %	-#200, %	Other Tests
				This log, which is part of the report prepared by Advanced Geotechnical Services, Inc. for the named project, should be read together with that report for complete interpretation. This summary applies only at this boring location and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.					
				Asphalt, 5 inches thick					
				Base, 5 inches thick					
				Alluvium (Qa)					
		5 7 8		Dark grayish brown Silty SAND with Gravel, slightly moist, medium dense		119.7	9.0		
5		5 5 6		becomes moderate yellowish brown to light grayish brown to tan Silty SAND, slightly moist, dense		115.9	2.4		
		7 13 14				113.2	9.1		
10		8 6 6		interbedded with tan fine to medium grained SAND, slightly moist, dense		96.0	10.5		
15		8 15 15				99.4	10.3		
20									
25				Total Depth Explored = 17 ft. No Groundwater Encountered					

Plate A- 24

advanced geotechnical services, inc.

Boring Log P-4

Sheet 1 of 1

Project **Area Housing Authority of the County of Ventura** Client No. **4959** Date Drilled **8/1/19**

Comment **2800 Barry Street, Camarillo**

Drilling Company/Driller **Choice Drilling** Equipment **Hollow Stem Auger**

Driving Weight (lbs) **140** Average Drop (in.) **30** Hole Diameter (in.) **8**

Elevation _____ ft Depth to Water _____ ft After _____ hrs on _____ Logged By **BW**

Depth, ft	Sample	Blows/6"	Graphic Symbol	Description of Material	Attitudes	Dry Unit Weight, pcf	Moisture Content, %	#200, %	Other Tests
				This log, which is part of the report prepared by Advanced Geotechnical Services, Inc. for the named project, should be read together with that report for complete interpretation. This summary applies only at this boring location and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.					
				Asphalt, 3.5 inches thick					
				Base, 4.5 inches thick					
				Alluvium (Qa) Dark grayish brown Silty SAND with Gravel, slightly moist, medium dense					
5				becomes tan to moderate yellowish brown to light grayish brown Silty SAND, moist, dense					
10				Total Depth Explored = 6 ft. No Groundwater Encountered					
15									
20									
25									

Plate A- 25

advanced geotechnical services, inc.

Boring Log P-5

Sheet 1 of 1

Project **Area Housing Authority of the County of Ventura** Client No. **4959** Date Drilled **8/1/19**

Comment **2800 Barry Street, Camarillo**

Drilling Company/Driller **Choice Drilling** Equipment **Hollow Stem Auger**

Driving Weight (lbs) **140** Average Drop (in.) **30** Hole Diameter (in.) **8**

Elevation _____ ft Depth to Water _____ ft After _____ hrs on _____ Logged By **BW**

Description of Material

This log, which is part of the report prepared by Advanced Geotechnical Services, Inc. for the named project, should be read together with that report for complete interpretation. This summary applies only at this boring location and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.

Depth, ft	Sample	Blows/6"	Graphic Symbol	Description of Material	Attitudes	Dry Unit Weight, pcf	Moisture Content, %	#200, %	Other Tests
				Asphalt, 2.5 inches thick					
				Base, 5 inches thick					
				Alluvium (Qa)					
				Moderate yellowish brown to tan Silty SAND, slightly moist, medium dense					
		7 7 7				116.9	8.5		
5		5 7 9		with calcium carbonate stringers		100.8	13.0		
		8 9 14		becomes moderate yellowish brown to light grayish brown Silty SAND with interbedded lenses of tan fine to medium grained SAND, slightly moist, dense		101.8	20.9		
10		3 5 8		Tan fine to medium grained Silty SAND, slightly moist, dense		92.6	20.4		
15		5 5 6		Tan fine grained SAND, slightly moist, dense		93.7	16.8		
20									
25				Total Depth Explored = 17 ft. No Groundwater Encountered					

Plate A- 26

advanced geotechnical services, inc.

Boring Log P-6

Sheet 1 of 1

Project **Area Housing Authority of the County of Ventura** Client No. **4959** Date Drilled **8/1/19**

Comment **2800 Barry Street, Camarillo**

Drilling Company/Driller **Choice Drilling** Equipment **Hollow Stem Auger**

Driving Weight (lbs) **140** Average Drop (in.) **30** Hole Diameter (in.) **8**

Elevation _____ ft Depth to Water _____ ft After _____ hrs on _____ Logged By **BW**

Depth, ft	Sample	Blows/6"	Graphic Symbol	Description of Material	Attitudes	Dry Unit Weight, pcf	Moisture Content, %	#200, %	Other Tests
				This log, which is part of the report prepared by Advanced Geotechnical Services, Inc. for the named project, should be read together with that report for complete interpretation. This summary applies only at this boring location and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.					
				Asphalt, 3 inches thick					
				Base, 5 inches thick					
				Alluvium (Qa) Dark grayish brown Silty SAND, slightly moist, medium dense					
5				becomes light brown to moderate yellowish brown Silty SAND, slightly moist, dense					
10				Total Depth Explored = 6 ft. No Groundwater Encountered					
15									
20									
25									

Plate A- 27

Appendix B

Laboratory Testing

Appendix B
Laboratory Testing

A laboratory test program is designed for each project to evaluate the physical and mechanical properties of the soil and bedrock materials encountered at the site during our field exploration program. Laboratory tests were conducted on representative samples for the purpose of classification and determining their properties for use in analyses and evaluations. The most common laboratory tests include moisture-density, Atterberg limits, grain-size analyses (sieve and hydrometer analyses), sand equivalent, direct shear, consolidation, compaction, expansion index, and *R*-values. The following descriptions of test methods are generic and may include methods not used on this project. Reference to the boring logs and test results on Plates attached to this appendix will show which tests were performed for this project. Laboratory testing is performed in general accordance with the most recent ASTM (2007) test designations available at the time of testing.

Classification Tests

Classification testing is performed to identify differences in material behavior and to correlate the results with shear strength and volume change characteristics of the materials. Classification testing includes unit weight (e.g., dry density), moisture content, Atterberg limits, grain size analyses (sieve and hydrometer), and sand equivalent.

Moisture-Density Test

Site soils were classified in the laboratory in accordance with the Unified Soil Classification System. Moisture contents are performed in general accordance with ASTM Test Designation D2216 and unit weights were determined in general accordance with ASTM Test Designation D2937. Field moisture contents and dry unit weights were determined for the ring samples obtained in the field. Field moisture contents and dry unit weights are shown on the boring logs in Appendix A.

Sieve Analysis

Sieve analysis tests were conducted on the on-site soils in general accordance with sieve analysis test procedure from ASTM Test Designation D422. This method covers the quantitative determination of the distribution of particle sizes in soils. If this test was performed, the results are presented on Plates attached to this appendix.

Hydrometer Test

Hydrometer tests were performed in general accordance with ASTM Test Designation D422. If this test was performed, the results are presented on Plates attached to this appendix. Samples with obviously little course material and a high percentage of fines were prepared with a wet method (ASTM Test Designation D2217) rather than air-drying the sample and pulverizing with a mortar and pedestal.

Shear Tests

Direct shear tests were performed in general accordance with ASTM D3080 to determine the shear strength parameters of undisturbed on-site soils or remolded soil specimens. The samples are usually tested in an artificially saturated condition. This is accomplished by soaking the specimens in a confined container for a period of one or 2 days, depending on the permeability of the material. The specimen, 1-inch-high and 2.4-inch-diameter, is placed in the shear device, and a vertical stress is applied to the specimen. The specimen is allowed to reach an equilibrium state (swell or consolidate). The specimen is then sheared under a constant rate of deformation. The rate of deformation for a slow test, sufficiently slow to presumably allow drainage, is selected from computed or measured consolidation rates to simulate full drainage (full dissipation of any tendency for pore water pressure changes) during shear. A rate of displacement of 0.005 inches per minute was used for the most tests. The process usually is repeated for 3 specimens, each under different vertical stresses. The results from the 3 tests are plotted on a diagram of shear stress and normal (vertical) stress at failure, and linear approximations are drawn of the failure curves to determine the angle of internal friction and cohesion. The first moisture content shown on the graphs (associated with peak values) is for either the in-situ condition or the remolded condition, and the second moisture content (associated with ultimate value) is for the soaked condition.

Consolidation Test

Consolidation tests were performed in general accordance with ASTM D2435 and D5333 on selected samples to evaluate the load-deformation characteristics of the earth soils. The tests were performed primarily on material that would be most susceptible to consolidation under anticipated foundation loading. The soil specimen, contained in a 2.4-inch-diameter, 1.0-inch-high sampling ring, is placed in a loading frame under a seating pressure of 0.1 ksf. Vertical loads are applied to the samples in several geometric increments, and the resulting deformations were recorded at selected time intervals. When the pressure reaches a preselected effective overburden pressure (often 2 ksf) and the specimen has consolidated under that pressure, the laboratory technician adds water to the test cell and records the vertical movement. After the specimen reaches equilibrium with the addition of water, the technician continues the loading process, usually up to a pressure of about 8 ksf. The specimen is then unloaded in increments, and the test is dismantled. The results of the test are presented in terms of percent volume change versus applied vertical stress. If this test was performed, the results are presented on Plates attached to this appendix.

Compaction Test

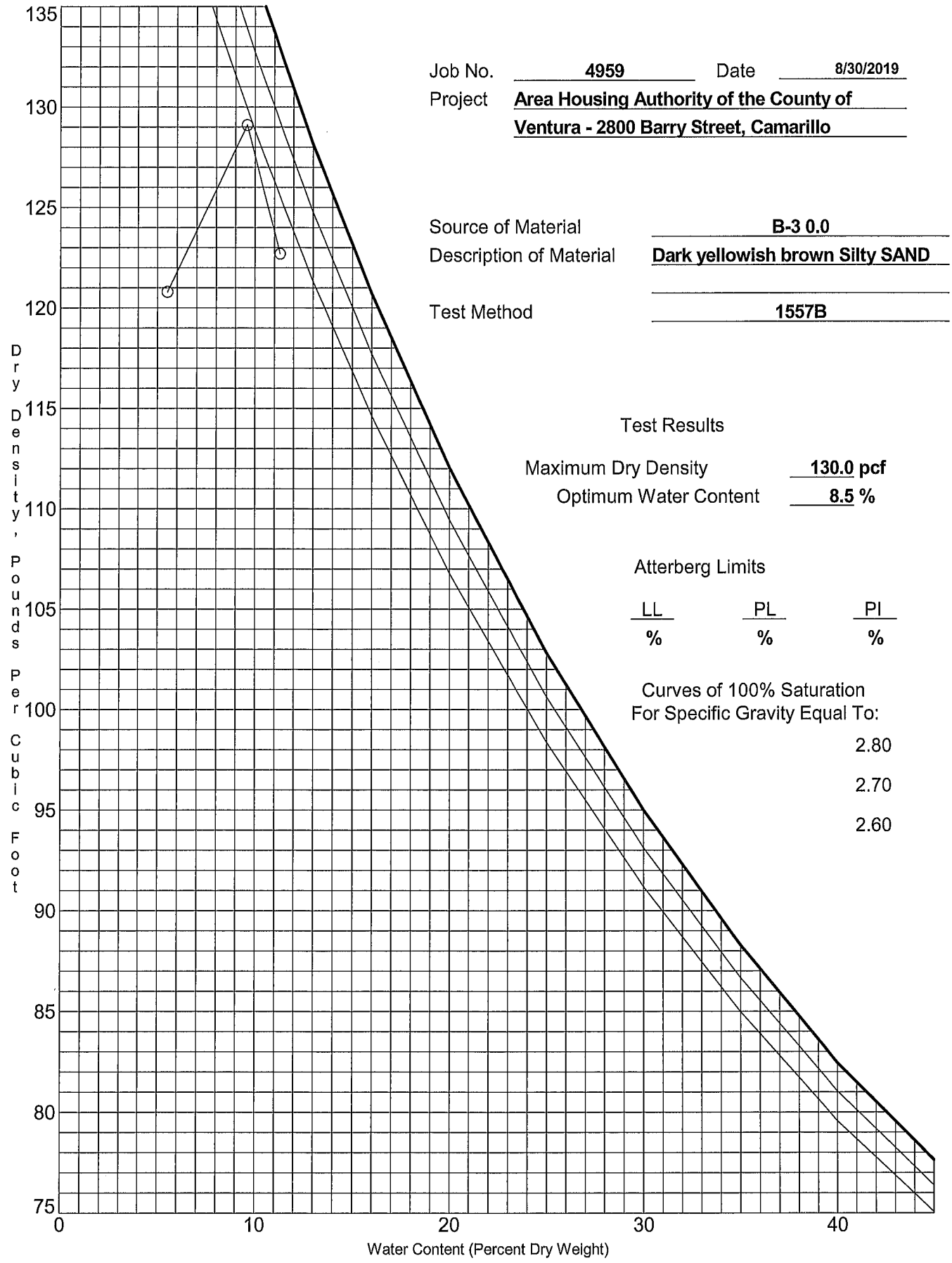
Compaction tests provide information on the relationship between moisture content and dry density of the soil compacted in a given manner. The maximum density is obtained for a given compaction effort at an optimum moisture content. Specifications for earthwork are in terms of the unit weight (or dry density) expressed as a percentage of the maximum density, and the moisture content compared to the optimum moisture content. Compaction tests were performed in general accordance with ASTM Test Designation D1557 to determine the maximum dry densities and optimum moisture contents of the on-site soils. If this test was performed, the results are presented on Plates attached to this appendix.

Expansion Index Test

The expansion index test provides an assessment of the potential for expansion or heave that could be detrimental to foundation or slab performance. Expansion Index tests are performed on shallow on-site soils in general accordance with expansion test procedures in ASTM D4829. In this test, a specimen is compacted at a degree of saturation between 45% and 55% in a 4.01-inch-diameter, 1.0-inch-high ring. The specimen is subjected to a seating pressure of 144 psf, water is added to the test cell, and swell is monitored until the expansion stops. The volume of swell is converted to an expansion index. Any test results are summarized on the boring logs in Appendix A.

Sample Remolding

In some cases remolded samples are used when performing direct shear tests and consolidation tests. Samples are remolded to a specified moisture and density by compacting the soil in a 2.42-inch-diameter sample ring. The specified moisture content is either at optimum or a few percentage points above optimum. The specified dry density is usually at a relative compaction of 90%. The required moisture is added to and mixed with dry soil, providing a homogeneous mixture. A 2.42-inch-diameter ring is placed in a 6-inch-diameter compaction mold, and soil is placed in the mold to above the ring. The soil is then compacted with a 5.5-pound hammer with a free-fall drop of 12 inches. The sample is trimmed, and the dry density is determined. If the dry density deviates more than about one pound per cubic foot from the specified dry density, the process is repeated with the number of blows altered to better achieve the specified dry density.



Job No. 4959 Date 8/30/2019

Project **Area Housing Authority of the County of Ventura - 2800 Barry Street, Camarillo**

Source of Material **B-3 0.0**

Description of Material **Dark yellowish brown Silty SAND**

Test Method **1557B**

Test Results

Maximum Dry Density **130.0 pcf**

Optimum Water Content **8.5 %**

Atterberg Limits

LL	PL	PI
%	%	%

Curves of 100% Saturation For Specific Gravity Equal To:

2.80

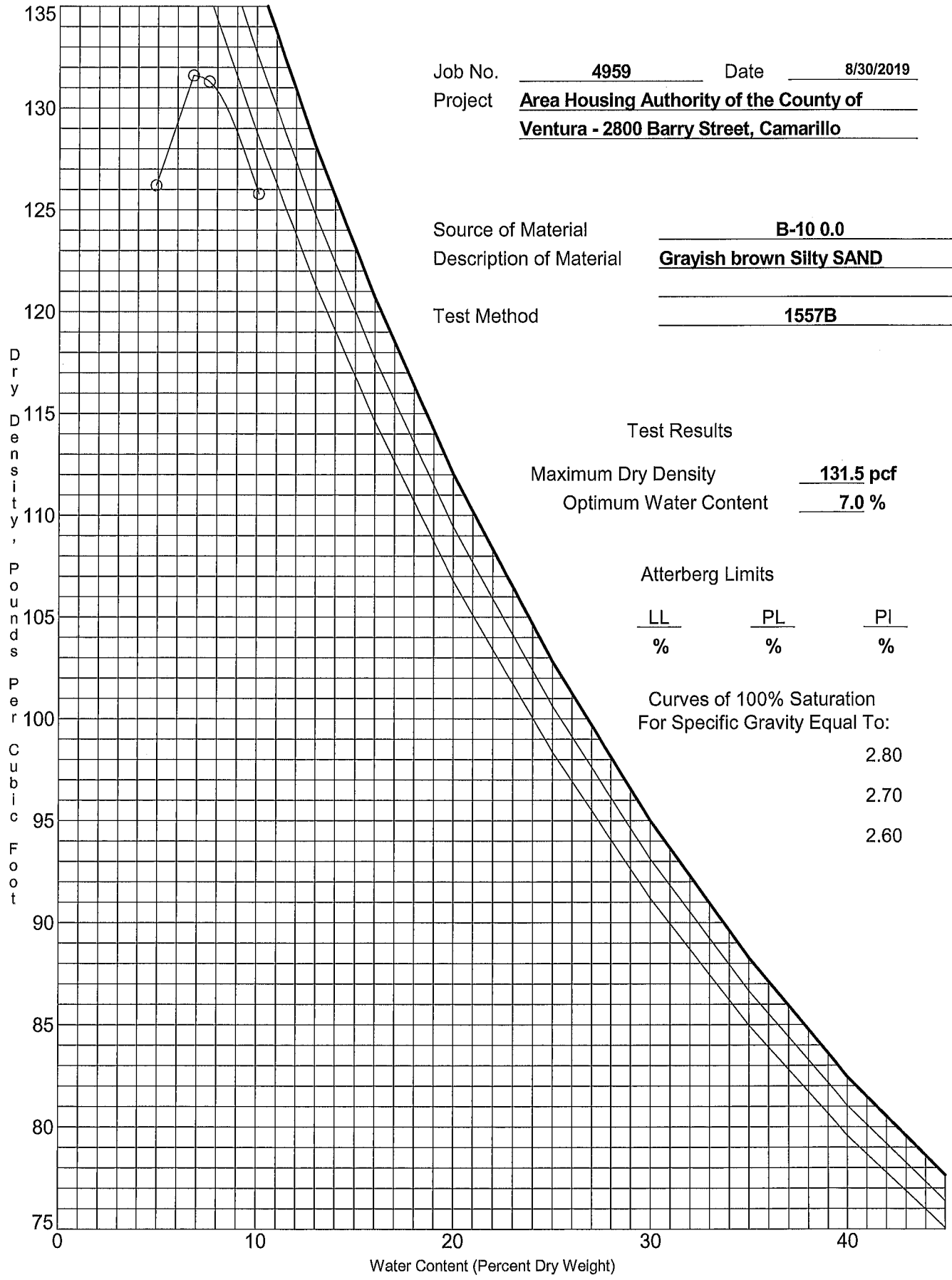
2.70

2.60

Moisture-Density Relationship

Advanced Geotechnical Services, Inc.

Plate B- 3



Job No. 4959 Date 8/30/2019

Project Area Housing Authority of the County of Ventura - 2800 Barry Street, Camarillo

Source of Material B-10 0.0

Description of Material Grayish brown Silty SAND

Test Method 1557B

Test Results

Maximum Dry Density 131.5 pcf

Optimum Water Content 7.0 %

Atterberg Limits

LL	PL	PI
%	%	%

Curves of 100% Saturation For Specific Gravity Equal To:

2.80

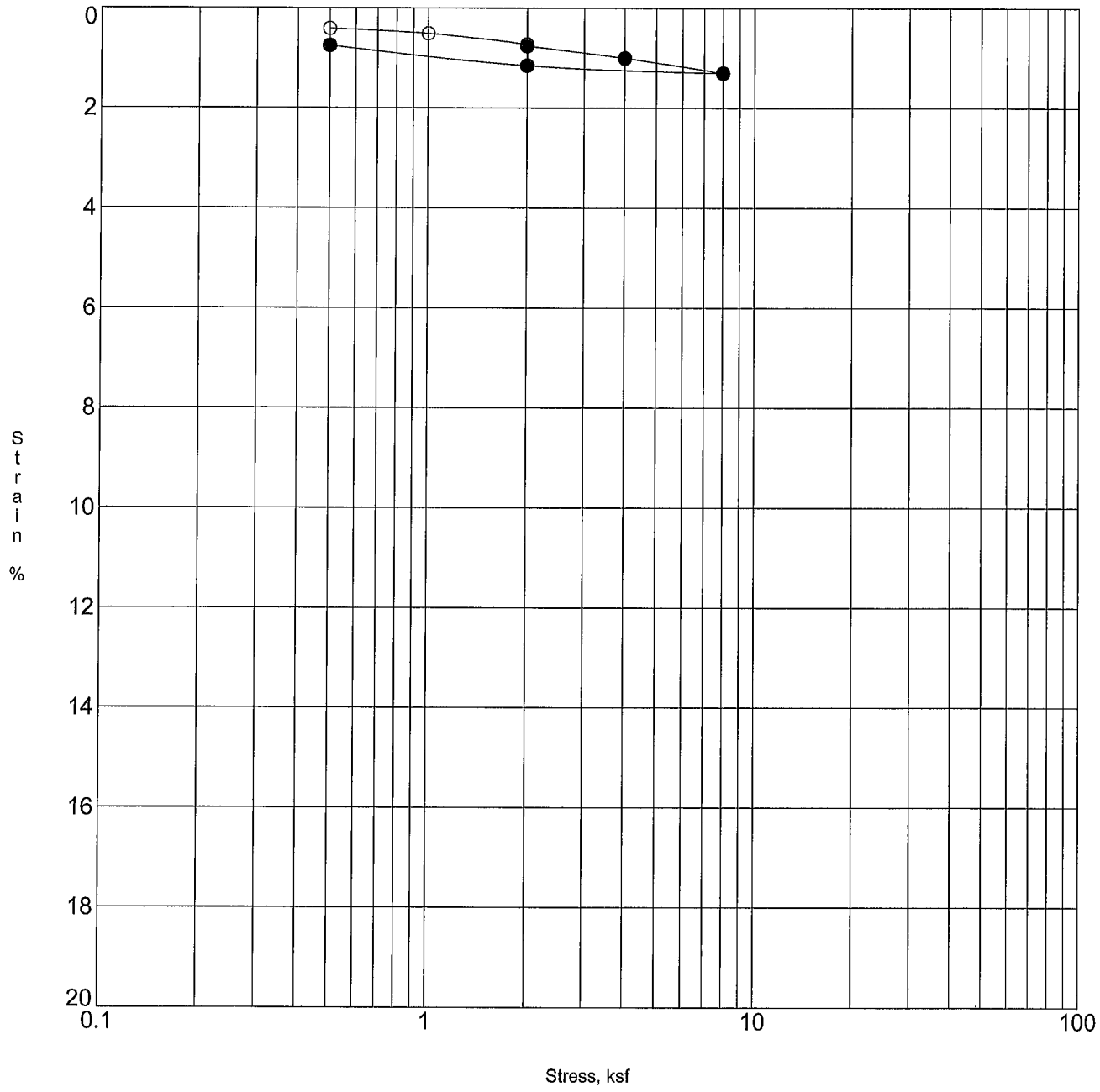
2.70

2.60

Moisture-Density Relationship

Advanced Geotechnical Services, Inc.

Plate B- 4



Open Symbol At Field Moisture, Solid Symbol After Submersion in Water

	Specimen Identification		Classification	DD	MC%
○	B-3	0.0	Dark yellowish brown Silty SAND		
●	B-3	0.0	*REMOLD*		

Project: Area Housing Authority of the County of Ventura - 2800 Barry Street, Camarillo

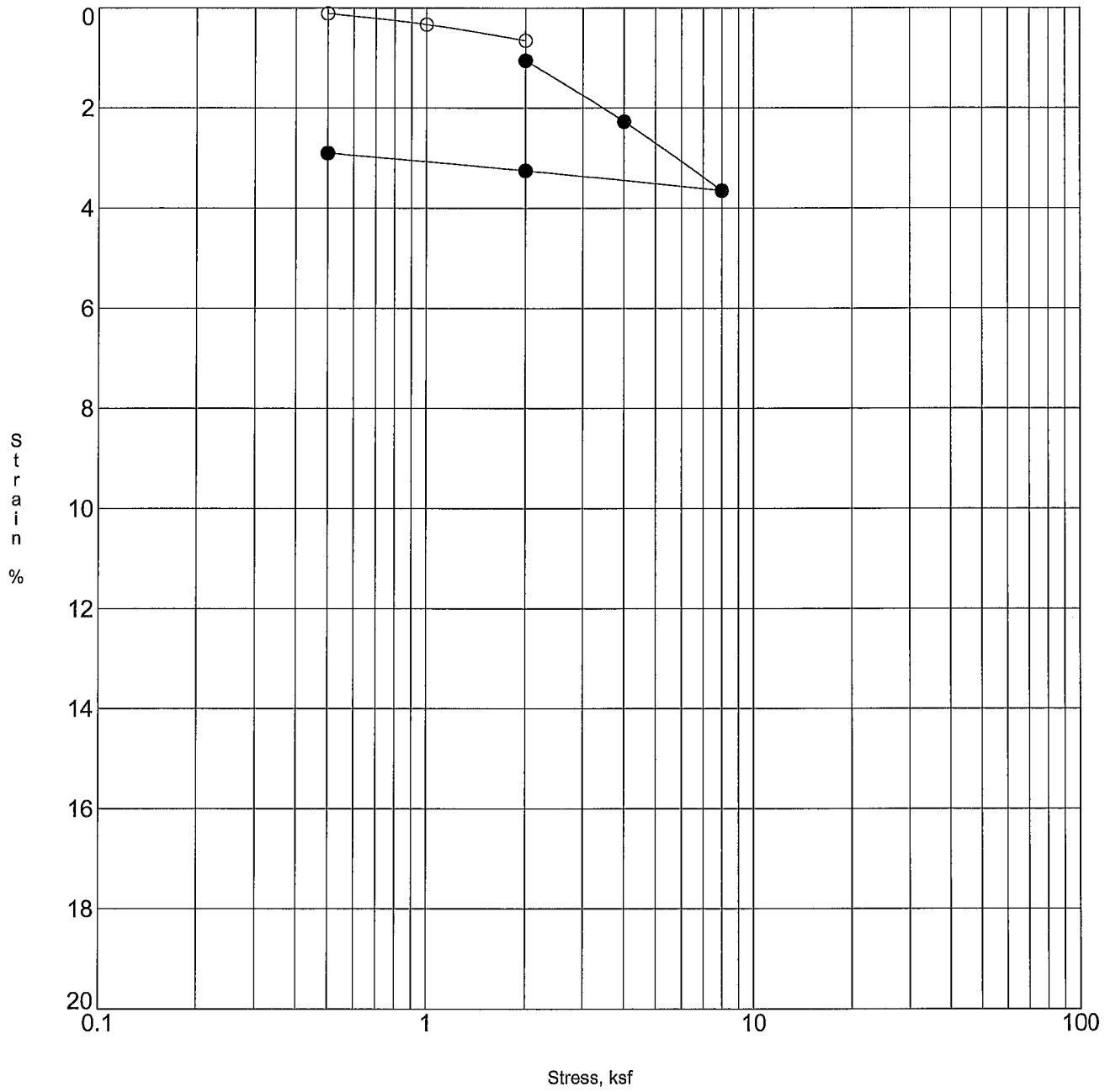
Client No. 4959

Date 8/30/19

Consolidation Test

Advanced Geotechnical Services, Inc.

Plate B- 5



Open Symbol At Field Moisture, Solid Symbol After Submersion in Water

Specimen Identification			Classification	DD	MC%
○	B-1	2.5	Yellowish brown Silty SAND		
●	B-1	2.5	*UNDISTURBED*		

Project: Area Housing Authority of the County of Ventura - 2800 Barry Street, Camarillo

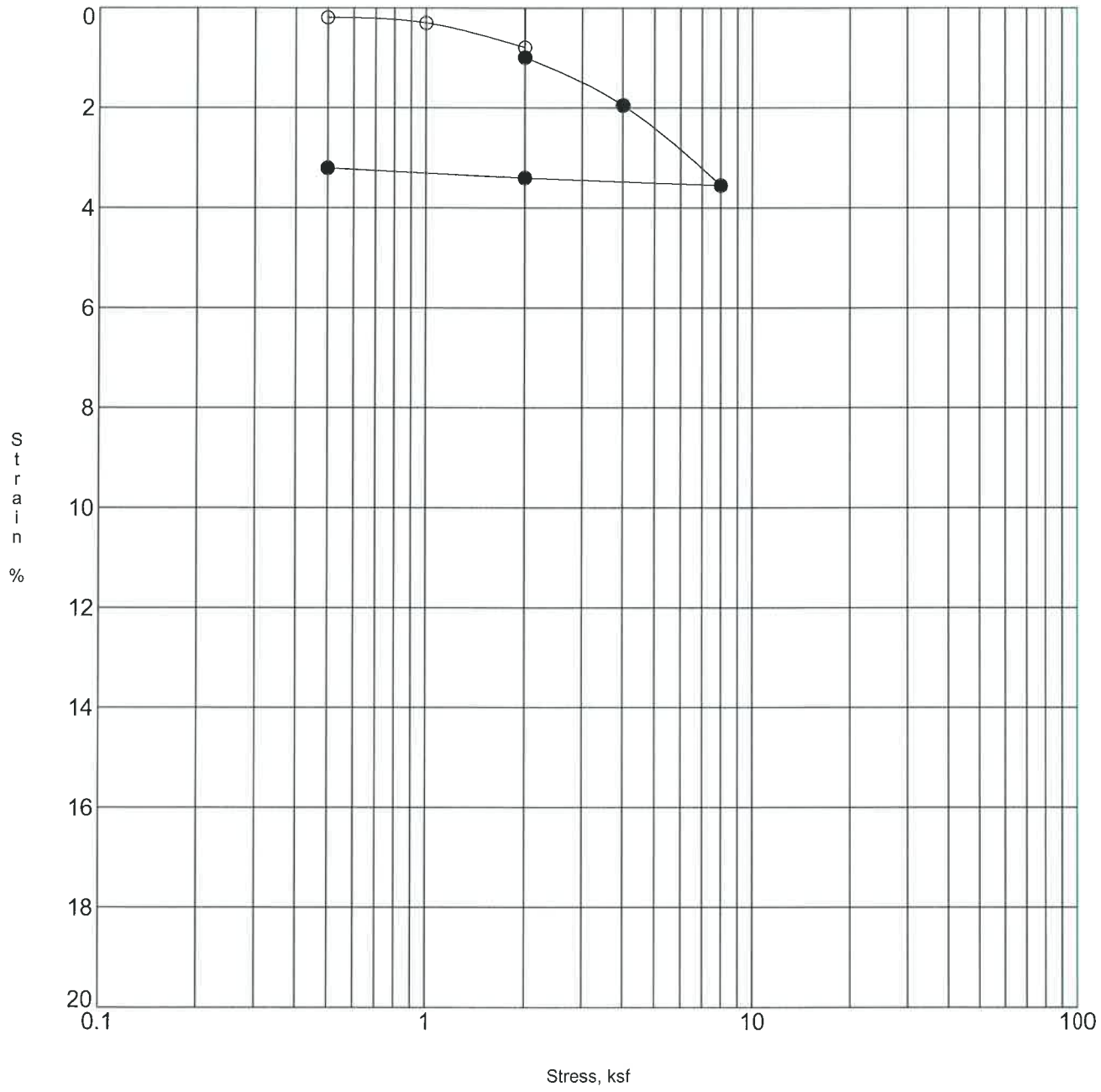
Client No. 4959

Date 8/30/19

Consolidation Test

Advanced Geotechnical Services, Inc.

Plate B- 6



Open Symbol At Field Moisture, Solid Symbol After Submersion in Water

Specimen Identification			Classification	DD	MC%
○	B-2	5.0	Yellowish brown Silty SAND		
●	B-2	5.0	*UNDISTURBED*		

Project: Area Housing Authority of the County of Ventura - 2800 Barry Street, Camarillo

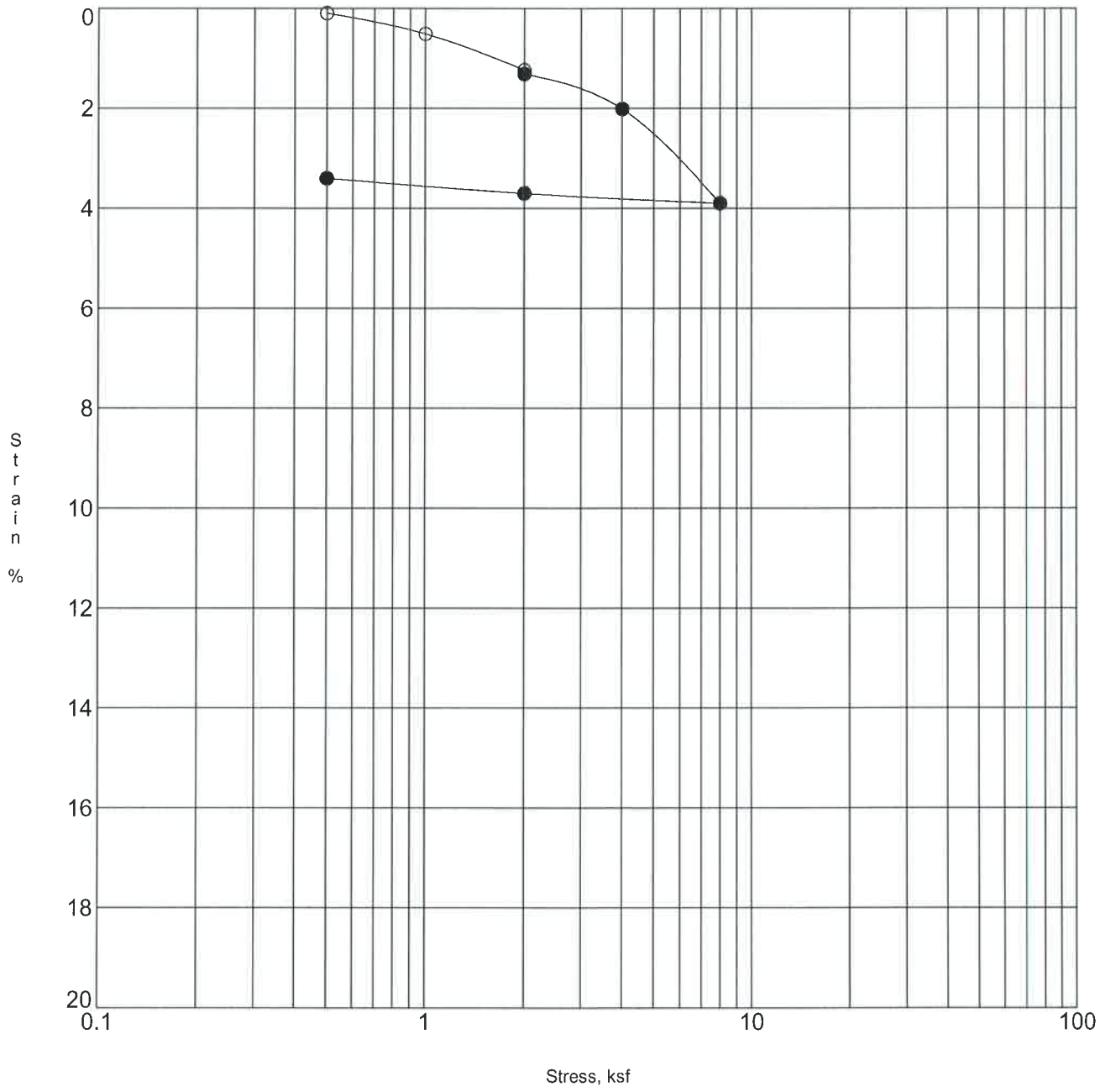
Client No. 4959

Date 8/30/19

Consolidation Test

Advanced Geotechnical Services, Inc.

Plate B- 7



Open Symbol At Field Moisture, Solid Symbol After Submersion in Water

	Specimen Identification		Classification	DD	MC%
○	B-1	10.0	Tan fine grained SAND		
●	B-1	10.0	*UNDISTURBED*		

Project: Area Housing Authority of the County of Ventura - 2800 Barry Street, Camarillo

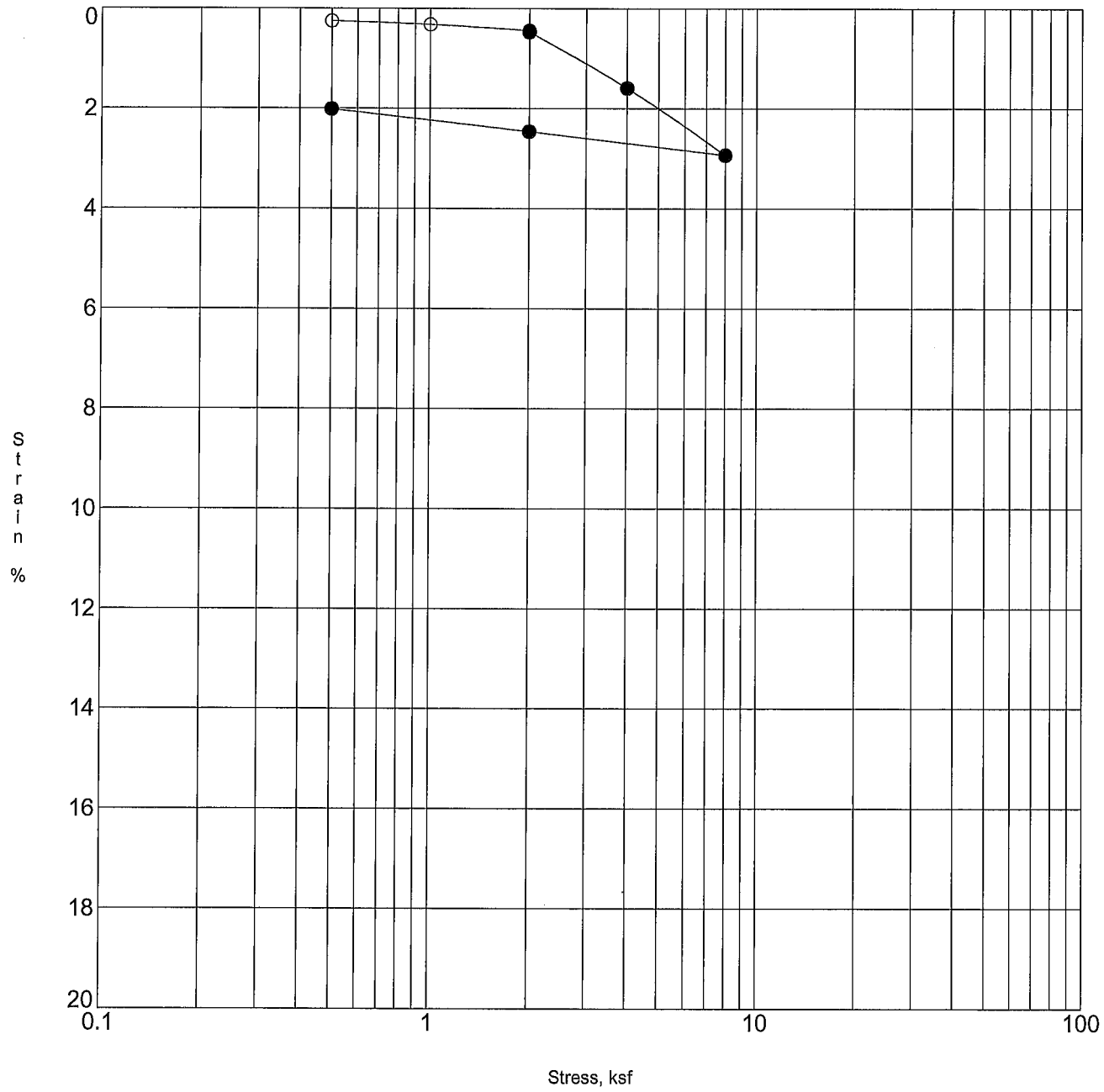
Client No. 4959

Date 8/30/19

Consolidation Test

Advanced Geotechnical Services, Inc.

Plate B- 8



Open Symbol At Field Moisture, Solid Symbol After Submersion in Water

	Specimen Identification		Classification	DD	MC%
○	B-2	12.5	Yellowish brown Sandy SILT		
●	B-2	12.5	*UNDISTURBED*		

Project: Area Housing Authority of the County of Ventura - 2800 Barry Street, Camarillo

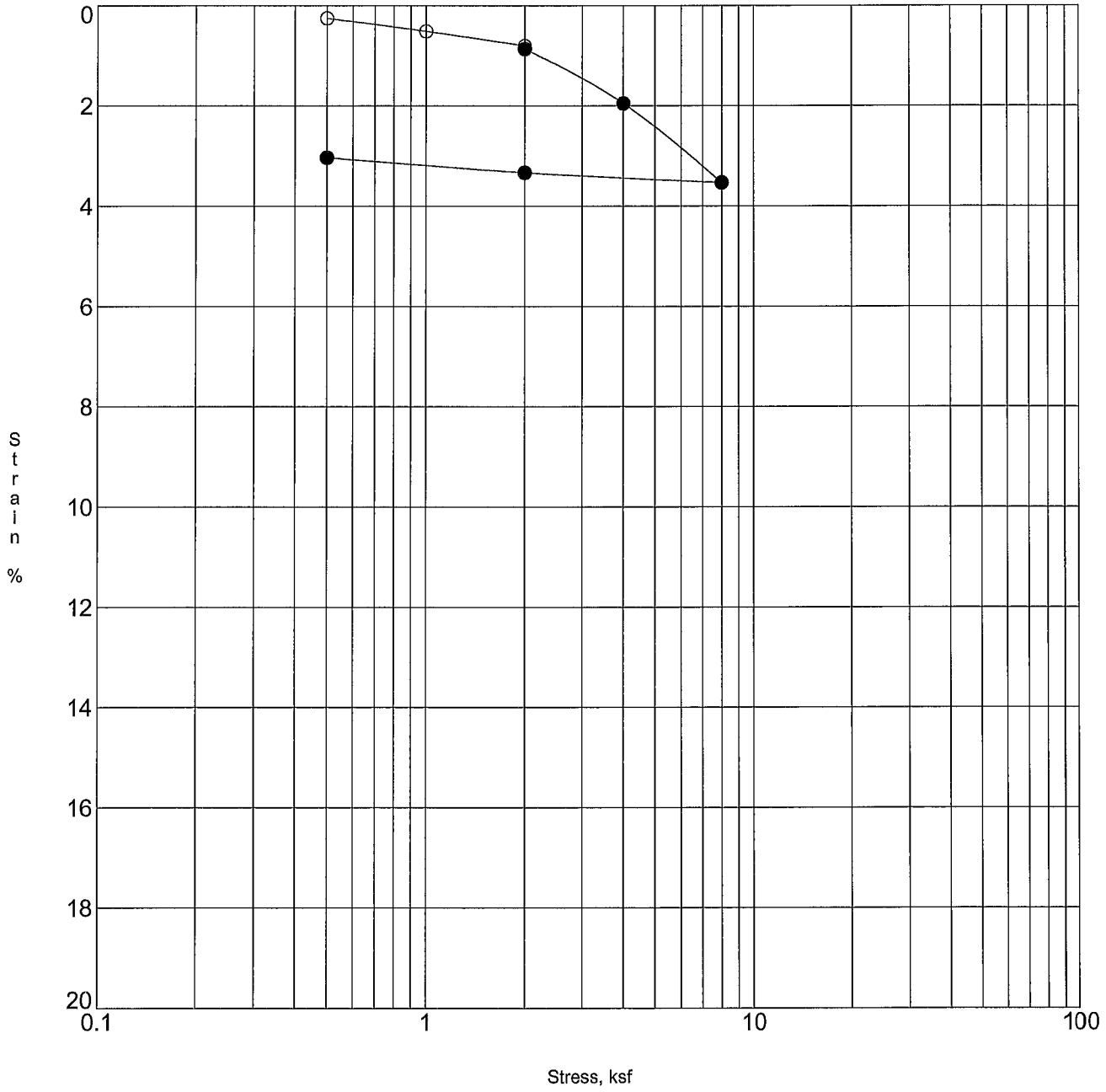
Client No. 4959

Date 8/30/19

Consolidation Test

Advanced Geotechnical Services, Inc.

Plate B- 9



Open Symbol At Field Moisture, Solid Symbol After Submersion in Water

Specimen Identification			Classification	DD	MC%
○	B-1	15.0	Tan fine grained SAND		
●	B-1	15.0	*UNDISTURBED*		

Project: Area Housing Authority of the County of Ventura - 2800 Barry Street, Camarillo

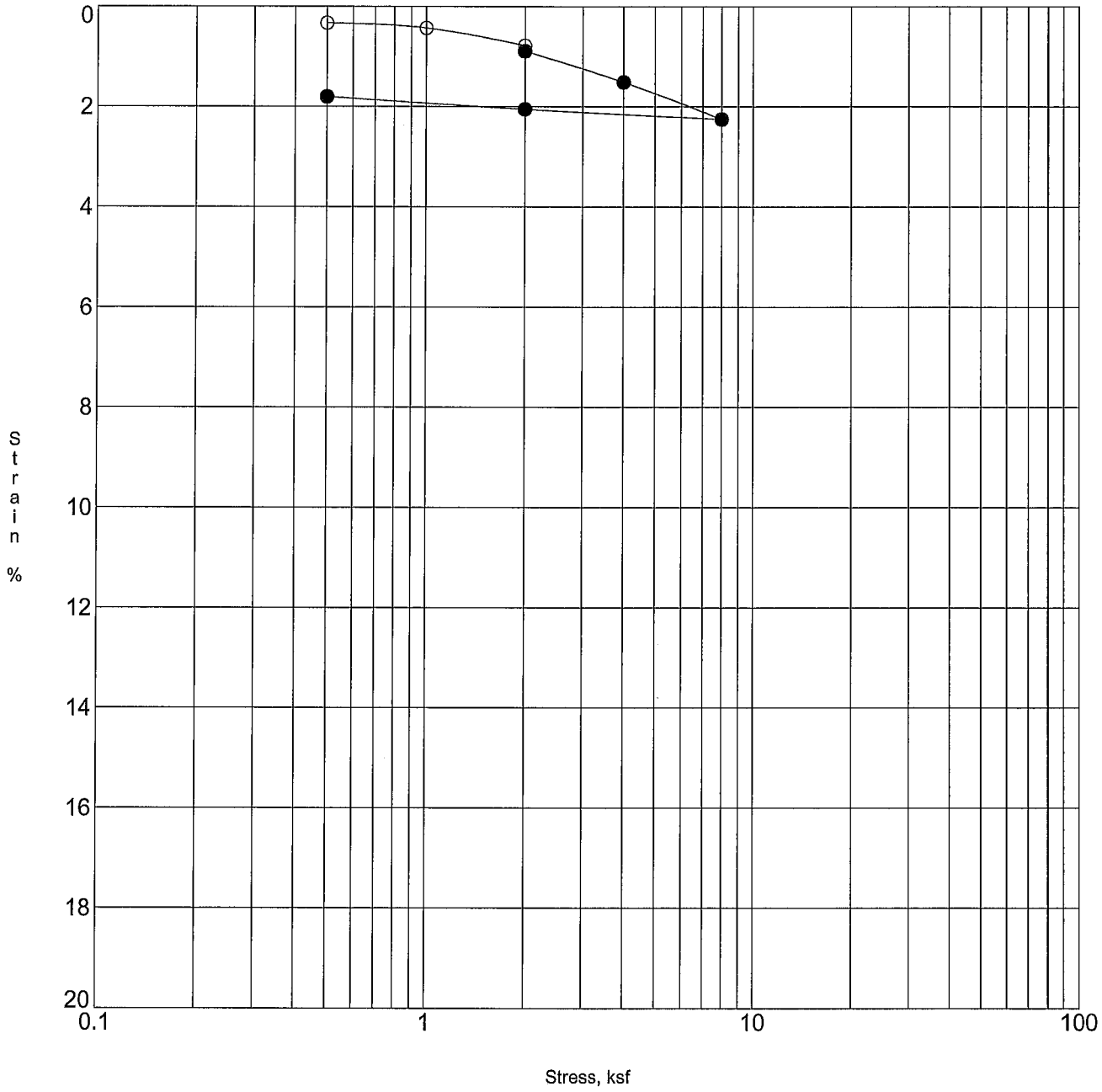
Client No. 4959

Date 8/30/19

Consolidation Test

Advanced Geotechnical Services, Inc.

Plate B- 10



Open Symbol At Field Moisture, Solid Symbol After Submersion in Water

	Specimen Identification		Classification	DD	MC%
○	B-2	20.0	Yellowish brown Silty SAND		
●	B-2	20.0	*UNDISTURBED*		

Project: Area Housing Authority of the County of Ventura - 2800 Barry Street, Camarillo

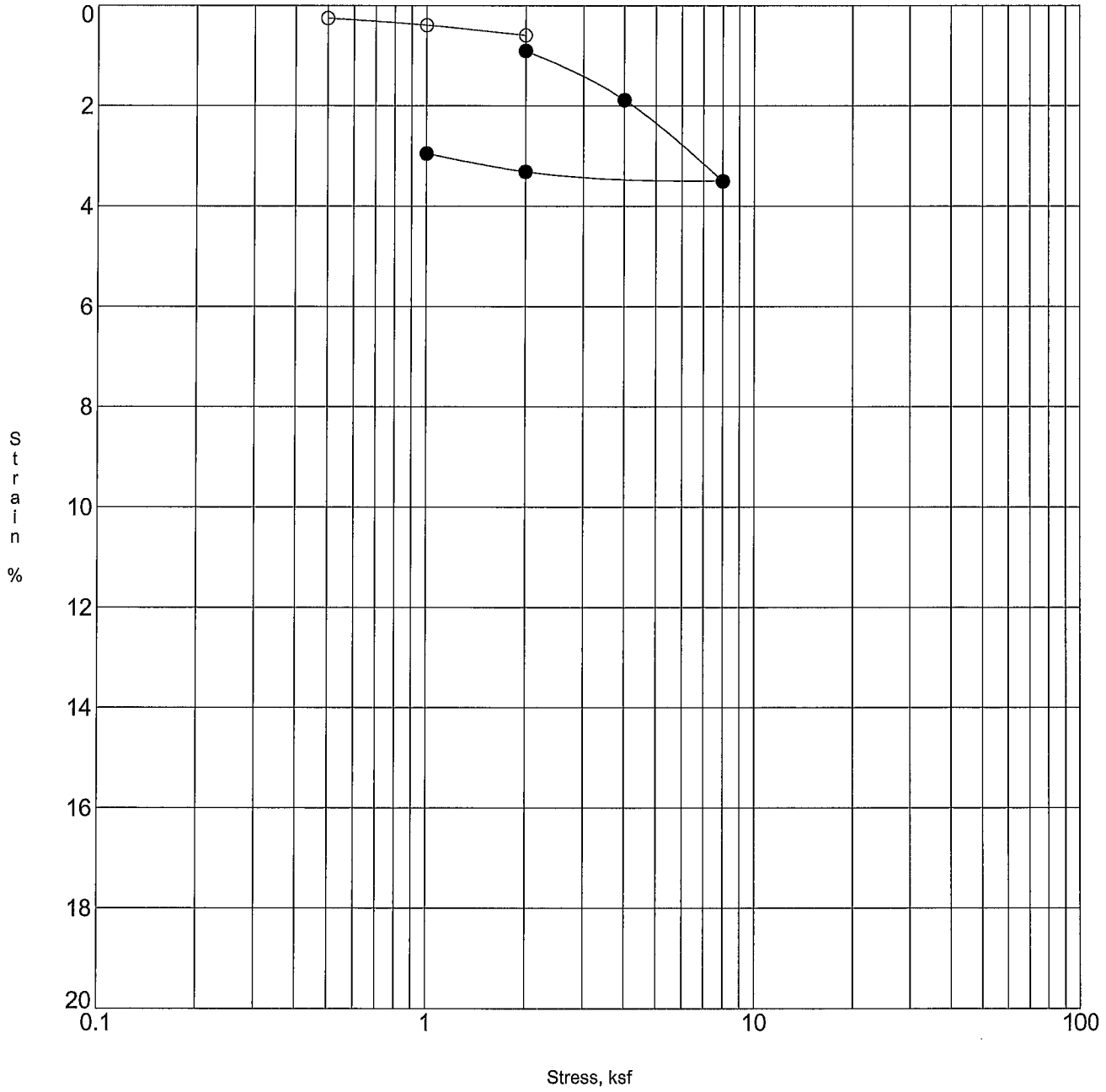
Client No. 4959

Date 8/30/19

Consolidation Test

Advanced Geotechnical Services, Inc.

