Rose Avenue Bike Lanes Project

Draft Initial Study

prepared by

Ventura County
Public Works Department
800 South Victoria Avenue, #1620
Ventura, California 93009
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prepared with the assistance of

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Acronyms and Abbreviations

AQMP	Air Quality Management Plan
AB	Assembly Bill
BMPs	Best Management Practices
CAA	Clean Air Act
CalEEMod	California Emissions Estimator Model
CalRecycle	California Department of Resources, Recycling, and Recovery
Caltrans	California Department of Transportation
CBC	California Building Code
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CGS	California Geologic Survey
CHRIS	California Historical Resources Information System
CO	Carbon Monoxide
CO_2e	Carbon dioxide equivalent
CRHR	California Register of Historical Resources
dBA	A-weighted decibels
DNL	Day-Night Average Level
DOC	California Department of Conservation
DPM	Diesel Particulate Matter
DTSC	Department of Toxic Substances Control
ESL	Environmental Screening Level
FCGMA	Fox Canyon Groundwater Management Agency
FEMA	Federal Emergency Management Agency
FHSZ	fire hazard severity zone
FTA	Federal Transit Administration
GHG	Greenhouse Gas
in/sec	inches per second
LARWQCB	Los Angeles Regional Water Quality Control Board
L_{eq}	Noise level equivalent
MLD	most likely descendant
MRP	Mineral Resource Protection

MRZ	Mineral Resource Zone
NAHC	Native American Heritage Commission
NO_2	Nitrogen dioxide
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
O_3	Ozone
OEHHA	Office of Environmental Health Hazard Assessment
OPR	Office of Planning and Research
Pb	Lead
PM	Particulate matter
PE	Professional Engineer
PG	Professional Geologist
PPV	peak particle velocity
PRC	Public Resources Code
RCRA	Resources Conservation and Recovery Act
ROW	Right-of-Way
SCCAB	South Central Coast Air Basin
SF_6	Sulfur hexafluoride
SFHA	Special Flood Hazard Area
SMP	Soil Management Plan
SO_2	Sulfur dioxide
SR	State Route
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	Toxic air contaminants
USC	United States Code
U.S. DOT	United States Department of Transportation
USEPA	United States Environmental Protection Agency
VCAPCD	Ventura County Air Pollution Control District
VCBC	Ventura County Building Code
VCEHD	Ventura County Environmental Health Division
VMT	vehicle miles traveled

Initial Study

1. Project Title

Rose Avenue Bike Lanes Project ("project" or "proposed project")

2. Lead Agency and Project Sponsor

Ventura County
Public Works Department
800 S. Victoria Avenue, #1620
Ventura, California 93009

3. Contact Person and Phone Number

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4. Project Location

The proposed project is in the unincorporated County of Ventura, California (Figure 1). The project corridor is located along North Rose Avenue, partially within and adjacent to the City of Oxnard to the south and west, approximately 1.2 miles southeast of the Santa Clara River, approximately 1.5 miles southeast of the City of Buenaventura (Ventura), approximately 2.5 miles northwest of the City of Camarillo, and approximately six miles east of the Pacific Ocean (Figure 2). The project is divided into two segments, separated by approximately one mile.

The southern segment (Figure 3) is approximately 0.6 mile in length and is located along the segment of Rose Avenue from approximately 70 feet north of its intersection with East Stroube Street to approximately 200 feet north of its intersection with Simon Way. Approximately 600 feet of the southern segment is within the City of Oxnard, which extends north to Collins Avenue on the east side of Rose Avenue.

The northern segment (Figure 4) is approximately 1.6 mile in length and is located along the segment of Rose Avenue from approximately 300 feet south of its intersection with Central Avenue to its intersection with State Route 118 (SR 118). The corridor's southwestern extent is located approximately 0.3 mile north of United States Highway (U.S. 101), and the corridor's northeastern extent ends at SR 118.