Plate B- 11



Open Symbol At Field Moisture, Solid Symbol After Submersion in Water

	Specimen Identification		Classification	DD	MC%
○	B-1	25.0	Moderate yellowish brown Sandy SILT		
●	B-1	25.0	*UNDISTURBED*		

Project **Area Housing Authority of the County of Ventura - 2800 Barry Street, Camarillo**

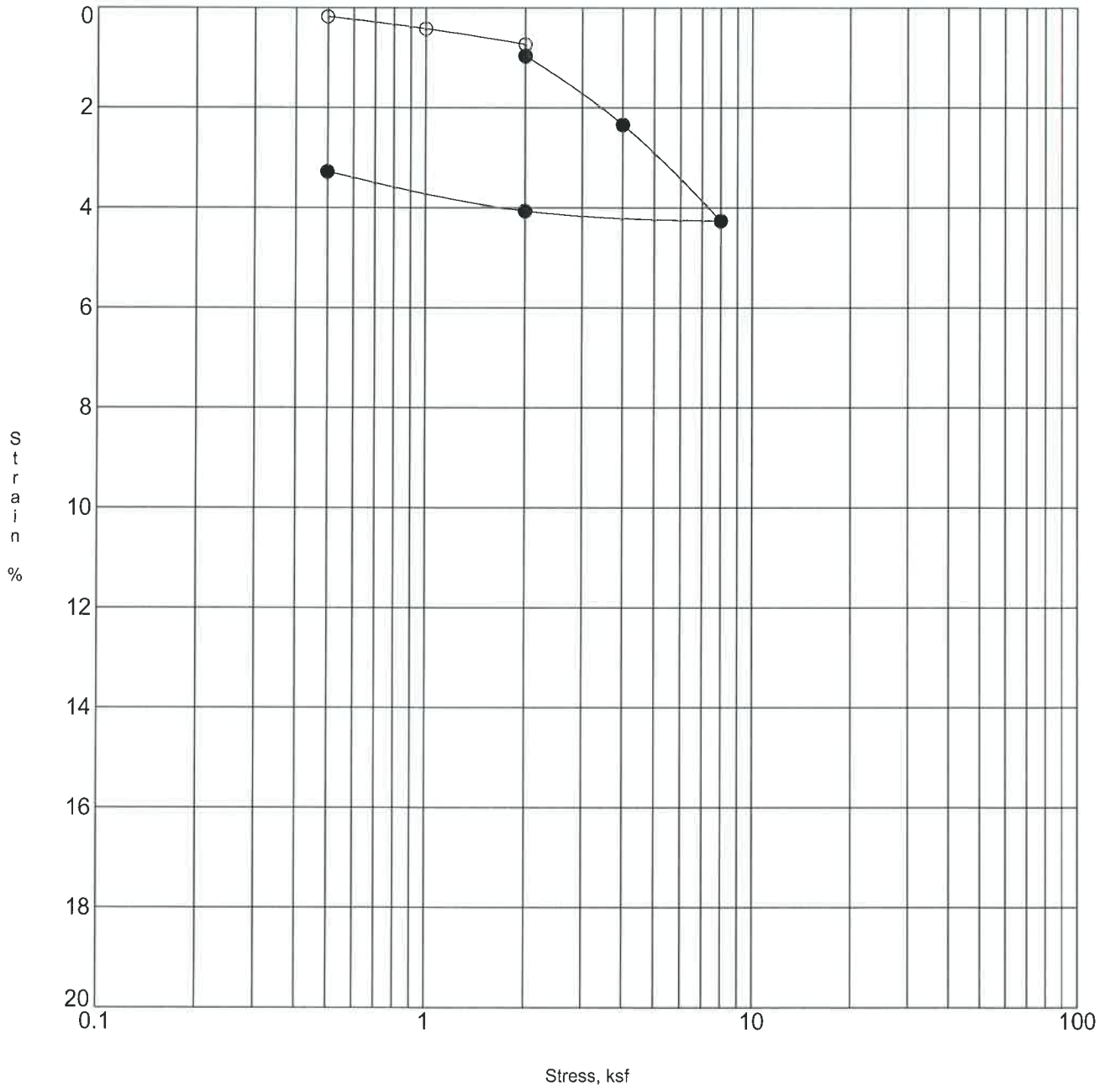
Client No. **4959**

Date **8/30/19**

Consolidation Test

Advanced Geotechnical Services, Inc.

Plate B- 12



Open Symbol At Field Moisture, Solid Symbol After Submersion in Water

	Specimen Identification		Classification	DD	MC%
○	B-2	30.0	Moderate yellowish brown to olive Sandy SILT		
●	B-2	30.0	*UNDISTURBED*		

Project: Area Housing Authority of the County of Ventura - 2800 Barry Street, Camarillo

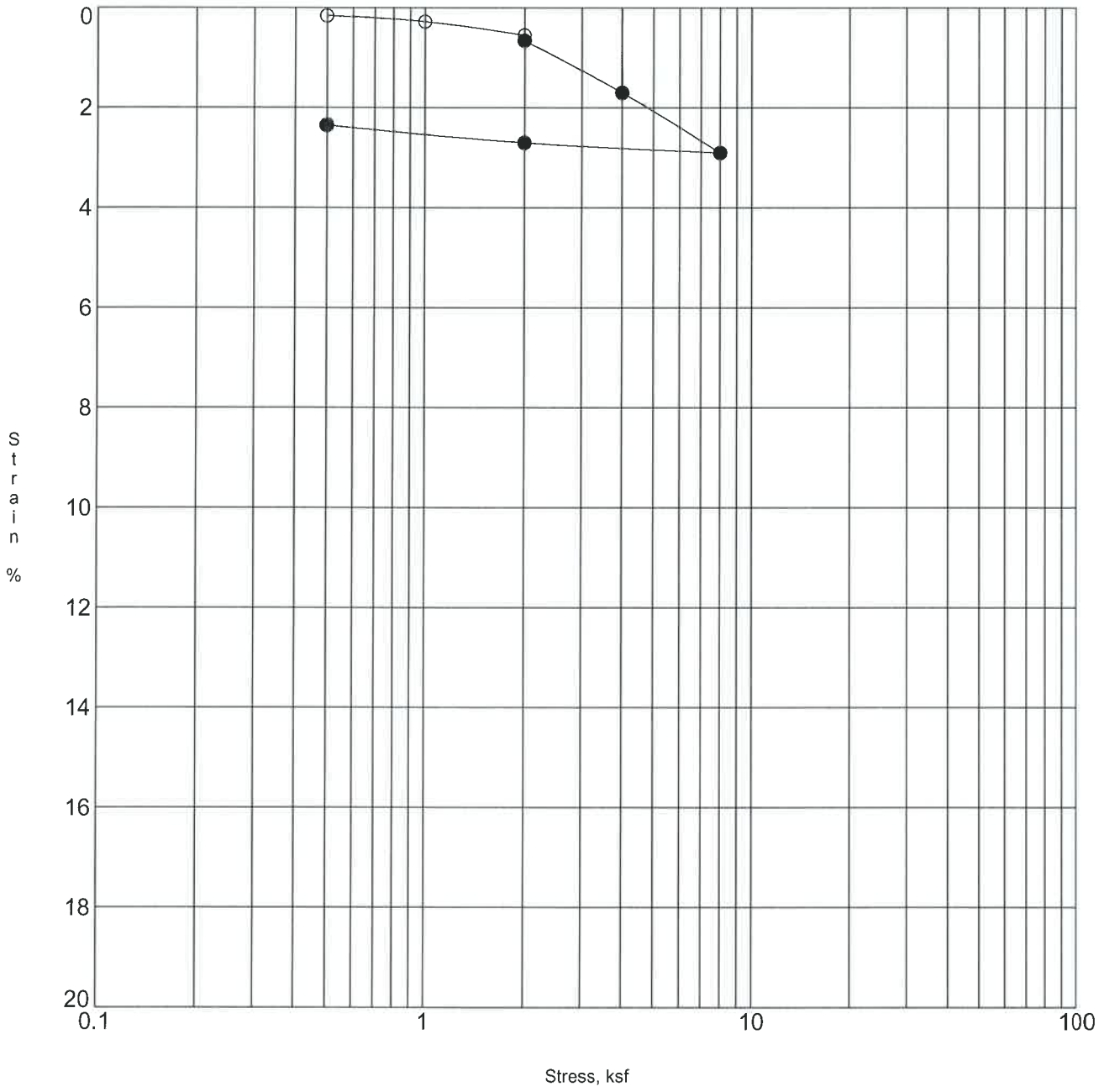
Client No. 4959

Date 8/30/19

Consolidation Test

Advanced Geotechnical Services, Inc.

Plate B- 13



Open Symbol At Field Moisture, Solid Symbol After Submersion in Water

	Specimen Identification		Classification	DD	MC%
○	B-1	35.0	Light brown Gravelly SAND		
●	B-1	35.0	*UNDISTURBED*		

Project: Area Housing Authority of the County of Ventura - 2800 Barry Street, Camarillo

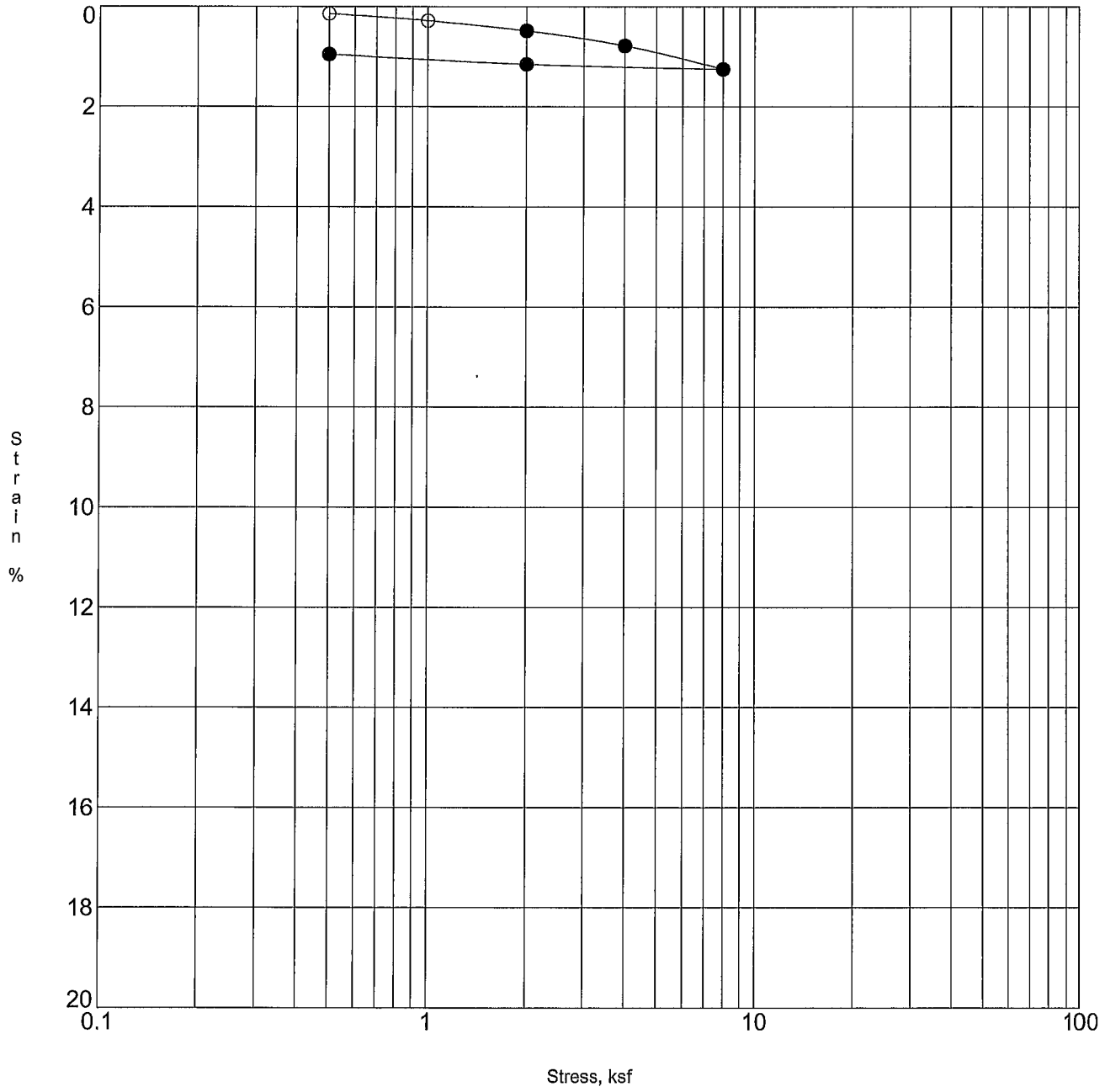
Client No. 4959

Date 8/30/19

Consolidation Test

Advanced Geotechnical Services, Inc.

Plate B- 14



Open Symbol At Field Moisture, Solid Symbol After Submersion in Water

	Specimen Identification		Classification	DD	MC%
○	B-2	40.0	Moderate yellowish brown to olive Sandy SILT		
●	B-2	40.0	*UNDISTURBED*		

Project: Area Housing Authority of the County of Ventura - 2800 Barry Street, Camarillo

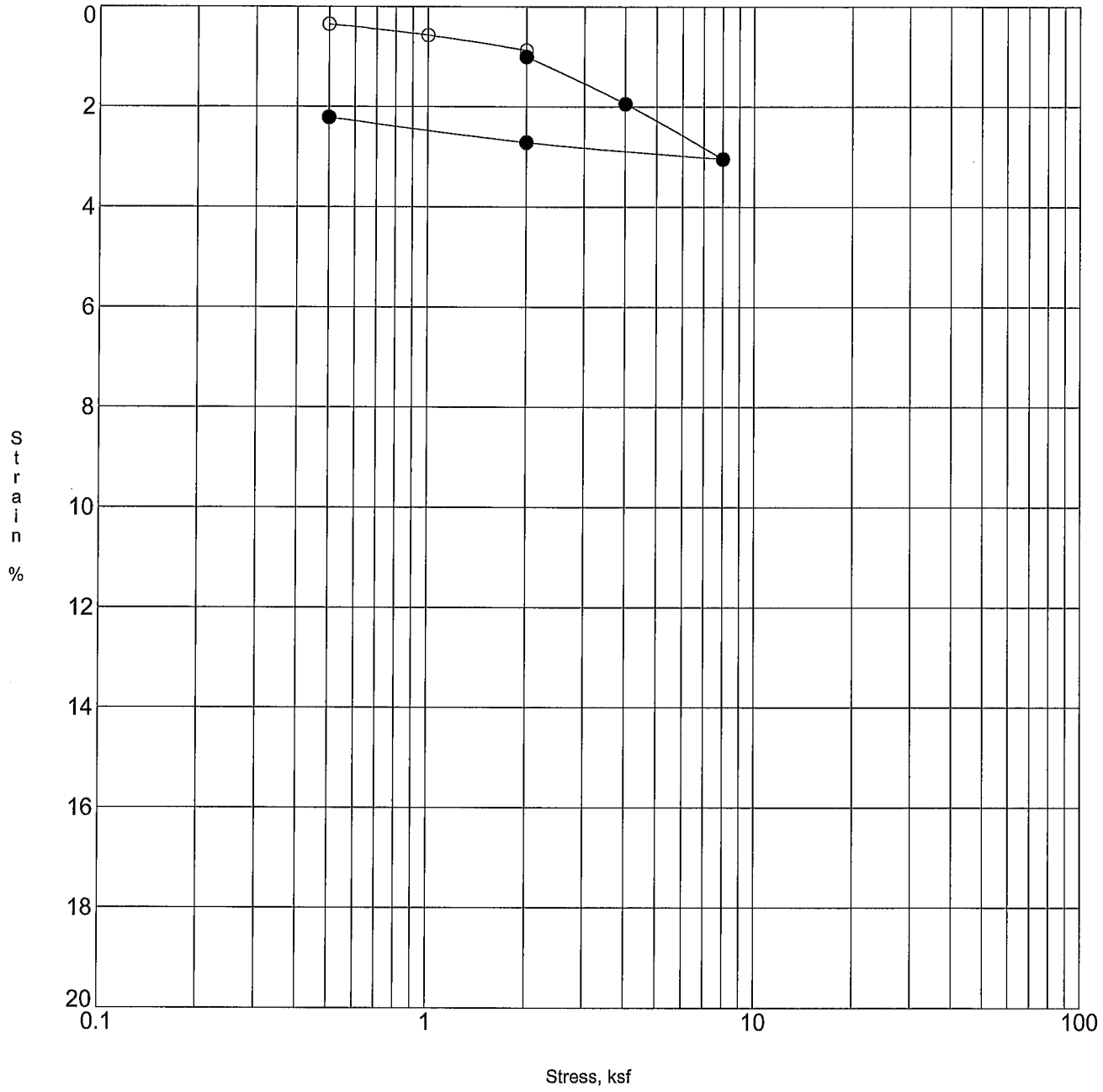
Client No. 4959

Date 8/30/19

Consolidation Test

Advanced Geotechnical Services, Inc.

Plate B- 15



Open Symbol At Field Moisture, Solid Symbol After Submersion in Water

	Specimen Identification		Classification	DD	MC%
○	B-1	45.0	Tan fine grained Silty SAND		
●	B-1	45.0	*UNDISTURBED*		

Project: Area Housing Authority of the County of Ventura - 2800 Barry Street, Camarillo

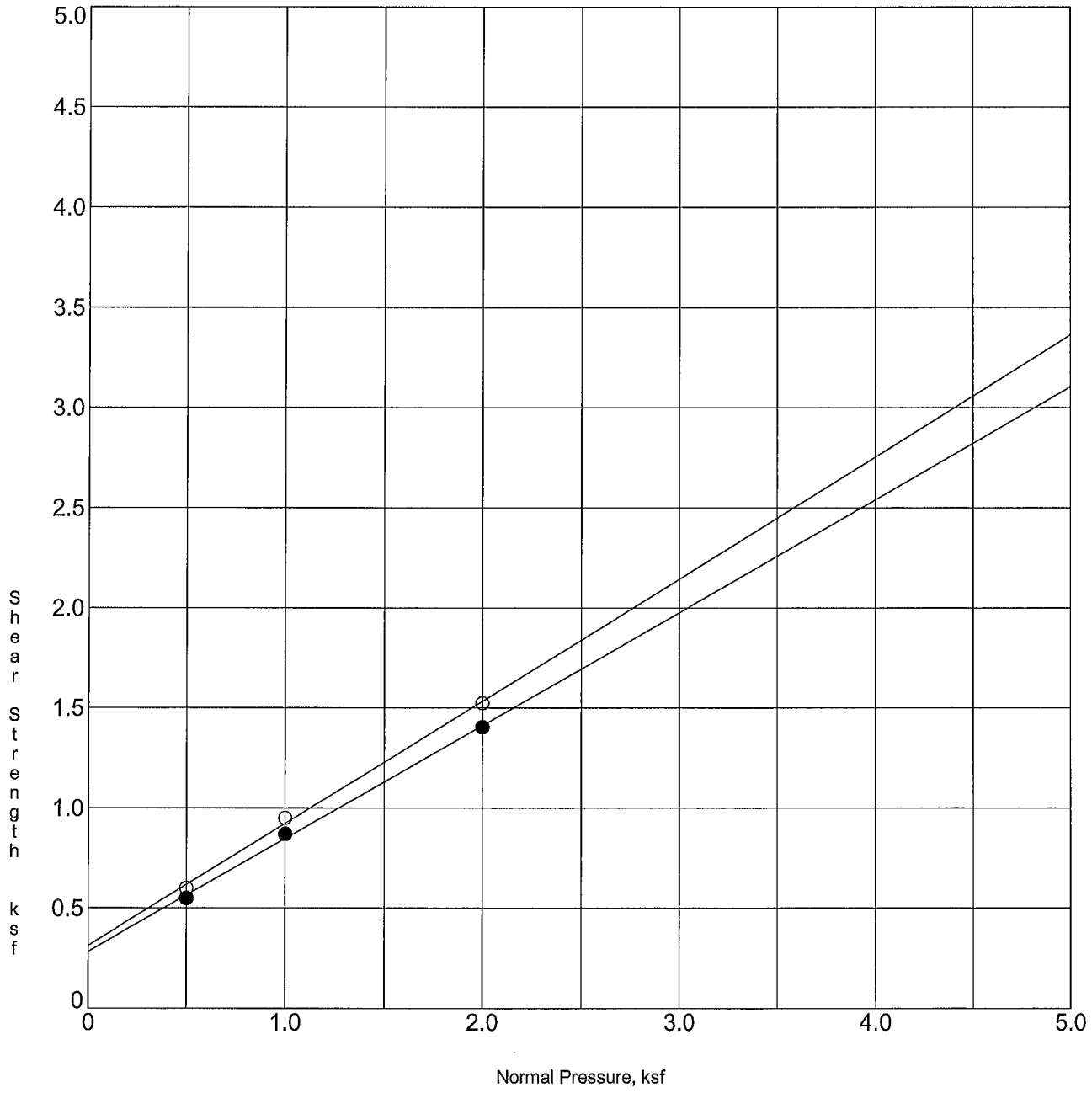
Client No. 4959

Date 8/30/19

Consolidation Test

Advanced Geotechnical Services, Inc.

Plate B- 16



○ - Peak Shear ● - Ultimate Shear △ - Residual Shear

	Specimen Identification		Classification	DD	MC%	c, ksf	phi
○	B-3	0.0	Dark yellowish brown Silty SAND			0.31	31
●	B-3	0.0	*REMOLD*			0.28	29

Project **Area Housing Authority of the County of Ventura - 2800 Barry Street, Camarillo**

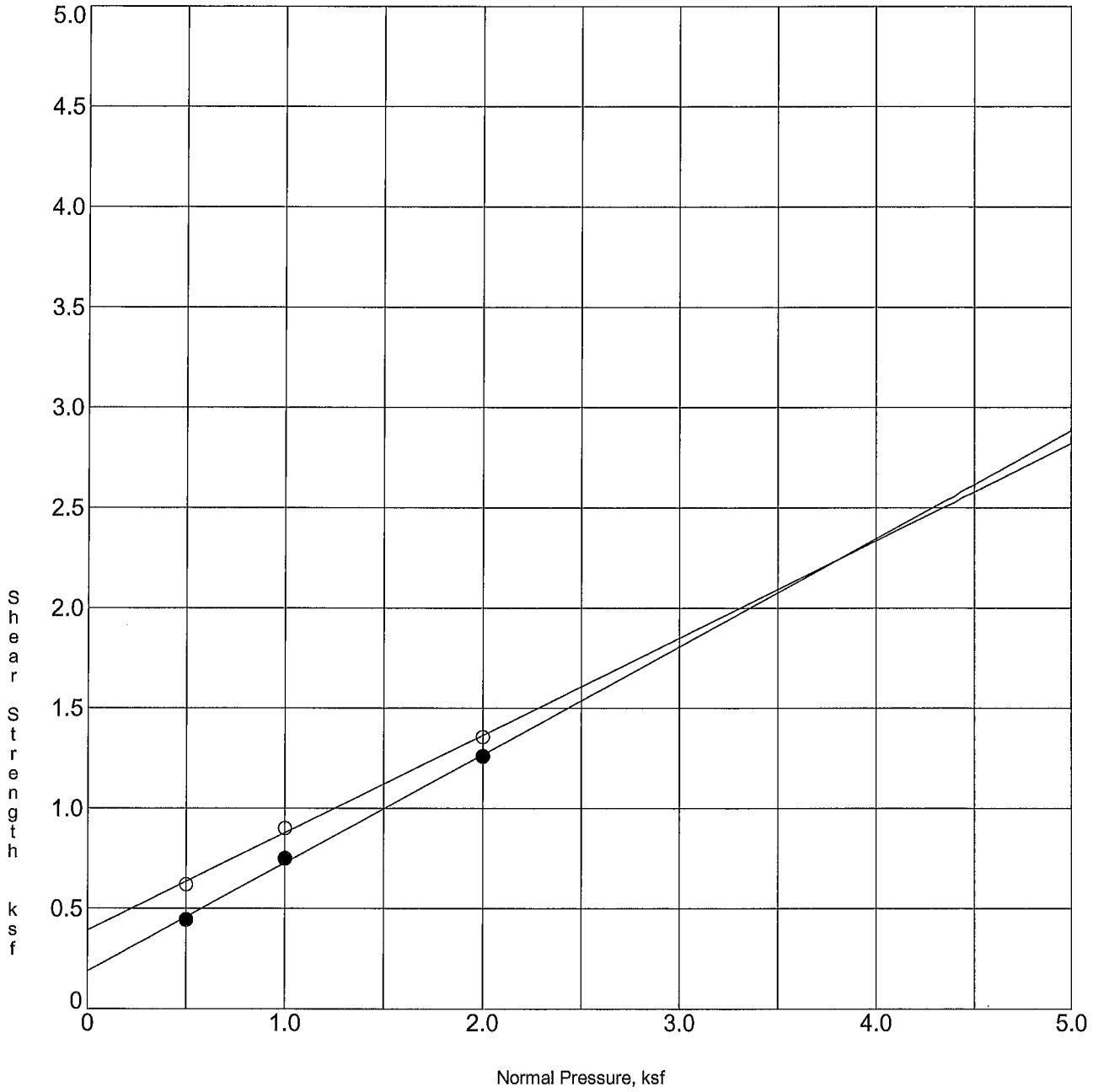
Client No. **4959**

Date **9/3/19**

Shear Test Diagram

Advanced Geotechnical Services, Inc.

Plate B- 17



○ - Peak Shear ● - Ultimate Shear △ - Residual Shear

	Specimen Identification		Classification	DD	MC%	c, ksf	phi
○	B-5	5.0	Tan fine grained Silty SAND			0.39	26
●	B-5	5.0	*UNDISTURBED*			0.19	28

Project: Area Housing Authority of the County of Ventura - 2800 Barry Street, Camarillo

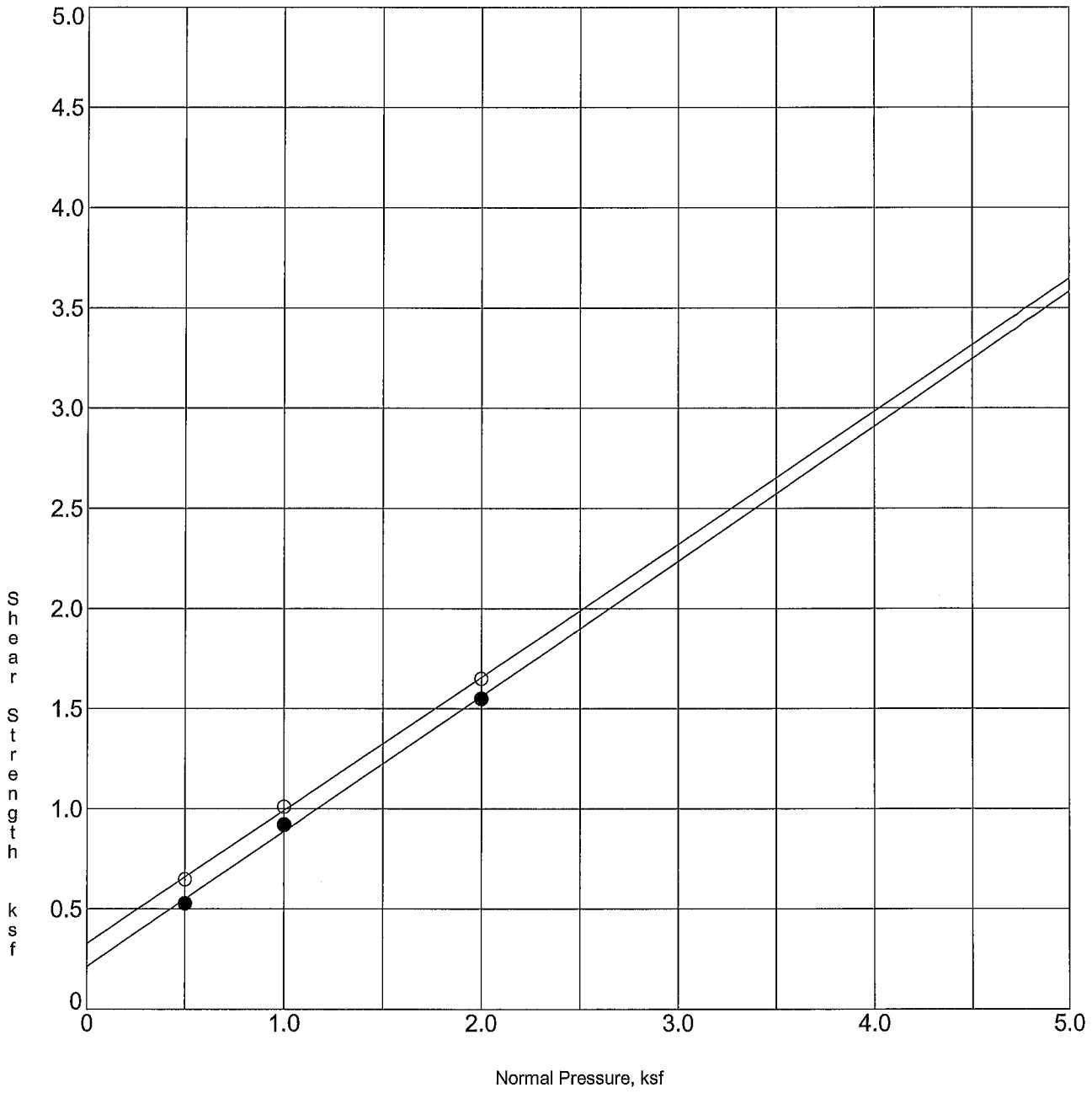
Client No. 4959

Date 8/30/19

Shear Test Diagram

Advanced Geotechnical Services, Inc.

Plate B- 18



○ - Peak Shear ● - Ultimate Shear △ - Residual Shear

	Specimen Identification		Classification	DD	MC%	c, ksf	phi
○	B-10	7.5	Tan fine to medium grained SAND			0.33	34
●	B-10	7.5	*UNDISTURBED*			0.21	34

Project: Area Housing Authority of the County of Ventura - 2800 Barry Street, Camarillo

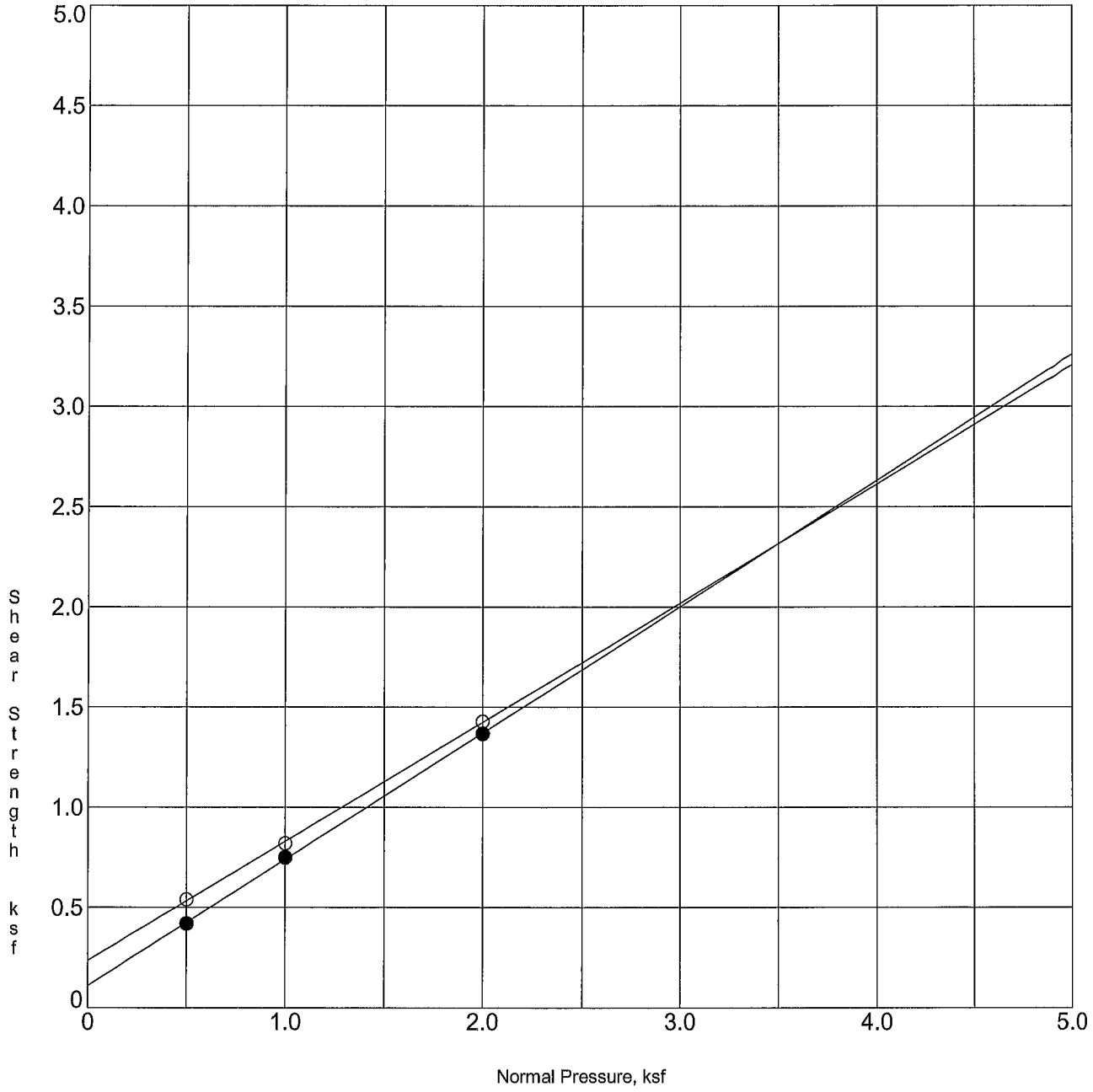
Client No. 4959

Date 8/30/19

Shear Test Diagram

Advanced Geotechnical Services, Inc.

Plate B- 19



○ - Peak Shear ● - Ultimate Shear △ - Residual Shear

	Specimen Identification		Classification	DD	MC%	c, ksf	phi
○	B-2	12.5	Yellowish brown Sandy SILT			0.24	31
●	B-2	12.5	*UNDISTURBED*			0.11	32

Project **Area Housing Authority of the County of Ventura - 2800 Barry Street, Camarillo**

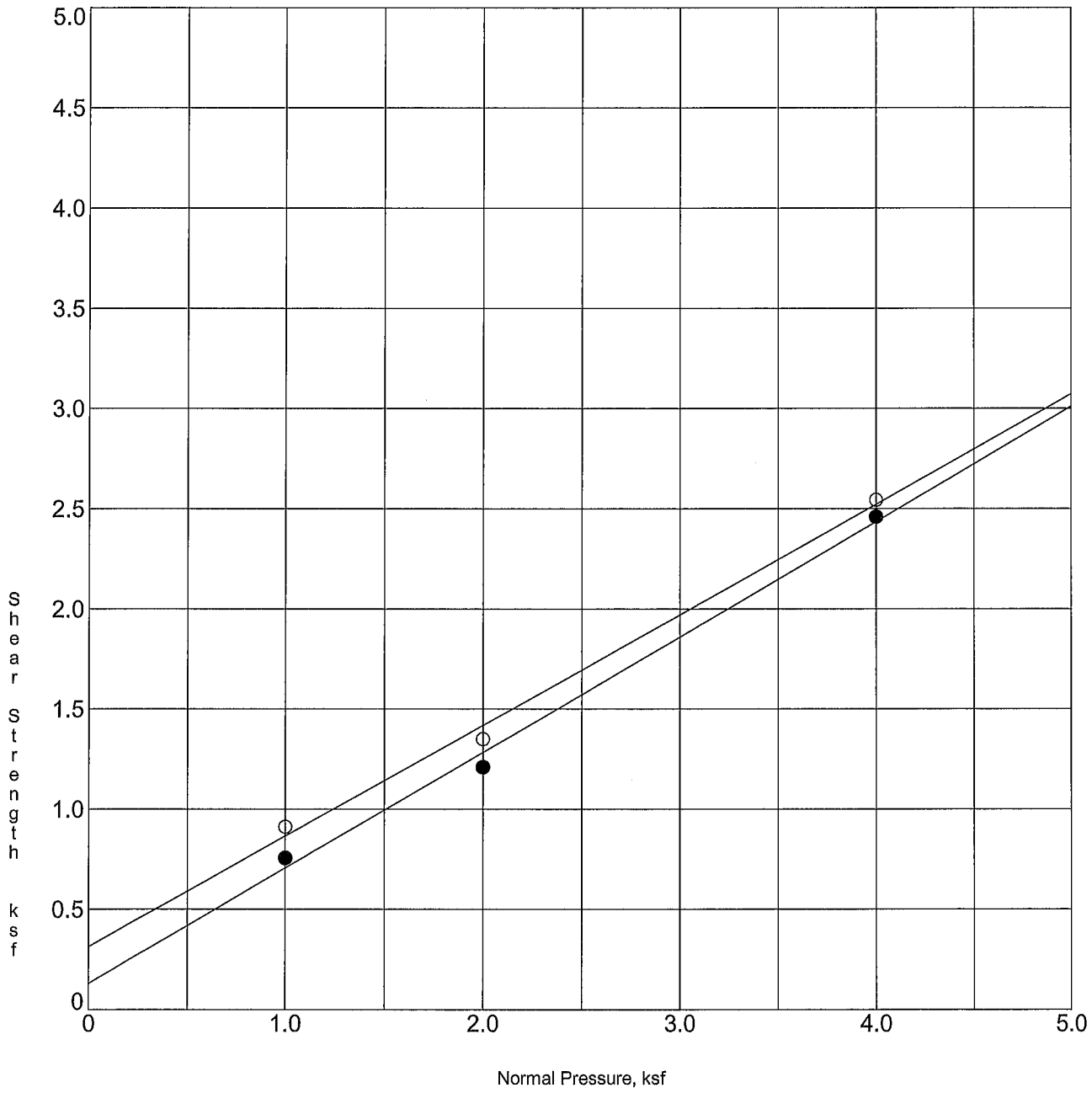
Client No. **4959**

Date **8/30/19**

Shear Test Diagram

Advanced Geotechnical Services, Inc.

Plate B- 20



○ - Peak Shear ● - Ultimate Shear △ - Residual Shear

	Specimen Identification		Classification	DD	MC%	c, ksf	phi
○	B-7	15.0	Yellowish brown Silty SAND			0.32	29
●	B-7	15.0	*UNDISTURBED*			0.13	30

Project: Area Housing Authority of the County of Ventura - 2800 Barry Street, Camarillo

Client No. 4959

Date 8/30/19

Shear Test Diagram

Advanced Geotechnical Services, Inc.

Plate B- 21

LABORATORY ANALYSIS RESULTS

Client: Advanced Geotechnical Services, Inc.
Project No: 4959
Project Name: AHA

AA Project No: A975159
Date Received: 08/08/19
Date Reported: 08/22/19

ANALYTICAL DATA SUMMARY

Analyte	Sample Name	Result	MRL	Units	Dilution	Prepared	Analyzed	Method
Chloride by Ion Chromatography								
Chloride	B3-0-5'	**6.0**	5.0	mg/kg	1	08/15/19	08/15/19	EPA 300.0
General Chemistry Analyses								
pH	B3-0-5'	**7.0**	0.50	pH Units	1	08/22/19	08/22/19	9045C
Specific Conductance (EC)	B3-0-5'	**290**		umhos /cm	1	08/22/19	08/22/19	EPA 120.1
Sulfate by Ion Chromatography								
Sulfate	B3-0-5'	**60**	5.0	mg/kg	1	08/15/19	08/15/19	EPA 300.0

Allen Aminian
QA/QC Manager

Pacific Materials Laboratory, Inc.
Serving Ventura County since 1963

August 9, 2019
Lab No. 35680-3
File No. 19-7059-3

AGS
5251 Verdugo Way, Suite L
Camarillo, CA 93012

SUBJECT: R-Value Testing
Samples Delivered to Laboratory

Gentlemen:

Pursuant to your request, R-Value testing was performed on soil samples delivered to our laboratory. R-Value testing was performed in accordance with California Test 301-F criteria. The test results follow:

R-VALUE RESULTS

PROJECT: AHA #4959
LOCATION: B-1 @ 0-5'
Soil Description: Dark Brown Silty Clayey Silty fine Sand

ITEM	1	2	3
Compaction Pressure – psi	225/350	250/350	250/350
Initial Moisture - %	7.0	7.0	7.0
Moisture at Compaction - %	9.2	10.1	9.7
Density – pcf	122.8	125.7	124.9
R-Value	72	41	61
Exudation Pressure	456	219	385
Expansion Pressure thickness ft.	0.07	0.00	0.00

Assigned R-Value: **48***

Footnote:
** Please verify R-value based upon expansion thickness (see California Test 301-F procedures)*

Thank you for allowing *Pacific Materials Laboratory, Inc.* to be of service. If we may be of further service regarding this or other geotechnical issues, please do not hesitate to call (805) 482-9801, fax (805) 445-6551 or email at pacificmaterialslab@msn.com.

Respectfully Submitted,
PACIFIC MATERIALS LABORATORY, INC.

Douglas C. Papay, CE 29,565
President

REGISTERED PROFESSIONAL ENGINEER
DOUGLAS C. PAPAY
CE 29565
Exp: 3/31/21
CIVIL
STATE OF CALIFORNIA

DCP:gp
cc: Addressee (Email)

Appendix C

Seismicity Study

AHA - Barry Street, Camarillo

Latitude, Longitude: 34.219082, -119.032791

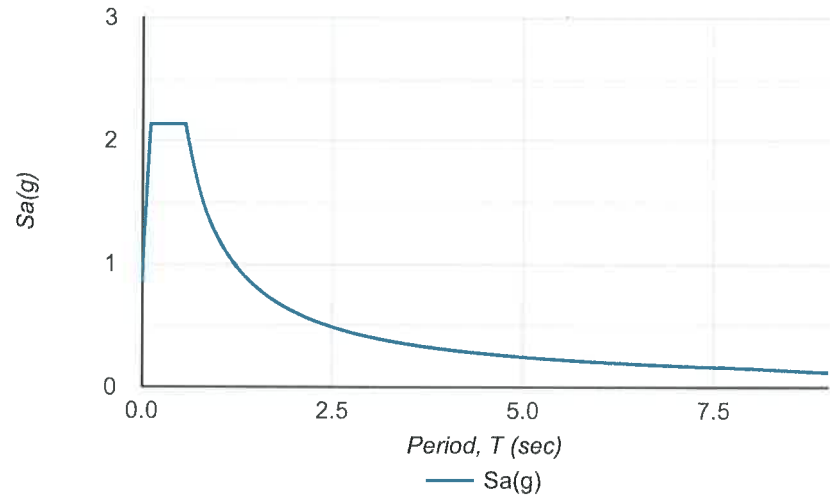


Date	8/27/2019, 3:46:23 PM
Design Code Reference Document	ASCE7-10
Risk Category	II
Site Class	D - Stiff Soil

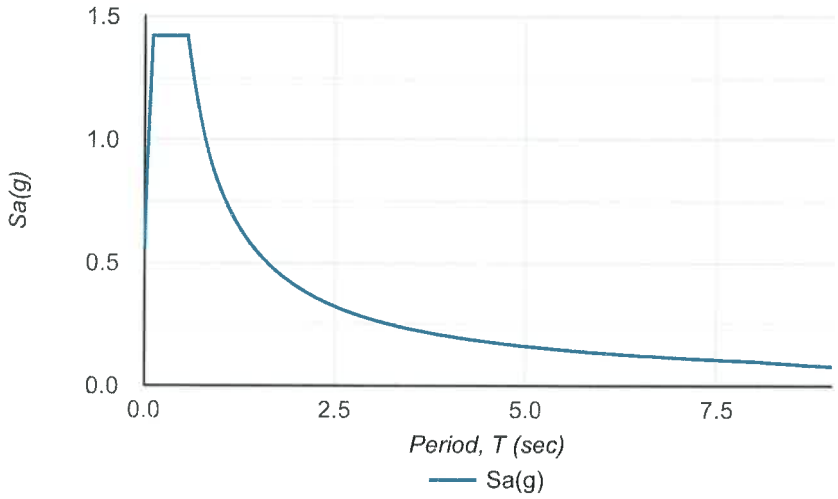
Type	Value	Description
S_S	2.134	MCE_R ground motion. (for 0.2 second period)
S_1	0.809	MCE_R ground motion. (for 1.0s period)
S_{MS}	2.134	Site-modified spectral acceleration value
S_{M1}	1.213	Site-modified spectral acceleration value
S_{DS}	1.423	Numeric seismic design value at 0.2 second SA
S_{D1}	0.809	Numeric seismic design value at 1.0 second SA

Type	Value	Description
SDC	E	Seismic design category
F_a	1	Site amplification factor at 0.2 second
F_v	1.5	Site amplification factor at 1.0 second
PGA	0.817	MCE_G peak ground acceleration
F_{PGA}	1	Site amplification factor at PGA
PGA_M	0.817	Site modified peak ground acceleration
T_L	8	Long-period transition period in seconds
SsRT	2.345	Probabilistic risk-targeted ground motion. (0.2 second)
SsUH	2.48	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration
SsD	2.134	Factored deterministic acceleration value. (0.2 second)
S1RT	0.836	Probabilistic risk-targeted ground motion. (1.0 second)
S1UH	0.876	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration.
S1D	0.809	Factored deterministic acceleration value. (1.0 second)
PGAd	0.817	Factored deterministic acceleration value. (Peak Ground Acceleration)
C_{RS}	0.946	Mapped value of the risk coefficient at short periods
C_{R1}	0.954	Mapped value of the risk coefficient at a period of 1 s

MCER Response Spectrum



Design Response Spectrum



DISCLAIMER

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Appendix D

Liquefaction and Dynamic Dry Settlement Analysis

Client Number	4959	Client Name	AHA Camarillo
Date Drilled	7/25/19	Boring	B-1

a_{max}/g	0.82		N Adjustments - (for Calif. Sampler)	0.667	Field Groundwater Depth (ft)	51.5	(Current)
Magnitude	6.90		N Adjustments - Hole Diameter	1.00	Method (S = SPT)	S	(Ring Sample Data Converted to Equiv. SPT)
Groundwater Depth (ft)	51.5	(Historic High)	N Adjustments - Energy (from Calibration)	1.33	Unit Weight of Water (kcf)	0.0624	
Reference Pressure, $p_{a\ (liq)}$	2.1164		Nc	10.08			
Reference Pressure, $p_{a\ (dry)}$	1.0582						

NL = Not Susceptible to Liquefaction

References

Seed, H. B., Tokimatsu, K., (1985), *Influence of SPT Procedures in Soil Liquefaction Resistance Evaluations* , Journal of Geotechnical Engineering, ASCE, Vol. 111, No. 12, pp. 1425 - 1445.

Yould, T. L. and Idriss, I. M. (1997), *Summary Report* , **Proceedings of the NCEER Workshop on Evaluation of liquefaction Resistance of Soils**

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Pradel, Daniel. (1998), *Procedure to Evaluate Earthquake-Induced Settlements in Dry Sandy Soils* , **Journal of Geotechnical Engineering**, ASCE, Vol. 124, No. 4, pp. 364 - 368.

Youd, T. L. et al (2001), *Summary Report on Evaluation of Liquefaction Resistance of Soils, Journal of Geotechnical and Geoenvironmental Engineering,* ASCE, Vol. 127, No. 10, pp. 817-833.

B-1 Liquefaction Evaluation

Depth, Feet	Total Unit Weight, γ_t	Overburden Pressure, σ_v	LIQ Effective Overburden Pressure, σ_v'	Field Effective Overburden Pressure, σ_v'	C_N	r_d	$CSR_{M=7.5}$	Soil Type	% Fines	N for California Sampler *	$(N_1)_{60}$	Adjusted for Fines Content $(N_1)_{60}$	Rod Length Adjust	K_s	$CRR_{M=7.5}$	Safety Factor, SPT Method	Volumetric Strain	Layer Settlement, (inches)	Cumulative Liquefaction Settlement, (inches)
0.0		0.00	0.00	0.00															
3.5	0.135	0.47	0.47	0.47	1.70	0.99	0.426			50.0	56.5	56.5	0.75	1.00	5.000	Above GWT	0.000	0.000	0.000
7.0		0.95	0.95	0.95															
8.5	0.135	1.15	1.15	1.15	1.36	0.98	0.422			37.0	37.9	37.9	0.85	1.00	5.000	Above GWT	0.000	0.000	0.000
10.0		1.35	1.35	1.35															
11.3	0.135	1.52	1.52	1.52	1.18	0.98	0.419			31.0	27.6	27.6	0.85	1.00	0.338	Above GWT	0.000	0.000	0.000
12.5		1.69	1.69	1.69															
13.8	0.135	1.86	1.86	1.86	1.07	0.97	0.417			42.0	33.8	33.8	0.85	1.00	0.494	Above GWT	0.000	0.000	0.000
15.0		2.03	2.03	2.03															
17.5	0.135	2.36	2.36	2.36	0.95	0.96	0.395			22.0	17.5	17.5	0.95	0.99	0.189	Above GWT	0.000	0.000	0.000
20.0		2.70	2.70	2.70															
22.5	0.135	3.04	3.04	3.04	0.83	0.95	0.385		42.0	24.0	16.9	25.2	0.95	0.96	0.277	Above GWT	0.000	0.000	0.000
25.0		3.38	3.38	3.38															
27.5	0.135	3.71	3.71	3.71	0.76	0.93	0.375		71.0	32.0	21.4	30.7	1.00	0.92	0.202	Above GWT	0.000	0.000	0.000
30.0		4.05	4.05	4.05															
32.5	0.135	4.39	4.39	4.39	0.69	0.91	0.365			39.0	24.0	24.0	1.00	0.89	0.241	Above GWT	0.000	0.000	0.000
35.0		4.73	4.73	4.73															
37.5	0.135	5.06	5.06	5.06	0.65	0.87	0.356			90.0	51.6	51.6	1.00	0.87	5.000	Above GWT	0.000	0.000	0.000
40.0		5.40	5.40	5.40															
42.5	0.135	5.74	5.74	5.74	0.61	0.83	0.346			88.0	47.4	47.4	1.00	0.84	5.000	Above GWT	0.000	0.000	0.000
45.0		6.08	6.08	6.08															
47.0	0.135	6.35	6.35	6.35	0.60	0.78	0.337			95.0	50.5	50.5	1.00	0.82	5.000	Above GWT	0.000	0.000	0.000
49.0		6.62	6.62	6.62															
50.3	0.135	6.78	6.78	6.78	0.60	0.75	0.330			100.0	53.2	53.2	1.00	0.80	5.000	Above GWT	0.000	0.000	0.000
51.5		6.95	6.95	6.95															

* Note: Cal Blow Counts of 50 assumed for the future newly placed compacted fill in the upper 7 feet.

Total, Inches = 0.00

Client Number	4959	Client Name	AHA Camarillo
Date Drilled	7/25/19	Boring	B-2

a_{max}/g	0.82		N Adjustments - (for Calif. Sampler)	0.667	Field Groundwater Depth (ft)	51.5	(Current)
Magnitude	6.90		N Adjustments - Hole Diameter	1.00	Method (S = SPT)	S	(Ring Sample Data Converted to Equiv. SPT)
Groundwater Depth (ft)	51.5	(Historic High)	N Adjustments - Energy (from Calibration)	1.33	Unit Weight of Water (kcf)	0.0624	
Reference Pressure, $p_{a\,(liq)}$	2.1164		Nc	10.08			
Reference Pressure, $p_{a\,(dry)}$	1.0582						

NL = Not Susceptible to Liquefaction

References

Seed, H. B., Tokimatsu, K., (1985), *Influence of SPT Procedures in Soil Liquefaction Resistance Evaluations* , Journal of Geotechnical Engineering, ASCE, Vol. 111, No. 12, pp. 1425 - 1445.

Yould, T. L. and Idriss, I. M. (1997), *Summary Report* , **Proceedings of the NCEER Workshop on Evaluation of liquefaction Resistance of Soils**

Seed, H. B., Tokimatsu, K.,(1987), *Chart for Estimation of Liquefaction-Induced Settlement,* **Journal of Geotechnical Engineering**, ASCE

Pradel, Daniel. (1998), *Procedure to Evaluate Earthquake-Induced Settlements in Dry Sandy Soils* , **Journal of Geotechnical Engineering**, ASCE, Vol. 124, No. 4, pp. 364 - 368.

Youd, T. L. et al (2001), *Summary Report on Evaluation of Liquefaction Resistance of Soils, Journal of Geotechnical and Geoenvironmental Engineering,* ASCE, Vol. 127, No. 10, pp. 817-833.

B-2 Liquefaction Evaluation

Depth, Feet	Total Unit Weight, γ_t	Overburden Pressure, σ_v	LIQ Effective Overburden Pressure, σ_v'	Field Effective Overburden Pressure, σ_v'	C_N	r_d	$CSR_{M=7.5}$	Soil Type	% Fines	N for California Sampler *	$(N_1)_{60}$	Adjusted for Fines Content $(N_1)_{60}$	Rod Length Adjust	K_s	$CRR_{M=7.5}$	Safety Factor, SPT Method	Volumetric Strain	Layer Settlement, (inches)	Cumulative Liquefaction Settlement, (inches)
0.0		0.00	0.00	0.00															
3.5	0.135	0.47	0.47	0.47	1.70	0.99	0.426			50.0	56.5	56.5	0.75	1.00	5.000	Above GWT	0.000	0.000	0.000
7.0		0.95	0.95	0.95															
8.5	0.135	1.15	1.15	1.15	1.36	0.98	0.422			22.0	22.5	22.5	0.85	1.00	0.249	Above GWT	0.000	0.000	0.000
10.0		1.35	1.35	1.35															
11.3	0.135	1.52	1.52	1.52	1.18	0.98	0.419			23.0	20.5	20.5	0.85	1.00	0.223	Above GWT	0.000	0.000	0.000
12.5		1.69	1.69	1.69															
13.8	0.135	1.86	1.86	1.86	1.07	0.97	0.417			25.0	20.1	20.1	0.85	1.00	0.219	Above GWT	0.000	0.000	0.000
15.0		2.03	2.03	2.03															
17.5	0.135	2.36	2.36	2.36	0.95	0.96	0.395			24.0	19.1	19.1	0.95	0.99	0.206	Above GWT	0.000	0.000	0.000
20.0		2.70	2.70	2.70															
22.5	0.135	3.04	3.04	3.04	0.83	0.95	0.385			36.0	25.3	25.3	0.95	0.96	0.278	Above GWT	0.000	0.000	0.000
25.0		3.38	3.38	3.38															
27.5	0.135	3.71	3.71	3.71	0.76	0.93	0.375			33.0	22.1	22.1	1.00	0.92	0.225	Above GWT	0.000	0.000	0.000
30.0		4.05	4.05	4.05															
32.5	0.135	4.39	4.39	4.39	0.69	0.91	0.365			27.0	16.6	16.6	1.00	0.89	0.162	Above GWT	0.000	0.000	0.000
35.0		4.73	4.73	4.73															
37.5	0.135	5.06	5.06	5.06	0.65	0.87	0.356			41.0	23.5	23.5	1.00	0.87	0.227	Above GWT	0.000	0.000	0.000
40.0		5.40	5.40	5.40															
42.5	0.135	5.74	5.74	5.74	0.61	0.83	0.346		67.0	49.0	26.4	36.7	1.00	0.84	5.000	Above GWT	0.000	0.000	0.000
45.0		6.08	6.08	6.08															
47.0	0.135	6.35	6.35	6.35	0.60	0.78	0.337			90.0	47.9	47.9	1.00	0.82	5.000	Above GWT	0.000	0.000	0.000
49.0		6.62	6.62	6.62															
50.3	0.135	6.78	6.78	6.78	0.60	0.75	0.330		56.0	44.0	23.4	33.1	1.00	0.80	0.368	Above GWT	0.000	0.000	0.000
51.5		6.95	6.95	6.95															

* Note: Cal Blow Counts of 50 assumed for the future newly placed compacted fill in the upper 7 feet.

Total, Inches = 0.00

Client Number	4959	Client Name	AHA Camarillo
Date Drilled	7/25/19	Boring	B-1

advanced geotechnical services, inc.

a_{max}/g	0.57		N Adjustments - (for Calif. Sampler)	0.667		Field Groundwater Depth (ft)	51.5	(Current)
Magnitude	6.90		N Adjustments - Hole Diameter	1.00		Method (S = SPT)	S	(Ring Sample Data Converted to Equiv. SPT)
Groundwater Depth (ft)	51.5	(Historic High)	N Adjustments - Energy (from Calibration)	1.33		Unit Weight of Water (kcf)	0.0624	
Reference Pressure, $p_{a\,(liq)}$	2.1164		Nc	10.08				
Reference Pressure, $p_{a\,(dry)}$	1.0582							

NL = Not Susceptible to Liquefaction

References

Seed, H. B., Tokimatsu, K., (1985), *Influence of SPT Procedures in Soil Liquefaction Resistance Evaluations*, Journal of Geotechnical Engineering, ASCE, Vol. 111, No. 12, pp. 1425 - 1445.

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Pradel, Daniel. (1998), *Procedure to Evaluate Earthquake-Induced Settlements in Dry Sandy Soils*, **Journal of Geotechnical Engineering**, ASCE, Vol. 124, No. 4, pp. 364 - 368.

Evaluation of Earthquake Induced Settlements in Dry Sand

Layer Midpoint Depth (feet)	$\tau_{induced}$	$(N_1)_{60\text{-}cs}$	σ_v	p	G_{max}	a	b	γ	ε_{15} (%)	ε_{Nc} (%)	Layer Settlement (inches)	Cumulative Settlement (inches)
3.5	0.087	56.5	0.24	0.158	702	0.130	20010	0.00028	0.000080	0.000067	0.006	0.006
8.5	0.208	37.9	0.57	0.384	957	0.138	11750	0.00053	0.000248	0.000207	0.007	0.013
11.3	0.274	27.6	0.76	0.509	991	0.143	9931	0.00078	0.000532	0.000445	0.013	0.026
13.8	0.333	33.8	0.93	0.622	1172	0.147	8805	0.00069	0.000369	0.000309	0.009	0.036
17.5	0.421	17.5	1.18	0.791	1063	0.153	7619	0.00142	0.001657	0.001385	0.083	0.119
22.5	0.534	25.2	1.52	1.018	1361	0.161	6552	0.00105	0.000793	0.000663	0.040	0.159
27.5	0.640	30.7	1.86	1.244	1606	0.170	5809	0.00093	0.000554	0.000463	0.028	0.186
32.5	0.736	24.0	2.19	1.470	1608	0.178	5255	0.00115	0.000925	0.000774	0.046	0.233
37.5	0.816	51.6	2.53	1.696	2229	0.186	4823	0.00064	0.000207	0.000173	0.010	0.243
42.5	0.878	47.4	2.87	1.922	2307	0.195	4474	0.00066	0.000234	0.000196	0.012	0.255
47.0	0.919	50.5	3.17	2.126	2479	0.202	4211	0.00061	0.000199	0.000166	0.008	0.263
50.3	0.941	53.2	3.39	2.273	2607	0.208	4046	0.00057	0.000175	0.000146	0.004	0.267

Total, inches 0.27

Double for Multi-Directional Shaking, inches 0.53

Client Number	4959	Client Name	AHA Camarillo
Date Drilled	7/25/19	Boring	B-2

advanced geotechnical services, inc.

a_{max}/g	0.57		N Adjustments - (for Calif. Sampler)	0.667		Field Groundwater Depth (ft)	51.5	(Current)
Magnitude	6.90		N Adjustments - Hole Diameter	1.00		Method (S = SPT)	S	(Ring Sample Data Converted to Equiv. SPT)
Groundwater Depth (ft)	51.5	(Historic High)	N Adjustments - Energy (from Calibration)	1.33		Unit Weight of Water (kcf)	0.0624	
Reference Pressure, $p_{a\,(liq)}$	2.1164		Nc	10.08				
Reference Pressure, $p_{a\,(dry)}$	1.0582							

NL = Not Susceptible to Liquefaction

References

Seed, H. B., Tokimatsu, K., (1985), *Influence of SPT Procedures in Soil Liquefaction Resistance Evaluations* , Journal of Geotechnical Engineering, ASCE, Vol. 111, No. 12, pp. 1425 - 1445.

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Evaluation of Earthquake Induced Settlements in Dry Sand

Layer Midpoint Depth (feet)	$\tau_{induced}$	$(N_1)_{60\text{-}cs}$	σ_v	p	G_{max}	a	b	γ	ε_{15} (%)	ε_{Nc} (%)	Layer Settlement (inches)	Cumulative Settlement (inches)
3.5	0.087	56.5	0.24	0.158	702	0.130	20010	0.00028	0.000080	0.000067	0.006	0.006
8.5	0.208	22.5	0.57	0.384	805	0.138	11750	0.00089	0.000769	0.000643	0.023	0.029
11.3	0.274	20.5	0.76	0.509	897	0.143	9931	0.00106	0.001034	0.000864	0.026	0.055
13.8	0.333	20.1	0.93	0.622	986	0.147	8805	0.00114	0.001136	0.000950	0.028	0.083
17.5	0.421	19.1	1.18	0.791	1094	0.153	7619	0.00129	0.001359	0.001137	0.068	0.151
22.5	0.534	25.3	1.52	1.018	1362	0.161	6552	0.00105	0.000789	0.000660	0.040	0.191
27.5	0.640	22.1	1.86	1.244	1439	0.170	5809	0.00123	0.001096	0.000916	0.055	0.246
32.5	0.736	16.6	2.19	1.470	1423	0.178	5255	0.00162	0.002024	0.001692	0.102	0.347
37.5	0.816	23.5	2.53	1.696	1715	0.186	4823	0.00114	0.000941	0.000787	0.047	0.395
42.5	0.878	36.7	2.87	1.922	2118	0.195	4474	0.00078	0.000377	0.000315	0.019	0.414
47.0	0.919	47.9	3.17	2.126	2434	0.202	4211	0.00063	0.000219	0.000183	0.009	0.422
50.3	0.941	33.1	3.39	2.273	2225	0.208	4046	0.00075	0.000411	0.000344	0.010	0.433

Total, inches 0.43

Double for Multi-Directional Shaking, inches 0.87

Appendix E

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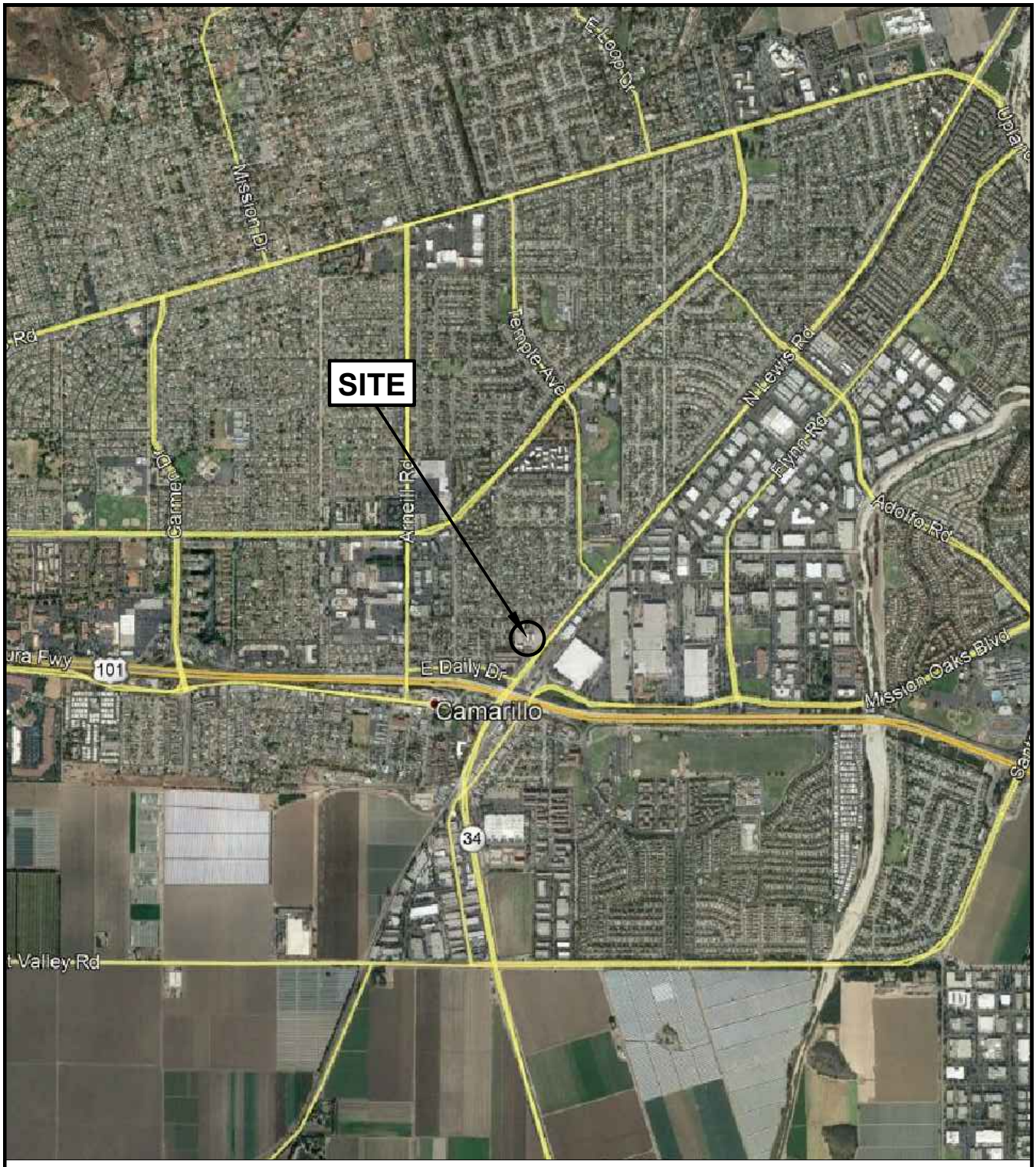
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Appendix F

Report Figures and Plates



Reference: Google Earth 2019

N

No Scale

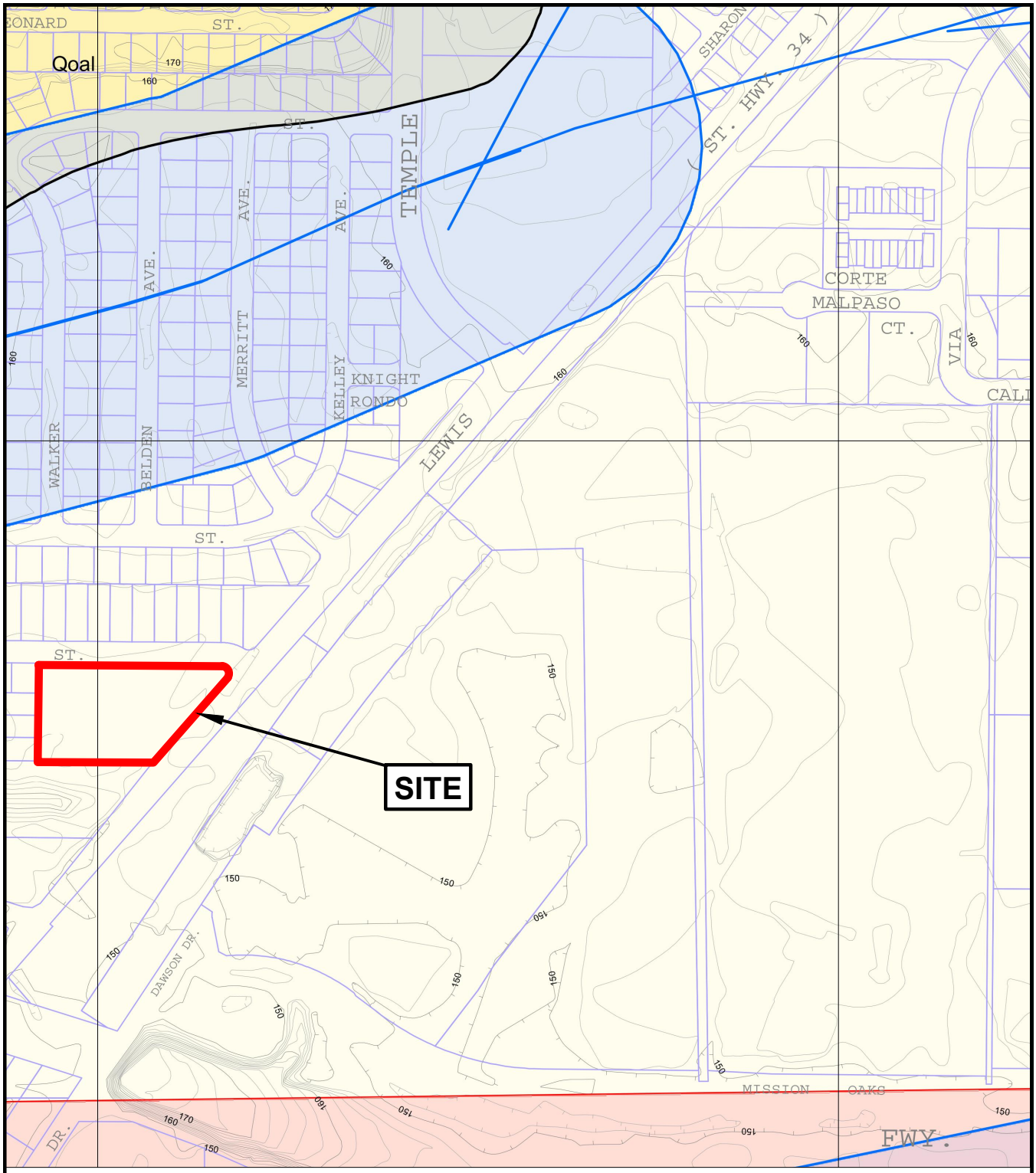
Advanced Geotechnical Services

SITE LOCATION MAP

Area Housing Authority of Ventura County
2800 Barry Street
Camarillo, California

Client # 4959
Report # 10373

FIGURE 1



Reference: Fugro 2013 - City of Camarillo Guidelines

N

Scale: 1" = 400'

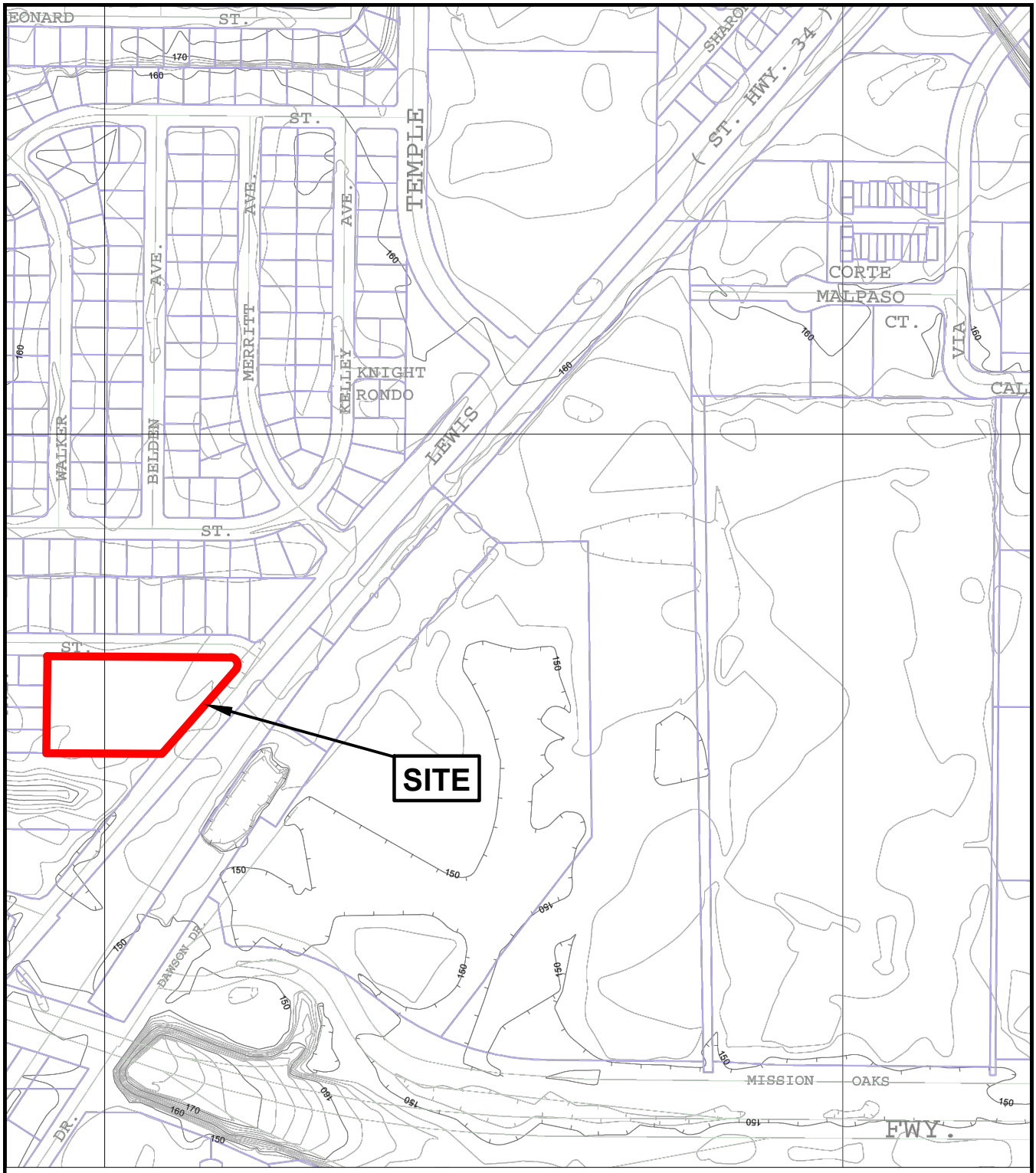
Advanced Geotechnical Services

CITY OF CAMARILLO EARTHQUAKE FAULT ZONES MAP

Area Housing Authority of Ventura County
2800 Barry Street
Camarillo, California

Client # 4959
Report # 10373

FIGURE 6



Reference: Fugro 2013 - City of Camarillo Guidelines

N

Scale: 1" = 400'

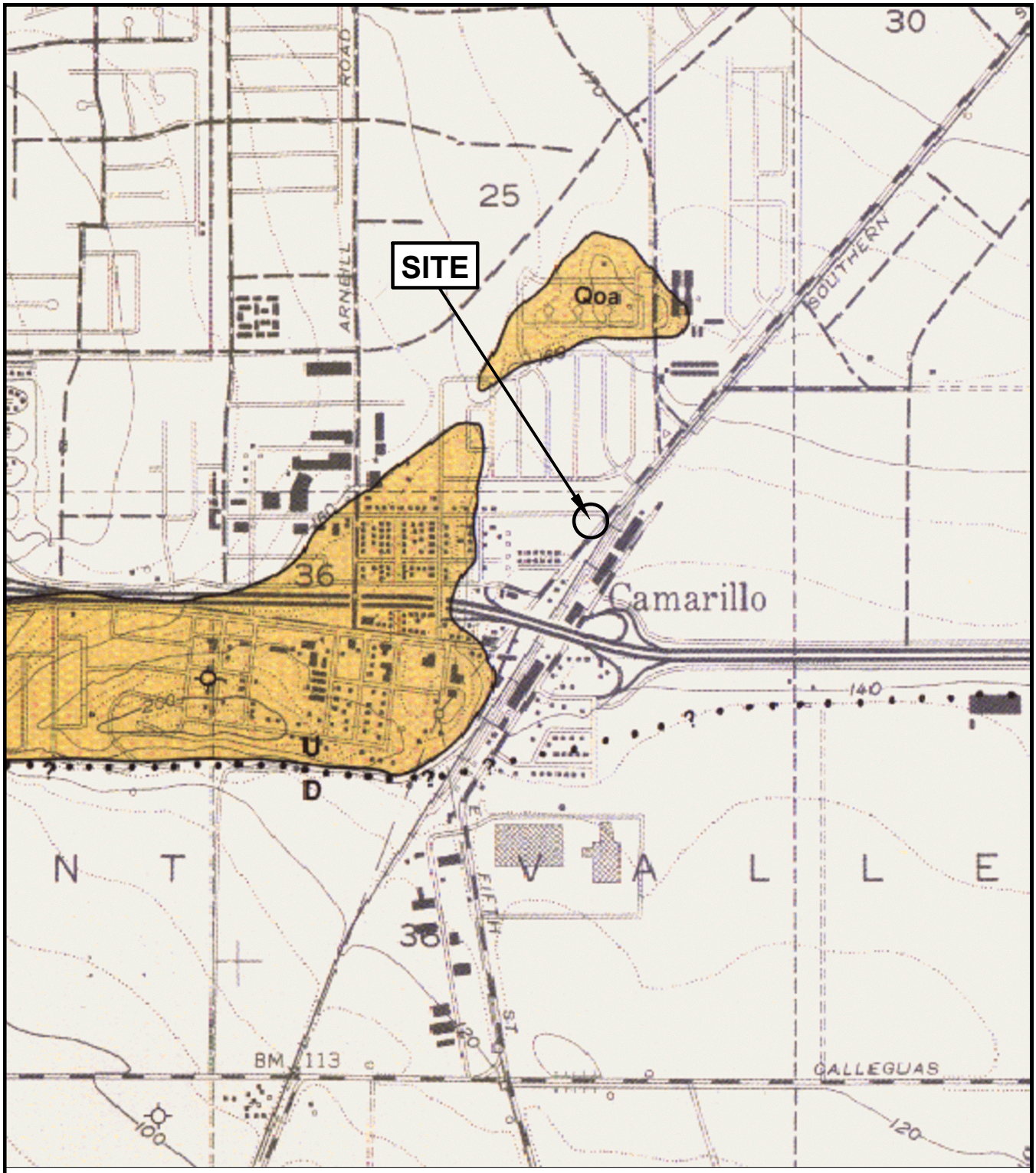
Advanced Geotechnical Services

TOPOGRAPHIC MAP

Area Housing Authority of Ventura County
2800 Barry Street
Camarillo, California

Client # 4959
Report # 10373

FIGURE 2



Reference: Dibblee, 1990, Geologic Map of the Camarillo and Newbury Park Quadrangles

N

Scale: 1" = $\frac{1}{4}$ mile

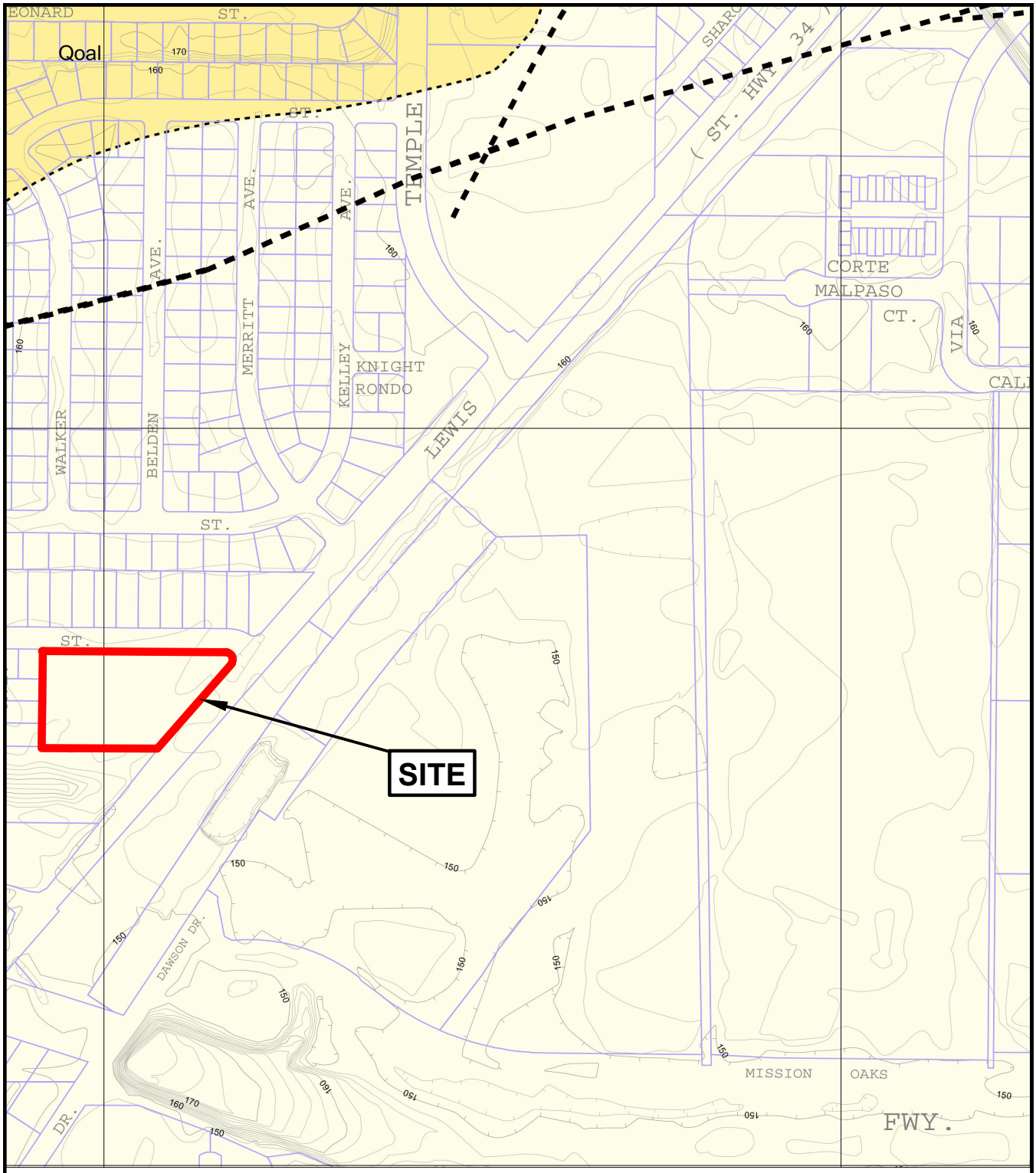
Advanced Geotechnical Services

REGIONAL GEOLOGICAL MAP

Area Housing Authority of Ventura County
2800 Barry Street
Camarillo, California

Client # 4959
Report # 10373

FIGURE 3



Reference: Fugro 2013 - City of Camarillo Guidelines

N

Scale: 1" = 400'

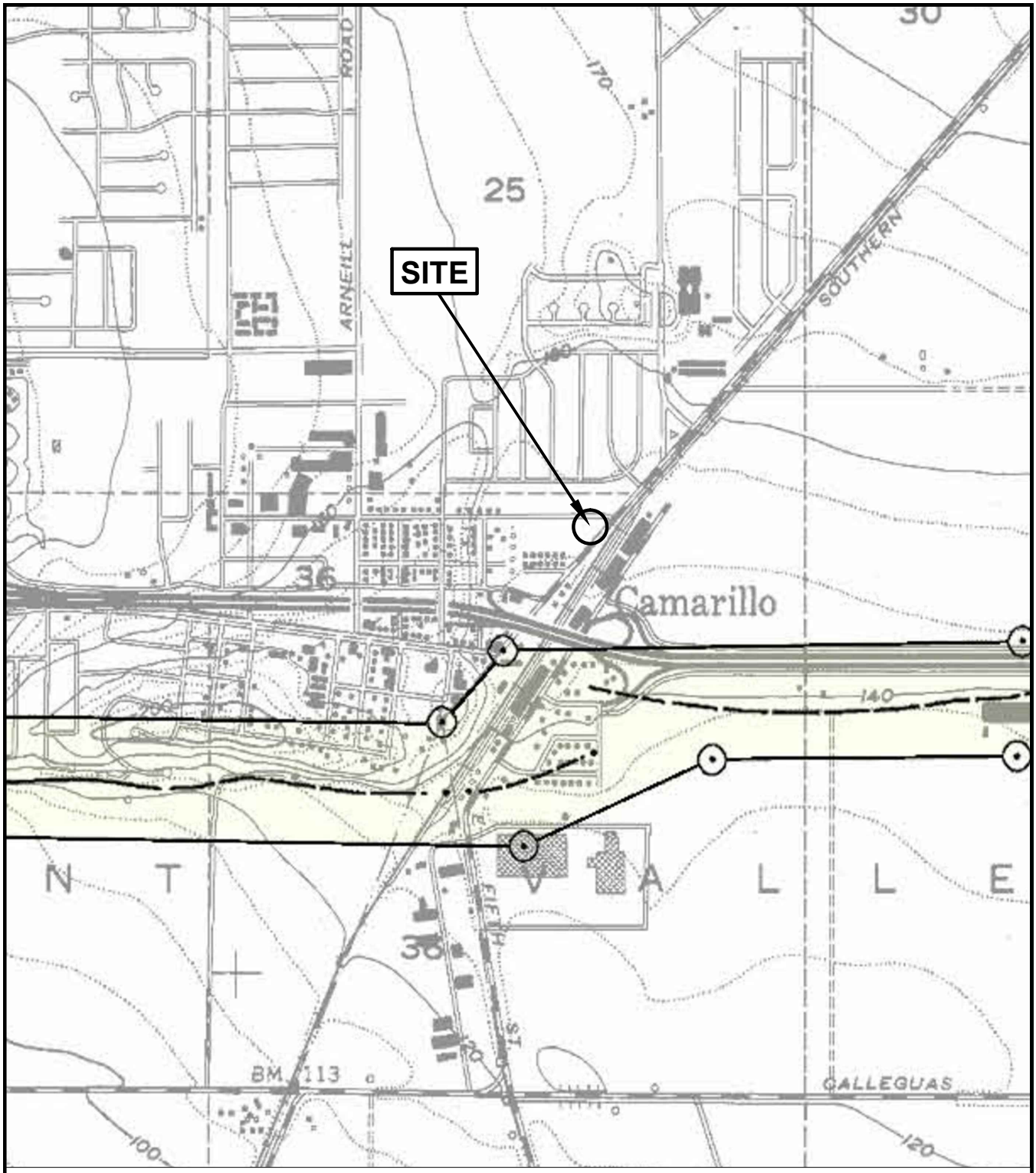
Advanced Geotechnical Services

CITY OF CAMARILLO GEOLOGICAL MAP

Area Housing Authority of Ventura County
2800 Barry Street
Camarillo, California

Client # 4959
Report # 10373

FIGURE 4



Reference: CDMG, 1998 - Earthquake Fault Zones, Camarillo Quadrangle

N

Scale: 1" = $\frac{1}{4}$ mile

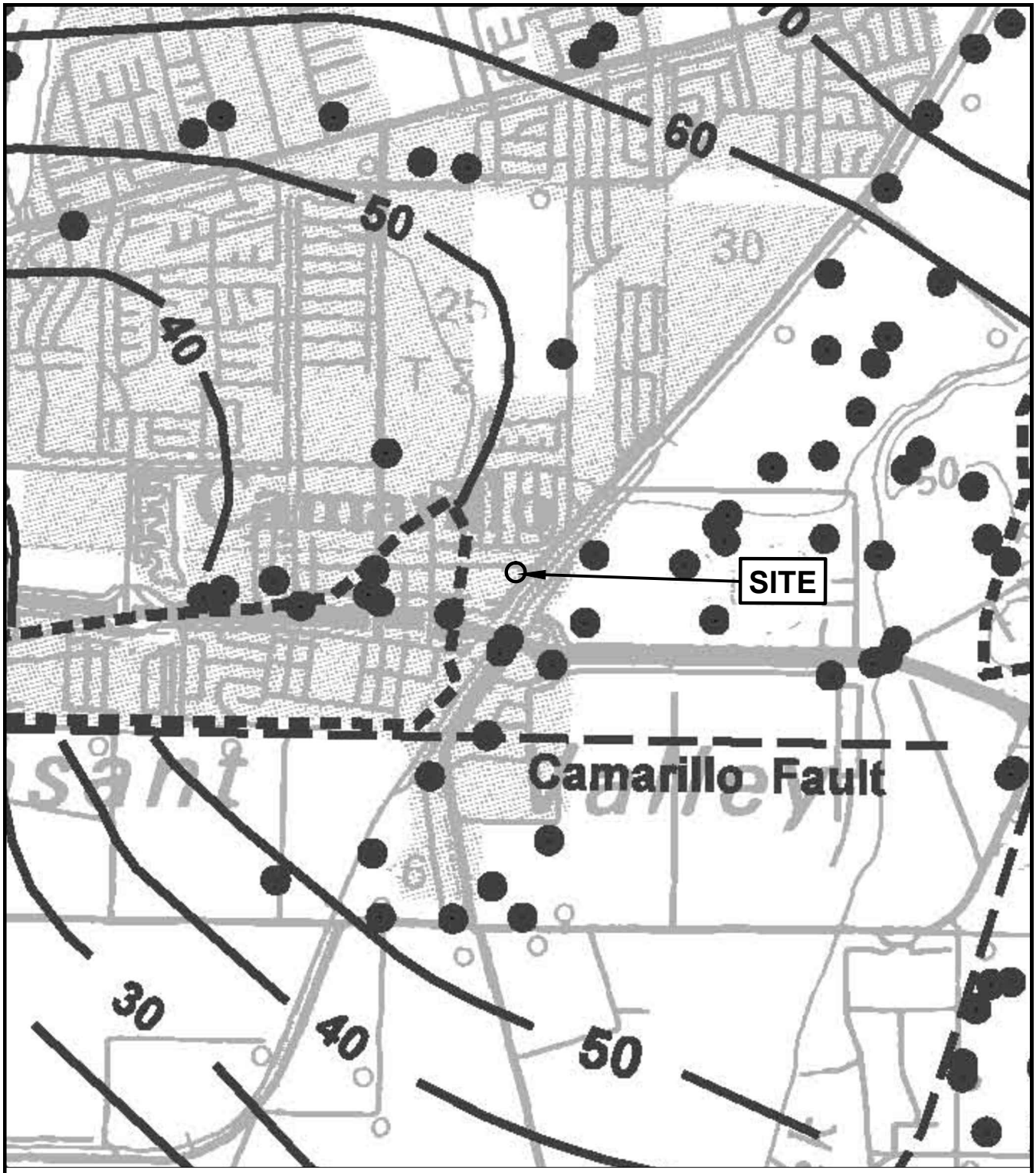
Advanced Geotechnical Services

ALQUIST-PRIOLO EARTHQUAKE FAULT ZONES MAP

Area Housing Authority of Ventura County
2800 Barry Street
Camarillo, California

Client # 4959
Report # 10373

FIGURE 5



Reference: CDMG, 2002 - SHZR 055

N

Scale: 1" = $\frac{1}{2}$ mile

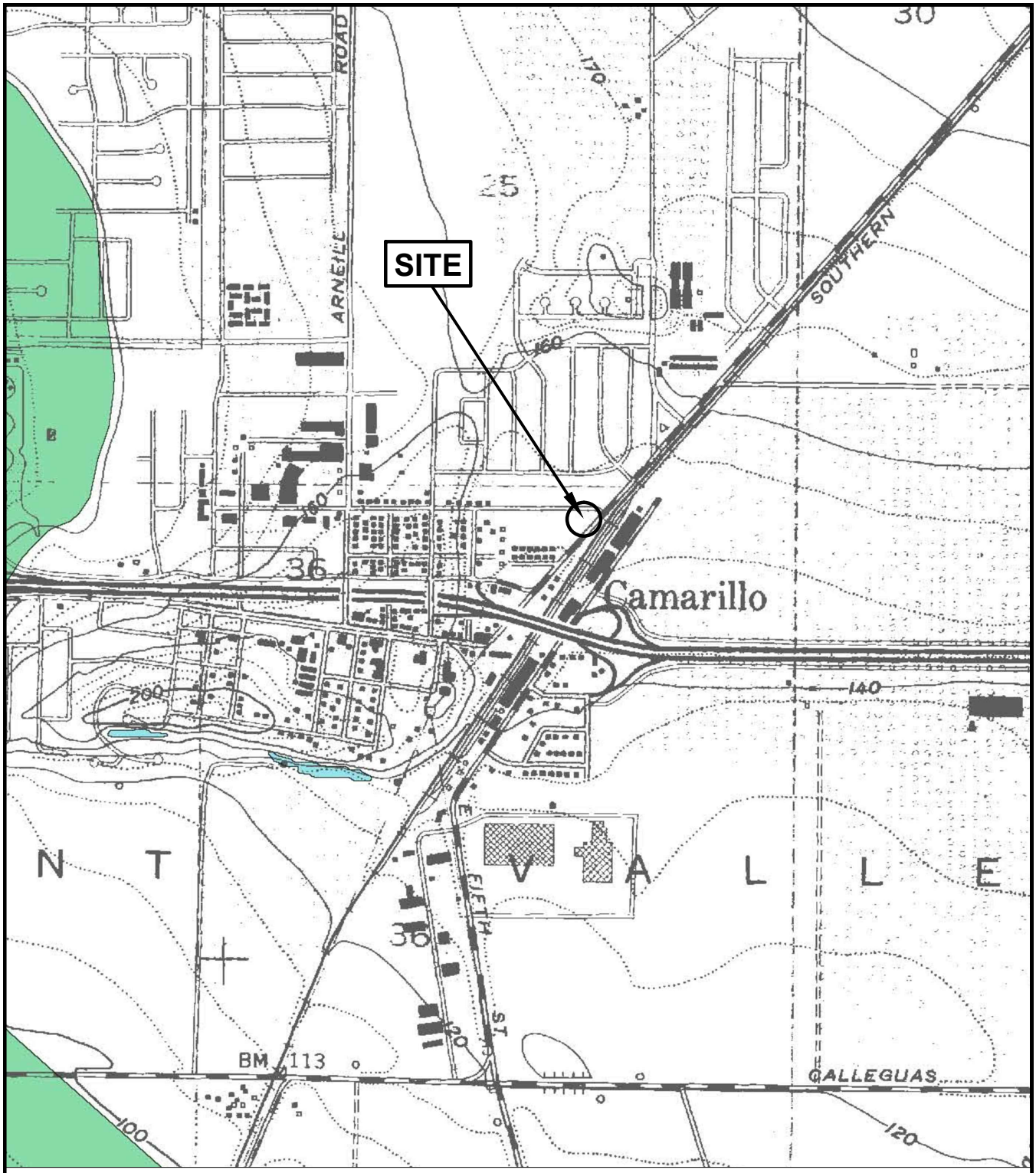
Advanced Geotechnical Services

DEPTH TO HISTORICALLY HIGH GROUND WATER

Area Housing Authority of Ventura County
2800 Barry Street
Camarillo, California

Client # 4959
Report # 10373

FIGURE 7



Reference: CDMG, 2002 - Seismic Hazard Zones, Camarillo Quadrangle

N

Scale: 1" = $\frac{1}{4}$ mile

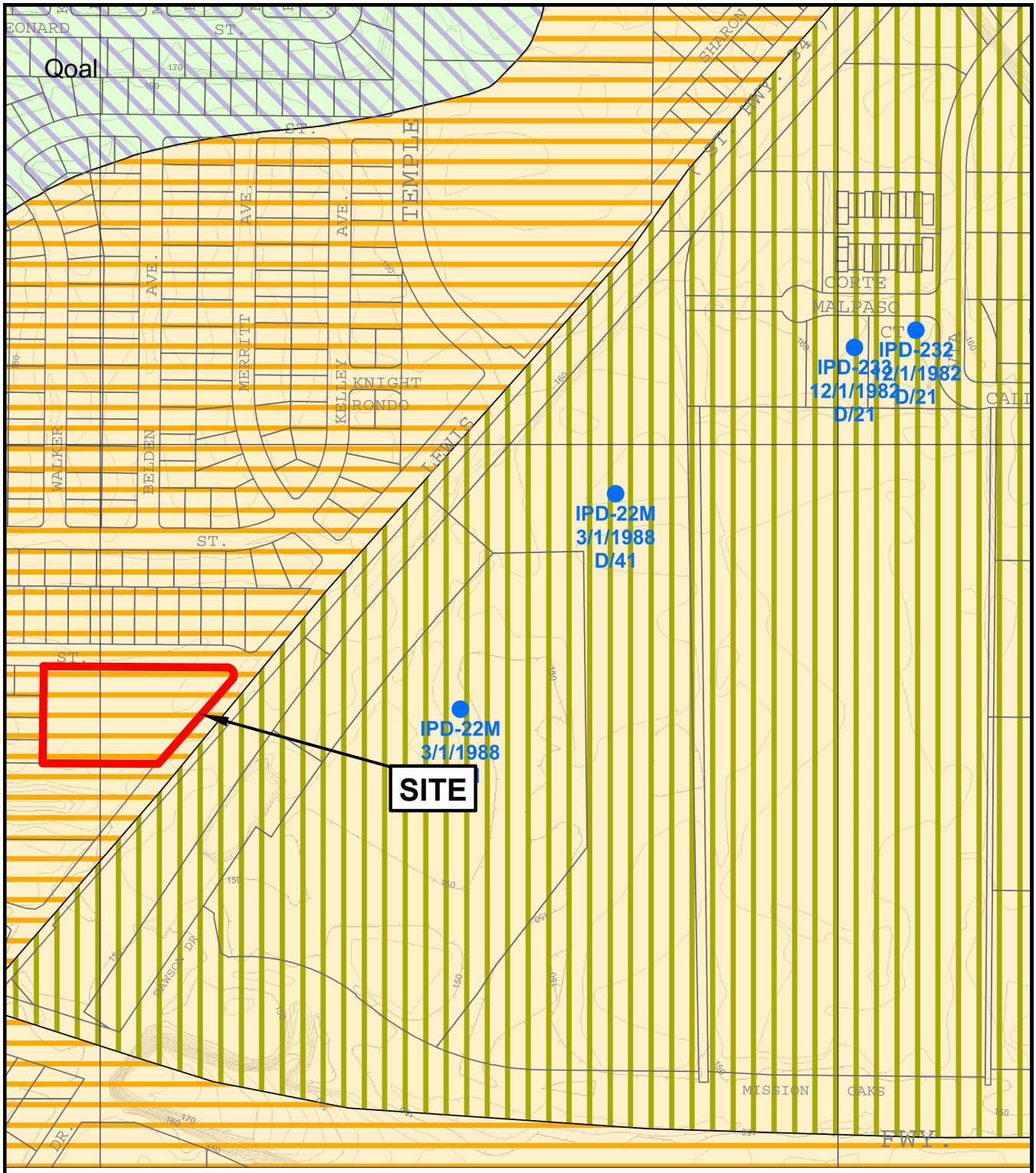
Advanced Geotechnical Services

STATE OF CALIFORNIA SEISMIC HAZARD ZONES MAP

Area Housing Authority of Ventura County
2800 Barry Street
Camarillo, California

Client # 4959
Report # 10373

FIGURE 8



Reference: Fugro 2013 - City of Camarillo Guidelines

N

Scale: 1" = 400'

Advanced Geotechnical Services

CITY OF CAMARILLO LIQUEFACTION HAZARDS MAP

Area Housing Authority of Ventura County
2800 Barry Street
Camarillo, California

Client # 4959
Report # 10373

FIGURE 9

Job Address: **2800 Barry Street, Camarillo** Nearest Cross Street: **Lewis Road**

Owner/Builder: **AHA**

Diameter of Hole: **8"** Testing Laboratory: **AGS, Inc**

Test Performed By: **PW**

Date of Drilling and Pre-Soaking: **8-1-2019**

Date of Testing: **8-2-2019**

P-1 Percolation Test Data (Total Depth = 17 feet)

Elapsed Time (min)	Initial Depth of Water in Bottom of Hole (in)	Final Depth of Water in Bottom of Hole (in)	Water Drop (in)	Rate (min/in)	Rate (in/hr)
0	12	---	---	---	---
60	12	8.0	4.0	15.0	4.0
120	12	8.5	3.5	17.1	3.5
180	12	9.0	3.0	20.0	3.0
240	12	9.0	3.0	20.0	3.0

P-2 Percolation Test Data (Total Depth = 6 feet)

Elapsed Time (min)	Initial Depth of Water in Bottom of Hole (in)	Final Depth of Water in Bottom of Hole (in)	Water Drop (in)	Rate (min/in)	Rate (in/hr)
0	12	---	---	---	---
60	12	6.5	5.5	10.9	5.5
120	12	7.0	5.0	12.0	5.0
180	12	8.0	4.0	15.0	4.0
240	12	8.0	4.0	15.0	4.0

P-3 Percolation Test Data (Total Depth = 17 feet)

Elapsed Time (min)	Initial Depth of Water in Bottom of Hole (in)	Final Depth of Water in Bottom of Hole (in)	Water Drop (in)	Rate (min/in)	Rate (in/hr)
0	12	---	---	---	---
60	12	6.0	6.0	10.0	6.0
120	12	7.0	5.0	12.0	5.0
180	12	7.0	5.0	12.0	5.0
240	12	7.5	4.5	13.3	4.5

Job Address: **2800 Barry Street, Camarillo** Nearest Cross Street: **Lewis Road**

Owner/Builder: **AHA**

Diameter of Hole: **8"** Testing Laboratory: **AGS, Inc**

Test Performed By: **PW**

Date of Drilling and Pre-Soaking: **8-1-2019**

Date of Testing: **8-2-2019**

P-4 Percolation Test Data (Total Depth = 6 feet)

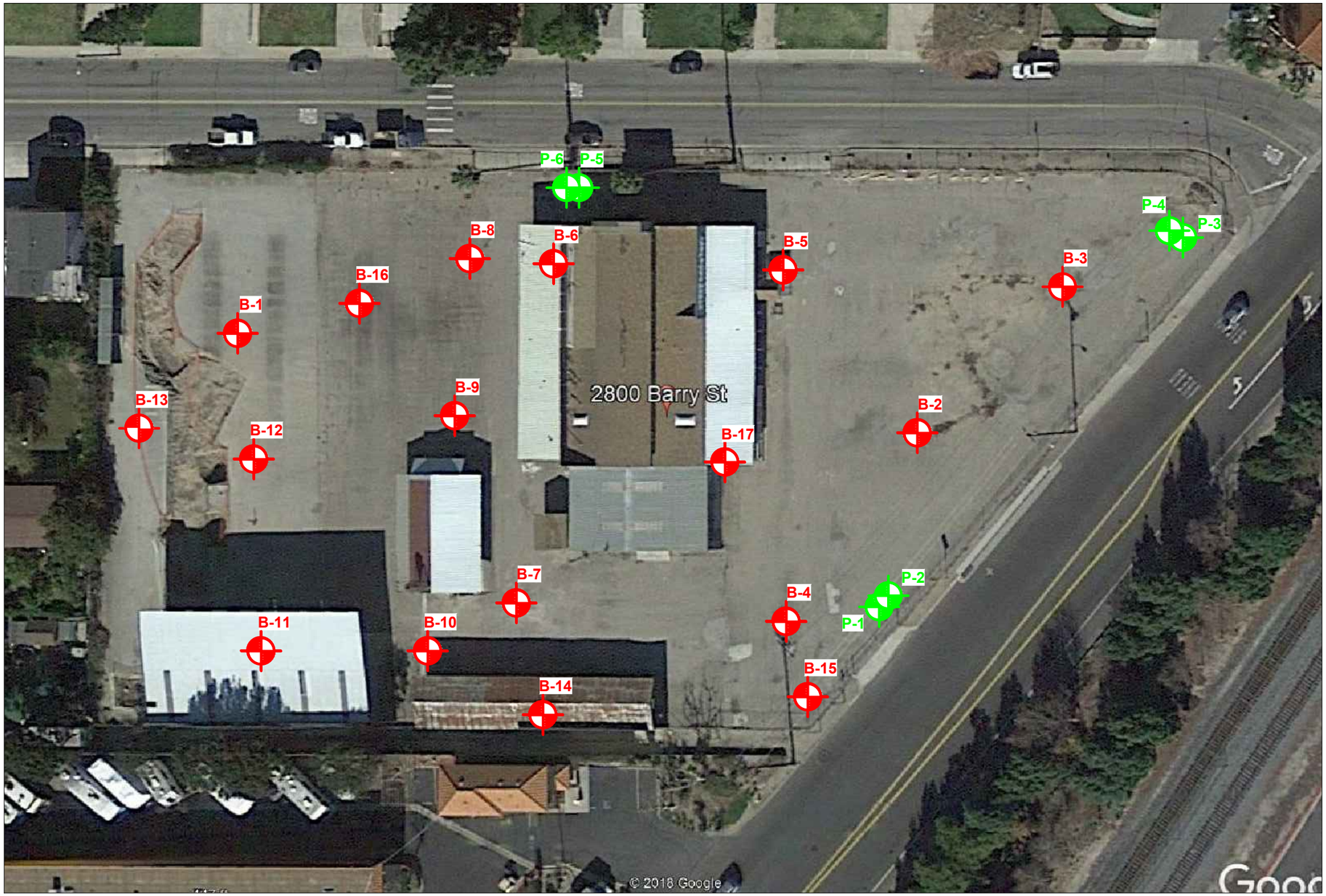
Elapsed Time (min)	Initial Depth of Water in Bottom of Hole (in)	Final Depth of Water in Bottom of Hole (in)	Water Drop (in)	Rate (min/in)	Rate (in/hr)
0	12	---	---	---	---
60	12	9.0	3.0	20.0	3.0
120	12	9.5	2.5	24.0	2.5
180	12	9.5	2.5	24.0	2.5
240	12	9.5	2.5	24.0	2.5

P-5 Percolation Test Data (Total Depth = 17 feet)

Elapsed Time (min)	Initial Depth of Water in Bottom of Hole (in)	Final Depth of Water in Bottom of Hole (in)	Water Drop (in)	Rate (min/in)	Rate (in/hr)
0	12	---	---	---	---
60	12	6.5	5.5	10.9	5.5
120	12	7.0	5.0	12.0	5.0
180	12	7.5	4.5	13.3	4.5
240	12	7.5	4.5	13.3	4.5

P-6 Percolation Test Data (Total Depth = 6 feet)

Elapsed Time (min)	Initial Depth of Water in Bottom of Hole (in)	Final Depth of Water in Bottom of Hole (in)	Water Drop (in)	Rate (min/in)	Rate (in/hr)
0	12	---	---	---	---
60	12	8.0	4.0	15.0	4.0
120	12	8.5	3.5	17.1	3.5
180	12	9.5	2.5	24.0	2.5
240	12	9.0	3.0	20.0	3.0



EXISTING SITE PLAN

EXPLANATION

B-17 — Approximate Location of Exploratory Boring

P-6 — Approximate Location of Percolation Boring

N

50' 0' 50' 100'

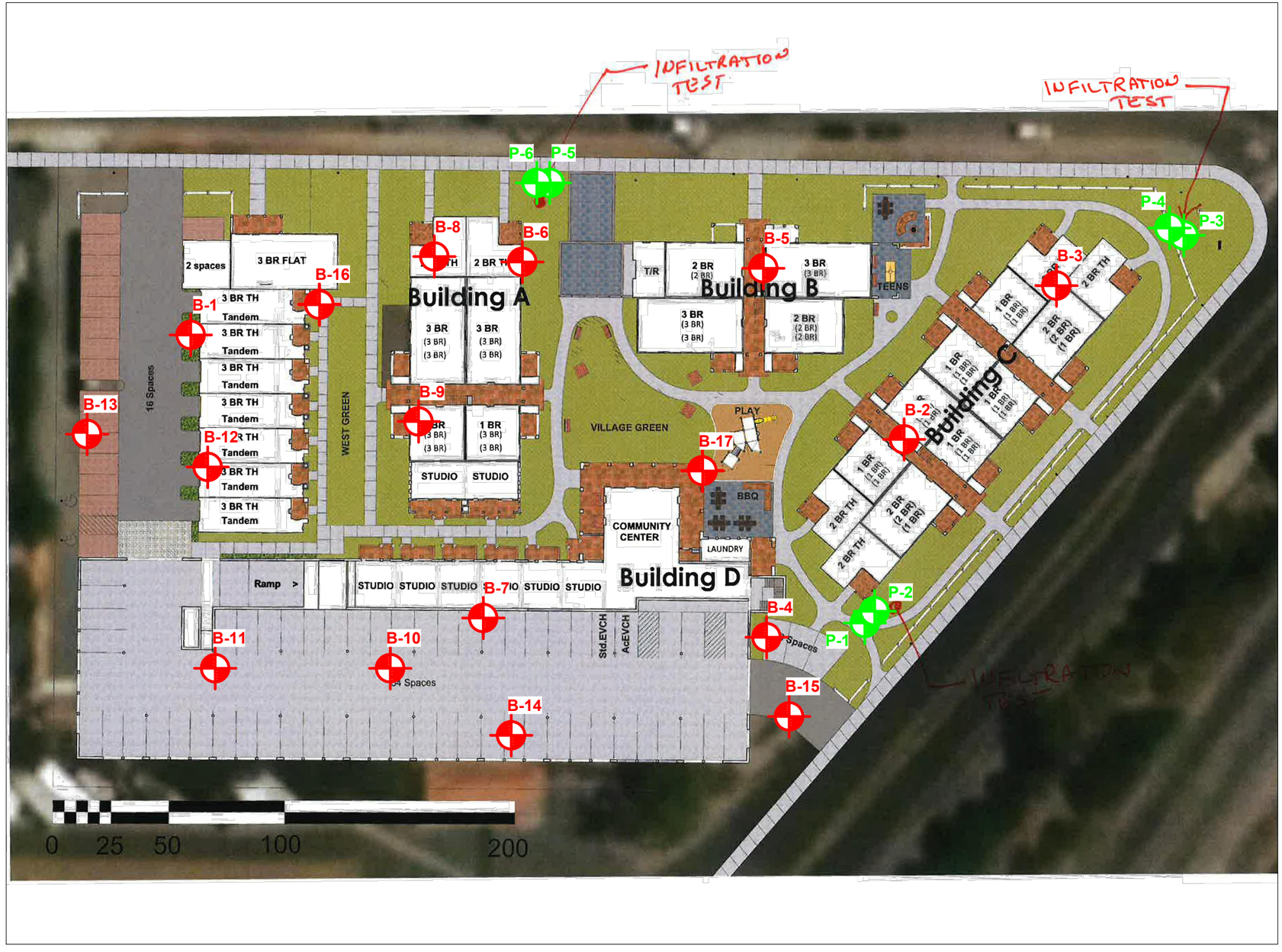
SCALE: 1" = 50'

Advanced Geotechnical Services
5251 Verdugo Way, Suite L
Camarillo, California 93012
Office (805) 388-6162/Fax (805) 388-6167

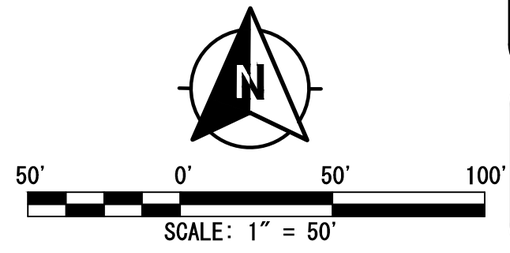
AREA HOUSING AUTHORITY

Geotechnical Engineering Study
Proposed Affordable Housing Development
2800 Barry Street
Camarillo, California

Client No.	4959	PLATE 1
Report No.	10373	
Date	9/3/2019	
Drawing No.	10373cn4959	



PROPOSED SITE PLAN



EXPLANATION

B-17 — Approximate Location of Exploratory Boring

P-6 — Approximate Location of Percolation Boring

Advanced Geotechnical Services
5251 Verdugo Way, Suite L
Camarillo, California 93012
Office (805) 388-6162/Fax (805) 388-6167

AREA HOUSING AUTHORITY

Geotechnical Engineering Study
Proposed Affordable Housing Development
2800 Barry Street
Camarillo, California

Client No.	4959	PLATE
Report No.	10373	2
Date	9/3/2019	
Drawing No.	10373cn4959	

Appendix F

Ventura County Environmental Health Division Letter

RESOURCE MANAGEMENT AGENCY
county of ventura

Environmental Health Division
William C. Stratton
Director

August 23, 2018

Case # SR0015832
Via email: Donna.Thagard@buildwithbmc.com

Ms. Donna Thagard
BMC Stock Holding, Inc.
8020 Arco Corporate Drive, Suite 400
Raleigh, NC 27617

Completion of Ventura County Cleanup Program Requirements: Barry Street Project, 2800 Barry Street, Camarillo, California

This letter confirms completion of the site investigation and remediation activities described in Ventura County Cleanup Program Remedial Action Agreement No. SR0015832.

The Ventura County Environmental Health Division (Division) staff completed a review of the reports submitted for the above location. The reports present the results of site assessment and remedial excavation of polynuclear aromatic hydrocarbons (PNAs) in shallow soils in the western portion of the site from the site's historical use as a lumber yard and building supply. A total of 548.68 tons of PNA-impacted soil was removed and disposed of offsite. Confirmation soil sample analytical results are below the San Francisco Bay Regional Water Quality Control Board's Residential Environmental Screening Levels indicating that residual PNA concentrations in soil do not pose a risk to human health or the environment.

Based on the information provided and with the provision that the information provided is accurate and representative of site conditions, this Division has determined that no further action is warranted for the PNA's in soil at the site and this Division does not require restricted use of the property should the land use change to residential.

If you have any questions, please contact Gina Teresa at 805/662-6511.

Rick Bandelin, Manager
Ventura County Cleanup Program
Environmental Health Division

Enclosure: Case Closure Summary Form

c: Mr. Scott English, Rincon (via email: SEnglish@rinconconsultants.com)
Ms. Nancy Kierstyn Schreiner, Law Offices of Nancy Kierstyn Schreiner (via email: Nancy@NKSLaw.com)
Mr. David J. Norman, City of Camarillo (via email: dnorman@cityofcamarillo.org)

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Case Closure Summary

Ventura County Cleanup Program

I. Agency Information

Date: August 23, 2017

Agency name: Ventura County Environmental Health	**Address:** 800 South Victoria Avenue
City/State/ZIP: Ventura, CA 93009-1730	**Phone:** 805-662-6511
Responsible staff person: Gina L. Teresa	**Title:** Environmental Health Specialist IV

II. Case Information

Site facility name: Barry Street Project	
Site facility address: 2800 Barry Street, Camarillo, California 93010 **APN** 162-0-023-030	
RB Case No: n/a	**Local Case No:** SR0015832
Responsible Parties: Ms. Donna Thagard BMC Stock Holding 8020 ARCO Corporate Drive, Suite 400 Raleigh, North Carolina 27617 (919) 431-1155 Donna.Thagard@buildwithbmc.com	**Interested Parties:** City of Camarillo- Attention David Norman dnorman@cityofcamarillo.org

III. Release and Site Characterization Information

Cause and type of release: Soil only- Polynuclear aromatic hydrocarbons (PNAs) from lumber yard/building supply		
Site characterization complete? Yes **Date approved by oversight agency:** 8-23-18		
Monitoring Wells installed? No	**Number:** n/a	**Proper screened interval?** n/a
Depth to Ground Water below ground surface (bgs): approximately 80 feet bgs		
Most sensitive current use: Parcel proposed to be redeveloped for affordable residential housing		
Are drinking water wells affected? No	**Aquifer name:** Pleasant Valley Groundwater Basin	
Is surface water affected? n/a	**Nearest surface water to Site:** n/a	
Off-site beneficial use impacts (addresses/locations): n/a		
Report(s) on file? Yes	**Where are reports filed?** State's GeoTracker database	

Treatment and Disposal of Affected Material:

Material	Amount	Action	Dates
Soil	548.68 tons	Disposed offsite at Chiquita Canyon Landfill, Castaic, CA	May 16, 2018 -July 6, 2018

III. Release and Site Characterization Information (Continued)

Maximum Documented PNA Concentrations in Soil– Before and After Remedial Excavation

Contaminant	Soil (mg/kg)		Contaminant	Soil (mg/kg)	
	Before	After		Before	After
Benzo(a)anthracene	51	0.024	Chrysene	59	0.0091
Benzo(a)pyrene	46	0.014	Dibenzo(a,h)anthracene	11	0.006
Benzo(b)fluoranthene	70	0.023	Indeno (1,2,3-cd) pyrene	30	0.013
Benzo(k) fluoranthene	25	0.0077			

Comments:

PNA = polynuclear aromatic hydrocarbons. *After concentrations from Rincon's July 2018 Remedial Action Report

Soil analytical results, site information, and remedial excavation activities are summarized from submitted site assessment and remedial excavation reports. These reports are available on the State's Geotracker database. The site is a former lumber yard and building supply. Elevated concentrations of PNAs were detected in shallow soil during site assessment activities. Remedial excavation was conducted in the areas where PNAs exceeded environmental screening levels. A total of approximately 548.68 tons of soil was excavated from these areas and disposed of offsite.

The residual concentrations in soil are below the San Francisco Bay Regional Water Quality Control Board's recommended residential Environmental Screening Levels and do not pose a threat to human health or the environment; therefore, the Ventura County Environmental Health Division recommends no further action for the residual concentrations of PNAs at this site.

IV. Closure

Does completed corrective action protect existing beneficial uses per the Regional Board Basin Plan? Yes		
Does completed corrective action protect potential beneficial uses per the Regional Board Basin Plan? Yes		
Do cleanup levels exceed Regional Board requirements? No	**Identify:** n/a	
Rationale for exceeding RB requirements: n/a		
Does corrective action protect public health for current/future land use? Yes, Residential		
Site management requirements: None		
Should corrective action be reviewed if land use changes? No		
Monitoring wells Decommissioned: n/a	**Number Decommissioned: n/a**	**Number Retained: n/a**
List enforcement actions taken: None	**List enforcement actions rescinded: n/a**	

V. Local Agency Representative Data

Name: Gina L. Teresa	**Title:** Environmental Health Specialist IV
Signature:	**Date:** August 23, 2018

Appendix G

Hydrology Study

PRELIMINARY HYDROLOGY REPORT
AFFORDABLE HOUSING DEVELOPMENT

4800 BARRY STREET, CAMARILLO, CA

July 27, 2020



PREPARED FOR:
Area Housing Authority of the County of Ventura

PREPARED BY:
Apryl Weidl, P.E.

rrm design group
10 E. Figueroa Street, Ste. 200
Santa Barbara, CA 93101
(805) 963-8283

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LOCATION 2
BACKGROUND 2
METHOD OF ANALYSIS 4
CONCLUSIONS 5

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EXHIBIT B ..... POST-DEVELOPMENT HYDROLOGY MAP

ATTACHMENT 1 ..... SOILS MAPS
ATTACHMENT 2 ..... FEMA MAP
ATTACHMENT 3 ..... CITY OF CAMARILLO STORM DRAIN MAP I-12
ATTACHMENT 4 ..... STORM DRAIN ANALYSIS
ATTACHMENT 5 ..... 1998 MASTER DRAINAGE STUDY EXCERPTS
ATTACHMENT 6 ..... RAINFALL DATA
ATTACHMENT 7 ..... HYDROLOGY CALCULATION WORKSHEETS

PURPOSE OF REPORT

The purpose of this report is to assess the project site, identify the pre-development and post-development drainage conditions, and identify storm water facilities to meet the requirements of the Ventura County Hydrology Manual. The separate Post-Construction Stormwater Management Plan addresses storm water quality requirements for the project. The 2800 Barry Street Affordable Housing Development proposes to demolish an existing paved lot and construct four buildings and associated parking for affordable housing.

LOCATION

The proposed affordable housing project is located at 2800 Barry Street in Camarillo, California on a 2.58-acre site. The project is a 100% affordable multi-family housing development consisting of a total of 68 units, including 60 rental apartments, and 8 for-sale condominiums. The rental apartments include 7 studios, 22 one-bedroom, 15 two-bedroom, and 15 three-bedroom units, in a total of four buildings. The for-sale units are all 3-bedroom units in one building. A total of 148 parking spaces are provided. See the project vicinity map in Figure 1 below.



Figure 1. Project Vicinity Map

BACKGROUND

Existing Condition

The site is currently a vacant paved lot but was previously used as a lumber storage yard. Soils belong to Ventura County Soils Group 4 (Hydrologic Soil Group B), see Soils Map in Attachment 1. Slopes at the site are generally less than 1%. Drainage sheet flows across the lot toward the south where it enters and existing paved swale that carries runoff into a 12" storm drain at the southeast corner of the site. This

storm drain connects to the Ventura County Storm Drain in North Lewis Road. A small portion of runoff from the project site flows overland into the gutter on Barry Street and Lewis Road and enters the county storm drain system through an inlet located on Lewis Road along the eastern boundary of the project site. The existing time of concentration is 6 minutes, see calculation in Attachment 7. The drainage boundary for this analysis will follow the property line as depicted in the Existing Hydrology Map, Exhibit A.

Flood Zone

A portion of the site currently falls in Flood Zone 'AO' with a flood depth of 1 foot according to FEMA NFHL, see Attachment 2. Based on the site survey, this gives a flood elevation of 150.0'. The project proposes to elevate the site above the flood depth and provide finish floor elevations of 1 foot above the flood elevation. A Letter of Map Revision (LOMR) with FEMA will be required as part of the proposed development.

Peoples Avenue Off-Site Flows

There is an existing concrete swale within a 12-foot drainage easement at the southern boundary of the site. The concrete swale was constructed as the main stormwater conveyance path from the end of the Peoples Avenue cul-de-sac in 1953. As part of the development at 151 Lewis Road in 1989, a curb inlet was constructed at the end of Peoples Avenue to divert runoff from the concrete swale and into the City's storm drain system. A 24" storm drain carries runoff at 0.20% from the curb inlet, through the property at 151 Lewis Road, and into the Lewis Road storm drain. The construction of this curb inlet and storm drain made the concrete swale a secondary and redundant conveyance path. Currently, the only time offsite runoff would be carried through the concrete swale is in the event of a failure of the Peoples Avenue curb inlet. The existing storm drain infrastructure within the project vicinity is shown on the City of Camarillo Storm Drain Map I-12 provided as Attachment 3.

The existing concrete within the drainage easement is proposed to be removed and replaced with an 18" storm drain. An analysis of the proposed storm drain shows that it's capacity is greater than the capacity of the 24" storm drain that conveys runoff from the curb inlet, see Attachment 4. Therefore, should the curb inlet fail, the proposed 18" storm drain will have sufficient capacity to convey the same volume of runoff.

Lewis Road Off-Site Flows

It is our understanding that there is currently an issue of ponding at the southwest corner of the Barry Street and Lewis Road intersection. Based on the site survey, there are low spots within the existing gutter flowline at this location which would create ponding. As part of the proposed development, the curb and gutter will be replaced to eliminate the low spots and improve the drainage condition at this corner.

An analysis of existing flows on Lewis Road was performed as part of the City of Camarillo Department of Public Works Master Plan of Drainage (April 1998), see excerpts in Attachment 5. The drainage area contributing flow to this location on Lewis road is labeled as drainage area 203A with a total peak flow of 250 cfs for the 50-year storm.

METHOD OF ANALYSIS

The approach to analyze the runoff from the project site follows the Ventura County Hydrology Manual requirements. The hydrologic analysis is a comparison of the pre-project condition to the post-project condition.

Proposed Development

The proposed development will maintain existing drainage patterns and discharge locations. The proposed time of concentration is 17 minutes, see calculation in Attachment 7. The site has been divided into two drainage areas: A and B.

- Runoff from drainage area 'A' will flow off the proposed roofs through downspouts and overland into proposed permeable pavement for retention and treatment. Flows from larger storms will be collected by storm drain inlets in the parking lot and eventually outlet into the County storm drain in Lewis road through a connection to the existing curb inlet on Lewis Road.
- Runoff from drainage area 'B' will flow off the proposed roofs through downspouts and overland into proposed bioretention areas throughout the site. Overflow drains from bioretention areas will be collected by the site storm drain system and eventually outlet into the County storm drain in Lewis road through a connection to the existing curb inlet on Lewis Road.

The proposed development will decrease the impervious area at the site from 98% to approximately 66%. See the Proposed Hydrology Map, Exhibit B. This decrease in impervious area along with an increase in time of concentration results in a reduced peak flow generated from the project site and eliminates the need for detention facilities.

The method of analysis outlined in the Ventura County Hydrology Manual uses a modified rational method and the VCRat program to calculate runoff. The VCRat program is not suitable for use in projects of less than 5 acres, so it does not apply to this project. In addition, this project does not require detention facilities to be designed. Therefore, the rational method, as outlined in USDA's TR-55 Manual, is used to calculate the decrease in peak flow due to reduced impervious area and increased time of concentration.

The following steps are used to calculate both existing and proposed peak flows from the project site. All worksheets are provided in Attachment 7.

Step 1. Determine Curve Number (CN) and Runoff (Q,in) using Worksheet 2 and rainfall data in Attachment 6.

Step 2. Determine Time of Concentration (TC) using Worksheet 3.

Step 3. Determine peak runoff (Q, cfs) using Worksheet 4.

A summary of existing and proposed peak flows is provided in Table 1 below.

Table 1. Peak Flows

Storm Event	Existing Q (cfs)	Proposed Q (cfs)
10-Year	7.10	5.26
25-Year	8.73	9.98
50-Year	9.98	7.96
100-Year	11.21	9.17

CONCLUSIONS

Based on the findings of this report, the proposed drainage design for this project meets to applicable standards and requirements of the Ventura County Hydrology Manual. The proposed drainage plan is consistent with the historical drainage patterns for the site. There is a decrease in impervious area and increase in time of concentration which decrease the peak flow of runoff from the site. Therefore, the proposed development:

- Reduces the post-development peak flow of runoff to that of the pre-development rate for the hydrological analysis for all storm events.

EXHIBIT A

Pre-Development Hydrology Map

2743 BARRY STREET (SF RESIDENTIAL)

2757 BARRY STREET (SF RESIDENTIAL)

2775 BARRY STREET (SF RESIDENTIAL)

2785 BARRY STREET (SF RESIDENTIAL)

2805 BARRY STREET (SF RESIDENTIAL)

2815 BARRY STREET (SF RESIDENTIAL)

2837 BARRY STREET (SF RESIDENTIAL)

2857 BARRY STREET (SF RESIDENTIAL)

APN 162-0-021-180 (COMMERCIAL)

BARRY STREET

2712 BARRY STREET (SF RESIDENTIAL)

258 PEOPLES AVE (SF RESIDENTIAL)

244 PEOPLES AVE (SF RESIDENTIAL)

230 PEOPLES AVE (SF RESIDENTIAL)

FLOOD ZONE X

FLOOD ZONE BOUNDARY

X1

149

FLOOD ZONE AO (DEPTH 1 FOOT)

(E) CURB INLET

LEWIS ROAD CA-34

(E) CONCRETE FLOW PATH WITHIN 12' DRAINAGE EASEMENT

151 LEWIS ROAD (SERVICE COMMERCIAL)

(E) 12" PVC STORM DRAIN

(E)10'X4' CONCRETE BOX STORM DRAIN

LEGEND

- DRAINAGE AREA BOUNDARY
- X1 DRAINAGE AREA NAME
- TIME OF CONCENTRATION FLOW PATH
- SURFACE FLOW DIRECTION

SURFACE TYPE	AREA (AC)
HARDSCAPE	2.45 (95%)
PERVIOUS AREA	0.13 (5%)
TOTAL	2.58

0 20' 40' 80'

SCALE: 1" = 40'

rrm design group

JULY 27, 2020

EXISTING HYDROLOGY MAP

2800 BARRY STREET, CAMARILLO, CA

N:\1400\1450\02.25\19-2800-Barry-St-Affordable-Housing\Dev\Engineering\Dev\Dev-Hydro\Exhibits\Existing Hydro.dwg, SHEET TITLE, Jul 27, 2020, 8:20am, ADWeld

EXHIBIT B

Post-Development Hydrology Map

2743 BARRY STREET (SF RESIDENTIAL)
2757 BARRY STREET (SF RESIDENTIAL)
2775 BARRY STREET (SF RESIDENTIAL)
2785 BARRY STREET (SF RESIDENTIAL)
2805 BARRY STREET (SF RESIDENTIAL)
2815 BARRY STREET (SF RESIDENTIAL)
2837 BARRY STREET (SF RESIDENTIAL)
2857 BARRY STREET (SF RESIDENTIAL)
APN 162-0-021-180 (COMMERCIAL)

BARRY STREET

2712 BARRY STREET (SF RESIDENTIAL)
258 PEOPLES AVE (SF RESIDENTIAL)
244 PEOPLES AVE (SF RESIDENTIAL)
230 PEOPLES AVE (SF RESIDENTIAL)

BUILDING E
BUILDING A
TRASH ENCLOSURE
BUILDING B
BUILDING C
BUILDING D
FLOOD ZONE BOUNDARY
A
B
LEWIS ROAD CA-34
(E) CURB INLET
(E) CONCRETE DRAINAGE SWALE TO BE REMOVED AND REPLACED 18" STORM DRAIN
(E) 12" PVC STORM DRAIN
151 LEWIS ROAD (SERVICE COMMERCIAL)
(E) 10'X4' CONCRETE BOX STORM DRAIN

LEGEND

- DRAINAGE AREA BOUNDARY
- (A) DRAINAGE AREA NAME
- PERMEABLE PAVEMENT (INF-5)
- BIORETENTION (INF-3)
- FEMA FLOOD ZONE AO
- SURFACE FLOW DIRECTION
- TIME OF CONCENTRATION FLOW PATH
- SD — PROPOSED STORM DRAIN
- S — PROPOSED SEWER

LOT COVERAGE

SURFACE TYPE	AREA (AC)
BUILDING	1.38
HARDSCAPE	0.33
PERVIOUS AREA	0.87 (33.7%)
TOTAL	2.58

0 20' 40' 120'

SCALE: 1" = 40'

rrm design group

July 27, 2020

PROPOSED HYDROLOGY MAP

2800 BARRY STREET, CAMARILLO, CA

N:\1400\1450\02.8\19-2800 Barry St Affordable Housing\Dev\Engineering\Dev\Dev\Hydro\Exhibits\Proposed Hydro.dwg, SHEET TITLE, Jul 27, 2020 8:48am, ADWeid

ATTACHMENT 1

Soils Maps

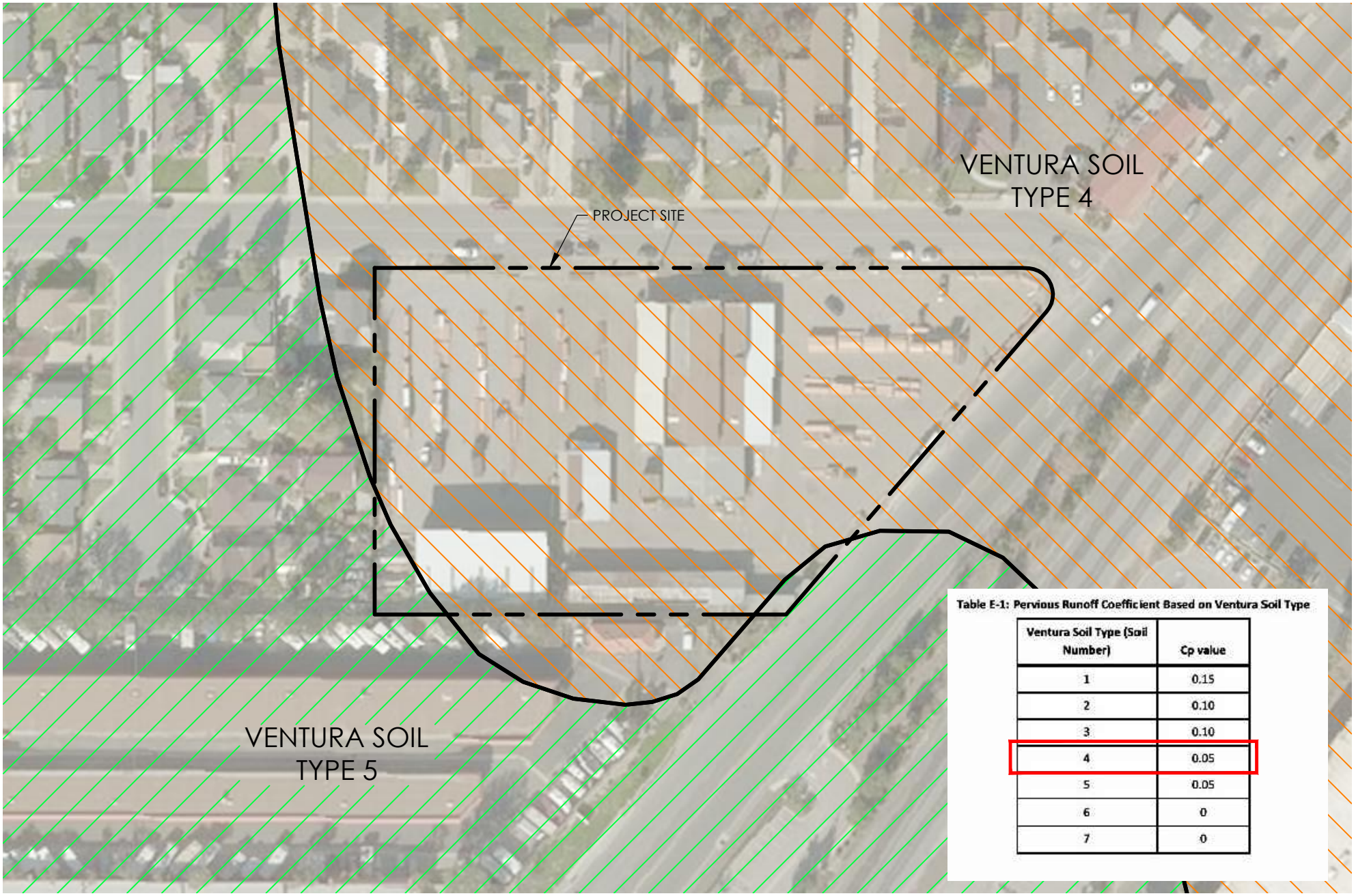


Table E-1: Pervious Runoff Coefficient Based on Ventura Soil Type

Ventura Soil Type (Soil Number)	Cp value
1	0.15
2	0.10
3	0.10
4	0.05
5	0.05
6	0
7	0

2800 BARRY ST
CAMARILLO, CA

VENTURA COUNTY SOILS MAP

DATE 10/18/2019
SCALE: 1" = 100'

NORTH

rrm design group

N:\1400\1450-02-RS19-2800-Barry-St-Affordable-Housing-Dev\Engineering\Dev\Dev\Hydro\Soils Map.dwg, SHEET TITLE, Jan 15, 2020 4:45pm, A DWeidl



Map Scale: 1:863 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 10 20 40 60

Feet
0 40 80 160 240

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Ventura Area, California
Survey Area Data: Version 13, Sep 12, 2018

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jan 5, 2015—Jan 15, 2015

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
AcA	Anacapa sandy loam, 0 to 2 percent slopes	0.1	3.2%
MoA	Mocho loam, 0 to 2 percent slopes, warm MAAT, MLRA 19	2.4	96.8%
Totals for Area of Interest		**2.5**	**100.0%**

Ventura Area, California

MoA—Mocho loam, 0 to 2 percent slopes, warm MAAT, MLRA 19

Map Unit Setting

National map unit symbol: 2tyyv
Elevation: 20 to 1,920 feet
Mean annual precipitation: 12 to 18 inches
Mean annual air temperature: 62 to 66 degrees F
Frost-free period: 320 to 365 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Mocho and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Mocho

Setting

Landform: Alluvial fans
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from sedimentary rock

Typical profile

Ap - 0 to 10 inches: loam
A - 10 to 16 inches: loam
Bk1 - 16 to 34 inches: loam
Bk2 - 34 to 60 inches: loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 10 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: High (about 9.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: B
Ecological site: LOAMY (1975) (R019XD029CA)
Hydric soil rating: No

Minor Components

Sorrento
Percent of map unit: 6 percent
Landform: Alluvial fans
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Bolsa, silt loam, drained
Percent of map unit: 3 percent
Landform: Alluvial fans
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Anacapa
Percent of map unit: 2 percent
Landform: Alluvial fans
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Hueneme
Percent of map unit: 2 percent
Landform: Alluvial fans
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Chino, drained
Percent of map unit: 1 percent
Landform: Alluvial fans
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Mocho, 2 to 9 percent slopes
Percent of map unit: 1 percent
Landform: Alluvial fans
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear

Hydric soil rating: No

Data Source Information

Soil Survey Area: Ventura Area, California
Survey Area Data: Version 13, Sep 12, 2018

Ventura Area, California

AcA—Anacapa sandy loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: hc76
Elevation: 500 feet
Mean annual precipitation: 13 to 17 inches
Mean annual air temperature: 63 degrees F
Frost-free period: 300 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Anacapa and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Anacapa

Setting

Landform: Alluvial fans
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from sedimentary rock

Typical profile

H1 - 0 to 35 inches: sandy loam
H2 - 35 to 60 inches: stratified coarse sandy loam to loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 5 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Moderate (about 7.4 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: A
Hydric soil rating: No

Minor Components

Pacheco
Percent of map unit: 5 percent
Landform: Tidal flats
Hydric soil rating: Yes

Pico
Percent of map unit: 5 percent
Landform: Terraces
Hydric soil rating: No

Sorrento
Percent of map unit: 5 percent
Landform: Terraces
Hydric soil rating: No

Data Source Information

Soil Survey Area: Ventura Area, California
Survey Area Data: Version 13, Sep 12, 2018

ATTACHMENT 2

FEMA Map

National Flood Hazard Layer FIRMette

FEMA



0 250 500 1,000 1,500 2,000 Feet

1:6,000

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

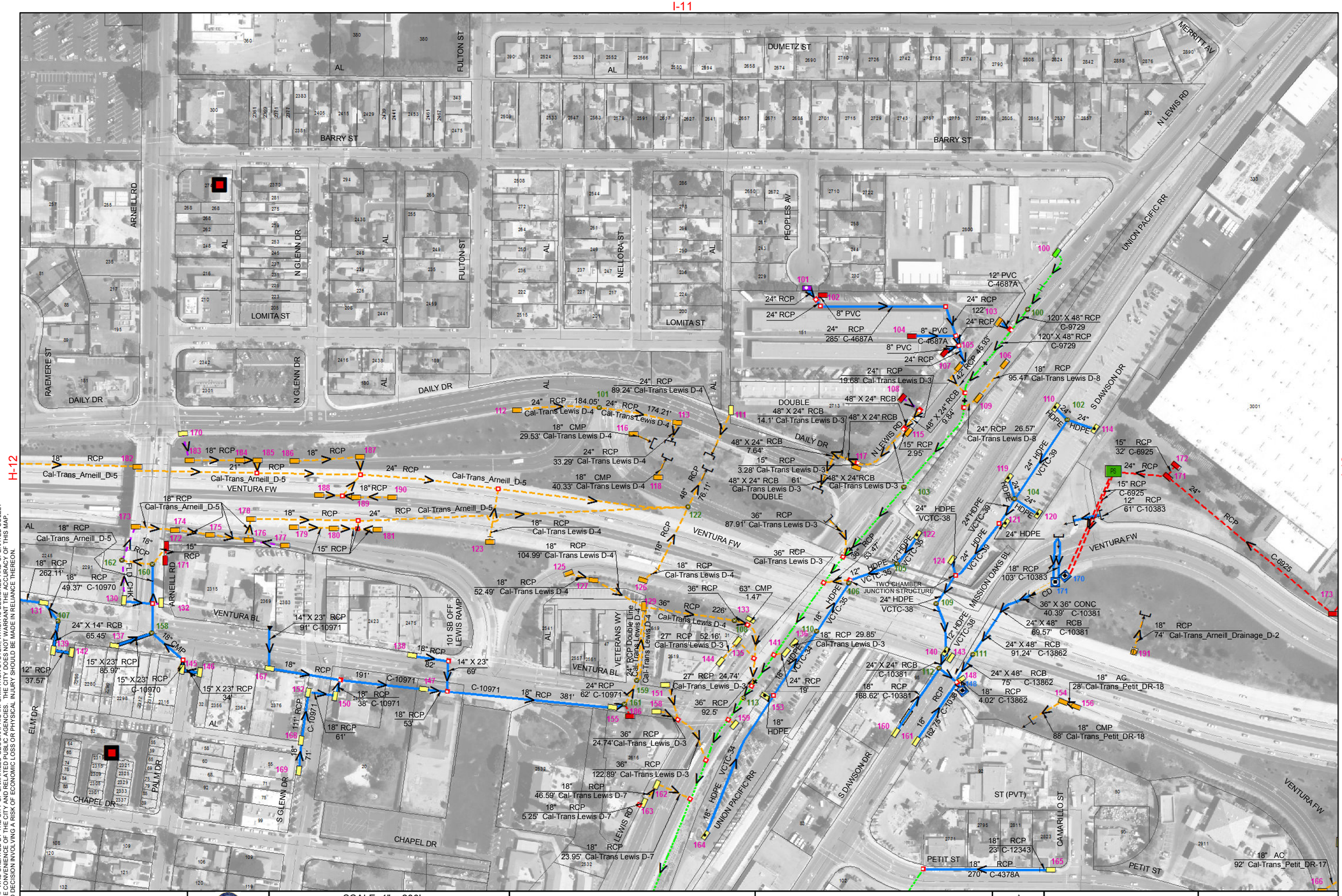
This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 1/15/2020 at 3:31:43 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

ATTACHMENT 3

City of Camarillo Storm Drain Map I-12



THIS MAP WAS CREATED BY THE CITY OF CAMARILLO GEOGRAPHIC INFORMATION SYSTEM, WHICH IS DESIGNED AND OPERATED SOLELY FOR THE CONVENIENCE OF THE CITY AND RELATED PUBLIC AGENCIES. THE CITY DOES NOT WARRANT THE ACCURACY OF THIS MAP, AND NO DECISION INVOLVING A RISK OF ECONOMIC LOSS OR PHYSICAL INJURY SHOULD BE MADE IN RELIANCE THEREON.

I-12	SCALE: 1" = 200' NOT FOR CONSTRUCTION	STORM DRAIN MAP	CITY OF CAMARILLO	FEBRUARY 2015	I-12

ATTACHMENT 4

Storm Drain Analysis

Channel Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Wednesday, Jul 22 2020

Existing 24in RCP SD

Circular

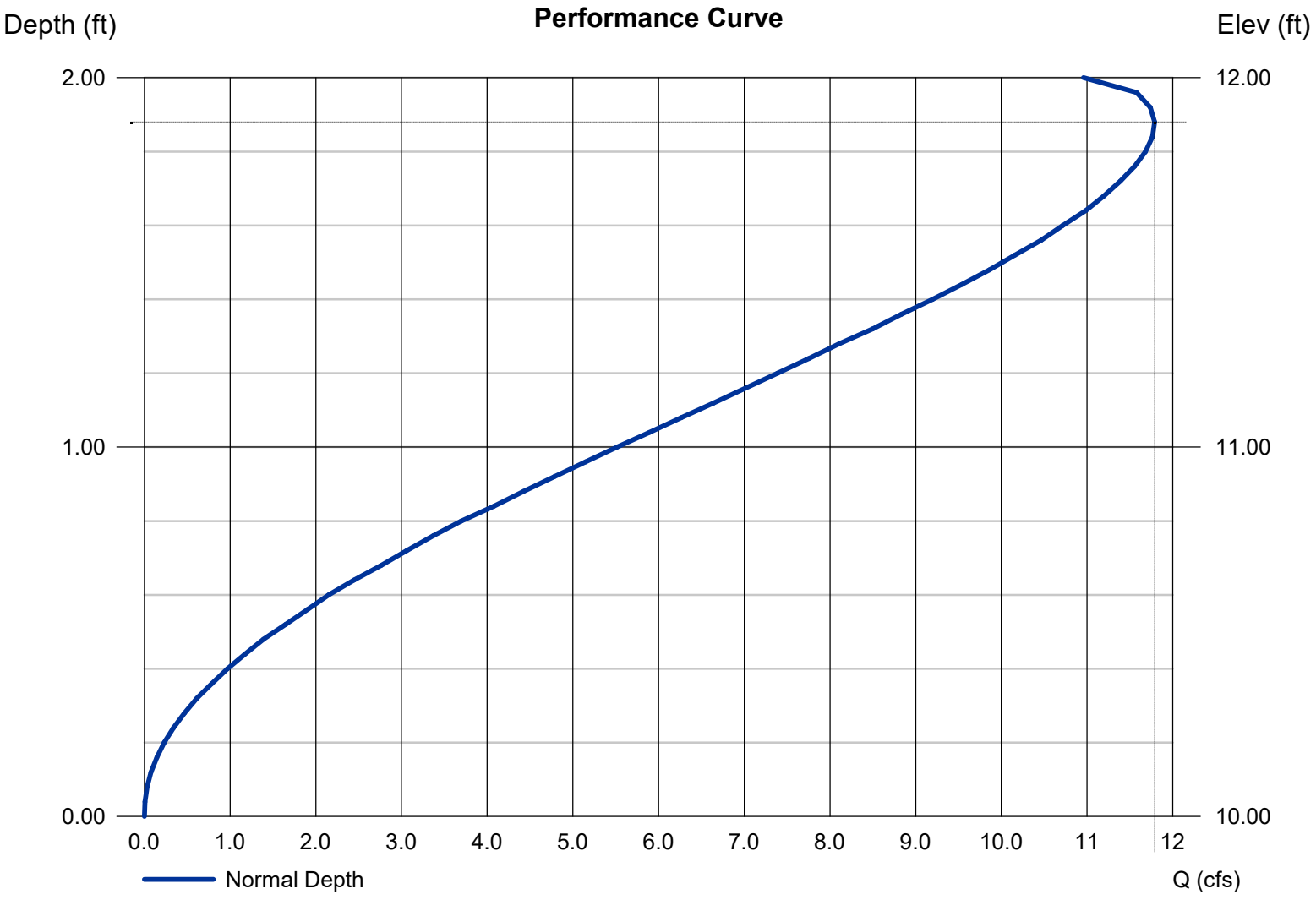
Diameter (ft)	= 2.00
Invert Elev (ft)	= 10.00
Slope (%)	= 0.20
N-Value	= 0.012

Calculations

Compute by:	Q vs Depth
No. Increments	= 50

Highlighted

Depth (ft)	= 1.88
Q (cfs)	= 11.79
Area (sqft)	= 3.07
Velocity (ft/s)	= 3.84
Wetted Perim (ft)	= 5.30
Crit Depth, Yc (ft)	= 1.24
Top Width (ft)	= 0.94
EGL (ft)	= 2.11



Channel Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Wednesday, Jul 22 2020

Proposed 18in PVC SD

Circular

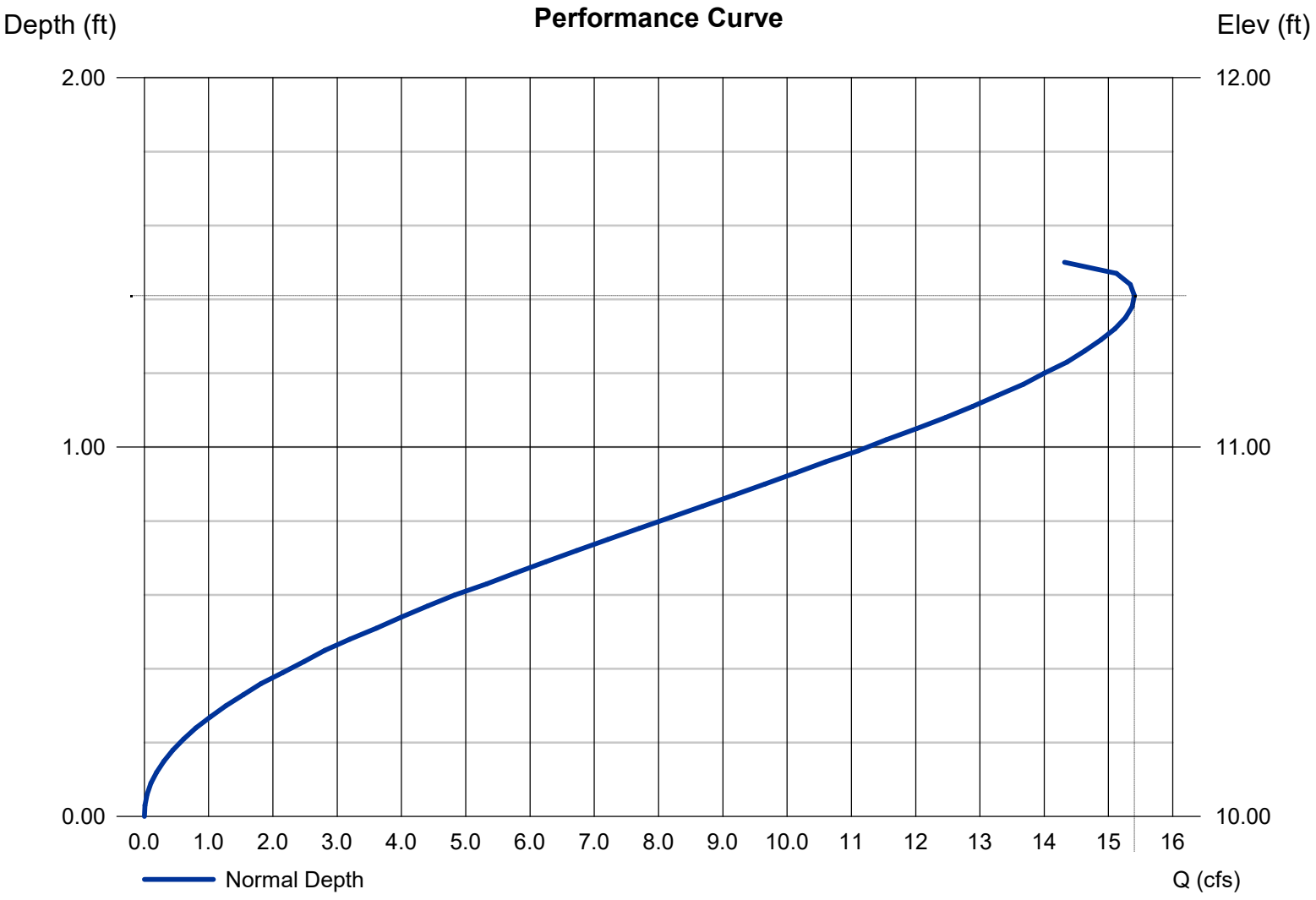
Diameter (ft)	= 1.50
Invert Elev (ft)	= 10.00
Slope (%)	= 1.10
N-Value	= 0.010

Calculations

Compute by:	Q vs Depth
No. Increments	= 50

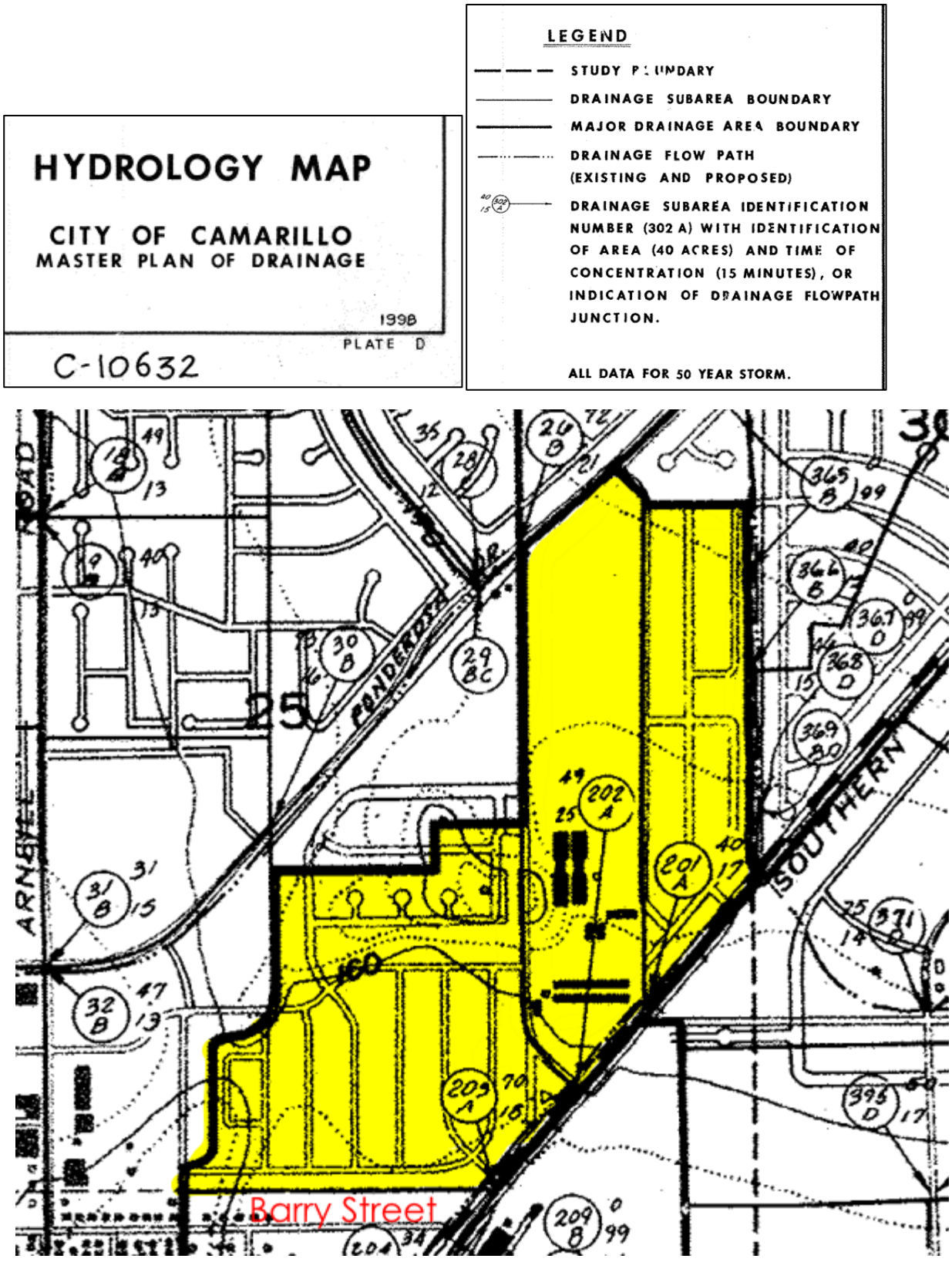
Highlighted

Depth (ft)	= 1.41
Q (cfs)	= 15.40
Area (sqft)	= 1.72
Velocity (ft/s)	= 8.93
Wetted Perim (ft)	= 3.98
Crit Depth, Yc (ft)	= 1.42
Top Width (ft)	= 0.71
EGL (ft)	= 2.65



ATTACHMENT 5

1998 Master Drainage Study Excerpts


HYDROLOGY MAP
CITY OF CAMARILLO
MASTER PLAN OF DRAINAGE
1998
PLATE D
C-10632
LEGEND
STUDY BOUNDARY
DRAINAGE SUBAREA BOUNDARY
MAJOR DRAINAGE AREA BOUNDARY
DRAINAGE FLOW PATH (EXISTING AND PROPOSED)
DRAINAGE SUBAREA IDENTIFICATION NUMBER (302 A) WITH IDENTIFICATION OF AREA (40 ACRES) AND TIME OF CONCENTRATION (15 MINUTES), OR INDICATION OF DRAINAGE FLOWPATH JUNCTION.
ALL DATA FOR 50 YEAR STORM.
PONDEROSA
SOUTHERN
ARNEILL
Barry Street

20KF.3T

Path: C:\I
File: 20KF .30 8.115 .a.. 9-11-96 11:14:28 am Page 1

VENTURA COUNTY FLOOD CONTROL DISTRICT
MODIFIED RATIONAL METHOD HYDROLOGY

LEWIS RD DRAIN DURKIN ST SLY 97CMP Q50 9/11/96 C2R3.I50 MR r3

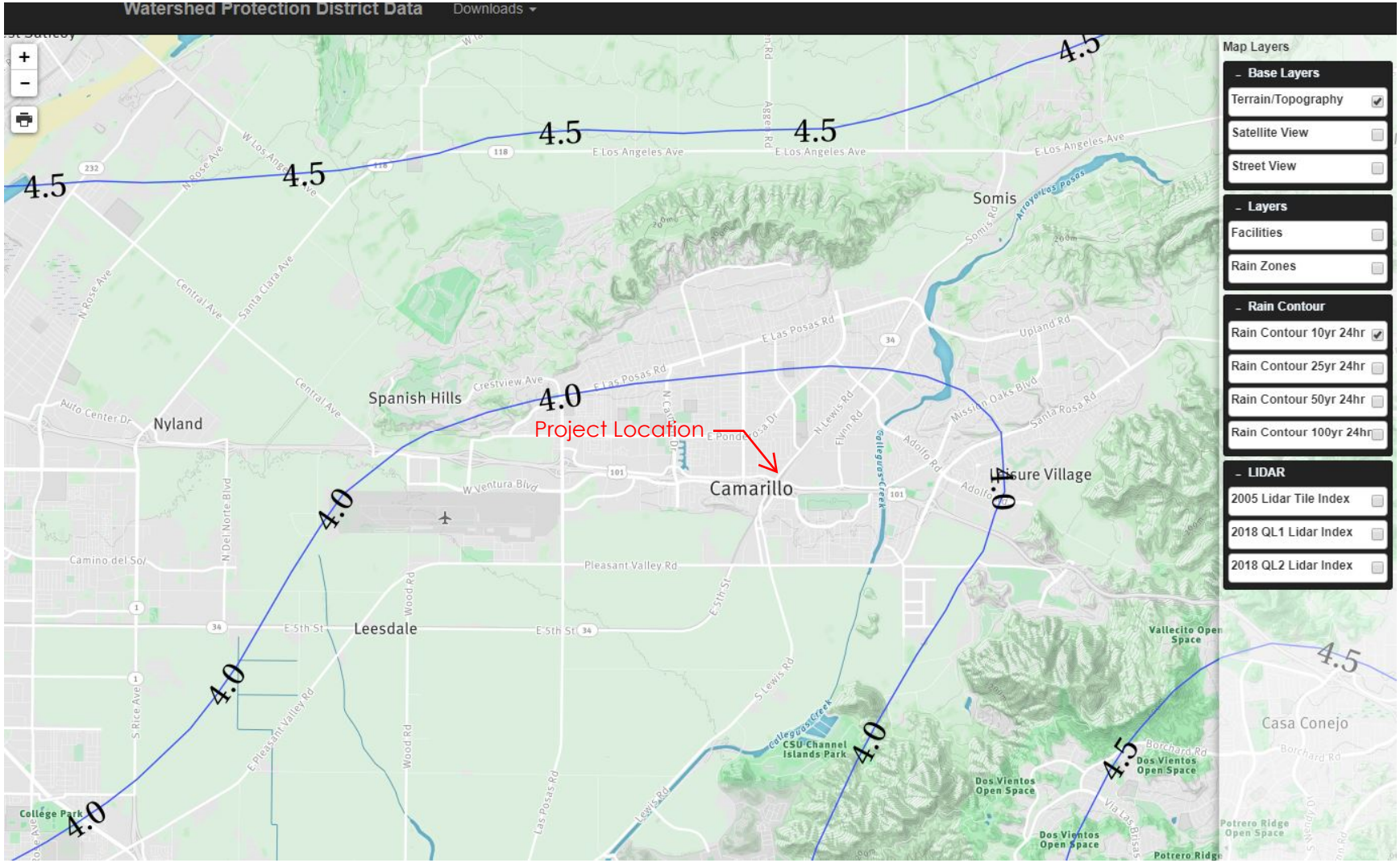
LOCATION		SUBAREA AREA	SUBAREA Q	TOTAL AREA	TOTAL Q	CONV TYPE	CONV LNGTH	CONV SLOPE	CONV SIZE	CONV Z	CONTROL Q	SOIL NAME	TC	STORM DAY 4 RAIN ZONE	PCT IMPV
2616	201A	40.	69.	40.	69.	4	750.	0.00470	3.50	0.00	0.	50	17	K50	0.23
2616	202A	49.	64.	89.	132.	5	750.	0.00864	6.00	0.00	0.	50	25	K50	0.13
2616	203A	70.	126.	159.	250.	5	1400.	0.00450	10.00	0.00	0.	40	18	K50	0.23
2616	204A	34.	78.	193.	307.	0	0.	0.00000	0.00	0.00	0.	50	11	K50	0.31
2616	205A	14.	35.	207.	337.	0	0.	0.00000	0.00	0.00	0.	40	11	K50	0.50
2616	206A	58.	135.	265.	456.	0	0.	0.00000	0.00	0.00	0.	30	13	K50	0.34
2616	207A	0.	0.	265.	456.	5	1700.	0.00500	10.00	0.00	0.	10	99	K50	0.00
2616	208B	61.	135.	61.	135.	0	0.	0.00000	0.00	0.00	0.	40	16	K50	0.70
2616	209B	0.	0.	61.	135.	4	1900.	0.00500	4.50	0.00	0.	10	99	K50	0.00
2616	210B	29.	63.	90.	182.	0	0.	0.00000	0.00	0.00	0.	50	13	K50	0.42
2616	211AB	90.	182.	355.	626.	5	1200.	0.00400	2.00	1.50	0.	10	0	K50	0.00
2616	212A	53.	110.	408.	711.	5	1400.	0.00400	2.00	1.50	0.	60	16	K50	0.70
2616	213A	45.	96.	453.	769.	5	1200.	0.00600	4.00	1.50	0.	60	15	K50	0.70
2616	214B	73.	134.	73.	134.	0	0.	0.00000	0.00	0.00	0.	50	22	K50	0.70
2616	215B	0.	0.	73.	134.	0	0.	0.00000	0.00	0.00	0.	10	99	K50	0.00
2616	216C	56.	79.	56.	79.	0	0.	0.00000	0.00	0.00	0.	50	20	K50	0.00
2616	217C	75.	96.	131.	175.	5	1900.	0.00400	4.00	2.00	0.	50	23	K50	0.00
2616	218C	75.	72.	206.	213.	0	0.	0.00000	0.00	0.00	0.	60	24	K50	0.00
2616	219C	56.	87.	262.	282.	0	0.	0.00000	0.00	0.00	0.	40	20	K50	0.00
2616	220C	0.	0.	262.	282.	0	0.	0.00000	0.00	0.00	0.	10	99	K50	0.00
2616	221D	0.	0.	0.	0.	0	0.	0.00000	0.00	0.00	0.	10	99	K50	0.00
2616	222D	50.	10.	50.	10.	5	1900.	0.00300	2.00	2.00	0.	70	25	K50	0.00
2616	223D	50.	0.	100.	5.	5	1150.	0.00300	4.00	2.00	0.	70	30	K50	0.00

ATTACHMENT 6

Rainfall Data

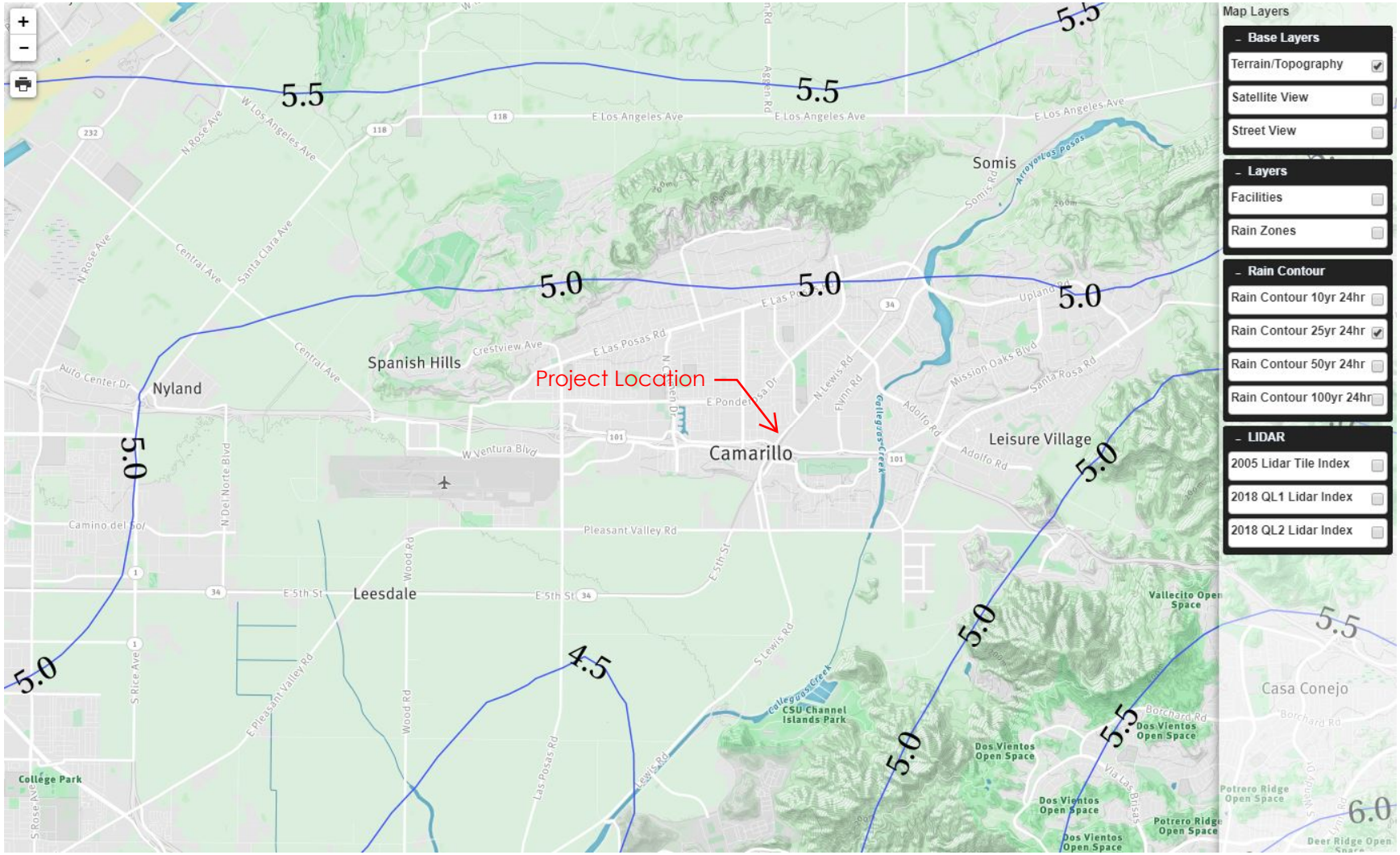
VENTURA COUNTY WATERSHED PROTECTION DISTRICT RAINFALL MAPS
10-YEAR, 24-HOUR RAINFALL DEPTH

NOAA Atlas 14: 3.87”



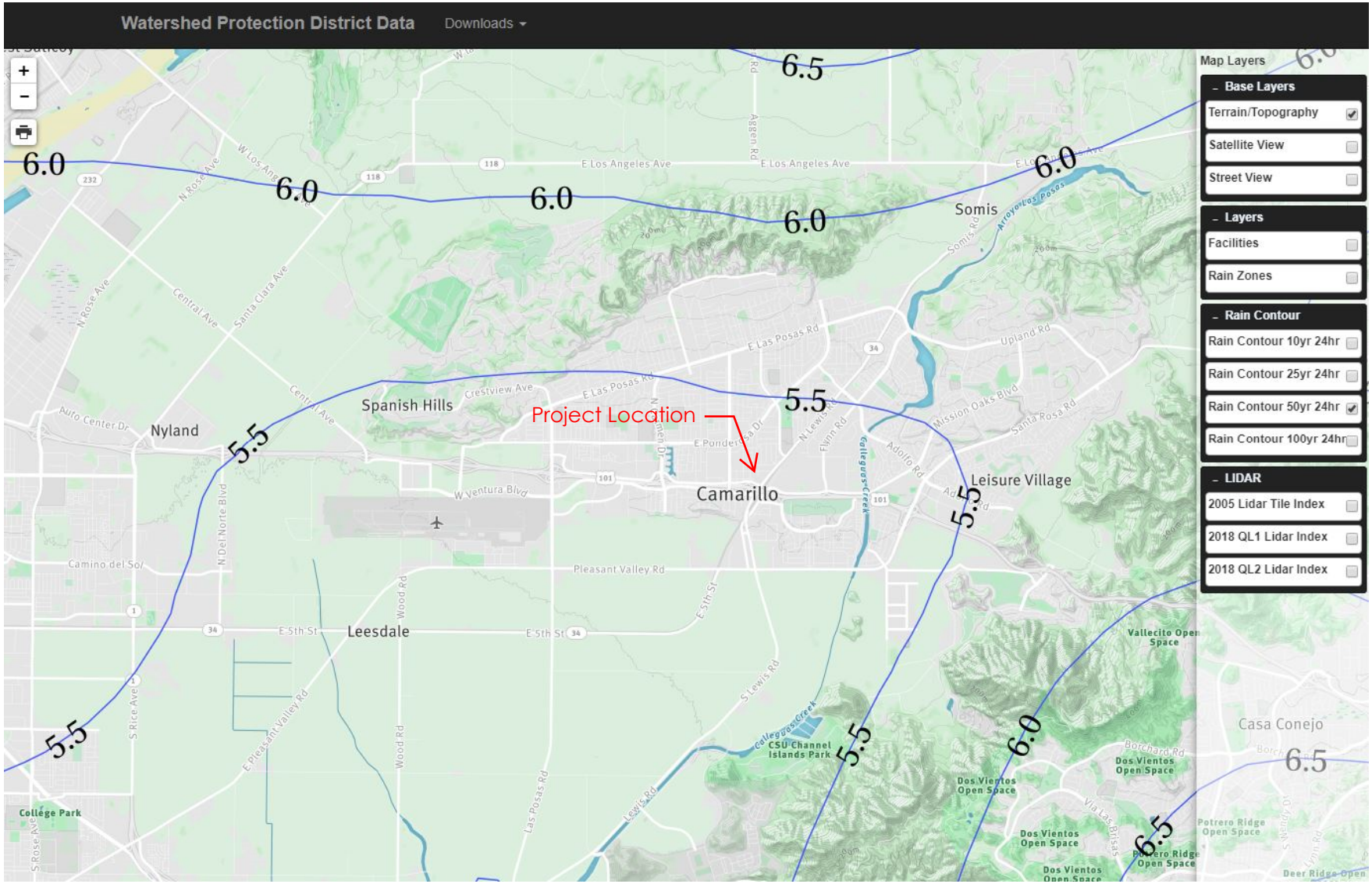
VENTURA COUNTY WATERSHED PROTECTION DISTRICT RAINFALL MAPS
25-YEAR, 24-HOUR RAINFALL DEPTH

NOAA Atlas 14: 4.68”



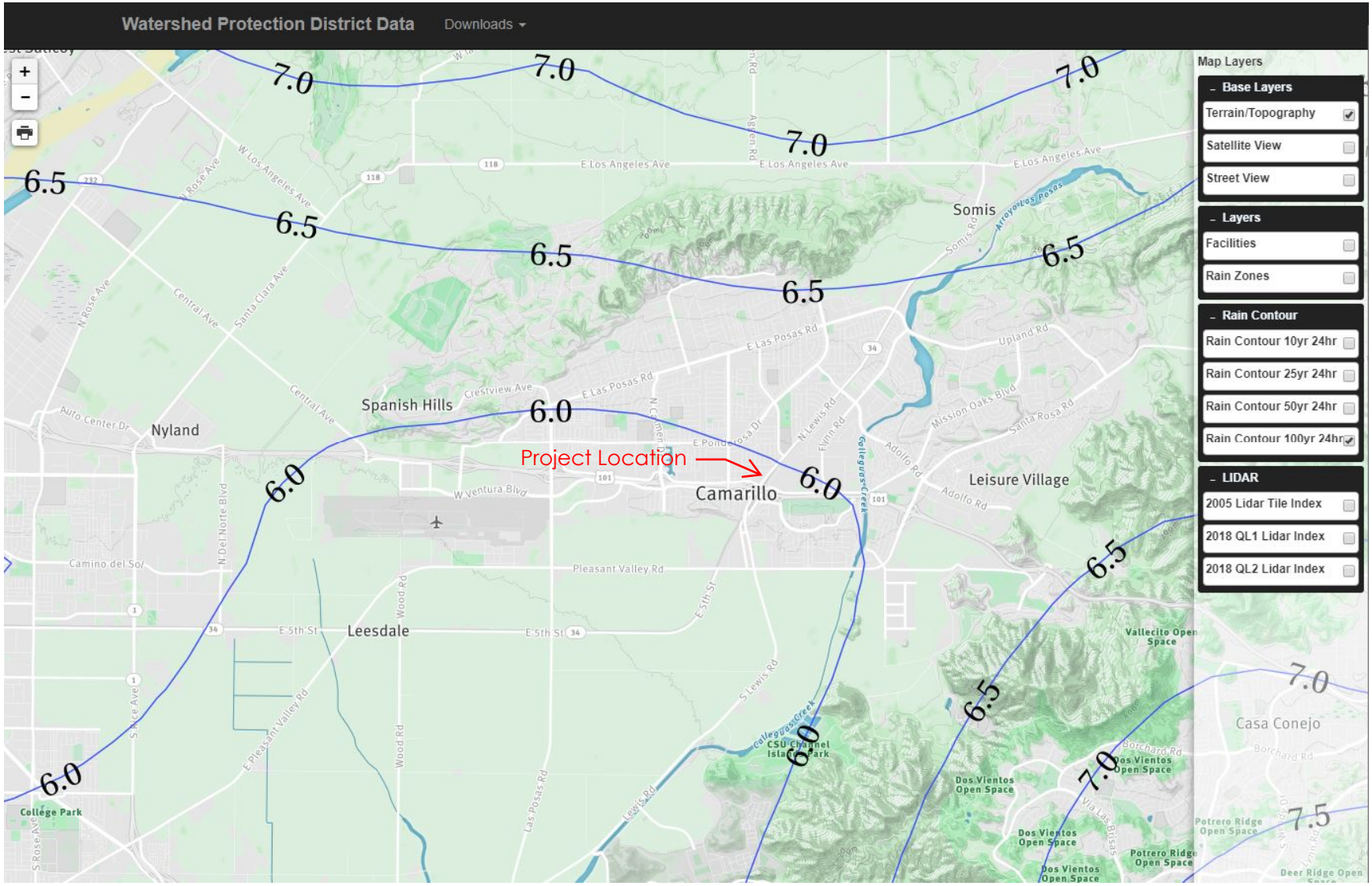
VENTURA COUNTY WATERSHED PROTECTION DISTRICT RAINFALL MAPS
50-YEAR, 24-HOUR RAINFALL DEPTH

NOAA Atlas 14: 5.30”



VENTURA COUNTY WATERSHED PROTECTION DISTRICT RAINFALL MAPS
100-YEAR, 24-HOUR RAINFALL DEPTH

NOAA Atlas 14: 5.92”



NOAA Atlas 14, Volume 6, Version 2
Location name: Camarillo, California, USA*
Latitude: 34.2191°, Longitude: -119.0329°
Elevation: 154.05 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	**0.108** (0.091-0.131)	**0.140** (0.117-0.169)	**0.180** (0.150-0.218)	**0.213** (0.176-0.260)	**0.257** (0.204-0.325)	**0.290** (0.226-0.376)	**0.323** (0.245-0.430)	**0.358** (0.263-0.491)	**0.404** (0.284-0.579)	**0.439** (0.298-0.653)
10-min	**0.155** (0.130-0.187)	**0.200** (0.167-0.242)	**0.258** (0.215-0.313)	**0.305** (0.252-0.373)	**0.368** (0.293-0.466)	**0.415** (0.324-0.539)	**0.464** (0.352-0.617)	**0.513** (0.377-0.703)	**0.578** (0.407-0.830)	**0.629** (0.427-0.936)
15-min	**0.188** (0.157-0.227)	**0.242** (0.202-0.292)	**0.312** (0.260-0.378)	**0.369** (0.305-0.451)	**0.445** (0.354-0.563)	**0.502** (0.392-0.651)	**0.561** (0.425-0.746)	**0.620** (0.456-0.850)	**0.699** (0.492-1.00)	**0.760** (0.516-1.13)
30-min	**0.273** (0.229-0.329)	**0.352** (0.294-0.425)	**0.454** (0.378-0.550)	**0.536** (0.443-0.655)	**0.646** (0.515-0.819)	**0.730** (0.569-0.947)	**0.815** (0.619-1.09)	**0.901** (0.664-1.24)	**1.02** (0.716-1.46)	**1.11** (0.750-1.65)
60-min	**0.445** (0.373-0.537)	**0.573** (0.479-0.692)	**0.739** (0.616-0.895)	**0.873** (0.722-1.07)	**1.05** (0.839-1.33)	**1.19** (0.927-1.54)	**1.33** (1.01-1.77)	**1.47** (1.08-2.01)	**1.66** (1.17-2.38)	**1.80** (1.22-2.68)
2-hr	**0.653** (0.547-0.788)	**0.841** (0.703-1.02)	**1.09** (0.904-1.31)	**1.28** (1.06-1.57)	**1.55** (1.23-1.96)	**1.75** (1.36-2.26)	**1.95** (1.48-2.59)	**2.15** (1.59-2.96)	**2.43** (1.71-3.49)	**2.64** (1.79-3.93)
3-hr	**0.812** (0.680-0.980)	**1.05** (0.875-1.26)	**1.35** (1.13-1.64)	**1.59** (1.32-1.95)	**1.92** (1.53-2.44)	**2.17** (1.69-2.82)	**2.42** (1.84-3.23)	**2.68** (1.97-3.68)	**3.03** (2.13-4.34)	**3.29** (2.23-4.90)
6-hr	**1.16** (0.973-1.40)	**1.50** (1.25-1.81)	**1.93** (1.61-2.34)	**2.28** (1.89-2.79)	**2.76** (2.20-3.49)	**3.11** (2.43-4.04)	**3.48** (2.64-4.63)	**3.84** (2.83-5.27)	**4.34** (3.05-6.22)	**4.72** (3.20-7.02)
12-hr	**1.52** (1.27-1.84)	**1.97** (1.64-2.37)	**2.54** (2.12-3.08)	**3.01** (2.49-3.67)	**3.63** (2.89-4.60)	**4.11** (3.20-5.32)	**4.58** (3.48-6.10)	**5.07** (3.73-6.96)	**5.73** (4.03-8.21)	**6.23** (4.23-9.27)
24-hr	**1.94** (1.72-2.23)	**2.52** (2.22-2.90)	**3.26** (2.88-3.78)	**3.87** (3.38-4.51)	**4.68** (3.96-5.64)	**5.30** (4.39-6.52)	**5.92** (4.79-7.47)	**6.55** (5.15-8.50)	**7.40** (5.59-10.0)	**8.06** (5.88-11.3)
2-day	**2.39** (2.12-2.76)	**3.15** (2.78-3.63)	**4.13** (3.64-4.77)	**4.92** (4.30-5.74)	**5.98** (5.06-7.21)	**6.79** (5.63-8.36)	**7.61** (6.15-9.60)	**8.45** (6.64-11.0)	**9.57** (7.22-12.9)	**10.4** (7.61-14.6)
3-day	**2.70** (2.39-3.11)	**3.60** (3.19-4.16)	**4.78** (4.21-5.53)	**5.73** (5.01-6.69)	**7.02** (5.94-8.47)	**8.01** (6.64-9.86)	**9.00** (7.28-11.4)	**10.0** (7.89-13.0)	**11.4** (8.61-15.4)	**12.5** (9.09-17.4)
4-day	**2.92** (2.59-3.37)	**3.93** (3.47-4.53)	**5.24** (4.62-6.07)	**6.31** (5.52-7.36)	**7.76** (6.56-9.36)	**8.87** (7.35-10.9)	**9.99** (8.08-12.6)	**11.1** (8.77-14.5)	**12.7** (9.59-17.2)	**13.9** (10.1-19.5)
7-day	**3.44** (3.05-3.97)	**4.63** (4.10-5.35)	**6.20** (5.47-7.18)	**7.48** (6.54-8.72)	**9.21** (7.79-11.1)	**10.5** (8.74-13.0)	**11.9** (9.62-15.0)	**13.3** (10.5-17.2)	**15.2** (11.5-20.5)	**16.6** (12.1-23.3)
10-day	**3.76** (3.33-4.33)	**5.07** (4.49-5.86)	**6.80** (6.00-7.87)	**8.21** (7.18-9.58)	**10.1** (8.57-12.2)	**11.6** (9.63-14.3)	**13.1** (10.6-16.6)	**14.7** (11.5-19.0)	**16.8** (12.7-22.7)	**18.4** (13.4-25.8)
20-day	**4.41** (3.90-5.08)	**5.98** (5.29-6.90)	**8.06** (7.11-9.33)	**9.77** (8.55-11.4)	**12.1** (10.3-14.6)	**13.9** (11.6-17.2)	**15.8** (12.8-20.0)	**17.8** (14.0-23.0)	**20.4** (15.4-27.6)	**22.5** (16.4-31.4)
30-day	**5.25** (4.65-6.05)	**7.14** (6.31-8.24)	**9.65** (8.51-11.2)	**11.7** (10.3-13.7)	**14.6** (12.4-17.6)	**16.9** (14.0-20.8)	**19.2** (15.5-24.2)	**21.6** (17.0-28.0)	**24.9** (18.8-33.7)	**27.6** (20.1-38.6)
45-day	**6.25** (5.53-7.20)	**8.49** (7.51-9.80)	**11.5** (10.2-13.3)	**14.0** (12.3-16.4)	**17.6** (14.9-21.2)	**20.4** (16.9-25.1)	**23.3** (18.8-29.4)	**26.3** (20.7-34.2)	**30.6** (23.1-41.4)	**34.0** (24.8-47.6)
60-day	**7.10** (6.29-8.19)	**9.63** (8.52-11.1)	**13.1** (11.5-15.1)	**16.0** (14.0-18.7)	**20.1** (17.0-24.2)	**23.4** (19.4-28.8)	**26.9** (21.7-33.9)	**30.5** (24.0-39.6)	**35.7** (26.9-48.3)	**39.9** (29.1-55.8)

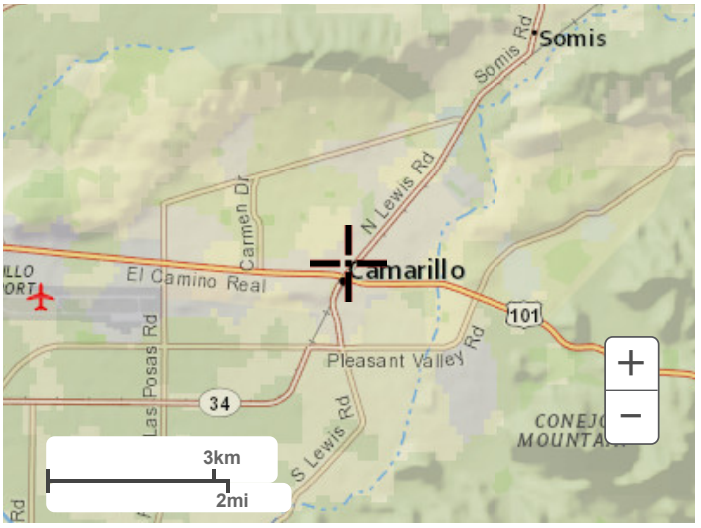
[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

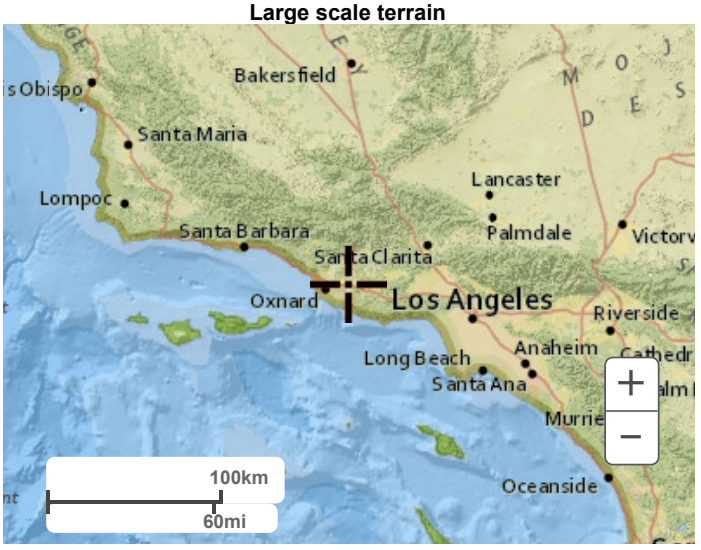
Please refer to NOAA Atlas 14 document for more information.

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PF graphical



Large scale terrain



Large scale map



Large scale aerial

ATTACHMENT 7

Hydrology Calculation Worksheets

Worksheet 2: Runoff curve number and runoff

Project	By	Date
2800 Barry Street - Proposed Condition	ADW	1/15/20
Location	**Checked**	**Date**
Camarillo, CA		

Check one: ☒ Present ☐ Developed

1. Runoff curve number

Soil name and hydrologic group (appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	CN [1/] Table 2-2	CN [1/] Figure 2-3	CN [1/] Figure 2-4	Area ☒ acres ☐ mi^2 ☐ %	Product of CN x area
VC Soil #4 HSG B	Pavement	98			2.45	240.1
VC Soil #4 HSG B	Gravel	85			0.13	11.05
	Totals ➡				2.58	251.15

[1/] Use only one CN source per line

CN (weighted) = $\frac{\text{total product}}{\text{total area}} = \frac{251.15}{2.58} = 97.3$; **Use CN** ➡ 97

2. Runoff

		Storm #1	Storm #2	Storm #3	Storm #4
Frequency	yr	10	25	50	100
Rainfall, P (24-hour)	in	3.87	4.68	5.30	5.92
Runoff, Q	in	3.52	4.33	4.95	5.56

(Use P and CN with table 2-1, figure 2-1, or equations 2-3 and 2-4)

$$S = \frac{1000}{CN} - 10 \quad \text{[eq. 2-4]}$$

$$Q = \frac{(P - 0.2S)^2}{(P + 0.8S)} \quad \text{[eq. 2-3]}$$

Worksheet 2: Runoff curve number and runoff

Project	By	Date
2800 Barry Street - Proposed Condition	ADW	1/15/20
Location	**Checked**	**Date**
Camarillo, CA		

Check one: ☐ Present ☒ Developed

1. Runoff curve number

Soil name and hydrologic group (appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	CN [1/] Table 2-2	CN [1/] Figure 2-3	CN [1/] Figure 2-4	Area ☒ acres ☐ mi^2 ☐ %	Product of CN x area
VC Soil #4 HSG B	Pavement/Building	98			1.71	167.58
VC Soil #4 HSG B	Landscape	69			0.87	60.03
	Totals ➡				2.58	227.61

[1/] Use only one CN source per line

CN (weighted) = $\frac{\text{total product}}{\text{total area}} = \frac{227.61}{2.58} = 88.2$; **Use CN** ➡ 88

2. Runoff

		Storm #1	Storm #2	Storm #3	Storm #4
Frequency	yr	10	25	50	100
Rainfall, P (24-hour)	in	3.87	4.68	5.30	5.92
Runoff, Q	in	2.61	3.37	3.95	4.55

(Use P and CN with table 2-1, figure 2-1, or equations 2-3 and 2-4)

$$S = \frac{1000}{CN} - 10 \quad \text{[eq. 2-4]}$$

$$Q = \frac{(P - 0.2S)^2}{(P + 0.8S)} \quad \text{[eq. 2-3]}$$

Worksheet 3: Time of Concentration (T_c) or travel time (T_t)

Project	By	Date
2800 Barry Street - Existing Condition	ADW	1/15/20
Location	**Checked**	**Date**
Camarillo, CA		

Check one: [X] Present [ ] Developed

Check one: [X] T_c [ ] T_t through subarea

Notes: Space for as many as two segments per flow type can be used for each worksheet.
Include a map, schematic, or description of flow segments.

Sheet flow (Applicable to Tc only)

	Segment ID		
1. Surface description (table 3-1)	Smooth		
2. Manning's roughness coefficient, n (table 3-1)	0.011		
3. Flow length, L (total L † 300 ft) ft	253		
4. Two-year 24-hour rainfall, P_2 in	2.52		
5. Land slope, s ft/ft	0.005		
6. $T_t = \frac{0.007\ (nL)^{0.8}}{P_2^{0.5}\ s^{0.4}}$ Compute T_t hr	0.083	+	= 0.083

Shallow concentrated flow

	Segment ID		
7. Surface description (paved or unpaved)	Paved		
8. Flow length, L ft	115		
9. Watercourse slope, s ft/ft	0.003		
10. Average velocity, V (figure 3-1) ft/s	1.42		
11. $T_t = \frac{L}{3600\ V}$ Compute T_t hr	0.023	+	= 0.022

Channel flow

	Segment ID		
12. Cross sectional flow area, a ft^2			
13. Wetted perimeter, p_w ft			
14. Hydraulic radius, $r = \frac{a}{p_w}$ Compute r ft			
15 Channel slope, s ft/ft			
16. Manning's roughness coefficient, n			
17. $V = \frac{1.49\ r^{2/3}\ s^{1/2}}{n}$ Compute V ft/s			
18. ~~Flow~~ length, L ft			
19. $T_t = \frac{L}{3600\ V}$ Compute T_t hr		+	=

20. Watershed or subarea T_c or T_t (add T_t in steps 6, 11, and 19) Hr 0.105
6 min

Worksheet 3: Time of Concentration (T_c) or travel time (T_t)

Project	By	Date
2800 Barry Street - Proposed Condition	ADW	1/15/20
Location	**Checked**	**Date**
Camarillo, CA		

Check one: ☐ Present ☒ Developed

Check one: ☒ T_c ☐ T_t through subarea

Notes: Space for as many as two segments per flow type can be used for each worksheet.
Include a map, schematic, or description of flow segments.

Sheet flow (Applicable to Tc only)

	Segment ID		
1. Surface description (table 3-1)	Grass		
2. Manning's roughness coefficient, n (table 3-1)	0.15		
3. Flow length, L (total L † 300 ft) ..... ft	92		
4. Two-year 24-hour rainfall, P_2 ..... in	2.52		
5. Land slope, s ..... ft/ft	0.01		
6. $T_t = \frac{0.007\ (nL)^{0.8}}{P_2^{0.5}\ s^{0.4}}$ Compute T_t ..... hr	0.227	+	= 0.227

Shallow concentrated flow

	Segment ID		
7. Surface description (paved or unpaved)	Unpaved		
8. Flow length, L .....ft	252		
9. Watercourse slope, s ..... ft/ft	0.003		
10. Average velocity, V (figure 3-1) ..... ft/s	1.18		
11. $T_t = \frac{L}{3600\ V}$ Compute T_t ..... hr	0.059	+	= 0.059

Channel flow

	Segment ID		
12. Cross sectional flow area, a ..... ft^2			
13. Wetted perimeter, p_w ..... ft			
14. Hydraulic radius, $r = \frac{a}{p_w}$ Compute r ..... ft			
15 Channel slope, s ..... ft/ft			
16. Manning's roughness coefficient, n			
17. $V = \frac{1.49\ r^{2/3}\ s^{1/2}}{n}$ Compute V .....ft/s			
18. ~~Flow~~ length, L ..... ft			
19. $T_t = \frac{L}{3600\ V}$ Compute T_t ..... hr		+	=

20. Watershed or subarea T_c or T_t (add T_t in steps 6, 11, and 19) ..... Hr 0.286
17 min

Worksheet 4: Graphical Peak Discharge method

Project	By	Date
2800 Barry Street - Proposed Condition	ADW	1/15/20
Location	**Checked**	**Date**
Camarillo, CA		

Check one: ☒ Present ☐ Developed

1. Data

Drainage area ..... A_m = 0.0040 mi^2 (acres/640)

Runoff curve number .....CN = 97 (From worksheet 2)

Time of concentration ..... T_c = 0.105 hr (From worksheet 3)

Rainfall distribution ..... = I (I, IA, II III)

Pond and swamp areas sprea throughout watershed ..... = 0 percent of A_m (0 acres or mi^2 covered)

	Storm #1	Storm #2	#3	#4
2. Frequency ..... yr	10	25	50	100
3. Rainfall, P (24-hour) ..... in	3.87	4.68	5.30	5.92
4. Initial abstraction, I_a ..... in (Use CN with table 4-1)	0.062	0.062	0.062	
5. Compute I_a/P	0.016	0.013	0.012	0.010
6. Unit peak discharge, q_u ..... csm/in (Use T_c and I_a/P with exhibit 4– I)	500	500	500	500
7. Runoff, Q ..... in (From worksheet 2) Figure 2-6	3.52	4.33	4.95	5.56
8. Pond and swamp adjustment factor, F_p ..... (Use percent pond and swamp area with table 4-2. Factor is 1.0 for zero percent pond ans swamp area.)	1	1	1	1
9. Peak discharge, q_p ..... ft^3/s	7.10	8.73	9.98	11.21

(Where $q_p = q_u A_m Q F_p$)

Worksheet 4: Graphical Peak Discharge method

Project	By	Date
2800 Barry Street - Proposed Condition	ADW	1/15/20
Location	**Checked**	**Date**
Camarillo, CA		

Check one: ☐ Present ☒ Developed

1. Data

Drainage area ..... A_m = 0.0040 mi^2 (acres/640)

Runoff curve number .....CN = 88 (From worksheet 2)

Time of concentration ..... T_c = 0.286 hr (From worksheet 3)

Rainfall distribution ..... = I (I, IA, II III)

Pond and swamp areas sprea throughout watershed ..... = 0 percent of A_m (0 acres or mi^2 covered)

	Storm #1	Storm #2	#3	#4
2. Frequency ..... yr	10	25	50	100
3. Rainfall, P (24-hour) ..... in	3.87	4.68	5.30	5.92
4. Initial abstraction, I_a ..... in (Use CN with table 4-1)	0.062	0.062	0.062	
5. Compute I_a / P	0.016	0.013	0.012	0.010
6. Unit peak discharge, q_u ..... csm/in (Use T_c and I_a / P with exhibit 4– I)	500	500	500	500
7. Runoff, Q ..... in (From worksheet 2) Figure 2-6	2.61	3.37	3.95	4.55
8. Pond and swamp adjustment factor, F_p ..... (Use percent pond and swamp area with table 4-2. Factor is 1.0 for zero percent pond ans swamp area.)	1	1	1	1
9. Peak discharge, q_p ..... ft^3/s	5.26	6.79	7.96	9.17

(Where $q_p = q_u A_m Q F_p$)

Appendix H

Post Construction Stormwater Management Plan

VENTURA COUNTYWIDE STORMWATER QUALITY PROGRAM
POST-CONSTRUCTION STORMWATER MANAGEMENT PLAN (PCSMP)
FOR
2800 Barry Street Affordable Housing (SW0042)
PARCEL #: 162-0-023-030

Project Name: 2800 Barry Street Affordable Housing (SW0042)

Preparation/Revision Date: 2/28/2020

Prepared for:

Name of Owner/Developer:	Area Housing Authority of the County of Ventura
Stress Address:	1400 West Hillcrest Drive
City, State, Zip Code:	Newbury Park, CA 91320
Telephone:	805-480-9991

Prepared by:

Name and Title of Preparer:	Apryl Weidl, Project Engineer
Company Name:	RRM Design Group
Stress Address:	10 E Figueroa Street Suite 200
City, State, Zip Code:	Santa Barbara, CA 93101
Telephone:	805-963-8283

I hereby certify that the information provided in this Application is correct.

Application Prepared by: Apryl Weidl, RRM Design Group
Print Name and Firm

Signed Apryl Weidl
Signature of Project Engineer in the Firm Named Above

Title Project Engineer
Affix Professional registration stamp of the person named above with signature and expiration date



Project Name: 2800 Barry Street Affordable Housing (SW0042)

STEP 1: DETERMINE PROJECT APPLICABILITY

Instructions:
For new development projects, answer yes, no, or NA to questions (1) - (10) below.
For redevelopment projects , answer yes, no, or NA to questions (11) - (13) below.

NEW DEVELOPMENT PROJECTS	
Does the new development project fall within categories (1) - (10) below?	
Project Type and/or Characteristics	**Y/N/NA**
1) Development projects equal to 1 acre or greater of disturbed area that adds more than 10,000 square feet of impervious surface area **→go to Step 2**	N/A
2) Industrial parks with 10,000 square feet or more of total altered surface area **→go to Step 2**	N/A
3) Commercial strip malls with 10,000 square feet or more of impervious surface area **→go to Step 2**	N/A
4) Retail gasoline outlets with 5,000 square feet or more of total altered surface area **→go to Step 2**	N/A
5) Restaurants (Standard Industrial Classification (SIC) of 5812) with 5,000 square feet or more of total altered surface area **→go to Step 2**	N/A
6) Parking lots with 5,000 square feet or more of impervious surface area, or with 25 or more parking spaces **→go to Step 2**	N/A
7) Streets, roads, highways, and freeway construction of 10,000 square feet or more of impervious surface area **→ go to Roadway Projects**	N/A
8) Automotive service facilities (Standard Industrial Classification (SIC) of 5013, 5014, 5511, 5541, 7532-7534 and 7536-7539) of 5,000 square feet or more of total altered surface area **→go to Step 2**	N/A
9) Projects located in or directly adjacent to, or discharging directly to an Environmentally Sensitive Area (ESA), where the development will: a. Discharge stormwater runoff that is likely to impact a sensitive biological species or habitat; and b. Create 2,500 square feet or more of impervious surface area **→go to Step 2**	N/A
10) Single-family hillside homes (see Section 2 of the TGM for specific requirements) **→go to SF Hillside**	N/A

Project Name: 2800 Barry Street Affordable Housing (SW0

PROJECT APPLICABILITY, CONT.

REDEVELOPMENT PROJECTS	
For redevelopment projects that fall within categories (1) through (9) above, and that conduct land-disturbing activities that result in the creation, or addition, or replacement of 5,000 square feet or more of impervious surface area on an already developed site, answer questions 11-13 below.Existing single-family dwelling and accessory structures are exempt from redevelopment projects unless such projects create, add, or replace 10,000 square feet of impervious surface area.	
Project Type and/or Characteristics	**Y/N/NA**
11) Projects where redevelopment results in an alteration to more than fifty percent of impervious surfaces of a previously existing development, and the existing development was not subject to the post development stormwater quality control requirements of Board Order 00-108, these projects must mitigate the entire redevelopment project area **→go to Step 2**	Y
12) Projects where redevelopment results in an alteration to more than fifty percent of impervious surfaces of a previously existing development, and the existing development was subject to the post development stormwater quality control requirements of Board Order 00-108, the project must mitigate only the altered portion of the redevelopment project area and not the entire project area **→go to Step 2**	N
13) Projects where redevelopment results in an alteration of less than fifty percent of impervious surfaces of a previously existing development these projects must mitigate only the altered portion of the redevelopment project area and not the entire project area **→go to Step 2**	N

Project Name: 2800 Barry Street Affordable Housing (SW0042)

STEP 2: ASSESS SITE CONDITIONS

Provide an assessment of the project site using the following tables

New Development Project General Characteristics

General Project Characteristics	Area (acres)
Total Project Site Area	
Total Disturbed Area	
Total Existing (Pre-Project) Impervious Area	
Post-Project Impervious Area [1]	
Area of Green Roof (ET-1) [1]	
Area Draining to Hydrologic Source Controls (ET-2) [1]	
Revised Post-Project Impervious Area	0.00
Project Imperviousness (%)	

Redevelopment Project General Characteristics

General Project Characteristics	Area (acres)
Total Project Site Area	2.58
Total Altered Area [6]	2.58
Total Existing (Pre-Project) Impervious Area	2.45
Was existing (pre-project) impervious area subject to post-development stormwater quality control requirements? [2]	N
Amount of Existing Impervious Area Altered [3]	2.45
Amount of Impervious Area Added	-0.73
% Alteration of Existing Impervious Area [4]	70.20%
Post-Project Impervious Area (Impervious Area to be Mitigated) [1], [4]	1.72
Area of Green Roof (ET-1) [1]	0.00
Area Draining to Hydrologic Source Controls (ET-2) [1]	0.00
Revised Post-Project Impervious Area	1.72
Project Imperviousness (%) [5]	66.67%

Project Name: 2800 Barry Street Affordable Housing (SW0042)

Project Description

Briefly describe project:
Project is a 100% affordable multi-family housing development consisting of a total of 68 units, including 60 rental apartments, and 8 for-sale townhomes. The rental apartments include 7 studios, 22 one-bedroom, 15 two-bedroom, and 15 three-bedroom units, in a total of four buildings. The for-sale units are all 3-bedroom units in one building. A total of 148 parking spaces are provided.
Describe current and proposed zoning and land use designation:
Existing Land Use: Industrial/Commercial Proposed Land Use: High Density 30 du/ac Existing Zoning: M-1 Proposed Zoning: RPD-30
Describe topography of project area. Identify low and high points and the location of steep slopes (provide a range of grades):
The project site is very flat with the majority of slopes less than 1%. Drainage from the site flows to an existing curb inlet on Barry Street along the eastern property line of the project.
Describe the site's soil types (A, B, C, D) and geological conditions
The majority of the soils at the site belong to hydrologic soil group B per USDA soil survey. Percolation testing was performed by Advance Geotechnical Services, Inc. Based on the equidistant proximity of percolation borings to proposed infiltration areas, the percolation rate was calculated by taking an average of the measured percolation rates. See page 6 of the Geotechnical Engineering Study for a summary of the percolation test data. *Attach soil type information*

Project Name: 2800 Barry Street Affordable Housing (SV

Project Description, cont'd

Describe the site's groundwater conditions (e.g. depth to seasonal high groundwater):
Groundwater was not encountered during soil exploration at the site which extended to a maximum depth of approximate 51.5' below existing ground. Historical high groundwater in the area appears to be deeper than 50' according to the project soils report.

Is there offsite drainage on the site? If so, identify the location(s) and source(s) of offsite drainage and the volume of water running onto the site:
There is an existing concrete swale at the southern portion of the site that serves as an overflow for runoff from the adjacent Peoples Ave. Flow would only enter the swale if the existing curb inlet at the end of the Peoples Ave cul-de-sac was to stop functioning. The existing concrete is proposed to be removed and replaced with a vegetated swale to promote infiltration and improve water quality.
Describe any existing utilities within the project area that would limit the possible locations of certain BMPs:
No existing utilities would limit the locations of proposed BMPs.
Describe any environmentally sensitive areas (e.g. riparian areas, wetlands) within the project area:
No environmentally sensitive areas exist on site.

Geotechnical considerations:	
Does the site contain any of the following characteristics:	**Y/N/NA**
Collapsible Soil	Y
Expansion Soil	N
Potential for seismically-inducted soil liquefaction	Y
Additional considerations:	
Refer to Soils Report *Attach relevant geotechnical information*	

Project Name: 2800 Barry Street Affordable Housing (SV

STEP 2: POLLUTANTS OF CONCERN

Pollutants of Concern (See Section 3.3 of TGM)

Activity / Potential Land Uses	Potential Pollutant*								
	Sediment	Nutrients	Metals	Pesticides	Oxygen Demanding Substances	Toxic Organics	Oil & Grease	Bacteria	Trash and Debris
Parking Lots	X		X		X	X			X
Home Subdivisions	X	X			X			X	X
Other [fill in if necessary]									
Other [fill in if necessary]									

*Denote potential pollutant with "x"

Receiving Waterbody Listings (see Section 3.3. of TGM)

Receiving Waterbody (watershed indicated in parentheses)	**Constituent Group [7]**	**Distance to Project (ft)**
Calleguas Creek Watershed above Potrero Rd.		5100.00
Other [fill in if necessary]		

[1] Applicant should enter post-project impervious cover prior to accounting for green roof and hydrologic source control (HSC) credits. Volume reduction provided by green roofs and HSCs are accounted for implicitly in the sizing calcuations for BMPs by assuming the roof area covered by a green roof or the area draining to a HSC is pervious rather than impervious when caluclating the runoff coefficient for the site. Green roofs and HSCs are not required to be considered for all project locations and types. In order to obtain credit, Green Roofs and HSCs must be designed as specified in the TGM. Additional detail on Green Roofs (ET-1) and HSCs (ET-2) can be found in Section 6 of the TGM.

[2] Land-disturbing activity that results in the creation or addition or replacement of less than 5,000 square feet of impervious surface area on an already developed site, or that results in a decrease in impervious area which was subject to the post development stormwater quality control requirements of Board Order 00-108, is not subject to mitigation unless so directed by the local permitting agency

[3] Redevelopment does not include routine maintenance activities that are conducted to maintain the original line and grade, hydraulic capacity, or original purpose of the facility or emergency redevelopment activity required to protect public health and safety. Impervious surface replacement, such as the reconstruction of parking lots and roadways, that does not disturb additional area and maintains the original grade and alignment, is considered a routine maintenance activity. Agencies' flood control, drainage, and wet utilities projects that maintain original line and grade or hydraulic capacity are considered routine maintenance. Redevelopment also does not include the repaving of existing roads to maintain original line and grade.

[4] "% Alteration of Existing Impervious Area" determines the 50% threshold which is key in determining portion of site that must comply with post-construction requirements - see Step 1 redevelopment categories for more detail. The amount of "Post Project Impervious Area" that must adhere to post-construction requirements is dependant on 50% threshold

[5] "Project Imperviousness" is calculated using the "Total Project Area" except when redevelopment projects that must mitigate only the altered portion of the redevelopment project area. In this case, the "Total Disturbed Area" is used to calculate "Project Imperviousness"

[6] For the purposes of this calculation, Total Altered Area shall mean any area that is altered as a result of land disturbance, such as clearing, grading, grubbing, and excavation. This excludes areas used exclusively for temporary stockpiling.

[7] If a waterbody is listed for "toxicity" and the cause and/or contribution to toxicity is known, then the consituent group known to contribute to toxicity are listed here (in lieu of listing "toxicity")

Project Name: 2800 Barry Street Affordable Housing (SW0042)

STEP 3: APPLY SITE DESIGN PRINCIPLES AND TECHNIQUES

Provide a brief description of site design principles and techniques included within the proposed project site.

Site Design Measures [1]	Included? Y/N/NA	Brief Description of the Site Design Measure
Site Planning	Y	Areas for BMPs have been set aside during the site planning process.
Protect and Restore Natural Areas	N/A	There are no existing natural areas at the project site.
Minimize Land Disturbance	N/A	100% of the project site has already been disturbed from previous development.
Minimize Impervious Cover	Y	Pervious and landscaped areas are maximized throught the site.
Apply LID at Various Scales	Y	Regional: The site is a redevelopment project and is high-density. Site:Natural flowpaths area mainted. The proposed parking garage minimized area needed for parking lots.
Implement Integrated Water Resource Management Practices	Y	Project BMPs will infiltrate stormwater runoff and recharge groundwater.

[1] Refer to Section 4.2 - 4.7 of the TGM for applicable Design Criteria.

Project Name: 2800 Barry Street Affordable Housing (SW0042)

STEP 4: APPLY SOURCE CONTROL MEASURES

Provide a brief description of the source control measures included in the proposed project site.

Site-Specific Source Control Measures[1]	Included? Y/N/NA	Brief Description of the Source Control Measure
S-1: Storm Drain Message and Signage	Y	Storm drain signage will be placed throughout the project.
S-2: Outdoor Material Storage Area Design	N/A	There are no proposed outdoor material storage areas.
S-3: Outdoor Trash Storage and Waste Handling Area Design	Y	Trash storage will be enclosed with walls and will be designed with an impervious base.
S-4: Outdoor Loading/Unloading Dock Area Design	N/A	There are no proposed outdoor loading areas.
S-5: Outdoor Repair/Maintenance Bay Design	N/A	There are no proposed outdoor repair/maitenance bays.
S-6: Outdoor Vehicle /Equipment/ Accessory Washing Area Design	N/A	There are no proposed outdoor washing areas.
S-7: Fueling Area Design	N/A	There are no proposed fueling areas.
S-8: Proof of Control Measure Maintenance	Y	A maintenance agreement and plan will be developed for the project.

[1] Refer to Fact Sheets in Section 5 of the TGM for detailed information and design criteria

Project Name: 2800 Barry Street Affordable Housing (SW0042)

STEP 5: APPLY BMPS TO REDUCE EIA TO <=5%

New development and redevelopment projects (Categories 1-6, 8, and 9) must reduce EIA to <=5%

Step 5a: Calculate Allowable EIA

EIA is defined as impervious area that is hydrologically connected via sheet flow over a hardened conveyance or impervious surface without any intervening medium to mitigate flow volume.

The allowable "EIA" for a project is calculated as:

$$EIA_{allowable} = (A_{project})*(\%_{allowable}) \quad \text{Equation 2-1}$$

Where:

$EIA_{allowable}$ = The maximum impervious area from which runoff can be treated and discharged offsite (and not retained onsite) [acres]

$A_{project}$ = The total project area [acres] [1]

$\%_{allowable}$ = 5 percent

Input:		Units
$A_{project}$ [1]	2.58	Acres
$\%_{allowable}$	5.00%	Percent
$EIA_{allowable}$	**0.13**	Acres

Step 5b: Calculate Impervious Area to be Retained

The impervious area from which runoff must be retained onsite is the total impervious area minus the EIA allowable, which should be calculated as follows:

$$A_{retain} = TIA - EIA_{allowable} = (IMP*A_{project}) - EIA_{allowable} \quad \text{Equation 2-2}$$

Where:

A_{retain} = the drainage area from which runoff must be retained [acres]

TIA = total impervious area [acres]

IMP = imperviousness of project area (%)

Input:		Units
Imperviousness	66.67%	
$A_{project}$ [1]	2.58	Acres
$EIA_{allowable}$	0.13	Acres
A_{retain}	**1.59**	Acres

Project Name: 2800 Barry Street Affordable Housing (SW0042)

BMPS TO REDUCE EIA TO <=5%, CONT.

Step 5c: Calculate the Volume to be Retained (SQDV)

The runoff volume that is to be retained onsite should be calculated using Equation 2-3 below:

$$V_{retain} = C*(0.75/12)*A_{retain}$$ Equation 2-3

Where:

V_{retain} = The stormwater quality design volume (SQDV) that must be retained onsite [ac-ft]

C = runoff coefficient (equals 0.95 for impervious surfaces)

Input:		**Units**
C	0.95	
A_{retain}	1.59	Acres
V_{retain}	0.094	ac-ft
	30,781.9	gallons
	4,114.9	cu.ft.

Continue to Step 5d

Project Name: 2800 Barry Street Affordable Housing (SW0042)

STEP 5d: SELECT RETENTION BMPs

Select and size Retention BMPs to meet the 5% EIA Requirement. Retention BMPs include INF1-6, RWH-1, and ET 1 and 2. See TGM, Section 6 for more information.

Retention BMPs	Included? Y/N	Drainage Area Retained (acres) [2]	Drainage Area Runoff Coefficient	Volume Retained (SQDV) (ac-ft) [1],[2]	If not applicable, state brief reason
Infiltration BMPs					
INF-1: Infiltration Basin	N		0.95		
INF-2: Infiltration Trench	N		0.95		
INF-3: Bioretention	Y	1.66	0.64	0.066	
INF-4: Drywell	N		0.95		
INF-5: Permeable Pavement	Y	0.92	0.61	0.035	
INF-6: Proprietary Infiltration	N		0.95		
INF-7: Bioinfiltration	N		0.95		
Rainwater Harvesting BMPs					
RWH-1: Rainwater Harvesting	N		2		
			TOTAL Volume Retained	0.101	ac-ft
				33,066.0	gallons
				4,420.3	cu.ft.
			REMAINING Volume to meet 5% EIA requirement	0.0	ac-ft
				-2,284	gallons
				-305	cu.ft.

[1] SQDV Methodology #3 used here.

[2] If a Retention BMP is used more than once on a site (i.e., 2 Infiltration Trenches implemented on one site) then drainage area and volume retained shown here should be additive. A separate BMP sizing worksheet (see Appendix E of the TGM) should be submitted for each BMP.

If onsite Retention BMPs cannot feasibly be used to meet the 5% EIA Requirement, move onto Step 5e; if 5%EIA Requirement is met go to Step 7

	Y/N/NA
A completed copy of the applicable "BMP Sizing Worksheet(s)" for the project's Retention BMPs from Appendix E of the TGM is included as an attachment. BMPs must be sized to meet the SQDV or SQDF (See Section 2 Step 7 of the TGM).	Y

Project Name: 2800 Barry Street Affordable Housing (SW0042)

STEP 5e: SELECT AND SIZE BIOFILTRATION BMPS TO REDUCE EIA TO <=5%

New development and redevelopment projects that demonstrate technical infeasibility (see Section 3.2 of TGM) for reducing EIA to <= 5% using Retention BMPs are eligible to use Biofiltration BMPs to achieve the 5% EIA Requirement.

	Y/N
Is it technically infeasible for Retention BMPs to meet the 5% EIA Requirement?	N
If yes, volume-based biofiltration BMPs shall be sized to treat 1.5 times the volume not retained using Retention BMPs.	

The onsite biofiltered volume ($V_{biofilter}$), should be calculated as follows:

$$V_{biofilter} = (V_{retain} - V_{achieved}) * 1.5 \qquad \text{Equation 2-4}$$

Where:

$V_{biofilter}$ = the volume that must be captured and treated in a Biofiltration BMP [ac-ft]

V_{retain} = the stormwater quality design volume (SQDV) that must be retained [ac-ft]

$V_{achieved}$ = the volume retained onsite using Retention BMPs [ac-ft]

Input		**Units**
$V_{achieved}$	0.101	ac-ft
V_{retain}	0.094	ac-ft
$V_{biofilter}$	**-0.01**	ac-ft
	(3,426)	gallons
	(458)	cu.ft.

BIOFILTRATION BMPs, CONT.

Biofiltration BMPs	Included? Y/N	Drainage Area Biofiltered (acres) [3]	Drainage Area Runoff Coefficient	Volume Biofiltered (1.5xSQDV) (ac-ft) [2],[3]	If not applicable, state brief reason
BIO-1: Bioretention with Underdrain	N		0.95		
BIO-2: Planter Box	N		0.95		
BIO-3: Vegetated Swale [1]	N		0.95		
BIO-4: Vegetated Filter Strip [1]	N		0.95		
BIO-5: Proprietary Biotreatment [1]	N		0.95		
TOTAL Volume Biofiltered				0.00	ac-ft
				0.0	gallons
				0.0	cu.ft
REMAINING Volume to be addressed by Alternative Compliance				-0.01	ac-ft
				-3,426.0	gallons
				-458.0	cu.ft

[1] BIO-3 and BIO-4 are flow-based and should be calculated using SQDF for sizing (see Table 2-1 of the TGM for the applicable design criteria for sizing). The SQDV is shown here for 5% EIA Requirement compliance purposes only.
[2] SQDV Methodology #3 used here.
[3] If a Biofiltration BMP is used more than once on a site (e.g., 2 Planter Boxes implemented on one site) then drainage area and volume biofiltered shown here be additive. A separate BMP sizing worksheet (see Appendix E of the TGM) should be submitted for each BMP.

If onsite Retention BMPs and/or Biofiltration BMPs cannot feasibly be used to meet the 5% EIA standard, move onto Step 6, otherwise, skip Step 6.

	Y/N/NA
A completed a copy of the applicable "BMP Sizing Worksheet(s)" for the project's Biofiltration BMPs from Appendix E of the TGM is included as an attachment.. BMPs must be sized to meet the 1.5 times SQDV or SQDF (see Section 2, Step 7 of the TGM) requirement. Guidance on flow based design for 150% sizing provided in Table 2-1 of the TGM.	N/A

Project Name: 2800 Barry Street Affordable Housing (SW0042)

STEP 7: APPLY TREATMENT CONTRL MEASURES

► *Stormwater runoff from EIA and developed pervious surfaces must be mitigated using Retention BMPs, Biofiltration BMPs, or Treatment Control Measures (See Chapter 6 of TGM).*
► *Treatment Control Measures should be selected per the BMP selection process outlined in Section 3.3 of the TGM.*
► *BMPs must be sized to meet the SQDV or SQDF. See Section 2, Step 7 of the for guidance on calculating the SQDV and SQDF.*

	Y/N
Completed copy of the applicable "BMP Sizing Worksheet(s)" for the project's stormwater BMP(s) from Appendix E of the Technical Guidance Manual is included.	Y

Project Name: 2800 Barry Street Affordable Housing (SW0042)

ADDITIONAL REQUIRED SUBMITTALS

Submit $2,000 fee deposit, and 1 original & 1 copy of PCSMP as well as two electronic copies on 2 CD's with the Excel spreadsheet along with the following submittals to City of Camarillo Public Works Dept.:

Yes	**Site map** that includes: o Property boundary o Major roadways or landmarks o Scale and north arrow o Drainage areas o Surrounding land uses o Presence of Environmentally Sensitive Areas o Open space preservation areas o Impervious areas o Natural hydrologic features o Location of discharge(s) o Existing and planned utilities o Topography (including steep slopes) o Key activities such as outdoor material storage, parking, food preparation, etc. o Potential pollutant areas (e.g., fueling island) o Location of nearby (within 2,000 ft of development project) bus or train station(s) o Location and type of source control measures o Location and type of stormwater BMPs
Yes	**BMP Sizing Worksheet(s) (see Appendix E of TGM); design specifiations and details must also be provided for Green Roofs and Hydrologic Source Controls (ET-1 & 2)**
Yes	Stormwater Treatment Device Access and Maintenance Agreement (Use City of Camarillo Template available at www.cityofcamarillo.org in forms)
Yes	Maintenance Plan (Use City of Camarillo Template available for download at www.cityofcamarillo.org in "forms")
N/A	Technical Infeasibility Analysis – if Retention BMPs cannot be used, the applicant must submit a site-specific analysis showing technical infeasibility as described in Section 3.2 of the TGM. Technical infeasibility may include some (or all) of the components submitted with soil, groundwater and/or geotechnical reports. Technical infeasibility must also account for Rainwater Harvesting. Rainwater Harvesting is not required to be used if the available demands do not meet the volume required for 80% capture using a 72-hour drawndown time (See RWH-1 in Section 6 of the TGM for more detail).
Yes	**Soil Type Information** (may include site specific analyses, available geologic or geotechnical reports and/ or the Ventura Hydrology Manual Soil Map zoomed into site level)
Yes	**Groundwater Information** (may include available groundwater data, site specific redoximorphic analytical/groundwater monitoring results, or known groundwater impacts such as contaminated sites registered with the State Water Board)
Yes	**Geotechnical Reports** (may include site specific analyses with information on collapsible soils, expansive soil, liquefaction, or groundwater mounding analysis)
	Rainwater Harvesting - Include calculations and justification for rainwater harvesting demand. Section 3.2 for guidance of the TGM.

2743 BARRY STREET (SF RESIDENTIAL)

2757 BARRY STREET (SF RESIDENTIAL)

2775 BARRY STREET (SF RESIDENTIAL)

2785 BARRY STREET (SF RESIDENTIAL)

2805 BARRY STREET (SF RESIDENTIAL)

2815 BARRY STREET (SF RESIDENTIAL)

2837 BARRY STREET (SF RESIDENTIAL)

2857 BARRY STREET (SF RESIDENTIAL)

APN 162-0-021-180 (COMMERCIAL)

BARRY STREET

2712 BARRY STREET (SF RESIDENTIAL)

258 PEOPLES AVE (SF RESIDENTIAL)

244 PEOPLES AVE (SF RESIDENTIAL)

230 PEOPLES AVE (SF RESIDENTIAL)

FLOOD ZONE X

X1

FLOOD ZONE BOUNDARY

149

FLOOD ZONE AO (DEPTH 1 FOOT)

(E) CURB INLET

NORTH LEWIS ROAD

(E) CONCRETE FLOW PATH WITHIN 12' DRAINAGE EASEMENT

151 LEWIS ROAD (SERVICE COMMERCIAL)

(E) 12" PVC STORM DRAIN

(E)10'X4' CONCRETE BOX STORM DRAIN

LEGEND

- DRAINAGE AREA BOUNDARY
- X1 DRAINAGE AREA NAME
- TIME OF CONCENTRATION FLOW PATH
- SURFACE FLOW DIRECTION

SURFACE TYPE	AREA (AC)
HARDSCAPE	2.45 (95%)
PERVIOUS AREA	0.13 (5%)
TOTAL	2.58

0 20' 40' 80'

SCALE: 1" = 40'

rrm design group

February 20, 2020

EXISTING HYDROLOGY MAP

2800 BARRY STREET, CAMARILLO, CA

N:\1400\1450-02-8\19-2800-Barry-St-Affordable-Housing-Dev\Engineering\Dev\Dev\Hydro\Exhibits\Existing Hydro.dwg, SHEET TITLE, Feb 20, 2020, 8:54am, jmromos

2743 BARRY STREET (SF RESIDENTIAL)
2757 BARRY STREET (SF RESIDENTIAL)
2775 BARRY STREET (SF RESIDENTIAL)
2785 BARRY STREET (SF RESIDENTIAL)
2805 BARRY STREET (SF RESIDENTIAL)
2815 BARRY STREET (SF RESIDENTIAL)
2837 BARRY STREET (SF RESIDENTIAL)
2857 BARRY STREET (SF RESIDENTIAL)
APN 162-0-021-180 (COMMERCIAL)

BARRY STREET

2712 BARRY STREET (SF RESIDENTIAL)
258 PEOPLES AVE (SF RESIDENTIAL)
244 PEOPLES AVE (SF RESIDENTIAL)
230 PEOPLES AVE (SF RESIDENTIAL)

BUILDING E
BUILDING A
TRASH ENCLOSURE
BUILDING B
BUILDING C
BUILDING D
FLOOD ZONE BOUNDARY
A
B
NORTH LEWIS ROAD
(E) CURB INLET
(E)10'X4' CONCRETE BOX STORM DRAIN
(E) FLOW PATH
(E) 12" PVC STORM DRAIN
151 LEWIS ROAD (SERVICE COMMERCIAL)

LEGEND

- DRAINAGE AREA BOUNDARY
- (A) DRAINAGE AREA NAME
- PERMEABLE PAVEMENT (INF-5)
- BIORETENTION (INF-3)
- SURFACE FLOW DIRECTION
- TIME OF CONCENTRATION FLOW PATH
- SD — PROPSOED STORM DRAIN
- S — PROPOSED SEWER

LOT COVERAGE

SURFACE TYPE	AREA (AC)
BUILDING	1.38
HARDSCAPE	0.33
PERVIOUS AREA	0.87 (33.7%)
TOTAL	2.58

0 20' 40' 120'

SCALE: 1" = 40'

N:\1400\1450.02 8519-2800 Barry\s3-Affordable Housing Dev\Engineering\Dev\Dev\Hydro\Exhibits\Proposed Hydro.dwg, SHEET TITLE, Feb 20, 2020 8:56am, jmramos

rrm design group

February 20, 2020

PROPOSED HYDROLOGY MAP

2800 BARRY STREET, CAMARILLO, CA

2743 BARRY STREET (SF RESIDENTIAL)

2757 BARRY STREET (SF RESIDENTIAL)

2775 BARRY STREET (SF RESIDENTIAL)

2785 BARRY STREET (SF RESIDENTIAL)

2805 BARRY STREET (SF RESIDENTIAL)

2815 BARRY STREET (SF RESIDENTIAL)

2837 BARRY STREET (SF RESIDENTIAL)

2857 BARRY STREET (SF RESIDENTIAL)

APN 162-0-021-180 (COMMERCIAL)

BARRY STREET

2712 BARRY STREET (SF RESIDENTIAL)

258 PEOPLES AVE (SF RESIDENTIAL)

244 PEOPLES AVE (SF RESIDENTIAL)

230 PEOPLES AVE (SF RESIDENTIAL)

BUILDING E

BUILDING A

TRASH ENCLOSURE

BUILDING B

BUILDING C

BUILDING D

FLOOD ZONE BOUNDARY

NORTH LEWIS ROAD

(E) CURB INLET

(E)10'X4' CONCRETE BOX STORM DRAIN

(E) FLOW PATH

(E) 12" PVC STORM DRAIN

151 LEWIS ROAD
(SERVICE COMMERCIAL)

LEGEND

- DRAINAGE AREA BOUNDARY
- (A) DRAINAGE AREA NAME
- PERMEABLE PAVEMENT (INF-5)
- BIORETENTION (INF-3)
- SURFACE FLOW DIRECTION
- TIME OF CONCENTRATION FLOW PATH
- SD — PROPSOED STORM DRAIN
- S — PROPOSED SEWER

BMP AREAS

PERMEABLE PAVEMENT	
(1)	2,578 SF
(2)	1,065 SF

BIORETENTION FOOTPRINT	
(3)	140 SF
(4)	187 SF
(5)	303 SF
(6)	134 SF
(7)	143 SF
(8)	178 SF
(9)	143 SF
(10)	277 SF
(11)	172 SF
(12)	188 SF

0 20' 40' 80'

SCALE: 1" = 40'

rrm design group

PCSMP EXHIBIT

February 20, 2020

2800 BARRY STREET, CAMARILLO, CA

N:\1400\1450-02-8\19-2800-Barry\St-Affordable-Housing-Dev\1.Engineering\3.Dev\Dev Hydro\Exhibits\PCSMP.dwg, SHEET TITLE, Feb 20, 2020 9:05am, jmromos

- Depth to seasonal high groundwater/impervious layer – groundwater mounding may become an issue during excessively wet conditions where shallow aquifers or shallow clay lenses are present.

Table 6-2: Suitability Assessment Related Considerations for Infiltration Facility Safety Factors

Consideration	High Concern	Medium Concern	Low Concern
Assessment methods	Use of soil survey maps or simple texture analysis to estimate short-term infiltration rates. *Factor Value (v)= 3*	Direct measurement of ≥ 20 percent of infiltration area with localized infiltration measurement methods (e.g., infiltrometer) *Factor Value (v)= 2*	Direct measurement of ≥ 50 percent of infiltration area with localized infiltration measurement methods or Use of extensive test pit infiltration measurement methods *Factor Value (v)= 1*
Ventura Hydrology Manual soil number (measured infiltration rate)	3 (f = 0.5 – 0.64) *Factor Value (v) = 3*	4 or 5 (f = 0.65 –0.91) *Factor Value (v)= 2*	6 or 7 (f = 0.92 or higher) *Factor Value (v)= 1*
Site soil variability	Highly variable soils indicated from site assessment or limited soil borings collected during site assessment. *Factor Value (v) = 3* *Example Guidance:* Three or more soil units/layers with substantially different infiltration properties (i.e., different texture class) are present in the locations/strata where the BMP will infiltrate. or Limited soil borings are collected during site assessment (2 or less) near the BMP, resulting in uncertainty about soil variability.	Soil borings/test pits indicate moderately homogeneous soils *Factor Value (v)= 2* *Example Guidance:* 2 to 3 soil units/layers with substantially different infiltration properties are present in the locations/strata where the BMP will infiltrate and 2 to 3 more borings are collected near the BMP to assess variability and define extents of units/layers.	Multiple soil borings/test pits indicate relatively homogeneous soils *Factor Value (v)= 1* *Example Guidance:* Soils units/layers near the BMP have similar properties and 3 or more borings are collected near BMPs to confirm homogeneity
Depth to groundwater/ impervious layer	<10 ft below facility bottom *Factor Value (v)=3*	10-30 ft below facility bottom *Factor Value (v)= 2*	>30 below facility bottom *Factor Value (v)= 1*

Localized infiltration testing refers to methods such as the double ring infiltrometer test (ASTM D3385-88), which measure infiltration rates over an area less than 10 sq-ft and do not attempt to account for soil heterogeneity. Extensive infiltration testing refers to methods that include excavating a significant portion of the proposed

Table 6-3: Design Related Considerations for Infiltration Facility Safety Factors

Consideration	High Concern	Medium Concern	Low Concern
Tributary area size	Greater than 10 acres. *Factor Value (v)= 3*	Greater than 2 acres but less than 10 acres. *Factor Value (v)= 2*	2 acres or less. *Factor Value (v)= 1*
Level of pre-treatment/ expected influent sediment loads	Pre-treatment from gross solids removal devices only, such as hydrodynamic separators, racks and screens, AND tributary area includes landscaped areas, steep slopes, high traffic areas, or any other areas expected to produce high sediment, trash, or debris loads. *Factor Value (v)= 3*	Good pre-treatment with BMPs that mitigate coarse sediments such as vegetated swales AND influent sediment loads from the tributary area are expected to be relatively low (e.g., low traffic, mild slopes, disconnected impervious areas, etc.). *Factor Value (v)= 2*	Excellent pre-treatment with BMPs that mitigate fine sediments such as bioretention or media filtration OR sedimentation or facility only treats runoff from relatively clean surfaces, such as rooftops. *Factor Value (v)= 1*
Redundancy of treatment	No redundancy in BMP treatment train. *Factor Value (v)= 3*	Medium redundancy, other BMPs available in treatment train to maintain at least 50% of function of facility in event of failure. *Factor Value(v)= 2*	High redundancy, multiple components capable of operating independently and in parallel, maintaining at least 90% of facility functionality in event of failure. *Factor Value (v)= 1*
Compaction during construction	Construction of facility on a compacted site or elevated probability of unintended/ indirect compaction. *Factor Value (v)= 3*	Medium probability of unintended/ indirect compaction. *Factor Value (v)= 2*	Heavy equipment actively prohibited from infiltration areas during construction and low probability of unintended/ indirect compaction. *Factor Value (v)= 1*

Adjust the measured short-term infiltration rate using a weighted average of several safety factors using the worksheet shown below in Table 6-4. The design percolation rate would be determined as follows:

- For each consideration shown in Table 6-2 and Table 6-3 above, determine whether the consideration is a high, medium, or low concern.
- For all high concerns, assign a factor value of 3, for medium concerns, assign a factor value of 2, and for low concerns assign a factor value of 1.

- Multiply each of the factors by the corresponding weight to get a product.
- Sum the products within each factor category to obtain a safety factor for each.
- Multiply the two safety factors together to get the final combined safety factor. If the combined safety factor is less than 2, then use 2 as the safety factor.
- Divide the measured short-term infiltration rate by the combined safety factor to obtain the adjusted design percolation rate for use in sizing the infiltration facility.

Table 6-4: Infiltration Facility Safety Factor Determination Worksheet

Factor Category		Factor Description	Assigned Weight (w)	Factor Value (v)	Product (p) p = w x v
A	Suitability Assessment	Soil assessment methods	0.25	1	0.25
		Predominant soil texture	0.25	2	0.50
		Site soil variability	0.25	1	0.25
		Depth to groundwater / impervious layer	0.25	1	0.25
		Suitability Assessment Safety Factor, $S_A = \Sigma p$			1.25
B	Design	Tributary area size	0.25	1	0.25
		Level of pre-treatment/ expected sediment loads	0.25	2	0.50
		Redundancy	0.25	3	0.75
		Compaction during construction	0.25	1	0.25
		Design Safety Factor, $S_B = \Sigma p$			1.75
Combined Safety Factor = S_A x S_B					2.19

Note: The minimum combined adjustment factor shall not be less than 2.0 and the maximum combined adjustment factor shall not exceed 9.

Step 3: Calculate the surface area

Determine the size of the required infiltrating surface by assuming the SQDV will fill the available ponding depth plus (for infiltration trenches) the void spaces based on the computed porosity of the filter media (normally about 32%).

1) Determine the maximum depth of runoff that can be infiltrated within the required drain time (d_{max}) as follows:

$$d_{\max} = \frac{P_{design}}{12} t \qquad \text{(Equation 6-1)}$$

Where:

d_{max} = the maximum depth of water that can be infiltrated within the required drain time (ft)

Sizing Worksheet

Designer: RRM Design Group Project Proponent: Area Housing Authority of The County of Ventura Date: 10/17/19 Project: 2800 Barry Street Location: Camarillo, CA	
Type of Vegetation: Existing developed site	
Outflow Collection: Overland flow to Barry Street and Lewis Street	
Step 1: Determine water quality design volume	
1-1. Enter Project area (acres), $A_{project}$	$A_{project}$ = 0.92 acres
1-2. Enter the maximum allowable percent of the Project area that may be effective impervious area (%) (refer to permit), ranges from 5-30%, $\%_{allowable}$	$\%_{allowable}$ 5 %
1-3. Determine the maximum allowable effective impervious area (acres), $EIA_{allowable} = (A_{project})*(\%_{allowable})$	$EIA_{allowable}$= 0.046 acres
1-4. Enter Project impervious fraction, Imp (e.g. 60% = 0.60)	Imp= 0.73
1-5. Determine the Project Total Impervious area (acres), $TIA=A_{project}*Imp$	TIA= 0.67 acres
1-6. Determine the total area from which runoff must be retained (acres), $A_{retain}=TIA-EIA_{allowable}$	A_{retain} = 0.62 acres
1-7. Determine pervious runoff coefficient using Table E-1, C_p	C_p = 0.05 (Ventura Soil Type 4)
1-8. Calculate runoff coefficient, $C = 0.95*imp + C_p\ (1-imp)$	C = 0.64
1-9. Enter design rainfall depth of the storm (in), P_i	P_i = 0.75 in
1-10. Calculate rainfall depth (ft), $P = P_i/12$	P = 0.06 ft
1-11. Calculate water quality design volume (ft^3),	SQDV= 1037 ft^3

$SQDV=43560\times C*P*A_{retain}$	
Step 2: Determine the design percolation rate	
2-1. Enter measured soil percolation rate (0.5 in/hr minimum), $P_{measured}$	$P_{measured}$ = 3.5 in/hr *see page 4 of PCSMP
2-2. Determine percolation rate correction factor, S_A based on suitability assessment (see Section 6 INF-5)	S_A = 1.25
Step 2: Determine the design percolation rate	
2-3. Determine percolation rate correction factor, S_B based on design (see Section 6 INF-5)	S_B = 1.75
2-4. Calculate combined safety factor, $S = S_A \times S_b$	S = 2.19
2-5. Calculate the design percolation rate (in/hr), $P_{design} = P_{measured}/S$	P_{design} = 1.60 in/hr
Step 3: Determine the Gravel Drainage Layer Depth	
3-1. Enter drawdown time (hours, 72 hrs max.), t	t = 72 hours
3-2. Calculate max. depth of runoff (ft) that can be infiltrated within the t, $d_{max}=P_{design}t/12$	d_{max} = 9.6 ft
3-3. Enter the gravel drainage layer porosity, n (typically 32% or 0.32 for gravel)	n = 0.32
3-4. Select the gravel drainage layer depth (ft) such that $d_{max} \geq n\times l$	l = 30 ft
Step 4: Determine infiltrating surface area	
4-1. Enter gravel drainage layer porosity, n	n = 0.32
4-2. Enter depth of gravel drainage layer (ft), l	l = 1 ft
4-3. Enter the time to fill the gravel drainage layer with water (Use 2 hours for most designs), T	T = 2 hrs

4-4. Calculate infiltrating surface area (ft^3): $A=SQDV/((TP_{design}/12)+nl)$	A =1,768 ft^2
Step 5: Provide conveyance capacity for clogging	
5-1. The permeable pavement must have an emergency overflow for storm events greater than the design and in the event the permeable pavement becomes clogged.	

Sizing Worksheet

Designer: RRM Design Group Project Proponent: Area Housing Authority of The County of Ventura Date: 11/15/19 Project: 2800 Barry Street Location: Camarillo, CA	
Type of Vegetation: Existing developed site	
Outflow Collection: Overland flow to Barry Street and Lewis Street	
Step 1: Determine water quality design volume	
1-1. Enter Project area (acres), $A_{project}$	$A_{project}$ = 1.66 acres
1-2. Enter the maximum allowable percent of the Project area that may be effective impervious area (%) (refer to permit), ranges from 5-30%, $\%_{allowable}$	$\%_{allowable}$ = 5 %
1-3. Determine the maximum allowable effective impervious area (acres), $EIA_{allowable} = (A_{project})*(\%_{allowable})$	$EIA_{allowable}$= 0.083 acres
1-4. Enter Project impervious fraction, *Imp* (e.g. 60% = 0.60)	Imp= 0.62
1-5. Determine the Project Total Impervious area (acres), $TIA=A_{project}*Imp$	TIA= 1.03 acres
1-6. Determine the total area from which runoff must be retained (acres), $A_{retain}=TIA-EIA_{allowable}$	A_{retain} = 0.95 acres
1-7. Determine pervious runoff coefficient using Table E-1, C_p	C_p = 0.05 (Ventura Soil Type 4)
1-8. Calculate runoff coefficient, $C = 0.95*imp + C_p\ (1-imp)$	C = 0.61
1-9. Enter design rainfall depth of the storm (in), P_i	P_i = 0.75 in
1-10. Calculate rainfall depth (ft), $P = P_i/12$	P = 0.06 ft

1-11. Calculate water quality design volume (ft^3), $SQDV=43560\times C^*P^*A_{retain}$	SQDV=1,515 ft^3

Step 2: Determine the design percolation rate	
2-1. Enter measured soil percolation rate (in/hr) (0.5 in/hr minimum), $P_{measured}$	$P_{measured}$ = 3.5 in/hr *see page 4 of PCSMP
2-2. Determine percolation rate correction factor, S_A based on suitability assessment (see Section 6 INF-3)	S_A = 1.25
2-3. Determine percolation rate correction factor, S_B based on design (see Section 6 INF-3)	S_B = 1.75
2-4. Calculate combined safety factor, $S = S_A \times S_b$	S = 2.19
2-5. Calculate the design percolation rate (in/hr), $P_{design} = P_{measured}/S$	P_{design} = 1.60 in/hr
Step 3: Calculate Bioretention Infiltrating surface area	
3-1. Enter water quality design volume (ft^3), *SQDV*	SQDV =1,515 ft^3
3-2. Enter design percolation rate (in/hr), P_{design}	P_{design} = 1.60 in/hr
3.3 Enter the required drain time (48 hours), $t_{ponding}$	$t_{ponding}$ = 48 hours
3-3. Calculate the maximum depth of surface ponding that can be infiltrated within the required drain time (ft): $d_{max} = (P_{design} \times t_{ponding})/12$	d_{max} = 6.4 ft
3-4. Select surface ponding depth (ft), d_p, such that $d_p \leq d_{max}$	d_p = 0.5 ft
3-5. Select thickness of amended media (ft,2 feet minimum, 3 preferred), l_{media}	l_{media} = 2 ft

3-6. Enter porosity of amended media (roughly 25% or 0.25 ft/ft), n_{media}	n_{media}= .25 ft/ft
3-7. Select thickness of optional gravel layer (ft), l_{gravel}	l_{gravel} = 1 ft
3-8. Enter porosity of gravel (roughly 30% or 0.3 ft/ft), n_{gravel}	n_{gravel}= 0.3 ft/ft
3-9. Calculate the total effective storage depth of bioretention facility (ft): $d_{effective} \leq (d_p + n_{media}l_{media} + n_{gravel}l_{gravel})$	$d_{effective}$= 1.3 ft
3-10. Check that the entire effective depth infiltrates in required drainage time, 96 hours: $t_{total} = (d_{effective}/P_{design}) \times 12$ If t_{total} > 96 hours, reduce surface ponding depth and/or amended media thickness and/or gravel thickness and return to 3-4. If $t_{total} \leq$ 96 hours, proceed to 3-11.	t_{total} = 9.75 hours
3-11. Calculate the required infiltrating surface area (ft²): $A_{req} = SQDV/d_{effective}$	A_{req} =1165 ft²
Step 4: Calculate Bioretention Area Total Footprint	
4-1. Calculate total footprint required by including a buffer for side slopes and freeboard (ft²) [A_{req} is measured at the as the filter bottom area (toe of side slopes)], A_{tot}	A_{tot} =1580 ft²

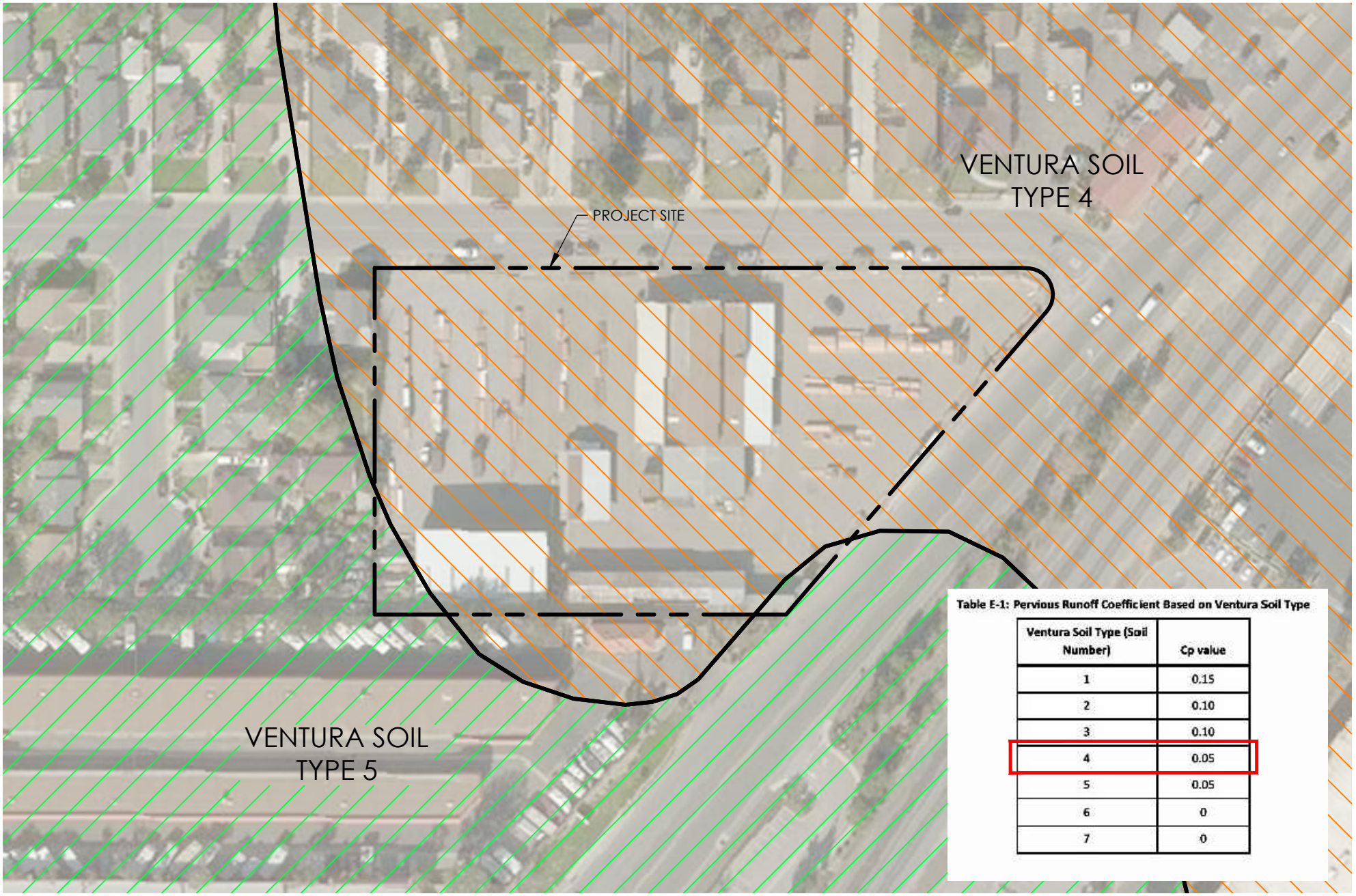


Table E-1: Pervious Runoff Coefficient Based on Ventura Soil Type

Ventura Soil Type (Soil Number)	Cp value
1	0.15
2	0.10
3	0.10
4	0.05
5	0.05
6	0
7	0

2800 BARRY ST
CAMARILLO, CA

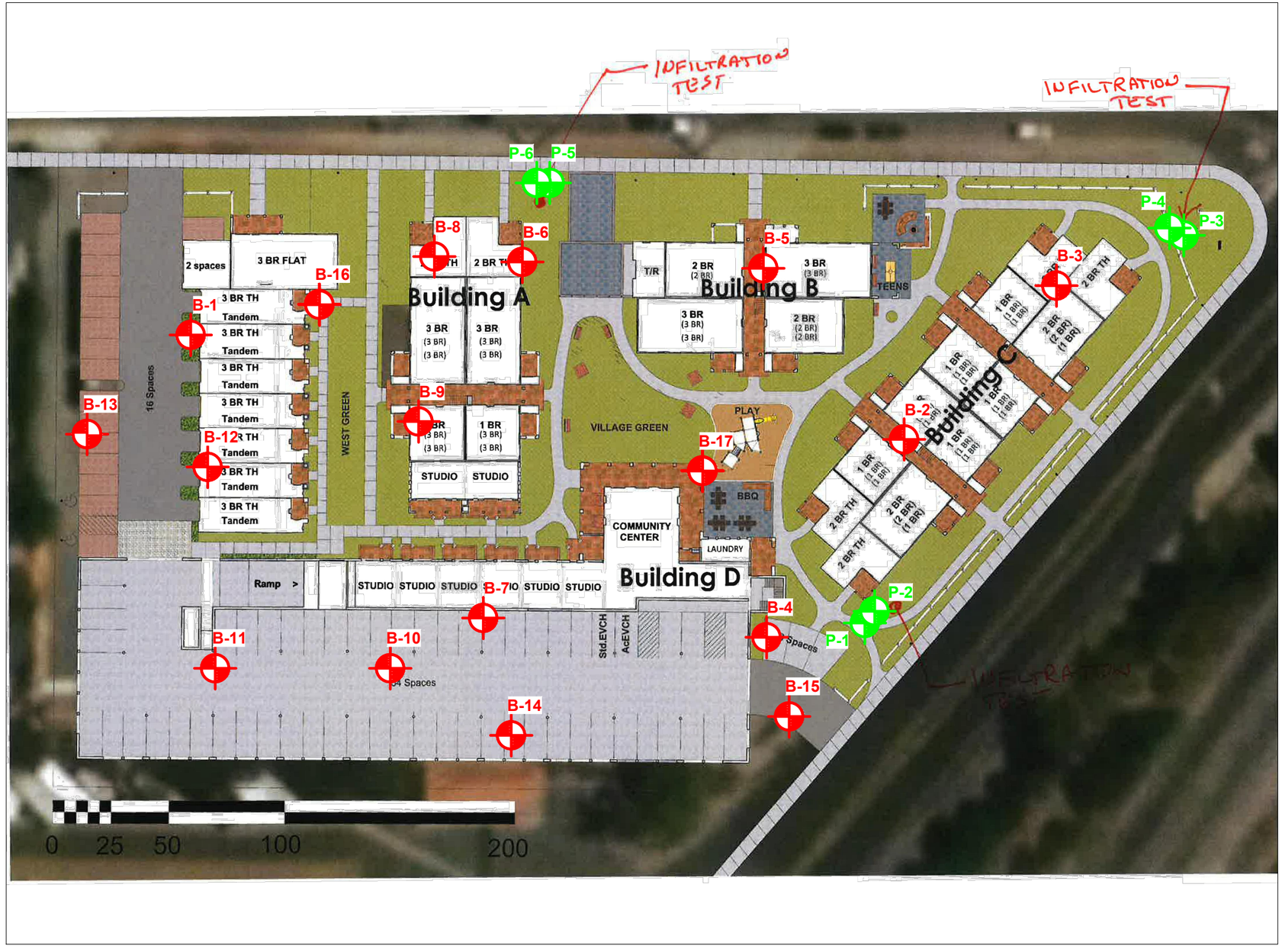
VENTURA COUNTY SOILS MAP

DATE 10/18/2019
SCALE: 1" = 100'

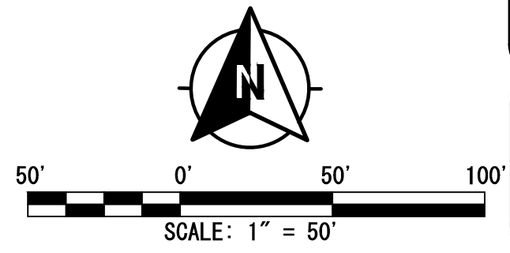
NORTH

rrm design group

N:\1400\1450-02-RS19-2800-Barry-St-Affordable-Housing-Dev\Engineering\Dev\Dev\Hydro\Soils Map.dwg, SHEET TITLE, Jan 15, 2020 4:45pm, A DWeidl



PROPOSED SITE PLAN



EXPLANATION

B-17 — Approximate Location of Exploratory Boring

P-6 — Approximate Location of Percolation Boring

Advanced Geotechnical Services
5251 Verdugo Way, Suite L
Camarillo, California 93012
Office (805) 388-6162/Fax (805) 388-6167

AREA HOUSING AUTHORITY

Geotechnical Engineering Study
Proposed Affordable Housing Development
2800 Barry Street
Camarillo, California

Client No.	4959	PLATE
Report No.	10373	2
Date	9/3/2019	
Drawing No.	10373cn4959	

Appendix I

Construction Noise Calculations

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 06/17/2020
Case Description:

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Residences (north and west)	Residential	70.0	45.0	45.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Front End Loader	No	40		79.1	150.0	0.0
Dozer	No	40		81.7	150.0	0.0
Grader	No	40	85.0		150.0	0.0
Generator	No	50		80.6	150.0	0.0

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

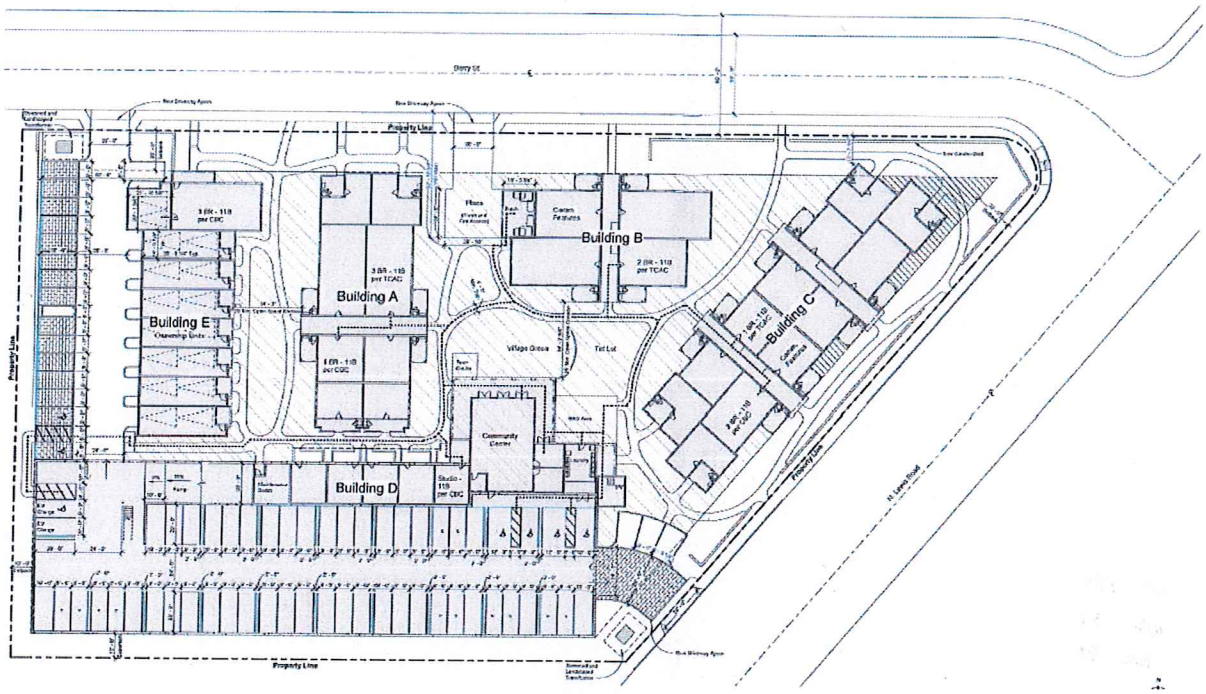
Equipment	Calculated (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq
Front End Loader	69.6	65.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	72.1	68.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader	75.5	71.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Generator	71.1	68.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	75.5	74.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Appendix J

Traffic Study

BARRY STREET AFFORDABLE HOUSING PROJECT
CITY OF CAMARILLO, CALIFORNIA

TRAFFIC STUDY



May 11, 2020 **ATE Project #20022**

Prepared for:

Rincon Consultant Inc.
1800 North Ashwood
Ventura, CA 93003

ASSOCIATED TRANSPORTATION ENGINEERS

100 N. Hope Avenue, Suite 4, Santa Barbara, CA 93110-1686 • (805) 687-4418 • FAX (805) 682-8509

ASSOCIATED TRANSPORTATION ENGINEERS

100 N. Hope Avenue, Suite 4, Santa Barbara, CA 93110 • (805)687-4418 • FAX (805)682-8509 • main@atesb.com

Since 1978

Richard L. Pool, P.E.
Scott A. Schell, AICP, PTP

May 11, 2020

Mr. Joe Power
Rincon Consultants, Inc.
1800 North Ashwood
Ventura, CA 93003

TRAFFIC STUDY FOR THE BARRY STREET AFFORDABLE HOUSING PROJECT - CITY OF CAMARILLO, CALIFORNIA

Associated Transportation Engineers (ATE) has prepared the following traffic study for the Barry Street Affordable Housing Project located in the City of Camarillo. The study evaluates existing and future traffic conditions in the vicinity of the Project site. It is our understanding that this traffic study will be incorporated into the environmental documents prepared for the Project.

Associated Transportation Engineers

Scott A. Schell, AICP
Vice President

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INTRODUCTION

The following study contains an analysis of the potential traffic impacts associated with the proposed Barry Street Affordable Housing Project (the "Project"), located in the City of Camarillo. The study provides information relative to Existing, Existing + Project, Cumulative and Cumulative + Project traffic conditions within the Project study-area; identifies impacts based on City thresholds; and recommends mitigation measures where required.

PROJECT DESCRIPTION

The Barry Street Affordable Housing Project is located at 3233 Barry Street as shown on Figure 1. The Project consists of the demolition of the existing vacant Stock Building Supply lumber yard and construction of 68 multi-family dwelling units. Site access will be provided via the existing driveway connections to Barry Street and Lewis Road (State Route 34). Figure 2 illustrates the Project site plan.

EXISTING CONDITIONS

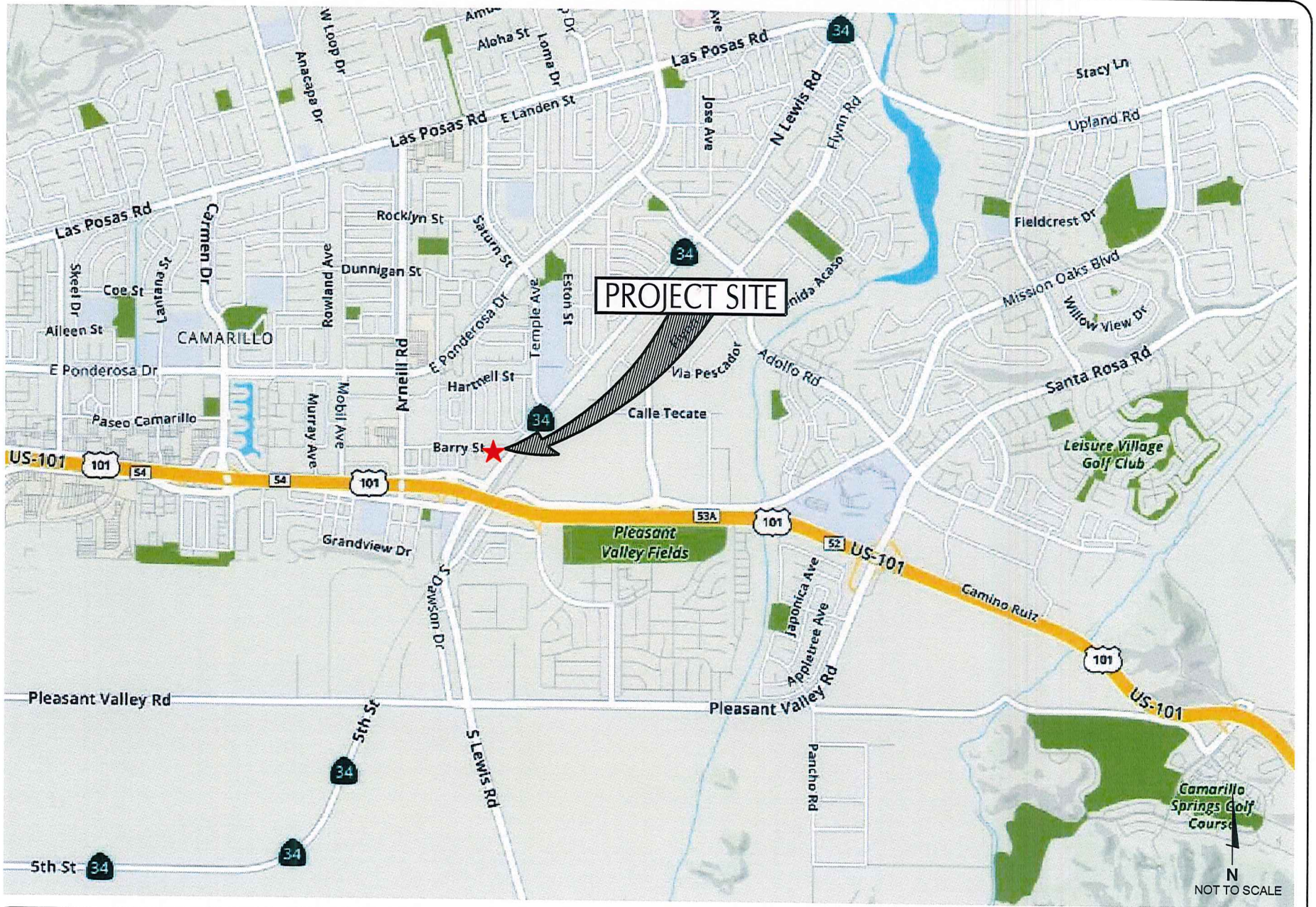
Street Network

The study-area circulation system is comprised of highways, arterials, and collector streets, as illustrated in Figure 1. The following text provides a brief discussion of the primary components of the study-area street network.

U.S. 101, located south of the site, is a multi-lane freeway which serves as a major arterial for the City of Camarillo and is the principal inter-city route along this portion of the Pacific Coast. The segment of U.S. 101 in the study-area is 6-lanes with auxiliary on-off ramp lanes. Regional access between the freeway and the Project site is provided via the signalized hook ramps at Ventura Boulevard and Village at the Park Drive.

State Route (SR) 34, (Pleasant Valley Road/Lewis Road) is a 2- to 4-lane north-south primary arterial within the Project study area. SR 34 extends from the City of Camarillo to the City of Oxnard on the southwest and to the Somis area on the north. SR 34 serves industrial, commercial and residential land uses in the study-area.

Las Posas Road-Upland Road is a 4-lane secondary arterial roadway that extends south to Pleasant Valley Road. The roadway extends east from Ponderosa Drive to Lewis Road as Las Posas Road. The roadway continues east from Lewis Road to Santa Rosa Road as Upland Road. South of Ponderosa Road, Las Posas is primary arterial. Las Posas Road-Upland Road serves residential, and commercial land uses in the study-area. The intersections of Las Posas Road/Camino Alvarez and Las Posas Road-Upland Road/Lewis Road are signalized.



ASSOCIATED TRANSPORTATION ENGINEERS

PROJECT SITE LOCATION/EXISTING STREET NETWORK

FIGURE 1

JH - ATE#20022

N
NOT TO SCALE
FIGURE 2
PROJECT SITE PLAN
JH - ATE#20022
ASSOCIATED
TRANSPORTATION
ENGINEERS
Building A
3 BR - 11B per TCAC
1 BR - 11B per CBC
Building B
2 BR - 11B per TCAC
Comm. Features
Building C
1 BR - 11B per TCAC
2 BR - 11B per CBC
Building D
Studio - 11B per CBC
Building E
Ownership Units
3 BR - 11B per CBC
Community Center
Village Green
Tot Lot
Plaza
Teen Center
Maintenance Room
Laundry
BBQ Area
Barry St.
N. Lewis Road
Property Line
New Driveway Apron
Low Garden Wall
Screened and Landscaped Transformer
Ramp
EV Charge

Adolfo Road is a 4-lane secondary arterial roadway that extends east from Ponderosa Drive to its terminus at the Conejo Creek. Adolfo Road serves residential, commercial and industrial land uses in the study-area. The Lewis Road/Adolfo Road intersection is signalized.

Daily Drive, located south of the site, is a 2-lane east-west collector roadway that provides access to the commercial and residential area located along the northern frontage of U.S. 101 between Las Posas Road and Lewis Road. The U.S. 101northbound/Daily Drive ramp intersection and Daily Drive/Lewis Road intersections are controlled by traffic signals.

Ventura Boulevard located south of the site is a 2- to 4-lane east-west secondary roadway that extends from Lewis Road to Wood Road west of the Camarillo Town Center. Ventura Boulevard provides access to the commercial and residential area located along the southern frontage of U.S. 101. The U.S. 101 southbound/Ventura Boulevard ramp intersection and Ventura Boulevard/Lewis Road intersections are controlled by traffic signals

Barry Street is a 2-lane roadway that extends east from Arnell Road to its terminus at Lewis Road. Barry Street serves residential and commercial land uses in the study-area. Barry Street will provide direct access to the Project site.

Camino Alvarez is a 2-lane roadway that extends east from Las Posas Road Ponderosa to its terminus at Lewis Road. Camino Alvarez serves residential and commercial land uses in the study-area in addition to providing direct access to Rancho Campana High School.

Intersection Operations

In rating an intersection's operating condition, "Levels of Service" (LOS) A through F are used. LOS A and LOS B represent primarily free-flow operations, LOS C represents stable conditions, LOS D nears unstable operations with restrictions on maneuverability within traffic streams, LOS E represents unstable operations with maneuverability very limited, and LOS F represents breakdown or forced flow conditions. More complete level of service definitions are provided in the Technical Appendix. LOS C is considered acceptable in the City of Camarillo.

Existing AM and PM peak hour traffic volumes were collected for this study in January of 2020. Figure 3 illustrates the existing AM and PM peak hour traffic volumes. Existing levels of service for the study-area intersections were calculated using the adopted Intersection Capacity Utilization methodology for intersections as required by the City of Camarillo. Worksheets illustrating the level of service calculations are contained in the Technical Appendix. Table 1 lists the existing intersection level of service for the study-area intersections. The existing lane geometries and traffic controls for the study-area intersections are illustrated on Figure 4.

FIGURE 3
EXISTING TRAFFIC VOLUMES
LEGEND
(XX)XX - (AM)PM Peak Hour Volume
Upland Road
Camino Alvarez
Las Posas Road
Adolfo Rd
Flynn Rd
Lewis Rd
PROJECT SITE
Pontenosa Dr
Temple Ave
Mission Oak Blvd
Pleasant Valley Rd
Petit St
Barry St
Fulton St
Arneill Rd
Daily Dr
Ventura Blvd
Dawson Dr
101
1 (73)9 (794)1011 (17)5 | (44)35 (42)3 (65)41 | 27(58) 10(44) 2(17) | 6(31) 911(835) 79(92)
2 (159)256 (653)714 (160)123 | (103)86 (372)506 (57)53 | 80(176) 446(523) 266(218) | 271(293) 646(618) 53(22)
3 (95)183 (275)637 (159)243 | (261)234 (485)566 (36)57 | 97(280) 656(636) 27(22) | 39(49) 390(573) 36(55)
4 (2)5 (9)11 (8)3 | (0)2 (823)1207 (266)310 | 772(883) 278(356) | 264(156) 3(10) 189(214)
5 (179)333 (458)294 | (266)279 (373)1309 | 198(142) 86(175)
6 (5)11 (12)17 (4)6 | (0)2 (684)968 (178)413 | 12(22) 656(637) 319(428) | 541(400) 16(26) 283(341)
7 (487)413 (148)816 (24)28 | (22)30 (18)16 (7)33 | 434(235) 18(10) 38(12) | 148(15) 407(118) 17(12)
8 (236)247 (353)724 (358)279 | (251)414 (236)423 (54)59 | 105(112) 309(543) 251(219) | 207(199) 384(563) 17(8)
N
NOT TO SCALE
ASSOCIATED TRANSPORTATION ENGINEERS
JH - ATE#20022

Upland Road
Camino Alvarez
Las Posas Road
Adolfo Rd
Flynn Rd
Lewis Rd
PROJECT SITE
Ponderosa Dr
Temple Ave
Barry St
Fulton St
Arneill Rd
Daily Dr
Ventura Blvd
Mission Oak Blvd
Petit St
Pleasant Valley Rd
Lewis Rd
Dawson Dr
101
LEGEND
- Signalized Intersection
- Stopped Approach
- Lane Geometry
1 Camino Alvarez Las Posas Road
2 Upland Road Las Posas Road Lewis Rd
3 Adolfo Rd Lewis Rd
4 Daily Drive Lewis Rd
5 Daily Drive US 101 NB
6 Ventura Boulevard Lewis Rd
7 Ventura Boulevard US 101 SB
8 Pleasant Valley Rd Lewis Rd
N
NOT TO SCALE
ASSOCIATED TRANSPORTATION ENGINEERS
EXISTING LANE GEOMETRIES AND TRAFFIC CONTROLS
FIGURE 4
JH - ATE#20022

Table 1
Existing Intersection Operations

Intersection	Control	Existing Conditions	
		AM Peak Hour ICU-LOS	PM Peak Hour ICU-LOS
Las Posas Rd./Camino Alvarez	Signal	0.38-LOS A	0.36-LOS A
Somis Rd./Las Posas Rd.	Signal	0.53-LOS A	0.52-LOS A
Lewis Rd./Adolfo Rd.	Signal	0.57-LOS A	0.53-LOS A
Lewis Rd//Daily Dr.	Signal	0.49-LOS A	0.51-LOS A
U.S. 101 NB Ramps/Daily Dr.	Signal	0.35-LOS A	0.62-LOS B
Lewis Rd./Ventura Blvd.	Signal	0.37-LOS A	0.52-LOS A
U.S. 101 SB Ramps/Ventura Blvd.	Signal	0.30-LOS A	0.61-LOS B
Lewis Rd./Pleasant Valley Rd.	Signal	0.38-LOS A	0.49-LOS A

The study-area intersections generally operate in the LOS A - B range during the AM and PM peak hour periods as indicated in Table 1.

IMPACT THRESHOLDS

City of Camarillo

The City of Camarillo's acceptable level of service for intersections is LOS C or better, with LOS D (V/C 0.83) allowed for short periods of time during the peak hour periods. Project impacts are significant and must be mitigated if they exceed the thresholds listed in Table 2. Mitigation measures must provide a level of service equal to or better than the base conditions.

Table 2
Intersection Threshold Criteria

Existing + Project; Cumulative + Project	Per Lane Critical Project-Added Peak Hour Trips
LOS D	30 Trips
LOS E	20 Trips
LOS F	10 Trips

PROJECT-GENERATED TRAFFIC

Project Trip Generation

Trip generation estimates were calculated for the Barry Street Affordable Housing Project based on the rates presented in the Institute of Transportation Engineers (ITE), Trip Generation, 10th Edition for Multi-Family Residential (Land Use #715).[1] No traffic credits were assumed for the existing Stock Building Supply facility as it has been vacant for several years. Table 3 summarizes the trip generation estimates for the Project.

Table 3
Project Trip Generation Comparison

Land Use	Size	ADT		AM Peak Hour		PM Peak Hour	
		Rate	Trips	Rate	Trips (In/Out)	Rate	Trips (In/Out)
Multi-Family Residential	68 units	5.44	370	0.36	24 (6/18)	0.44	30 (18/12)

The data presented in Table 3 show that the Project would generate 370 average daily trips, 24 AM peak hour trips and 30 PM peak hour trips.

Project Trip Distribution and Assignment

Project-generated traffic was distributed and assigned to the study-area street system based on the percentages shown in Table 4 and presented on Figure 5.

Table 4
Project Trip Distribution

Route	Origin/Destination	Percent
U.S. 101	East West	10% 10%
State Route 34	North South	25% 10%
Pleasant Valley Road	East West	5% 15%
Camino Alvarez	West	10%
Barry Street	West	15%
	Total:	**100%**

[1] Trip Generation, Institute of Transportation Engineers, 10th Edition, 2017.

PROJECT TRIP DISTRIBUTION AND ASSIGNMENT
FIGURE 5
JH - ATE#20022
LEGEND
(XX)XX - (AM)PM Peak Hour Volume
% - Distribution Percentage
PROJECT SITE
Upland Road
Camino Alvarez
Las Posas Road
Adolfo Rd
Ponderosa Dr
Lewis Rd
Flynn Rd
Temple Ave
Fulton St
Barry St
Arneill Rd
Daily Dr
Ventura Blvd
Petit St
Mission Oak Blvd
Pleasant Valley Rd
Dawson Dr
25%
10%
15%
5%
NOT TO SCALE
ASSOCIATED TRANSPORTATION ENGINEERS

PROJECT-SPECIFIC ANALYSIS

The Project-generated peak hour trips were added to the existing intersection volumes and the resulting Existing + Project AM and PM peak hour volumes are presented on Figure 6.

Project-Specific Intersection Analysis

Tables 5 and 6 present the Existing and Existing + Project AM and PM peak hour intersection levels of service and identify impacts based on the City of Camarillo thresholds.

Table 5
Existing + Project AM Peak Hour Intersection Operations

Intersection	AM Peak Hour ICU-LOS		Change	Impact?
	Existing	Existing + Project		
Las Posas Rd./Camino Alvarez	0.38-LOS A	0.38-LOS A	0.00	No
Somis Rd./Las Posas Rd.	0.53-LOS A	0.53-LOS A	0.00	No
Lewis Rd./Adolfo Rd.	0.57-LOS A	0.57-LOS A	0.00	No
Lewis Rd./Daily Dr.	0.49-LOS A	0.49-LOS A	0.00	No
U.S. 101 NB ramps/Daily Dr.	0.35-LOS A	0.35-LOS A	0.00	No
Lewis Rd./Ventura Rd.	0.37-LOS A	0.37-LOS A	0.00	No
U.S. 101 SB Ramps/Ventura Blvd.	0.30-LOS A	0.30-LOS A	0.00	No
Lewis Rd./Ventura Blvd.	0.49-LOS A	0.49-LOS A	0.00	No

Table 6
Existing + Project PM Peak Hour Intersection Operations

Intersection	PM Peak Hour ICU-LOS		Change	Impact?
	Existing	Existing + Project		
Las Posas Rd./Camino Alvarez	0.36-LOS A	0.36-LOS A	0.00	No
Somis Rd./Las Posas Rd.	0.52-LOS A	0.52-LOS A	0.00	No
Lewis Rd./Adolfo Rd.	0.53-LOS A	0.54-LOS A	0.00	No
Lewis Rd./Daily Dr.	0.51-LOS A	0.51-LOS A	0.00	No
U.S. 101 NB ramps/Daily Dr.	0.62-LOS B	0.62-LOS B	0.00	No
Lewis Rd./Ventura Rd.	0.52-LOS A	0.52-LOS A	0.00	No
U.S. 101 SB Ramps/Ventura Blvd.	0.61-LOS B	0.62-LOS B	0.00	No
Lewis Rd./Ventura Blvd.	0.49-LOS A	0.49-LOS A	0.00	No

The presented data in Tables 5 and 6 show that all of the study-area intersections would operate acceptably in the LOS A-B range and the Project would not generate significant impacts based on City of Camarillo impact thresholds.

FIGURE 6
EXISTING + PROJECT TRAFFIC VOLUMES
JH - ATE#20022
LEGEND
(XX)XX - (AM)PM Peak Hour Volume
PROJECT SITE
Upland Road
Camino Alvarez
Las Posas Road
Adolfo Rd
Flynn Rd
Lewis Rd
Pontarosa Dr
Temple Ave
Barry St
Fulton St
Arneill Rd
Daily Dr
Ventura Blvd
Mission Oak Blvd
Petit St
Pleasant Valley Rd
Dawson Dr
101
1
2
3
4
5
6
7
8
(73)9
(794)1011
(17)5
27(58)
12(44)
2(17)
(44)35
(44)4
(65)41
6(31)
911(835)
79(92)
(159)256
(653)714
(160)123
80(176)
450(525)
266(218)
(103)86
(376)509
(57)53
271(293)
646(618)
53(22)
(95)183
(275)637
(159)243
97(280)
662(638)
27(22)
(261)234
(491)570
(36)57
39(49)
390(573)
36(55)
(2)5
(9)11
(8)3
777(890)
279(358)
(0)2
(826)1214
(266)310
266(156)
3(10)
189(214)
(179)333
(460)295
(266)281
(373)1309
198(142)
86(175)
(5)11
(12)17
(4)6
12(22)
660(642)
320(430)
(0)2
(686)973
(178)413
543(401)
16(26)
283(341)
(489)414
(148)816
(24)28
436(236)
18(10)
38(12)
(22)30
(18)16
(7)33
148(15)
407(118)
17(12)
(236)248
(353)724
(358)279
106(113)
310(544)
253(222)
(251)414
(237)424
(54)59
210(200)
384(563)
17(8)
N
NOT TO SCALE
ASSOCIATED TRANSPORTATION ENGINEERS

CUMULATIVE (EXISTING + APPROVED/PENDING PROJECTS) ANALYSIS

The City of Camarillo require that intersections be analyzed with the addition of traffic generated by projects which have been approved or are pending within the study-area that could impact the facilities. The Cumulative (Existing + Approved/Pending Projects) traffic volumes were forecast for the study-area roadways and intersections assuming development of 25 approved and pending projects located within the City of Camarillo and unincorporated Ventura County. Trip generation estimates were developed for the approved/pending projects using trip generation rates published in the ITE, Trip Generation, 10th Edition. Table 7 summarizes the trip generation for the approved/pending development projects.

Table 7
Approved/Pending Development Projects Trip Generation

No.	Jurisdiction	Project	Land Use	Size	ADT	Trips	
						AM	PM
1.	Ventura County	PL15-0014	Wholesale Lumberyard	18.9 acres	164	16	16
2.	Ventura County	PL18-0081	Organics Processing	17.2 acres	40	4	4
3.	Ventura County	PL18-0109	Dog Kennel	20 acres	50	5	5
4.	Ventura County	Somis Ranch	Farmworker Housing	360 units	2,635	166	202
5.	City of Camarillo	CUP-307(2) CPD-236M(1)	Apartments Retail Commercial	10 units 8,000 sq.ft.	73 302	5 8	6 30
6.	City of Camarillo	RPD-188	Condominiums	87 units	637	40	49
7.	City of Camarillo	CUP-330	Apartments Retail Commercial	23 units 6,100 sq.ft.	168 230	10 6	13 23
8.	City of Camarillo	RPD-189M(2)	Apartments	96 units	703	44	54
9.	City of Camarillo	RPD-198	Senior Housing	281 units	2,118	168	166
10.	City of Camarillo	RPD-203	Single Family Residential	2 units	19	1	2
11.	City of Camarillo	RPD-202 CUP-391 CUP-391	Townhomes Apartments Retail Commercial	8 12 units 1,400 sq.ft	58 88 53	4 6 1	4 7 5
12.	City of Camarillo	CUP-381	Convenience Store	3,000 sq.ft.	2,287	188	147
13.	City of Camarillo	CUP-364M(1)	Brewery	24,102 sq.ft.	2,704	0	235
14.	City of Camarillo	IPD-23M(25)	Light Industrial	67,867 sq.ft.	337	48	43
15.	City of Camarillo	CUP-397	Dog Kennel	3,600 sq.ft.	50	5	5
16.	City of Camarillo	RPD-200	Senior/Assisted Living	93 beds	242	18	24
17.	City of Camarillo	CUP-398	Moose Lodge	3,693 sq.ft.	50	0	30
18.	City of Camarillo	RPD-196	Townhomes	285 units	2,086	131	160
19.	City of Camarillo	CUP 369	Apartments Retail Commercial	24 units 12,000 sq.ft.	176	11	13
20.	City of Camarillo	IPD-543M(9)	Light Industrial	4,800 sq.ft.	24	3	3
21.	City of Camarillo	IPD-53M(11)	Light Industrial Office	111,500 sq.ft. 52,026 sq.ft.	533 258	78 36	70 33
22.	City of Camarillo	IPD-405	Light Industrial	161,228 sq.ft.	800	113	102
23.	City of Camarillo	CUP404	Wine Production	1,787 sq.ft.	7	1	1
24.	City of Camarillo	CUP-401	Winery	2,236 sq.ft.	103	5	16
25.	City of Camarillo	CUP-394	Groundwater Treatment	6,541 sq.ft.	32	4	4
				Total Trips:	17,027	1,125	1,472

The data presented in Table 7 indicate that the approved and pending projects would generate a total of 17,027 average daily trips, 1,125 AM peak hour trips and 1,472 PM peak hour trips. The approved and pending projects' peak hour traffic volumes were distributed and assigned to the study-area intersections based on the location of each project, approved traffic studies, existing traffic patterns observed in the study-area as well as a general knowledge of the population, employment and commercial centers in and surrounding the study-area. Figure 7 illustrates the Cumulative AM and PM peak traffic volumes.

Cumulative Intersection Analysis

Tables 8 and 9 present the Cumulative and Cumulative + Project AM and PM peak hour intersection levels of service and identify impacts based on the City of Camarillo thresholds. Figure 8 illustrates the AM and PM peak hour Cumulative + Project traffic volumes.

Table 8
Cumulative + Project AM Peak Hour Intersection Operations

Intersection	AM Peak Hour ICU-LOS		Change	Impact?
	Cumulative	Cum. + Project		
Las Posas Rd./Camino Alvarez	0.38-LOS A	0.38-LOS A	0.00	No
Somis Rd./Las Posas Rd.	0.56-LOS A	0.56-LOS A	0.00	No
Lewis Rd./Adolfo Rd.	0.59-LOS A	0.59-LOS A	0.00	No
Lewis Rd./Daily Dr.	0.51-LOS A	0.51-LOS A	0.00	No
U.S. 101 NB ramps/Daily Dr.	0.40-LOS A	0.41-LOS A	0.01	No
Lewis Rd./Ventura Rd.	0.41-LOS A	0.41-LOS A	0.00	No
U.S. 101 SB Ramps/Ventura Blvd.	0.32-LOS A	0.32-LOS A	0.00	No
Lewis Rd./Ventura Blvd.	0.52-LOS A	0.52-LOS A	0.00	No

Table 9
Cumulative + Project PM Peak Hour Intersection Operations

Intersection	PM Peak Hour ICU-LOS		Change	Impact?
	Cumulative	Cum.+ Project		
Las Posas Rd./Camino Alvarez	0.36-LOS A	0.36-LOS A	0.00	No
Somis Rd./Las Posas Rd.	0.56-LOS A	0.56-LOS A	0.00	No
Lewis Rd./Adolfo Rd.	0.57-LOS A	0.57-LOS A	0.00	No
Lewis Rd./Daily Dr.	0.53-LOS A	0.53-LOS A	0.00	No
U.S. 101 NB ramps/Daily Dr.	0.63-LOS B	0.63-LOS B	0.00	No
Lewis Rd./Ventura Rd.	0.61-LOS B	0.61-LOS B	0.00	No
U.S. 101 SB Ramps/Ventura Blvd.	0.65-LOS B	0.66-LOS B	0.00	No
Lewis Rd./Ventura Blvd.	0.52-LOS A	0.52-LOS A	0.00	No

FIGURE 7
CUMULATIVE TRAFFIC VOLUMES
LEGEND
(XX)XX - (AM)PM Peak Hour Volume
PROJECT SITE
Upland Road
Camino Alvarez
Las Posas Road
Adolfo Rd
Flynn Rd
Lewis Rd
Pontenosa Dr
Temple Ave
Fulton St
Barry St
Arneill Rd
Daily Dr
Ventura Blvd
Mission Oak Blvd
Petit St
Pleasant Valley Rd
Dawson Dr
101
1
2
3
4
5
6
7
8
(73)39
(830)1028
(17)5
(44)35
(42)3
(65)41
27(58)
10(44)
2(17)
6(31)
941(844)
79(92)
(164)259
(687)729
(178)130
(103)86
(421)612
(57)53
80(177)
543(594)
268(220)
274(294)
673(626)
53(22)
(95)183
(275)637
(159)243
(261)234
(540)680
(36)57
97(280)
759(724)
27(23)
40(49)
390(573)
36(55)
(2)5
(9)11
(8)3
(0)2
(877)1329
(266)310
860(944)
293(383)
266(157)
3(10)
241(314)
(195)355
(538)385
(281)359
(373)1309
211(189)
86(175)
(5)11
(12)17
(4)6
(16)15
(792)1156
(226)486
12(22)
848(738)
321(434)
569(409)
16(26)
408(368)
(500)421
(154)818
(24)28
(22)30
(18)16
(7)33
539(260)
18(10)
83(22)
173(30)
407(118)
24(13)
(250)260
(400)760
(365)285
(255)420
(250)450
(60)65
110(115)
330(580)
260(225)
230(220)
410(600)
25(15)
N
NOT TO SCALE
ASSOCIATED TRANSPORTATION ENGINEERS
JH - ATE#20022

CUMULATIVE + PROJECT TRAFFIC VOLUMES
FIGURE 8
JH - ATE#20022
LEGEND
(XX)XX - (AM)PM Peak Hour Volume
PROJECT SITE
Upland Road
Camino Alvarez
Las Posas Road
Adolfo Rd
Flynn Rd
Lewis Rd
Ponderosa Dr
Temple Ave
Barry St
Fulton St
Arnell Rd
Daily Dr
Ventura Blvd
Mission Oak Blvd
Petit St
Pleasant Valley Rd
Dawson Dr
101
1
2
3
4
5
6
7
8
(73)9
(830)1028
(17)5
(44)35
(44)4
(65)41
27(58)
12(44)
2(17)
6(31)
941(844)
79(92)
(164)259
(687)729
(178)130
(103)86
(425)615
(57)53
80(177)
547(596)
268(220)
274(294)
673(626)
53(22)
(95)183
(275)637
(159)243
(261)234
(546)684
(36)57
97(280)
765(726)
27(23)
40(49)
390(573)
36(55)
(2)5
(9)11
(8)3
(0)2
(880)1336
(266)310
865(951)
294(385)
268(157)
3(10)
241(314)
(195)355
(540)386
(281)361
(373)1309
211(189)
86(175)
(5)11
(12)17
(4)6
(16)15
(794)1161
(226)486
12(22)
852(743)
322(436)
571(410)
16(26)
408(368)
(502)422
(154)818
(24)28
(22)30
(18)16
(7)33
541(261)
18(10)
83(22)
173(30)
407(118)
24(13)
(250)261
(400)760
(365)285
(255)420
(251)451
(60)65
111(116)
331(581)
262(228)
233(221)
410(600)
25(15)
N
NOT TO SCALE
Associated Transportation Engineers

The presented data in Tables 8 and 9 show that all of the study-area intersections would operate acceptably in the LOS A-B range and the Project would not generate significant Cumulative impacts based on City of Camarillo impact thresholds.

SITE ACCESS

Driveway Operations

Access to the Project will be provided via one driveway connection to Lewis Road (State Route 34) and two driveways on Barry Street. The Lewis Road driveway will be restricted to right-turns in and out only. The segments of Lewis Road and Barry Street adjacent to the site access is relatively straight and level, providing good sight distance. The Project will be required to construct the driveway connection to Lewis Road to City of Camarillo and Caltrans design standards. The driveway connection to Barry Street will be designed to City of Camarillo design standards. Given the level of traffic generated by the Project (24 AM and 30 PM peak hour trips) the driveways would operate acceptably in the LOS A-B range and would not impact the operations of the adjacent roadways.

Signal Warrants

A signal warrant analysis was conducted for the Lewis Road/Project Access intersection. The traffic signal warrant analysis was completed based on the Manual on Uniform Traffic Control Devices (MUTCD), California Supplement, Average Daily Traffic vehicular volume warrant criteria. The posted speed limit on Lewis Road is 50 mph, therefore the Rural warrants apply. Table 10 summarizes the results of the signal warrant analysis.

Table 10
Signal Warrant Results – Project Access

Warrant	Type	Warrant Satisfied?		
		Existing	Existing + Project	Cumulative + Project
ADT	Condition "A"	No	No	No
	Condition "B"	No	No	No

The Project's approach volumes on the minor street at the Lewis Road/Project Access intersection do not satisfy the ADT vehicular volume warrants under the Existing + Project and Cumulative + Project scenarios. In order to satisfy the ADT warrant, a minimum of 850 vehicles per day in one direction are necessary on the minor street approach with one lane. The estimated exiting traffic volumes generated by the Barry Street Affordable Housing Project is 61 (370 ADT/2*33%) vehicles per day which is well below the warrant.

■ ■ ■

STUDY PARTICIPANTS AND REFERENCES

Associated Transportation Engineers

Scott A. Schell, AICP, Principal Planner
Darryl F. Nelson, Senior Transportation Planner
Jiho Ha, Transportation Engineer I

References

Circulation Element, General Plan, City of Camarillo, 2014.

Persons Contacted

Jason Samonte, City of Camarillo Public Works Department
Michelle D'anna, City of Camarillo Community Development Department

TECHNICAL APPENDIX

CONTENTS:

LEVEL OF SERVICE DEFINITIONS

INTERSECTION COUNT DATA

INTERSECTION LEVEL OF SERVICE CALCULATION WORKSHEETS

- Reference 1 - Lewis Road/Adolfo Road
- Reference 2 - Flynn Road/Adolfo Road
- Reference 3 - Dawson Drive/Petit Street
- Reference 4 - Lewis Road/Dawson Place
- Reference 5 - Pleasant Valley Road/Dawson Drive
- Reference 6 - Pleasant Valley Road/Lewis Road
- Reference 7 - U.S. 101 Northbound Ramps/Mission Oaks Boulevard
- Reference 8 - U.S. 101 Southbound Ramps/Village at the Park

SIGNAL WARRANT

LEVEL OF SERVICE DEFINITIONS

DISCUSSION OF INTERSECTION CAPACITY UTILIZATION (ICU)

The ability of a roadway to carry traffic is referred to as capacity. The capacity is usually less at intersections because traffic flows continuously between them and only during the green phase at them. Capacity at intersections is best defined in terms of vehicles per lane per hour of green. The technique used to compare the volumes and capacity of an intersection is known as Intersection Capacity Utilization (ICU). ICU or volume-to-capacity ratio, usually expressed as a percentage, is the proportion of an hour required to provide sufficient capacity to accommodate all intersection traffic if all approaches operate at capacity. If an intersection is operating at 80 percent of capacity, then 20 percent of the signal cycle is not used.

The ICU calculation assumes that an intersection is signalized and that the signal is ideally timed. Although calculating ICU for an unsignalized intersection is invalid, the presumption is that a signal can be installed and the calculation shows whether the geometrics are capable of accommodating the expected volumes. It is possible to have an ICU well below 100 percent, yet have severe traffic congestion. This would occur if one or more movements is not getting sufficient time to satisfy its demand, and excess time exists on other movements. This is an operational problem which should be addressed.

Capacity is often defined in terms of roadway width. However, standard lanes have approximately the same capacity whether they are 11 or 14 feet wide. Data collected by Kunzman Associates indicates a typical lane, whether a through-lane or a left-turn lane, has a capacity of approximately 1,700 vehicles per hour, with nearly all locations showing a capacity greater than 1,600 vehicles per hour per lane. This finding is published in the August, 1978 issue of ITE Journal in the article entitled, "Another Look at Signalized Intersection Capacity" by William Kunzman. For this study, a capacity of 1,600 vehicles per hour per lane will be assumed for left-turn, through, and right-turn lanes as per City policy.

The yellow time can either be assumed to be completely used and no penalty applied, or it can be assumed to be only partially usable. Total yellow time accounts for less than 10 percent of a cycle, and a penalty of up to five percent is reasonable. On the other hand, during peak hour traffic operation, the yellow times are nearly completely used. In this study, no penalty will be applied for the yellow because the capacities have been assumed to be only 1,600 vehicles per hour per lane when in general they are 1,700-1,800 vehicles per hour per lane.

The ICU technique is an ideal tool to quantify existing as well as future intersection operations. The impact of adding a lane can be quickly determined by examining the effect the lane has on the intersection capacity utilization.

Source: Oxnard Airport Business Park Traffic Study, Kunzman Assoc., City of Oxnard, 1985.

Signalized Intersection Level of Service Definitions

LOS	Delay[a]	V/C Ratio	Definition
A	< 10.0	< 0.60	Progression is extremely favorable. Most vehicles arrive during the green phase. Many vehicles do not stop at all.
B	10.1 - 20.0	0.61 - 0.70	Good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of delay.
C	20.1 - 35.0	0.71 - 0.80	Only fair progression, longer cycle lengths, or both, result in higher cycle lengths. Cycle lengths may fail to serve queued vehicles, and overflow occurs. Number of vehicles stopped is significant, though many still pass through intersection without stopping.
D	35.1 - 55.0	0.81 - 0.90	Congestion becomes more noticeable. Unfavorable progression, long cycle lengths and high v/c ratios result in longer delays. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	55.1 - 80.0	0.91 - 1.00	High delay values indicate poor progression, long cycle lengths and high v/c ratios. Individual cycle failures are frequent
F	> 80.0	> 1.00	Considered unacceptable for most drivers, this level occurs when arrival flow rates exceed the capacity of lane groups, resulting in many individual cycle failures. Poor progression and long cycle lengths may also contribute to high delay levels.

[a] Average control delay per vehicle in seconds.

Unsignalized Intersection Level of Service Definitions

The HCM[1] uses *control delay* to determine the level of service at unsignalized intersections. Control delay is the difference between the travel time actually experienced at the control device and the travel time that would occur in the absence of the traffic control device. Control delay includes deceleration from free flow speed, queue move-up time, stopped delay and acceleration back to free flow speed.

LOS	Control Delay Seconds per Vehicle
A	< 10.0
B	10.1 - 15.0
C	15.1 - 25.0
D	25.1 - 35.0
E	35.1 - 50.0
F	> 50.0

[1] Highway Capacity Manual, National Research Board, 2000

INTERSECTION COUNT DATA

Prepared by National Data & Surveying Services

Camino Alvarez/High School Dwy & Las Posas Rd

Peak Hour Turning Movement Count

ID: 19-05117-008
City: Somis

Day: Tuesday
Date: 03/12/2019

Camino Alvarez/High School Dwy

SOUTHBOUND

PEAK HOURS		COUNT PERIODS
07:30 AM - 08:30 AM		07:00 AM - 09:00 AM
NONE		NONE
04:30 PM - 05:30 PM		04:00 PM - 06:00 PM

AM	17	44	58	0	146	AM
NOON	0	0	0	0	0	NOON
PM	2	10	27	0	18	PM
	0	0	0	0		

EASTBOUND (Las Posas Rd)

AM	NOON	PM	
876	0	1054	⇦
0	0	0	↶ 0
31	0	6	↱ 0
835	0	911	→ 0
92	0	79	↴ 0
AM	NOON	PM	

CONTROL

0

TEV	2112 AM	0 NOON	2139 PM
PHF	0.87		0.97

WESTBOUND (Las Posas Rd)

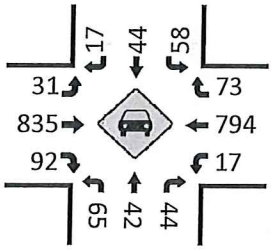
PM	NOON	AM	
9	0	73	0 ↷
1011	0	794	0 ←
5	0	17	0 ↰
0	0	0	0 ↰
973	0	937	⇨
PM	NOON	AM	

PM	94	0	41	3	35	PM
NOON	0	0	0	0	0	NOON
AM	153	0	65	42	44	AM
		0	0	0	0	

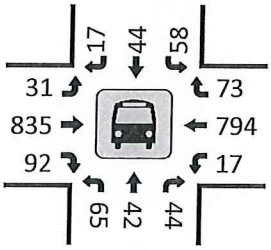
NORTHBOUND

Camino Alvarez/High School Dwy

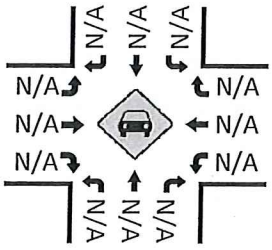
Total Vehicles (AM)



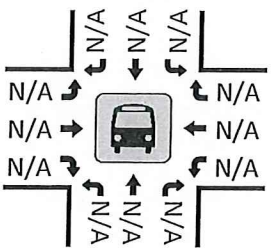
(AM)



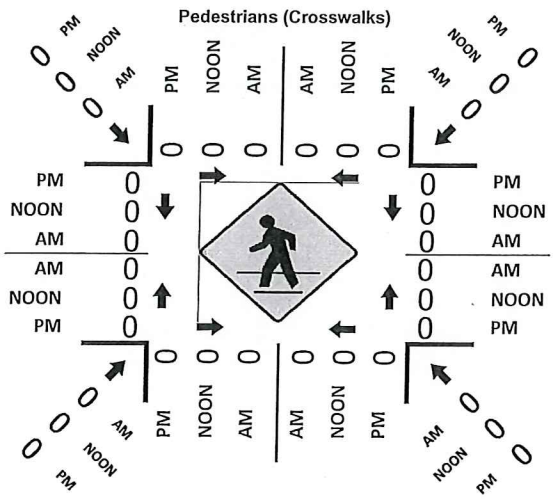
Total Vehicles (Noon)



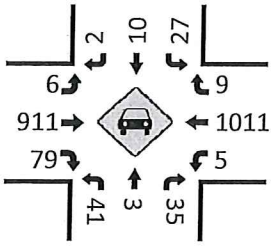
(NOON)



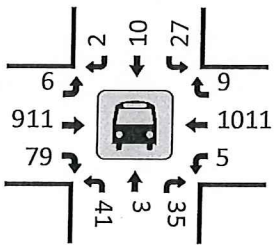
Pedestrians (Crosswalks)



Total Vehicles (PM)



(PM)



Prepared by National Data & Surveying Services

SR-34 & Upland Rd

Peak Hour Turning Movement Count

ID: 19-05117-002
City: Somis

Day: Tuesday
Date: 03/12/2019

PEAK HOURS

AM: 07:30 AM - 08:30 AM
NOON: NONE
PM: 04:30 PM - 05:30 PM

COUNT PERIODS

AM: 07:00 AM - 09:00 AM
NOON: NONE
PM: 04:00 PM - 06:00 PM

SR-34

SOUTHBOUND

AM	218	523	176	0	824	AM
NOON	0	0	0	0	0	NOON
PM	266	446	80	0	1033	PM

0 0 0 0

EASTBOUND (Upland Rd)

AM	NOON	PM	
928	0	1033	⇦
0	0	0	↰ 0
293	0	271	↑ 0
618	0	646	→ 0
22	0	53	↱ 0
AM	NOON	PM	

WESTBOUND (Upland Rd)

PM	NOON	AM	
256	0	159	0 ↱
714	0	653	0 ←
123	0	160	0 ↰
0	0	0	0
812	0	897	⇨
PM	NOON	AM	

CONTROL

0

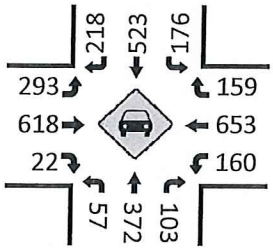
TEV	3354 AM	0 NOON	3500 PM
PHF	0.95		0.95

0 0 0 0

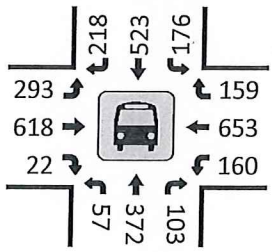
NORTHBOUND (SR-34)

PM	622	0	53	506	86	PM
NOON	0	0	0	0	0	NOON
AM	705	0	57	372	103	AM

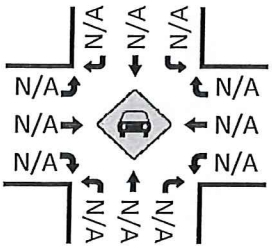
Total Vehicles (AM)



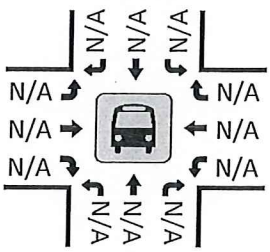
(AM)



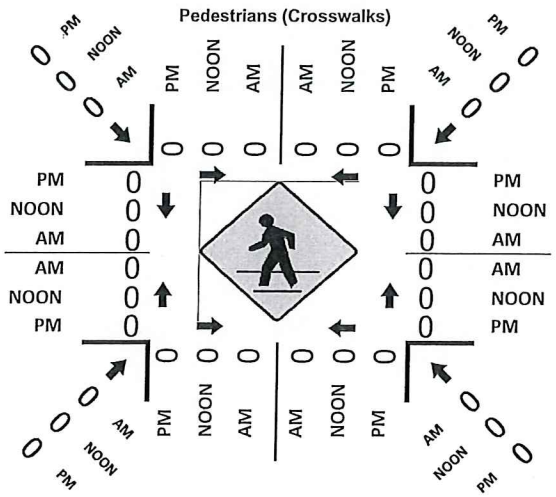
Total Vehicles (Noon)



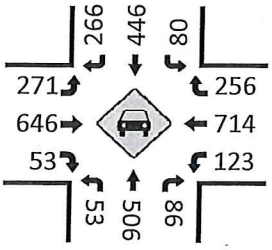
(NOON)



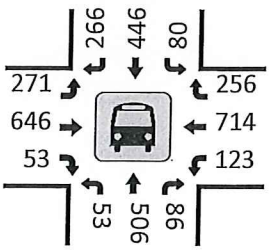
Pedestrians (Crosswalks)



Total Vehicles (PM)



(PM)



Prepared by National Data & Surveying Services

Lewis Rd & Adolfo Rd

Peak Hour Turning Movement Count

ID: 19-05117-003
City: Somis

Day: Tuesday
Date: 03/12/2019

PEAK HOURS

AM	07:15 AM - 08:15 AM
NOON	NONE
PM	04:15 PM - 05:15 PM

COUNT PERIODS

AM	07:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 06:00 PM

Lewis Rd — SOUTHBOUND

AM	22	636	280	0	629	AM
NOON	0	0	0	0	0	NOON
PM	27	656	97	0	788	PM

Adolfo Rd — EASTBOUND

AM	NOON	PM	
333	0	721	⇦
0	0	0	↶ 0
49	0	39	↱ 0
573	0	390	→ 0
55	0	36	↳ 0
AM	NOON	PM	

CONTROL

0

TEV	2926 AM	0 NOON	3165 PM
PHF	0.89		0.95

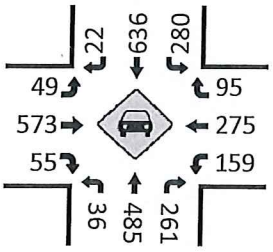
Adolfo Rd — WESTBOUND

PM	NOON	AM	
183	0	95	0 ↰
637	0	275	0 ←
243	0	159	0 ↶
0	0	0	0
721	0	1114	⇨
PM	NOON	AM	

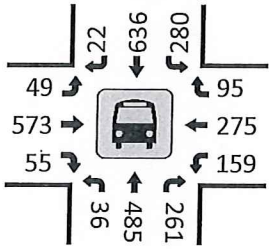
Lewis Rd — NORTHBOUND

PM	935	0	57	566	234	PM
NOON	0	0	0	0	0	NOON
AM	850	0	36	485	261	AM

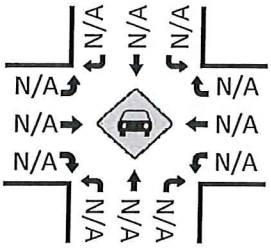
Total Vehicles (AM)



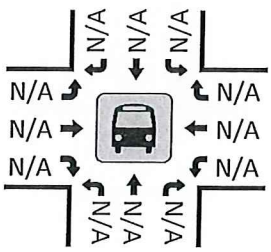
(AM)



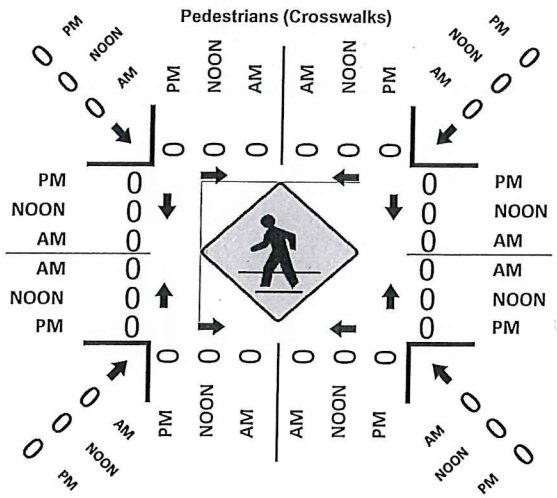
Total Vehicles (Noon)



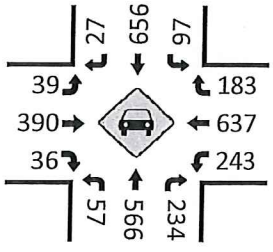
(NOON)



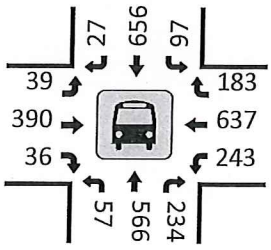
Pedestrians (Crosswalks)



Total Vehicles (PM)



(PM)



Prepared by National Data & Surveying Services

Lewis Rd & Daily Dr

Peak Hour Turning Movement Count

ID: 19-05117-004
City: Somis

Day: Tuesday
Date: 03/12/2019

PEAK HOURS	COUNT PERIODS
07:15 AM - 08:15 AM	07:00 AM - 09:00 AM
NONE	NONE
04:15 PM - 05:15 PM	04:00 PM - 06:00 PM

SOUTHBOUND — Lewis Rd

AM	356	883	0	0	981	AM
NOON	0	0	0	0	0	NOON
PM	278	772	0	0	1476	PM

EASTBOUND — Daily Dr

AM	NOON	PM	
631	0	599	
0	0	0	0
156	0	264	0
10	0	3	0
214	0	189	0
AM	NOON	PM	

WESTBOUND — Daily Dr

PM	NOON	AM	
5	0	2	0
11	0	9	0
3	0	8	0
0	0	0	0
5	0	10	
PM	NOON	AM	

NORTHBOUND — Lewis Rd

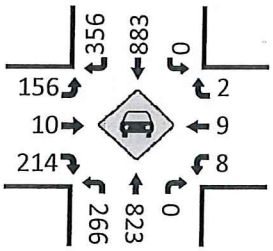
PM	964	0	310	1207	2	PM
NOON	0	0	0	0	0	NOON
AM	1105	0	266	823	0	AM

CONTROL

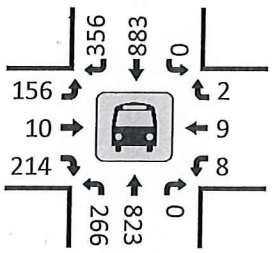
0

TEV	2727	0	3044
	AM	NOON	PM
PHF	0.88		0.97

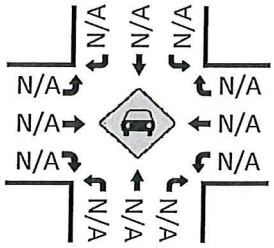
Total Vehicles (AM)



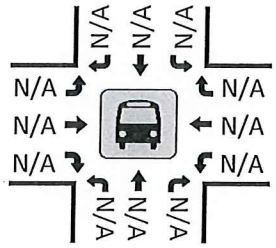
(AM)



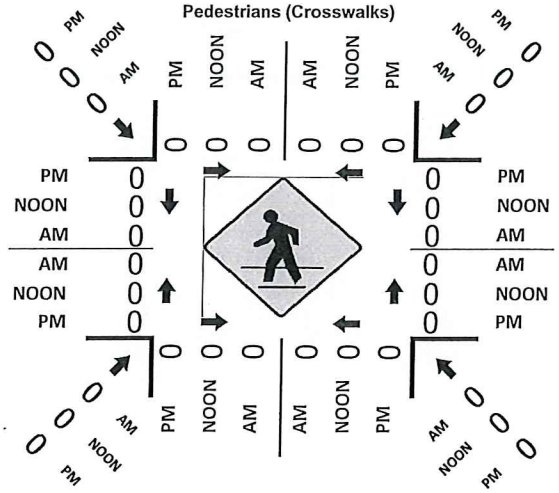
Total Vehicles (Noon)



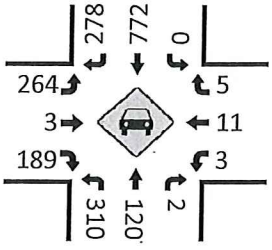
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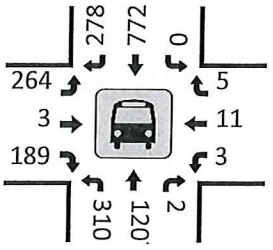
Pedestrians (Crosswalks)



Total Vehicles (PM)



(PM)



Prepared by National Data & Surveying Services

US Hwy 101 NB Ramps & Daily Dr

Peak Hour Turning Movement Count

ID: 19-05117-006
City: Somis

Day: Tuesday
Date: 03/12/2019

PEAK HOURS

AM	07:30 AM - 08:30 AM
NOON	NONE
PM	04:45 PM - 05:45 PM

COUNT PERIODS

AM	07:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 06:00 PM

US Hwy 101 NB Ramps — SOUTHBOUND

AM	0	0	0	0	0	AM
NOON	0	0	0	0	0	NOON
PM	0	0	0	0	0	PM

0 0 0 0

EASTBOUND — Daily Dr

AM	NOON	PM	
552	0	1642	⇦
0	0	0	↶ 0
0	0	0	↱ 0
142	0	198	→ 0
175	0	86	↷ 0
AM	NOON	PM	

CONTROL

0

TEV	1593 AM	0 NOON	2499 PM
PHF	0.88		0.97

WESTBOUND — Daily Dr

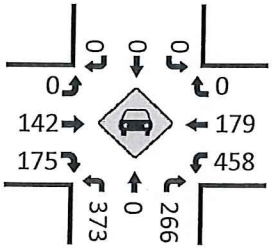
PM	NOON	AM	
0	0	0	0 ↶
333	0	179	0 ←
294	0	458	0 ↰
0	0	0	0 ↷
477	0	408	⇨
PM	NOON	AM	

0 0 0 0

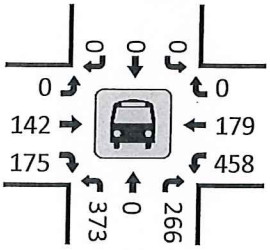
NORTHBOUND — US Hwy 101 NB Ramps

PM	380	0	1309	0	279	PM
NOON	0	0	0	0	0	NOON
AM	633	0	373	0	266	AM

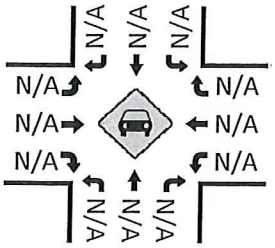
Total Vehicles (AM)



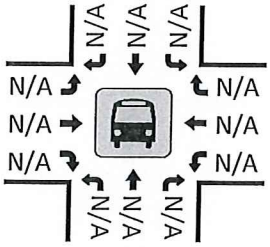
(AM)



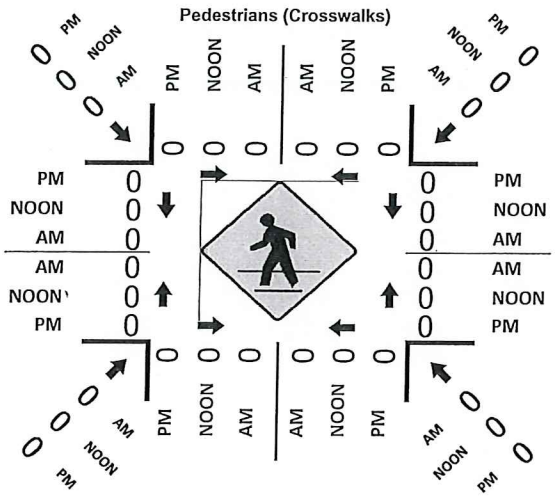
Total Vehicles (Noon)



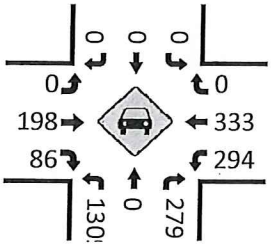
(NOON)



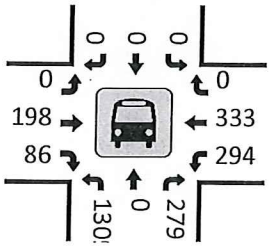
Pedestrians (Crosswalks)



Total Vehicles (PM)



(PM)



Prepared by National Data & Surveying Services

US Hwy 101 SB Ramps & Ventura Blvd

Peak Hour Turning Movement Count

ID: 19-05117-007
City: Somis

Day: Tuesday
Date: 03/12/2019

PEAK HOURS

AM	07:30 AM - 08:30 AM
NOON	NONE
PM	04:45 PM - 05:45 PM

COUNT PERIODS

AM	07:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 06:00 PM

US Hwy 101 SB Ramps — SOUTHBOUND

AM	12	10	235	0	520	AM
NOON	0	0	0	0	0	NOON
PM	38	18	434	0	577	PM

EASTBOUND — Ventura Blvd

AM	NOON	PM	
167	0	887	⇦
0	0	0	↶ 0
15	0	148	↱ 0
118	0	407	→ 0
12	0	17	↳ 0
AM	NOON	PM	

WESTBOUND — Ventura Blvd

PM	NOON	AM	
413	0	487	0 ↰
816	0	148	0 ←
28	0	24	0 ↶
0	0	0	0 ↱
871	0	375	⇨
PM	NOON	AM	

CONTROL

0

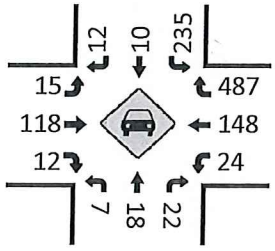
TEV	1108 AM	0 NOON	2398 PM
PHF	0.98		0.95

NORTHBOUND — US Hwy 101 SB Ramps

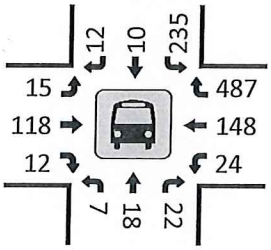
PM	63	0	33	16	30	PM
NOON	0	0	0	0	0	NOON
AM	46	0	7	18	22	AM

0 0 0 0

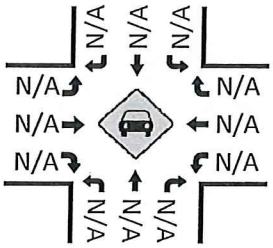
Total Vehicles (AM)



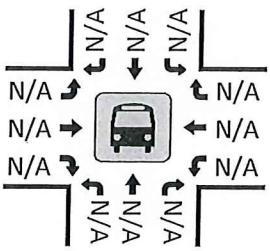
(AM)



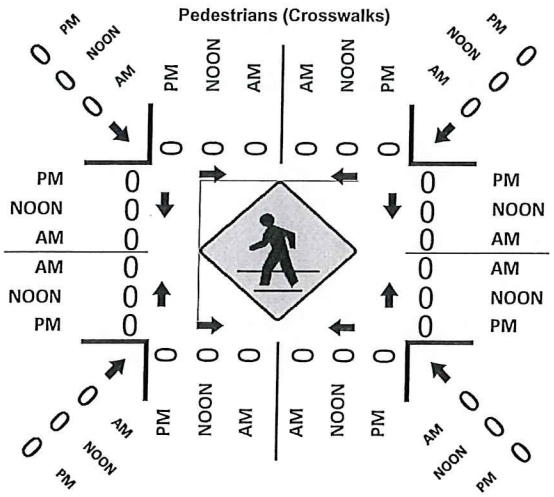
Total Vehicles (Noon)



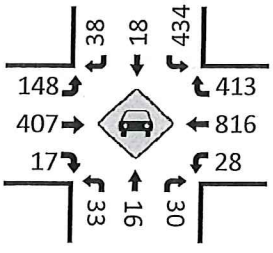
(NOON)



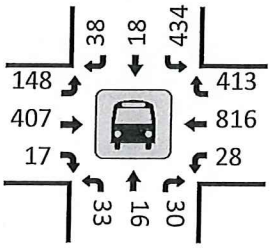
Pedestrians (Crosswalks)



Total Vehicles (PM)



(PM)



Prepared by National Data & Surveying Services

Lewis Rd & Ventura Blvd

Peak Hour Turning Movement Count

ID: 19-05117-005
City: Somis

Day: Tuesday
Date: 03/12/2019

PEAK HOURS

AM	07:15 AM - 08:15 AM
NOON	NONE
PM	04:15 PM - 05:15 PM

COUNT PERIODS

AM	07:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 06:00 PM

SOUTHBOUND — Lewis Rd

AM	428	637	22	0	1089	AM
NOON	0	0	0	0	0	NOON
PM	319	656	12	0	1520	PM

0 0 0 0

EASTBOUND — Ventura Blvd

AM	NOON	PM	
618	0	749	⇦
0	0	0	↶ 0
400	0	541	↱ 0
26	0	16	→ 0
341	0	283	↴ 0
AM	NOON	PM	

CONTROL

0

TEV	2753 AM	0 NOON	3257 PM
PHF	0.85		0.97

WESTBOUND — Ventura Blvd

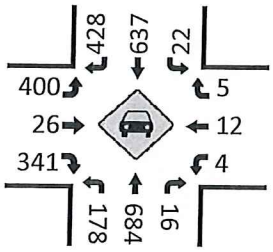
	PM	NOON	AM
0 ↰	11	0	5
0 ←	17	0	12
0 ↶	6	0	4
0 ↴	0	0	0
⇨	43	0	64
	PM	NOON	AM

0 0 0 0

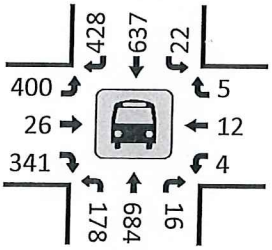
NORTHBOUND — Lewis Rd

PM	945	0	413	968	15	PM
NOON	0	0	0	0	0	NOON
AM	982	0	178	684	16	AM

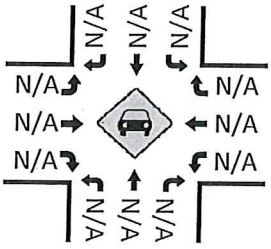
Total Vehicles (AM)



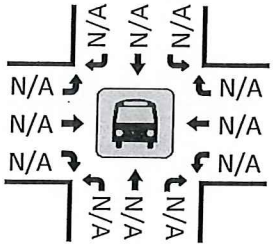
(AM)



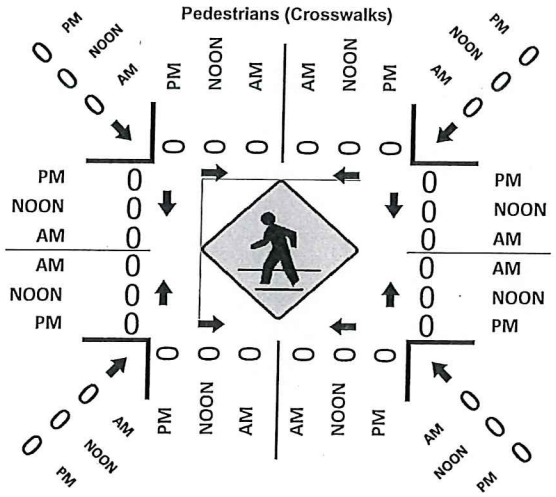
Total Vehicles (Noon)



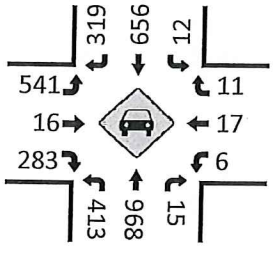
(NOON)



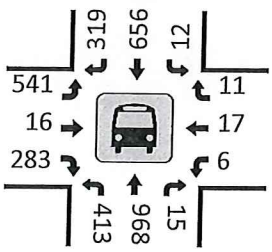
Pedestrians (Crosswalks)



Total Vehicles (PM)



(PM)



Prepared by National Data & Surveying Services

Lewis Rd & Pleasant Valley Rd

Peak Hour Turning Movement Count

ID: 19-05751-007
City: Camarillo

Day: Tuesday
Date: 01/07/2020

PEAK HOURS

AM	07:15 AM - 08:15 AM
NOON	NONE
PM	04:30 PM - 05:30 PM

COUNT PERIODS

AM	07:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 06:00 PM

Lewis Rd

SOUTHBOUND

AM	219	543	112	0	671	AM
NOON	0	0	0	0	0	NOON
PM	251	309	105	0	877	PM

EASTBOUND (Pleasant Valley Rd)

AM	NOON	PM	
626	0	1034	⇧
0	0	0	↰ 0
199	0	207	↱ 0
563	0	384	→ 0
8	0	17	↳ 0
AM	NOON	PM	

WESTBOUND (Pleasant Valley Rd)

PM	NOON	AM	
247	0	236	0 ↰
724	0	353	0 ←
279	0	358	0 ↶
0	0	0	0 ↱
903	0	926	⇩
PM	NOON	AM	

CONTROL

0

TEV	3132	0	3419
	AM	NOON	PM
PHF	0.85		0.92

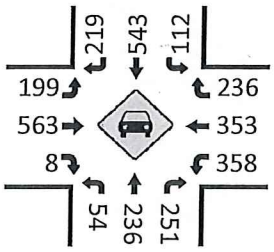
0 0 0 0

NORTHBOUND

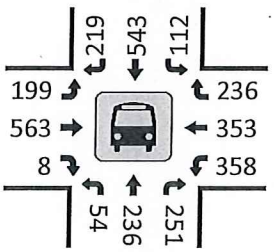
PM	605	0	59	423	414	PM
NOON	0	0	0	0	0	NOON
AM	909	0	54	236	251	AM

Lewis Rd

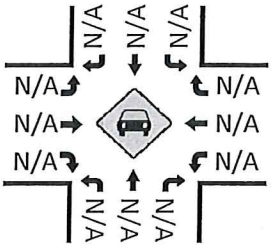
Total Vehicles (AM)



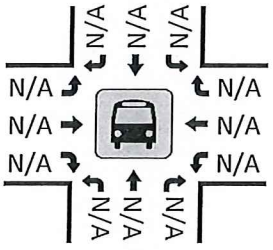
(AM)



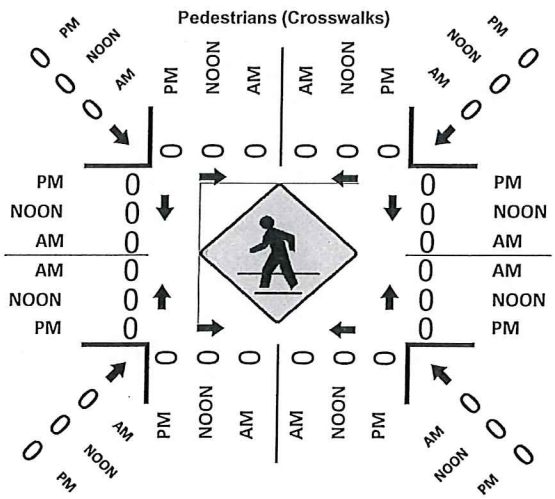
Total Vehicles (Noon)



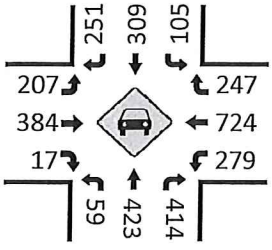
(NOON)



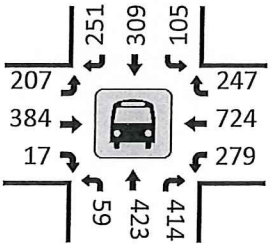
Pedestrians (Crosswalks)



Total Vehicles (PM)



(PM)



LEVEL OF SERVICE CALCULATION WORKSHEETS

Reference 1 - Lewis Rd./Adolfo Rd.
Reference 2 - Flynn Rd./Adolfo Rd.
Reference 3 - Dawson Dr./Petit St.
Reference 4 - Lewis Rd./Dawson Pl.
Reference 5 - Pleasant Valley Rd./Dawson Dr.
Reference 6 - Pleasant Valley Rd./Lewis Rd.
Reference 7 - U.S. 101 Northbound Ramps/Mission Oaks Blvd.
Reference 8 - U.S. 101 Southbound Ramps/Village at the Park

#20022 - BARRY STREET AFFORDABLE HOUSING PROJECT **REF:** 01 AM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: *MARCH 12, 2019* 0

TIME PERIOD: *A.M. PEAK HOUR*

N/S STREET: *CAMINO ALVAREZ*

E/W STREET: *LAS POSAS ROAD*

CONTROL TYPE: *SIGNAL*

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND L	T	R	SOUTH BOUND L	T	R	EAST BOUND L	T	R	WEST BOUND L	T	R
(A) EXISTING:	**65**	**42**	**44**	**58**	**44**	**17**	**31**	**835**	**92**	**17**	**794**	**73**
(B) PROJECT-ADDED:	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
(C) CUMULATIVE:	**65**	**42**	**44**	**58**	**44**	**17**	**31**	**844**	**92**	**17**	**830**	**73**

GEOMETRICS

LANE GEOMETRICS	NORTH BOUND	SOUTH BOUND	EAST BOUND	WEST BOUND
	L TR	L TR	L T TR	L T TR

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)
SCENARIO 2 = EXISTING + PROJECT VOLUMES (A+B)
SCENARIO 3 = CUMULATIVE (C)
SCENARIO 4 = CUMULATIVE + PROJECT VOLUMES (B+C)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	SCENARIO V/C RATIOS 1	2	3	4
NBL	1	1600	65	65	65	65	0.04 *	0.04 *	0.04 *	0.04 *
NBT	1	1600	42	44	42	44	0.031	0.033	0.031	0.033
NBR	0	0	8	8	8	8	-	-	-	-
SBL	1	1600	58	58	58	58	0.036	0.036	0.036	0.036
SBT	1	1600	44	44	44	44	0.038 *	0.038 *	0.038 *	0.038 *
SBR	0	0	17	17	17	17	-	-	-	-
EBL	1	1600	31	31	31	31	0.02	0.02	0.02	0.02
EBT	2	3200	835	835	844	844	0.290 *	0.290 *	0.293 *	0.293 *
EBR	0	0	92	92	92	92	-	-	-	-
WBL	1	1600	17	17	17	17	0.01 *	0.01 *	0.01 *	0.01 *
WBT	2	3200	794	794	830	830	0.271	0.271	0.282	0.282
WBR	0	0	73	73	73	73	-	-	-	-
					LOST TIME:		0.00	0.00	0.00	0.00
					TOTAL INTERSECTION CAPACITY UTILIZATION:		**0.38**	**0.38**	**0.38**	**0.38**
					SCENARIO LEVEL OF SERVICE:		A	A	A	A

NOTES:

Printed: 05/04/20

#20022 - BARRY STREET AFFORDABLE HOUSING PROJECT REF: 01 PM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: *MARCH 12, 2019*

TIME PERIOD: *P.M. PEAK HOUR*

N/S STREET: *CAMINO ALVAREZ*

E/W STREET: *LAS POSAS ROAD*

CONTROL TYPE: *SIGNAL*

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND L	T	R	SOUTH BOUND L	T	R	EAST BOUND L	T	R	WEST BOUND L	T	R
(A) EXISTING:	**41**	**3**	**35**	**27**	**10**	**2**	**6**	**911**	**79**	**5**	**1011**	**9**
(B) PROJECT-ADDED:	**0**	**1**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
(C) CUMULATIVE:	**41**	**3**	**35**	**27**	**10**	**2**	**6**	**941**	**79**	**5**	**1028**	**9**

GEOMETRICS

LANE GEOMETRICS	NORTH BOUND	SOUTH BOUND	EAST BOUND	WEST BOUND
	L TR	L TR	L T TR	L T TR

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)
SCENARIO 2 = EXISTING + PROJECT VOLUMES (A+B)
SCENARIO 3 = CUMULATIVE (C)
SCENARIO 4 = CUMULATIVE + PROJECT VOLUMES (B+C)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	SCENARIO V/C RATIOS 1	2	3	4
NBL	1	1600	41	41	41	41	0.03 *	0.03 *	0.03 *	0.03 *
NBT	1	1600	3	4	3	4	0.006	0.006	0.006	0.006
NBR	0	0	6	6	6	6	-	-	-	-
SBL	1	1600	27	27	27	27	0.017	0.017	0.017	0.017
SBT	1	1600	10	12	10	12	0.008 *	0.009 *	0.008 *	0.009 *
SBR	0	0	2	2	2	2	-	-	-	-
EBL	1	1600	6	6	6	6	0.00 *	0.00 *	0.00 *	0.00 *
EBT	2	3200	911	911	941	941	0.309	0.309	0.319	0.319
EBR	0	0	79	79	79	79	-	-	-	-
WBL	1	1600	5	5	5	5	0.00	0.00	0.00	0.00
WBT	2	3200	1011	1011	1028	1028	0.319 *	0.319 *	0.324 *	0.324 *
WBR	0	0	9	9	9	9	-	-	-	-
		LOST TIME:					0.00	0.00	0.00	0.00
		TOTAL INTERSECTION CAPACITY UTILIZATION:					**0.36**	**0.36**	**0.36**	**0.36**
		SCENARIO LEVEL OF SERVICE:					A	A	A	A

NOTES:

Printed: 05/04/20

#20022 - BARRY STREET AFFORDABLE HOUSING PROJECT REF: 02 AM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: *MARCH 12, 2019*

TIME PERIOD: *A.M. PEAK HOUR*

N/S STREET: *SOMIS ROAD*

E/W STREET: *LAS POSAS ROAD-UPLAND ROAD*

CONTROL TYPE: *SIGNAL*

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND L	T	R	SOUTH BOUND L	T	R	EAST BOUND L	T	R	WEST BOUND L	T	R
(A) EXISTING:	57	372	103	176	523	218	293	618	22	160	653	159
(B) PROJECT-ADDED:	0	4	0	0	2	0	0	0	0	0	0	0
(C) CUMULATIVE:	57	421	103	177	594	220	294	626	22	178	687	164

GEOMETRICS

LANE GEOMETRICS	NORTH BOUND L T T R	SOUTH BOUND L T T R	EAST BOUND LL T TR	WEST BOUND L T T R

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)
SCENARIO 2 = EXISTING + PROJECT VOLUMES (A+B)
SCENARIO 3 = CUMULATIVE (C)
SCENARIO 4 = CUMULATIVE + PROJECT VOLUMES (B+C)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	SCENARIO V/C RATIOS 1	2	3	4
NBL	1	1600	57	57	57	57	0.04	0.04	0.04	0.04
NBT	2	3200	372	376	421	425	0.116 *	0.118 *	0.132 *	0.133 *
NBR	1	1600	43	43	43	43	0.027	0.027	0.027	0.027
SBL	1	1600	176	176	177	177	0.110 *	0.110 *	0.111 *	0.111 *
SBT	2	3200	523	525	594	596	0.163	0.164	0.186	0.186
SBR	1	1600	218	218	220	220	0.14	0.14	0.14	0.14
EBL	2	3200	293	293	294	294	0.09	0.09	0.09	0.09
EBT	2	3200	618	618	626	626	0.200 *	0.200 *	0.203 *	0.203 *
EBR	0	0	22	22	22	22	-	-	-	-
WBL	1	1600	160	160	178	178	0.10 *	0.10 *	0.11 *	0.11 *
WBT	2	3200	653	653	687	687	0.204	0.204	0.215	0.215
WBR	1	1600	159	159	164	164	0.099	0.099	0.103	0.103
					LOST TIME:		0.00	0.00	0.00	0.00
					TOTAL INTERSECTION CAPACITY UTILIZATION:		**0.53**	**0.53**	**0.56**	**0.56**
					SCENARIO LEVEL OF SERVICE:		A	A	A	A

NOTES:

Printed: 05/04/20

#20022 - BARRY STREET AFFORDABLE HOUSING PROJECT **REF:** 02 PM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: *MARCH 12, 2019*

TIME PERIOD: *P.M. PEAK HOUR*

N/S STREET: *SOMIS ROAD*

E/W STREET: *LAS POSAS ROAD-UPLAND ROAD*

CONTROL TYPE: *SIGNAL*

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND L	NORTH BOUND T	NORTH BOUND R	SOUTH BOUND L	SOUTH BOUND T	SOUTH BOUND R	EAST BOUND L	EAST BOUND T	EAST BOUND R	WEST BOUND L	WEST BOUND T	WEST BOUND R
(A) EXISTING:	**53**	**506**	**86**	**80**	**446**	**266**	**271**	**646**	**53**	**123**	**714**	**256**
(B) PROJECT-ADDED:	**0**	**3**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
(C) CUMULATIVE:	**53**	**612**	**86**	**80**	**543**	**268**	**274**	**673**	**53**	**130**	**729**	**259**

GEOMETRICS

LANE GEOMETRICS	NORTH BOUND L T T R	SOUTH BOUND L T T R	EAST BOUND LL T TR	WEST BOUND L T T R

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)
SCENARIO 2 = EXISTING + PROJECT VOLUMES (A+B)
SCENARIO 3 = CUMULATIVE (C)
SCENARIO 4 = CUMULATIVE + PROJECT VOLUMES (B+C)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	SCENARIO V/C RATIOS 1	2	3	4
NBL	1	1600	53	53	53	53	0.03	0.03	0.03	0.03
NBT	2	3200	506	509	612	615	0.158 *	0.159 *	0.191 *	0.192 *
NBR	1	1600	36	36	36	36	0.023	0.023	0.023	0.023
SBL	1	1600	80	80	80	80	0.050 *	0.050 *	0.050 *	0.050 *
SBT	2	3200	446	450	543	547	0.139	0.141	0.170	0.171
SBR	1	1600	266	266	268	268	0.17	0.17	0.17	0.17
EBL	2	3200	271	271	274	274	0.09 *	0.09 *	0.09 *	0.09 *
EBT	2	3200	646	646	673	673	0.218	0.218	0.227	0.227
EBR	0	0	53	53	53	53	-	-	-	-
WBL	1	1600	123	123	130	130	0.08	0.08	0.08	0.08
WBT	2	3200	714	714	729	729	0.223 *	0.223 *	0.228 *	0.228 *
WBR	1	1600	256	256	259	259	0.160	0.160	0.162	0.162
					LOST TIME:		0.00	0.00	0.00	0.00
					TOTAL INTERSECTION CAPACITY UTILIZATION:		**0.52**	**0.52**	**0.56**	**0.56**
					SCENARIO LEVEL OF SERVICE:		A	A	A	A

NOTES:

Printed: 05/04/20

#20022 - BARRY STREET AFFORDABLE HOUSING PROJECT REF: 03 AM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: *MARCH 12, 2019*

TIME PERIOD: *A.M. PEAK HOUR*

N/S STREET: *LEWIS ROAD*

E/W STREET: *ADOLFO ROAD*

CONTROL TYPE: *SIGNAL*

TRAFFIC VOLUME SUMMARY

		NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
VOLUMES		L	T	R	L	T	R	L	T	R	L	T	R
(A)	EXISTING:	**36**	**485**	**261**	**280**	**636**	**22**	**49**	**573**	**55**	**159**	**275**	**95**
(B)	PROJECT-ADDED:	**0**	**6**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
(C)	CUMULATIVE:	**36**	**540**	**261**	**280**	**724**	**23**	**49**	**573**	**55**	**159**	**275**	**95**

GEOMETRICS

	NORTH BOUND	SOUTH BOUND	EAST BOUND	WEST BOUND
LANE GEOMETRICS	L T TR	LL T TR	L T TR	L T TR

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)
SCENARIO 2 = EXISTING + PROJECT VOLUMES (A+B)
SCENARIO 3 = CUMULATIVE (C)
SCENARIO 4 = CUMULATIVE + PROJECT VOLUMES (B+C)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	SCENARIO V/C RATIOS 1	2	3	4
NBL	1	1600	36	36	36	36	0.02	0.02	0.02	0.02
NBT	2	3200	485	491	540	546	0.186 *	0.188 *	0.203 *	0.205 *
NBR	0	0	110	110	110	110	-	-	-	-
SBL	2	3200	280	280	280	280	0.088 *	0.088 *	0.088 *	0.088 *
SBT	2	3200	636	638	724	726	0.206	0.206	0.233	0.234
SBR	0	0	22	22	23	23	-	-	-	-
EBL	1	1600	49	49	49	49	0.03	0.03	0.03	0.03
EBT	2	3200	573	573	573	573	0.196 *	0.196 *	0.196 *	0.196 *
EBR	0	0	55	55	55	55	-	-	-	-
WBL	1	1600	159	159	159	159	0.10 *	0.10 *	0.10 *	0.10 *
WBT	2	3200	275	275	275	275	0.116	0.116	0.116	0.116
WBR	0	0	95	95	95	95	-	-	-	-
					LOST TIME:		0.00	0.00	0.00	0.00
					TOTAL INTERSECTION CAPACITY UTILIZATION:		**0.57**	**0.57**	**0.59**	**0.59**
					SCENARIO LEVEL OF SERVICE:		A	A	A	A

NOTES:

Printed: 05/04/20

#20022 - BARRY STREET AFFORDABLE HOUSING PROJECT REF: 03 PM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: *MARCH 12, 2019*

TIME PERIOD: *P.M. PEAK HOUR*

N/S STREET: *LEWIS ROAD*

E/W STREET: *ADOLFO ROAD*

CONTROL TYPE: *SIGNAL*

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND L	NORTH BOUND T	NORTH BOUND R	SOUTH BOUND L	SOUTH BOUND T	SOUTH BOUND R	EAST BOUND L	EAST BOUND T	EAST BOUND R	WEST BOUND L	WEST BOUND T	WEST BOUND R
(A) EXISTING:	**57**	**566**	**234**	**97**	**656**	**27**	**39**	**390**	**36**	**243**	**637**	**183**
(B) PROJECT-ADDED:	**0**	**4**	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
(C) CUMULATIVE:	**57**	**680**	**234**	**97**	**759**	**27**	**40**	**390**	**36**	**243**	**637**	**183**

GEOMETRICS

LANE GEOMETRICS	NORTH BOUND	SOUTH BOUND	EAST BOUND	WEST BOUND
	L T TR	LL T TR	L T TR	L T TR

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)
SCENARIO 2 = EXISTING + PROJECT VOLUMES (A+B)
SCENARIO 3 = CUMULATIVE (C)
SCENARIO 4 = CUMULATIVE + PROJECT VOLUMES (B+C)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	SCENARIO V/C RATIOS 1	2	3	4
NBL	1	1600	57	57	57	57	0.04 *	0.04	0.04	0.04
NBT	2	3200	566	570	680	684	0.208	0.209 *	0.243 *	0.245 *
NBR	0	0	99	99	99	99	-	-	-	-
SBL	2	3200	97	97	97	97	0.030	0.030 *	0.030 *	0.030 *
SBT	2	3200	656	662	759	765	0.213 *	0.215	0.246	0.248
SBR	0	0	27	27	27	27	-	-	-	-
EBL	1	1600	39	39	40	40	0.02	0.02	0.03	0.03
EBT	2	3200	390	390	390	390	0.133 *	0.133 *	0.133 *	0.133 *
EBR	0	0	36	36	36	36	-	-	-	-
WBL	1	1600	243	243	243	243	0.15 *	0.15 *	0.15 *	0.15 *
WBT	2	3200	637	637	637	637	0.256	0.256	0.256	0.256
WBR	0	0	183	183	183	183	-	-	-	-
						LOST TIME:	0.00	0.00	0.00	0.00
						TOTAL INTERSECTION CAPACITY UTILIZATION:	**0.53**	0.54 ~~0.52~~	0.57 ~~0.56~~	0.57 ~~0.56~~
						SCENARIO LEVEL OF SERVICE:	A	A	A	A

NOTES:

Printed: 05/04/20

#20022- BARRY STREET AFFORDABLE HOUSING PROJECT **REF:** 04 AM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: ***MARCH 12, 2019***

TIME PERIOD: ***A.M. PEAK HOUR***

N/S STREET: ***LEWIS ROAD***

E/W STREET: ***DAILY DRIVE***

CONTROL TYPE: ***SIGNAL***

TRAFFIC VOLUME SUMMARY

	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
VOLUMES	L	T	R	L	T	R	L	T	R	L	T	R
(A) EXISTING:	**266**	**823**	**0**	**0**	**883**	**356**	**156**	**10**	**214**	**8**	**9**	**2**
(B) PROJECT-ADDED:	**0**	**3**	**0**	**0**	**7**	**2**	**0**	**0**	**0**	**0**	**0**	**0**
(C) CUMULATIVE:	**266**	**877**	**0**	**0**	**944**	**383**	**157**	**10**	**314**	**8**	**9**	**2**

GEOMETRICS

LANE GEOMETRICS	NORTH BOUND	SOUTH BOUND	EAST BOUND	WEST BOUND
	L T TR	TT TR	L LT R	LTR

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)
SCENARIO 2 = EXISTING + PROJECT VOLUMES (A+B)
SCENARIO 3 = CUMULATIVE (C)
SCENARIO 4 = CUMULATIVE + PROJECT VOLUMES (B+C)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	SCENARIO V/C RATIOS 1	2	3	4
NBL	1	1600	266	266	266	266	0.17 *	0.17 *	0.17 *	0.17 *
NBT	2	3200	823	826	877	880	0.257	0.258	0.274	0.275
NBR	0	0	0	0	0	0	-	-	-	-
SBL	0	0	0	0	0	0	-	-	-	-
SBT	3	4800	883	890	944	951	0.258 *	0.260 *	0.276 *	0.278 *
SBR	0	0	356	358	383	385	-	-	-	-
EBL	0	0	156	156	157	157	-	-	-	-
EBT	2	3200	10	10	10	10	0.052 *	0.052 *	0.052 *	0.052 *
EBR	1	1600	214	214	314	314	0.13	0.13	0.20	0.20
WBL	0	0	8	8	8	8	-	-	-	-
WBT	1	1600	9	9	9	9	0.012 *	0.012 *	0.012 *	0.012 *
WBR	0	0	2	2	2	2	-	-	-	-
			LOST TIME:				0.00	0.00	0.00	0.00
			TOTAL INTERSECTION CAPACITY UTILIZATION:				**0.49**	**0.49**	**0.51**	**0.51**
			SCENARIO LEVEL OF SERVICE:				A	A	A	A

NOTES:

Printed: 05/04/20

#20022 - BARRY STREET AFFORDABLE HOUSING PROJECT **REF:** 04 PM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: ***MARCH 12, 2019***

TIME PERIOD: ***P.M. PEAK HOUR***

N/S STREET: ***LEWIS ROAD***

E/W STREET: ***DAILY DRIVE***

CONTROL TYPE: ***SIGNAL***

TRAFFIC VOLUME SUMMARY

	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
VOLUMES	L	T	R	L	T	R	L	T	R	L	T	R
(A) EXISTING:	**310**	**1207**	**2**	**0**	**772**	**278**	**264**	**3**	**189**	**3**	**11**	**5**
(B) PROJECT-ADDED:	**0**	**7**	**0**	**0**	**5**	**1**	**2**	**0**	**0**	**0**	**0**	**0**
(C) CUMULATIVE:	**310**	**1329**	**2**	**0**	**860**	**293**	**266**	**3**	**241**	**3**	**11**	**5**

GEOMETRICS

LANE GEOMETRICS	NORTH BOUND	SOUTH BOUND	EAST BOUND	WEST BOUND
	L T TR	TT TR	L LT R	LTR

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)
SCENARIO 2 = EXISTING + PROJECT VOLUMES (A+B)
SCENARIO 3 = CUMULATIVE (C)
SCENARIO 4 = CUMULATIVE + PROJECT VOLUMES (B+C)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	SCENARIO V/C RATIOS 1	2	3	4		
NBL	1	1600	310	310	310	310	0.19 *	0.19 *	0.19 *	0.19 *		
NBT	2	3200	1207	1214	1329	1336	0.378	0.380	0.416	0.418		
NBR	0	0	1	1	1	1	-	-	-	-		
SBL	0	0	0	0	0	0	-	-	-	-		
SBT	3	4800	772	777	860	865	0.219 *	0.220 *	0.240 *	0.241 *		
SBR	0	0	278	279	293	294	-	-	-	-		
EBL	0	0	264	266	266	268	-	-	-	-		
EBT	2	3200	3	3	3	3	0.083 *	0.084 *	0.084 *	0.085 *		
EBR	1	1600	189	189	241	241	0.12	0.12	0.15	0.15		
WBL	0	0	3	3	3	3	-	-	-	-		
WBT	1	1600	11	11	11	11	0.012 *	0.012 *	0.012 *	0.012 *		
WBR	0	0	5	5	5	5	-	-	-	-		
					LOST TIME:		0.00	0.00	0.00	0.00		
					TOTAL INTERSECTION CAPACITY UTILIZATION:		**0.51**	**0.51**	**0.53**	**0.53**		
					SCENARIO LEVEL OF SERVICE:		A	A	A	A		

NOTES:

Printed: 05/04/20

#20022- BARRY STREET AFFORDABLE HOUSING PROJECT **REF:** 05 AM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: ***MARCH 12, 2019***

TIME PERIOD: ***A.M. PEAK HOUR***

N/S STREET: ***U.S. HIGHWAY 101 NORTHBOUND RAMPS***

E/W STREET: ***DAILY DRIVE***

CONTROL TYPE: ***SIGNAL***

TRAFFIC VOLUME SUMMARY

		NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
VOLUMES		L	T	R	L	T	R	L	T	R	L	T	R
(A)	EXISTING:	**373**	**0**	**266**	**0**	**0**	**0**	**0**	**142**	**175**	**458**	**179**	**0**
(B)	PROJECT-ADDED:	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**2**	**0**	**0**
(C)	CUMULATIVE:	**373**	**0**	**281**	**0**	**0**	**0**	**0**	**189**	**175**	**538**	**195**	**0**

GEOMETRICS

	NORTH BOUND	SOUTH BOUND	EAST BOUND	WEST BOUND
LANE GEOMETRICS	L L R		T R	LL T

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)
SCENARIO 2 = EXISTING + PROJECT VOLUMES (A+B)
SCENARIO 3 = CUMULATIVE (C)
SCENARIO 4 = CUMULATIVE + PROJECT VOLUMES (B+C)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	SCENARIO V/C RATIOS 1	2	3	4
NBL	2	3200	373	373	373	373	0.12 *	0.12 *	0.12 *	0.12 *
NBT	0	0	0	0	0	0	-	-	-	-
NBR	1	1600	112	112	118	118	0.070	0.070	0.074	0.074
SBL	0	0	0	0	0	0	-	-	-	-
SBT	0	0	0	0	0	0	-	-	-	-
SBR	0	0	0	0	0	0	-	-	-	-
EBL	0	0	0	0	0	0	-	-	-	-
EBT	1	1600	142	143	189	190	0.089 *	0.089 *	0.118 *	0.119 *
EBR	1	1600	175	175	175	175	0.11	0.11	0.11	0.11
WBL	2	3200	458	460	538	540	0.14 *	0.14 *	0.17 *	0.17 *
WBT	1	1600	179	179	195	195	0.112	0.112	0.122	0.122
WBR	0	0	0	0	0	0	-	-	-	-
					LOST TIME:		0.00	0.00	0.00	0.00
					TOTAL INTERSECTION CAPACITY UTILIZATION:		**0.35**	**0.35**	**0.40**	**0.41**
					SCENARIO LEVEL OF SERVICE:		A	A	A	A

NOTES:

Printed: 05/04/20

#20022 - BARRY STREET AFFORDABLE HOUSING PROJECT **REF:** 05 PM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: ***MARCH 12, 2019***

TIME PERIOD: ***P.M. PEAK HOUR***

N/S STREET: ***U.S. HIGHWAY 101 NORTHBOUND RAMPS***

E/W STREET: ***DAILY DRIVE***

CONTROL TYPE: ***SIGNAL***

TRAFFIC VOLUME SUMMARY

		NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
VOLUMES		L	T	R	L	T	R	L	T	R	L	T	R
(A)	EXISTING:	**1309**	**0**	**279**	**0**	**0**	**0**	**0**	**198**	**86**	**294**	**333**	**0**
(B)	PROJECT-ADDED:	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**
(C)	CUMULATIVE:	**1309**	**0**	**359**	**0**	**0**	**0**	**0**	**211**	**86**	**385**	**355**	**0**

GEOMETRICS

	NORTH BOUND	SOUTH BOUND	EAST BOUND	WEST BOUND
LANE GEOMETRICS	L L R		T R	LL T

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)
SCENARIO 2 = EXISTING + PROJECT VOLUMES (A+B)
SCENARIO 3 = CUMULATIVE (C)
SCENARIO 4 = CUMULATIVE + PROJECT VOLUMES (B+C)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	SCENARIO V/C RATIOS 1	2	3	4
NBL	2	3200	1309	1309	1309	1309	0.41 *	0.41 *	0.41 *	0.41 *
NBT	0	0	0	0	0	0	-	-	-	-
NBR	1	1600	118	118	151	152	0.074	0.074	0.094	0.095
SBL	0	0	0	0	0	0	-	-	-	-
SBT	0	0	0	0	0	0	-	-	-	-
SBR	0	0	0	0	0	0	-	-	-	-
EBL	0	0	0	0	0	0	-	-	-	-
EBT	1	1600	198	198	211	211	0.124	0.124	0.132	0.132
EBR	1	1600	86	86	86	86	0.05	0.05	0.05	0.05
WBL	2	3200	294	295	385	386	0.09	0.09	0.12	0.12
WBT	1	1600	333	333	355	355	0.208 *	0.208 *	0.222 *	0.222 *
WBR	0	0	0	0	0	0	-	-	-	-
			LOST TIME:				0.00	0.00	0.00	0.00
			TOTAL INTERSECTION CAPACITY UTILIZATION:				**0.62**	**0.62**	**0.63**	**0.63**
			SCENARIO LEVEL OF SERVICE:				**B**	**B**	**B**	**B**

NOTES:

Printed: 05/04/20

#20022 - BARRY STREET AFFORDABLE HOUSING PROJECT REF: 06 AM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: *MARCH 12, 2019*

TIME PERIOD: *A.M. PEAK HOUR*

N/S STREET: *LEWIS ROAD*

E/W STREET: *VENTURA BOULEVARD*

CONTROL TYPE: *SIGNAL*

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND L	T	R	SOUTH BOUND L	T	R	EAST BOUND L	T	R	WEST BOUND L	T	R
(A) EXISTING:	**178**	**684**	**16**	**22**	**656**	**428**	**400**	**26**	**341**	**4**	**12**	**5**
(B) PROJECT-ADDED:	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**
(C) CUMULATIVE:	**226**	**792**	**16**	**22**	**738**	**434**	**409**	**26**	**368**	**4**	**12**	**5**

GEOMETRICS

LANE GEOMETRICS	NORTH BOUND	SOUTH BOUND	EAST BOUND	WEST BOUND
	LL T TR	L T T R	L LT R	LT R

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)
SCENARIO 2 = EXISTING + PROJECT VOLUMES (A+B)
SCENARIO 3 = CUMULATIVE (C)
SCENARIO 4 = CUMULATIVE + PROJECT VOLUMES (B+C)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	SCENARIO V/C RATIOS 1	2	3	4
NBL	2	3200	178	178	226	226	0.06	0.06	0.07	0.07
NBT	2	3200	684	684	792	792	0.216 *	0.216 *	0.250 *	0.250 *
NBR	0	0	7	7	7	7	-	-	-	-
SBL	1	1600	22	23	22	23	0.014 *	0.014 *	0.014 *	0.014 *
SBT	2	3200	656	656	738	738	0.205	0.205	0.231	0.231
SBR	1	1600	428	428	434	434	0.27	0.27	0.27	0.27
EBL	0	0	400	400	409	409	-	-	-	-
EBT	2	3200	26	26	26	26	0.133 *	0.133 *	0.136 *	0.136 *
EBR	1	1600	341	341	368	368	0.21	0.21	0.23	0.23
WBL	0	0	4	4	4	4	-	-	-	-
WBT	1	1600	12	12	12	12	0.010 *	0.010 *	0.010 *	0.010 *
WBR	1	1600	5	7	5	7	0.003	0.004	0.003	0.004
					LOST TIME:		0.00	0.00	0.00	0.00
					TOTAL INTERSECTION CAPACITY UTILIZATION:		**0.37**	**0.37**	**0.41**	**0.41**
					SCENARIO LEVEL OF SERVICE:		A	A	A	A

NOTES:

Printed: 05/04/20

#20022 - BARRY STREET AFFORDABLE HOUSING PROJECT **REF:** 06 PM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: ***MARCH 12, 2019***

TIME PERIOD: ***P.M. PEAK HOUR***

N/S STREET: ***LEWIS ROAD***

E/W STREET: ***VENTURA BOULEVARD***

CONTROL TYPE: ***SIGNAL***

TRAFFIC VOLUME SUMMARY

	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
VOLUMES	L	T	R	L	T	R	L	T	R	L	T	R
(A) EXISTING:	**413**	**968**	**15**	**12**	**637**	**319**	**541**	**16**	**283**	**6**	**17**	**11**
(B) PROJECT-ADDED:	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
(C) CUMULATIVE:	**486**	**1156**	**15**	**12**	**848**	**321**	**569**	**16**	**408**	**6**	**17**	**11**

GEOMETRICS

LANE GEOMETRICS	NORTH BOUND	SOUTH BOUND	EAST BOUND	WEST BOUND
	LL T TR	L T T R	L LT R	LT R

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)
SCENARIO 2 = EXISTING + PROJECT VOLUMES (A+B)
SCENARIO 3 = CUMULATIVE (C)
SCENARIO 4 = CUMULATIVE + PROJECT VOLUMES (B+C)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	SCENARIO V/C RATIOS 1	2	3	4
NBL	2	3200	413	413	486	486	0.13 *	0.13 *	0.15 *	0.15 *
NBT	2	3200	968	968	1156	1156	0.304	0.304	0.363	0.363
NBR	0	0	6	6	6	6	-	-	-	-
SBL	1	1600	12	14	12	14	0.008	0.009	0.008	0.009
SBT	2	3200	637	637	848	848	0.199 *	0.199 *	0.265 *	0.265 *
SBR	1	1600	319	319	321	321	0.20	0.20	0.20	0.20
EBL	0	0	541	541	569	569	-	-	-	-
EBT	2	3200	16	16	16	16	0.174 *	0.174 *	0.183 *	0.183 *
EBR	1	1600	283	283	408	408	0.18	0.18	0.26	0.26
WBL	0	0	6	6	6	6	-	-	-	-
WBT	1	1600	17	17	17	17	0.014 *	0.014 *	0.014 *	0.014 *
WBR	1	1600	11	12	11	12	0.007	0.008	0.007	0.008
					LOST TIME:		0.00	0.00	0.00	0.00
					TOTAL INTERSECTION CAPACITY UTILIZATION:		**0.52**	**0.52**	**0.61**	**0.61**
					SCENARIO LEVEL OF SERVICE:		**A**	**A**	**B**	**B**

NOTES:

Printed: 05/04/20

#20022 - BARRY STREET AFFORADBEL HOUSING PROJECT REF: 07 AM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: *MARCH 12, 2019*

TIME PERIOD: *A.M. PEAK HOUR*

N/S STREET: *U.S. HIGHWAY 101 SOUTHBOUND RAMPS*

E/W STREET: *DAILY DRIVE*

CONTROL TYPE: *SIGNAL*

TRAFFIC VOLUME SUMMARY

		NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
VOLUMES		L	T	R	L	T	R	L	T	R	L	T	R
(A)	EXISTING:	7	18	22	235	10	12	15	118	12	24	148	487
(B)	PROJECT-ADDED:	0	2	0	0	5	2	1	0	0	0	0	0
(C)	CUMULATIVE:	7	18	22	260	10	22	30	118	13	24	154	500

GEOMETRICS

LANE GEOMETRICS	NORTH BOUND	SOUTH BOUND	EAST BOUND	WEST BOUND
	L TR	L LT R	LLTR	L T TR

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)
SCENARIO 2 = EXISTING + PROJECT VOLUMES (A+B)
SCENARIO 3 = CUMULATIVE (C)
SCENARIO 4 = CUMULATIVE + PROJECT VOLUMES (B+C)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	SCENARIO V/C RATIOS 1	2	3	4		
NBL	0	0	7	7	7	7	-	-	-	-		
NBT	1	1600	18	20	18	20	0.021 *	0.023 *	0.021 *	0.023 *		
NBR	0	0	9	9	9	9	-	-	-	-		
SBL	0	0	235	235	260	260	-	-	-	-		
SBT	2	3200	10	15	10	15	0.077 *	0.078 *	0.084 *	0.086 *		
SBR	1	1600	12	14	22	24	0.01	0.01	0.01	0.02		
EBL	2	3200	15	16	30	31	0.01 *	0.01 *	0.01 *	0.01 *		
EBT	1	1600	118	118	118	118	0.081	0.081	0.082	0.082		
EBR	0	0	12	12	13	13	-	-	-	-		
WBL	1	1600	24	24	24	24	0.02	0.02	0.02	0.02		
WBT	2	3200	148	148	154	154	0.198 *	0.198 *	0.204 *	0.204 *		
WBR	0	0	487	487	500	500	-	-	-	-		
					LOST TIME:		0.00	0.00	0.00	0.00		
					TOTAL INTERSECTION CAPACITY UTILIZATION:		**0.30**	**0.30**	**0.32**	**0.32**		
					SCENARIO LEVEL OF SERVICE:		A	A	A	A		

NOTES:

Printed: 05/04/20

#20022 - BARRY STREET AFFORDABLE HOUSING PROJECT **REF:** 07 PM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: ***MARCH 12, 2019***

TIME PERIOD: ***P.M. PEAK HOUR***

N/S STREET: ***U.S. HIGHWAY 101 SOUTHBOUND RAMPS***

E/W STREET: ***DAILY DRIVE***

CONTROL TYPE: ***SIGNAL***

TRAFFIC VOLUME SUMMARY

	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
VOLUMES	L	T	R	L	T	R	L	T	R	L	T	R
(A) EXISTING:	**33**	**16**	**30**	**434**	**18**	**38**	**148**	**407**	**17**	**28**	**816**	**413**
(B) PROJECT-ADDED:	**0**	**5**	**0**	**0**	**4**	**1**	**2**	**0**	**0**	**0**	**1**	**0**
(C) CUMULATIVE:	**33**	**16**	**30**	**539**	**18**	**83**	**173**	**407**	**24**	**28**	**818**	**421**

GEOMETRICS

	NORTH BOUND	SOUTH BOUND	EAST BOUND	WEST BOUND
LANE GEOMETRICS	L TR	L LT R	LLTR	L T TR

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)
SCENARIO 2 = EXISTING + PROJECT VOLUMES (A+B)
SCENARIO 3 = CUMULATIVE (C)
SCENARIO 4 = CUMULATIVE + PROJECT VOLUMES (B+C)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	SCENARIO V/C RATIOS 1	2	3	4
NBL	0	0	33	33	33	33	-	-	-	-
NBT	1	1600	16	21	16	21	0.039 *	0.042 *	0.039 *	0.042 *
NBR	0	0	13	13	13	13	-	-	-	-
SBL	0	0	434	434	539	539	-	-	-	-
SBT	2	3200	18	22	18	22	0.141 *	0.143 *	0.174 *	0.175 *
SBR	1	1600	38	39	83	84	0.02	0.02	0.05	0.05
EBL	2	3200	148	150	173	175	0.05 *	0.05 *	0.05 *	0.06 *
EBT	1	1600	407	407	407	407	0.265	0.265	0.269	0.269
EBR	0	0	17	17	24	24	-	-	-	-
WBL	1	1600	28	28	28	28	0.02	0.02	0.02	0.02
WBT	2	3200	816	817	818	819	0.384 *	0.384 *	0.387 *	0.388 *
WBR	0	0	413	413	421	421	-	-	-	-
					LOST TIME:		0.00	0.00	0.00	0.00
					TOTAL INTERSECTION CAPACITY UTILIZATION:		**0.61**	**0.62**	**0.65**	**0.66**
					SCENARIO LEVEL OF SERVICE:		**B**	**B**	**B**	**B**

NOTES:

Printed: 05/04/20

#20082 - BARRY STREET AFFORDABLE HOUSING PROJECT REF: 08 AM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: *JANUARY 7, 2020*

TIME PERIOD: *A.M. PEAK HOUR*

N/S STREET: *LEWIS ROAD*

E/W STREET: *PLEASANT VALLEY ROAD*

CONTROL TYPE: *SIGNAL*

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND L	T	R	SOUTH BOUND L	T	R	EAST BOUND L	T	R	WEST BOUND L	T	R
(A) EXISTING:	54	236	251	112	543	219	199	563	8	358	353	236
(B) PROJECT-ADDED:	0	1	0	1	1	3	1	0	0	0	0	0
(C) CUMULATIVE:	60	250	255	115	580	225	220	600	15	365	400	250

GEOMETRICS

LANE GEOMETRICS	NORTH BOUND L TT R	SOUTH BOUND L TT R	EAST BOUND LL TT R	WEST BOUND LL TT R

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)
SCENARIO 2 = EXISTING + PROJECT VOLUMES (A+B)
SCENARIO 3 = CUMULATIVE (C)
SCENARIO 4 = CUMULATIVE + PROJECT VOLUMES (B+C)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	SCENARIO V/C RATIOS 1	2	3	4
NBL	1	1600	54	54	60	60	0.03 *	0.03 *	0.04 *	0.04 *
NBT	2	3200	236	237	250	251	0.074	0.074	0.078	0.078
NBR	1	1600	106	106	108	108	0.066	0.066	0.068	0.068
SBL	1	1600	112	113	115	116	0.070	0.071	0.072	0.073
SBT	2	3200	543	544	580	581	0.170 *	0.170 *	0.181 *	0.182 *
SBR	1	1600	219	222	225	228	0.14	0.14	0.14	0.14
EBL	2	3200	199	200	220	221	0.06	0.06	0.07	0.07
EBT	2	3200	563	563	600	600	0.176 *	0.176 *	0.188 *	0.188 *
EBR	1	1600	8	8	15	15	0.01	0.01	0.01	0.01
WBL	2	3200	358	358	365	365	0.11 *8	0.11 *	0.11 *	0.11 *
WBT	2	3200	353	353	400	400	0.110	0.110	0.125	0.125
WBR	1	1600	236	236	250	250	0.148	0.148	0.156	0.156
					LOST TIME:		0.00	0.00	0.00	0.00
					TOTAL INTERSECTION CAPACITY UTILIZATION:		0.49 ~~0.38~~	**0.49**	**0.52**	**0.52**
					SCENARIO LEVEL OF SERVICE:		A	A	A	A

NOTES:

Printed: 05/04/20

#20082 - BARRY STREET AFFORDABLE HOUSING PROJECT **REF:** 08 PM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: *JANUARY 7, 2020*

TIME PERIOD: *P.M. PEAK HOUR*

N/S STREET: *LEWIS ROAD*

E/W STREET: *PLEASANT VALLEY ROAD*

CONTROL TYPE: *SIGNAL*

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND L	NORTH BOUND T	NORTH BOUND R	SOUTH BOUND L	SOUTH BOUND T	SOUTH BOUND R	EAST BOUND L	EAST BOUND T	EAST BOUND R	WEST BOUND L	WEST BOUND T	WEST BOUND R
(A) EXISTING:	**59**	**423**	**414**	**105**	**309**	**251**	**207**	**384**	**17**	**279**	**724**	**247**
(B) PROJECT-ADDED:	**0**	**1**	**0**	**1**	**1**	**2**	**3**	**0**	**0**	**0**	**0**	**1**
(C) CUMULATIVE:	**60**	**450**	**420**	**110**	**330**	**260**	**230**	**410**	**25**	**285**	**760**	**260**

GEOMETRICS

LANE GEOMETRICS	NORTH BOUND	SOUTH BOUND	EAST BOUND	WEST BOUND
	L TT R	L TT R	LL TT R	LL TT R

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)
SCENARIO 2 = EXISTING + PROJECT VOLUMES (A+B)
SCENARIO 3 = CUMULATIVE (C)
SCENARIO 4 = CUMULATIVE + PROJECT VOLUMES (B+C)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	SCENARIO V/C RATIOS 1	2	3	4
NBL	1	1600	59	59	60	60	0.04	0.04	0.04	0.04
NBT	2	3200	423	424	450	451	0.132 *	0.133 *	0.141 *	0.141 *
NBR	1	1600	175	175	177	177	0.109	0.109	0.111	0.111
SBL	1	1600	105	106	110	111	0.066 *	0.066 *	0.069 *	0.069 *
SBT	2	3200	309	310	330	331	0.097	0.097	0.103	0.103
SBR	1	1600	251	253	260	262	0.16	0.16	0.16	0.16
EBL	2	3200	207	210	230	233	0.07 *	0.07 *	0.07 *	0.07 *
EBT	2	3200	384	384	410	410	0.120	0.120	0.128	0.128
EBR	1	1600	17	17	25	25	0.01	0.01	0.02	0.02
WBL	2	3200	279	279	285	285	0.09	0.09	0.09	0.09
WBT	2	3200	724	724	760	760	0.226 *	0.226 *	0.238 *	0.238 *
WBR	1	1600	247	248	260	261	0.154	0.155	0.163	0.163
					LOST TIME:		0.00	0.00	0.00	0.00
					TOTAL INTERSECTION CAPACITY UTILIZATION:		**0.49**	**0.49**	**0.52**	**0.52**
					SCENARIO LEVEL OF SERVICE:		A	A	A	A

NOTES:

Printed: 05/04/20

SIGNAL WARRANT

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

COUNT DATE _____

DIST _____ CO _____ RTE _____ PM _____

CALC _____ DATE _____

CHK _____ DATE _____

Major St: Lewis Road Critical Approach Speed 50 mph

Minor St: Project Driveway Critical Approach Speed _____ mph

Speed limit or critical speed on major street traffic > 40 mph..... ☑ or ☐ } **RURAL (R)**

In built up area of isolated community of < 10,000 population..... ☐ **URBAN (U)**

(Based on Estimated Average Daily Traffic - See Note)

URBAN..... RURAL..... ✓

CONDITION A - Minimum Vehicular Volume

Satisfied _____ Not Satisfied ✓

Minimum Requirements EADT

Number of lanes for moving traffic on each approach		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Major Street	Minor Street	Urban	Rural	Urban	Rural
1	1	8,000	5,600	2,400	1,680*
2 or More	1	9,600	6,720	2,400	1,680
2 or More	2 or More	9,600	6,720	3,200	2,240
1	2 or More	8,000	5,600	3,200	2,240

CONDITION B - Interruption of Continuous Traffic

Satisfied _____ Not Satisfied ✓

Number of lanes for moving traffic on each approach		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Major Street	Minor Street	Urban	Rural	Urban	Rural
1	1	12,000	8,400	1,200	850
2 or More	1	14,400	10,080	1,200	850
2 or More	2 or More	14,400	10,080	1,600	1,120
1	2 or More	12,000	8,400	1,600	1,120

Combination of CONDITIONS A + B

Satisfied _____ Not Satisfied ✓

No one condition satisfied, but following conditions fulfilled 80% or more..... A _____ B _____

2 CONDITIONS 80%

2 CONDITIONS 80%

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Appendix K

AB 52 Tribal Consultation Correspondence

City of Camarillo

601 Carmen Drive, Camarillo, CA 93010 / Ph: 805.388.5360 / Fax: 805.388.5388

May 29, 2020

Julie Lynn Tumamait-Stennslie, Chairperson
Barbareno / Ventureno Band of Mission Indians
P.O. Box 364
Ojai, CA 93024

SUBJECT: Notification of Consultation Opportunity, pursuant to AB 52 and SB 18 for proposed affordable housing project, located at 2800 Barry Street

The City of Camarillo will be the lead agency and will prepare Mitigated Negative Declaration for the proposed affordable housing project described below. Pursuant to AB 52 you have 30 days from the receipt of this letter to request consultation, in writing, with the City for the EIR.

Additionally, the City of Camarillo is considering a General Plan Amendment for the same property. Pursuant to SB 18 you have 45 days from the receipt of this letter to request consultation, in writing, with the City for the General Plan Amendment.

Below please find a description of the proposed project, a map showing the project location, and the name of the project point of contact, pursuant to PRC § 21080.3.1(d).

Description of the Proposed Project:

The project applicant, Area Housing Authority of County of Ventura, is requesting approval from the City of Camarillo to amend the General Plan land use designation on 2.5 acres from Industrial to High Density Residential (30 dwelling units per acre); Change of Zone from Light Manufacturing (M-1) to Residential Planned Development; Tentative Tract Map and Residential Planned Development Permit to construct 60 affordable rental units, including one market-rate manager unit, and eight for-sale low income units.

Project Location: The proposed project site is located within the City of Camarillo in Ventura County. Specifically, the site proposed for the project is the 2.5-acre property located at 2800 Barry Street. The site was previously developed as a lumber yard. The structures have been demolished and is currently vacant with a parking lot.



Lead Agency Point of Contact: Jaclyn Lee, 601 Carmen Drive, Camarillo, CA 93010. Phone: (805) 383-5616 Email:jlee@cityofcamarillo.org

Sincerely,

Jaclyn Lee, AICP
Principal Planner
Department of Community Development

City of Camarillo

601 Carmen Drive, Camarillo, CA 93010 / Ph: 805.388.5360 / Fax: 805.388.5388

May 29, 2020

Gino Altamirano, Chairperson
Coastal Band of the Chumash Nation
P. O. Box 4464
Santa Barbara, CA 93140

SUBJECT: Notification of Consultation Opportunity, pursuant to AB 52 and SB 18 for proposed affordable housing project, located at 2800 Barry Street

The City of Camarillo will be the lead agency and will prepare Mitigated Negative Declaration for the proposed affordable housing project described below. Pursuant to AB 52 you have 30 days from the receipt of this letter to request consultation, in writing, with the City for the EIR.

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Description of the Proposed Project:

The project applicant, Area Housing Authority of County of Ventura, is requesting approval from the City of Camarillo to amend the General Plan land use designation on 2.5 acres from Industrial to High Density Residential (30 dwelling units per acre); Change of Zone from Light Manufacturing (M-1) to Residential Planned Development; Tentative Tract Map and Residential Planned Development Permit to construct 60 affordable rental units, including one market-rate manager unit, and eight for-sale low income units.

Project Location: The proposed project site is located within the City of Camarillo in Ventura County. Specifically, the site proposed for the project is the 2.5-acre property located at 2800 Barry Street. The site was previously developed as a lumber yard. The structures have been demolished and is currently vacant with a parking lot.



Lead Agency Point of Contact: Jaclyn Lee, 601 Carmen Drive, Camarillo, CA 93010. Phone: (805) 383-5616 Email:jlee@cityofcamarillo.org

Sincerely,

Jaclyn Lee, AICP
Principal Planner
Department of Community Development

City of Camarillo

601 Carmen Drive, Camarillo, CA 93010 / Ph: 805.388.5360 / Fax: 805.388.5388

May 29, 2020

Vincent Armenta, Chairperson
Santa Ynez Band of Mission Indians
P.O. Box 517
Santa Ynez, CA 93460

SUBJECT: Notification of Consultation Opportunity, pursuant to AB 52 and SB 18 for proposed affordable housing project, located at 2800 Barry Street

The City of Camarillo will be the lead agency and will prepare Mitigated Negative Declaration for the proposed affordable housing project described below. Pursuant to AB 52 you have 30 days from the receipt of this letter to request consultation, in writing, with the City for the EIR.

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Lead Agency Point of Contact: Jaclyn Lee, 601 Carmen Drive, Camarillo, CA 93010. Phone: (805) 383-5616 Email:jlee@cityofcamarillo.org

Sincerely,

Jaclyn Lee, AICP
Principal Planner
Department of Community Development

Appendix L

Water Demand Study

February 21, 2020

City of Camarillo Water Division
601 Carmen Drive
Camarillo, CA 93010

RE: 2800 Barry Street- Affordable Housing Development
Water Demand Study

This letter is intended to assess the water demand for the proposed development located at 2800 Barry Street. The project site is located within Camarillo City limits and receives water service from the City of Camarillo.

The site is currently a vacant paved lot but was previously used as a lumber storage yard. The proposed project is a 100% affordable multi-family housing development consisting of a total of 68 units, including 60 rental apartments, and 8 for-sale condominiums. At the time of the preparation of this analysis the project is at the concept level of design. The analysis includes domestic flows and does not take into account spontaneous fire flows. The analysis of actual peak demand, including fire flows, will be completed during final design for purposes of sizing meters/service lines.

METHOD OF ANALYSIS

The following table provides a summary of water use factors provided by the City of Camarillo:

Unit Category	**Water Use Factor** (gal/capita* day)	**Population Factor** (people/unit)
Apartments	70	1.9
Condo/Duplex	70	2.5

CALCULATED PROJECT WATER DEMAND

Using the applicable water demand factors, the total project water demand has been calculated as follows:

Apartment Water Demand

$$\frac{70\ gal}{capita * day} \times\ 1.9 \frac{people}{unit} \times 60\ units = 7{,}980 \frac{gal}{day} = 8.9\ AFY$$

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Condominium Water Demand

$$\frac{70\ gal}{capita * day} \times 2.5 \frac{people}{unit} \times 8\ units = 1{,}400 \frac{gal}{day} = 1.6\ AFY$$

Unit Category	Water Use Factor (gal/day)	Population Factor (people/unit)	Unit QTY	Anticipated Daily Water Demand (gal/day)	Anticipated Annual Water Demand (AFY)
Apartments	70	1.9	60	7,980	8.9
Condo/Duplex	70	2.5	8	1,400	1.6
Project Total					**10.5**

Based on the conceptual site plan, the proposed development has an anticipated water demand of 10.5 acre-feet per year. The historic water allocation for the site was determined to be 0.55 acre-feet per year, the excess demand of 9.95 acre-feet per year will be offset by reducing the water demand for an off-site property.

The water use factors provided by the City of Camarillo are assumed to be conservative factors. By implementing drought tolerant landscaping and water efficient fixtures in the design, the total water demand for the project is predicted to decrease. A more detailed analysis will be completed at the time of final design that will provide a more accurate estimate of the project's anticipated water demand.

Sincerely,

RRM DESIGN GROUP

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Appendix M

Wastewater/Sewer Demand Study

February 21, 2020

City of Camarillo
601 Carmen Drive
Camarillo, CA 93010

RE: 2800 Barry Street- Affordable Housing Development
Sewer Demand Study

This letter is intended to assess the sewer demand for the proposed development located at 2800 Barry Street. The project site is located within Camarillo City limits and is serviced by the Camarillo Sanitary District.

The site is currently a vacant paved lot but was previously used as a lumber storage yard. The proposed project is a 100% affordable multi-family housing development consisting of a total of 68 units, including 60 rental apartments, and 8 for-sale condominiums.

PROPOSED DESIGN FLOW

The anticipated sewer flow was estimated using two different methods; the first method uses the unit flow factors listed in the Camarillo Sanitary District System Evaluation and Capacity Assurance Plan (SECAP) 2009 and the second method estimates sewer flow as a function of water usage. The results from both methods were compared and the larger flow rate was used to determine peak flow values.

The proposed zoning for the project is High Density Residential (RPD30U) which has a unit flow factor of 1,900 gallons per day per acre, based on Table 4-3 of the Camarillo Sanitary District SECAP. Therefore, the calculated average flow is

$$\frac{1{,}900\ gal}{acre * day} \times\ 2.58\ acres = 4{,}902\frac{gal}{day} = 0.0076\ cfs$$

It can be assumed that sewer flows from higher density projects equal approximately 85% of the water usage. The anticipated daily water demand for this project was estimated to be 9,380 gallons per day which equates to an average flow of 0.0145 cfs. Using this simplified method, the average sewer flow is

$$0.85 \times\ 0.0145\ cfs = 0.0123\ cfs$$

The simplified method yields a larger flow rate, 0.0123 cfs (0.0079 mgd), which is used to calculate peak flows.

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PEAKING FACTORS

Using the peaking factor equations from section 4-4 of the Camarillo Sanitary District SECAP, the peak dry weather flow (PDWF) is

$$2.1 \times (0.0079\,mgd)^{0.92} = 0.0245\,mgd$$

And the peak wet weather flow (PWWF) is

$$1.4 \times 0.0245\,mgd = 0.0343\,mgd$$

Sincerely,

RRM DESIGN GROUP

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Manager of Civil Engineering Services
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Ultimate Conditions

The ultimate land use was primarily based on City's 2004 General Plan the zoning. The ultimate flow factors were classified by the General Plan zoning categories as shown in Table 4-3. The ultimate unit flow factors were increased to account for the current vacancies, future densification, and inconsistencies in the measured flow data. The ultimate tributary area includes Camarillo's Sphere of Influence area in unincorporated Ventura County, consisting of residential communities north of the City Boundary. This area currently utilizes septic systems. The Ultimate Land Use will also account for new developments such as the Springview Residential Center and the Commercial Development, north of the Camarillo Airport.

Table 4-3
Ultimate Unit Flow Factors

Zoning Category	Zoning Use Description	Density (DU/Ac)	Ultimate Unit Flow Factor (GPD/AC)
Residential Use			
R-E, RE10AC, RE-15, RE-1AC, RE-20, RE-3AC, RE40AC, RE-5AC	Rural Exclusive	1-2.5	200
R-1, R-1-10, R-1-15, R-1-8, RPD, RPD-2U, RPD-3U, RPD-4U, RPD-5U	Low Density Residential	1-5	1,350
RPD7R, RPD8U, RPD10U	Low-Medium Density Residential	6-10	1,500
RPD12U, RPD15U, RPD17U, RPD18U	Medium Density Residential	11-18	1,700
RPD-20U, RPD24U, RPD25U, RPD30U	High Density Residential	19-30	1,900
MHPD	Mobile Home Park Development	1-7	820
Commercial Uses			
COT	Camarillo Old Town		880
CPD	Commercial Planned Development		880
SC	Service Commercial Zone		880
P-O	Professional Office		880
Restaurant	Restaurant		1,500
Carwash	Carwash		6,000
Hotel	Hotel		3,000
Industrial Uses			
L-M	Limited Manufacturing		440
M-1	Light Manufacturing		440
M-2	Heavy Manufacturing		880
Public Uses			
Public	Public Facilities		880
School	School		1,200
Hospital	Hospital		2,800
Other Uses			
A-E	Agricultural		0
O-S	Open Space		0
Park	Park		200

4-4 PEAKING FACTORS

Peak Dry Weather

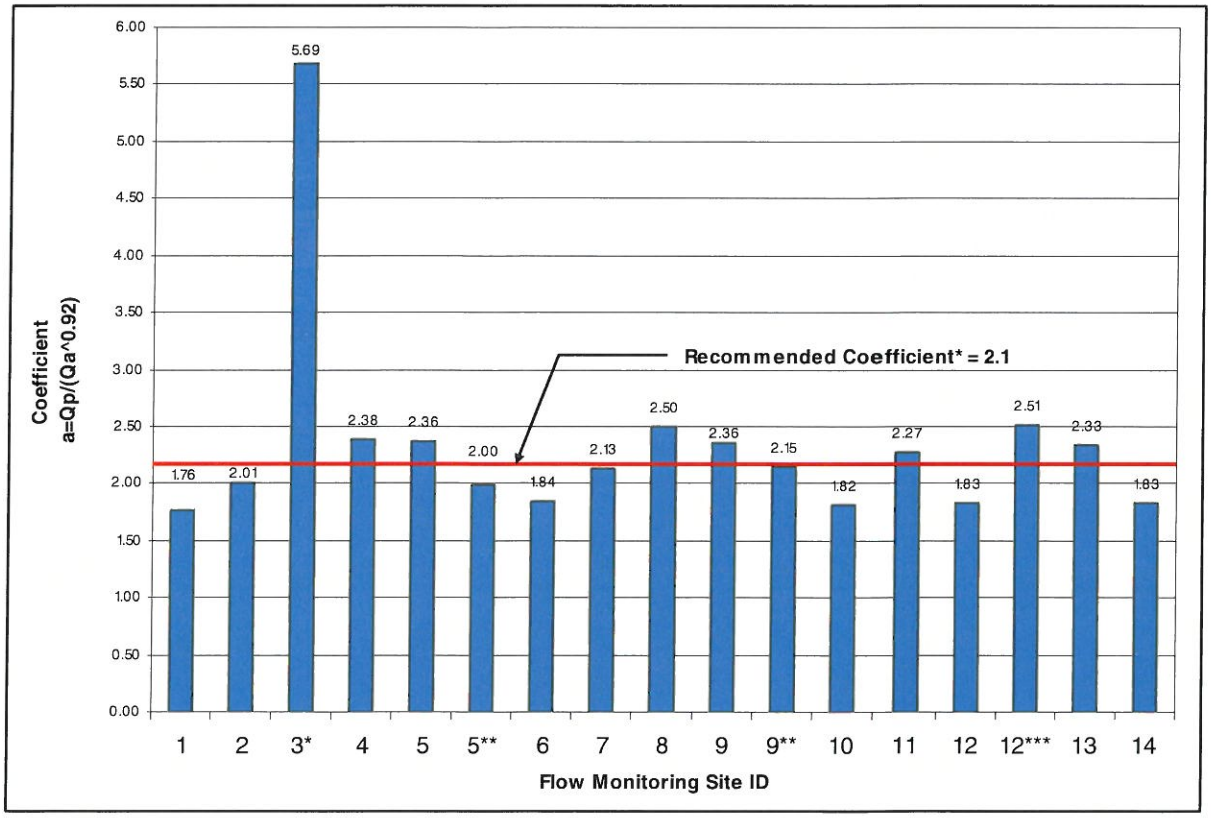
The wastewater unit flow factors discussed in Section 4-3 are used to generate average dry weather flows (ADWF) entering the collection system. However, the adequacy of a sewage collection system is based upon its ability to convey the peak flows. At any individual point in the system, the peak dry weather flow (PDWF) is estimated by converting the total average flow upstream of that point to the peak dry weather flow by an empirical peak-to-average relationship.

The peaking formula commonly used in sewerage studies is of the following form:

$Q_{peak} = a \times Q_{ave}^{\ b}$ where Q_{peak} = Peak Dry Weather Flow
Q_{ave} = Average Dry Weather Flow
a, b = Peaking Formula Coefficients

The temporary flow monitoring data was reviewed to develop peaking relationships at each site. As expected, these relationships varied from site to site depending upon the makeup and size of the tributary land use. Coefficient "b" is typically found to be in the range of 0.91 to 0.92 based on empirical studies. Using a coefficient "b" of 0.92, the resulting coefficient "a" can be calculated from the measured flow data. The calculated coefficient "a" for each flow monitoring site is shown graphically on Figure 4-3.

Figure 4-3
Peaking Formula Coefficient "a"



* *Disregarding the High Peaking Coefficient at Flow Monitoring Site #3*
** *Flow Monitoring performed in January 2007 and July 2008*
****Two Distinct patterns at the same flow monitoring site*

The following peaking relationship was selected for this study:

$$Q_{peak}\ (mgd) = 2.1 \times Q_{ave}(mgd)^{0.92}$$

The measured flow at Site No 3 was disregarded in establishing the peak flow coefficient. While the sum of the measured flows at Site No. 3 and Site No. 4 appear reasonable, the flow data at Site No. 3 includeed sudden extreme highs and lows which would result in a peaking factor that is overly conservative and not practical for planning purposes.

Peak Wet Weather

The peak wet weather flow (PWWF) has two components: peak dry weather flow (PDWF) and rainfall dependent inflow/infiltration (I/I) as expressed by the following equation:

$$PWWF = PDWF + I/I$$

Inflow and infiltration is discussed further in Subsection 4-5.

There were not any significant rainfall events during the flow monitoring effort that could be used in developing a data based wet weather peaking criterion. Until sufficient wet weather flow data can be collected, it is recommended that the peak wet weather flow be estimated as follows:

Peak Wet Weather Flow = 1.40 x Peak Dry Weather Flow

Although the PWWF/PDWF factor of 1.40 may not cover all situations, it is not reasonable or feasible to design the sewer system to carry the flows that would result from the use of a larger ratio. Instead, it is recommended that the City concentrate on projects such as replacing manhole covers, installing plugs in manhole covers, and replacing or relining cracked pipes to reduce inflow and infiltration.

4-5 INFLOW AND INFILTRATION

Inflow is the surface water that typically gains entry into the sewer system through perforated or unsealed manhole covers during rainfall events. Infiltration is defined as water entering the collection system from the ground through defective pipes, pipe joint connections, or manhole walls. The sewer system design capacity must include allowances for these extraneous flow components, which inevitably become a part of the total wastewater flow. The amount of inflow and infiltration (I/I) that enters the system typically depends upon the availability and location of the storm water drainage facilities, age and condition of structures, materials and methods of construction, the location of the groundwater table, and the characteristics of the soil. In the absence of flow monitoring data, many regulating agencies utilize commonly accepted practices for estimating I/I. For example, I/I is often estimated based on the diameter and length of pipeline (100 to 400 gpd/ in. dia/ mile) or as a percentage of the peak flow or pipeline capacity.

AKM's experience from other master planning studies and review of limited flow monitoring information available during severe rainfall events indicate that the peak wet weather flow can vary from 10 percent of average dry weather flows in steeper areas with adequate drainage facilities, to over 400 percent of average dry weather flows in flat areas that lack significant drainage facilities.