Figure 1 Regional Location

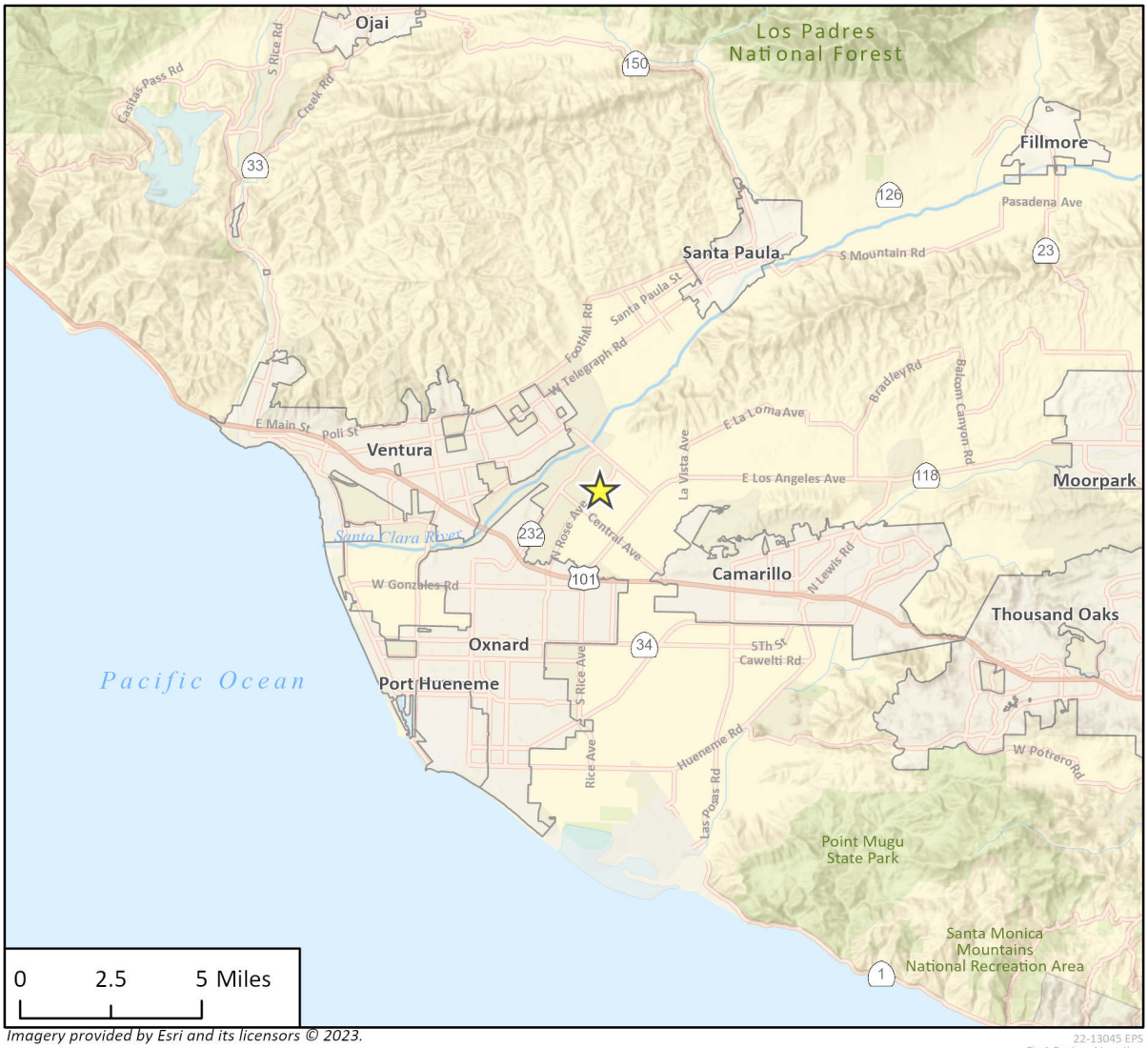

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Fig 1 Regional Location

Project Location

City Boundary

N

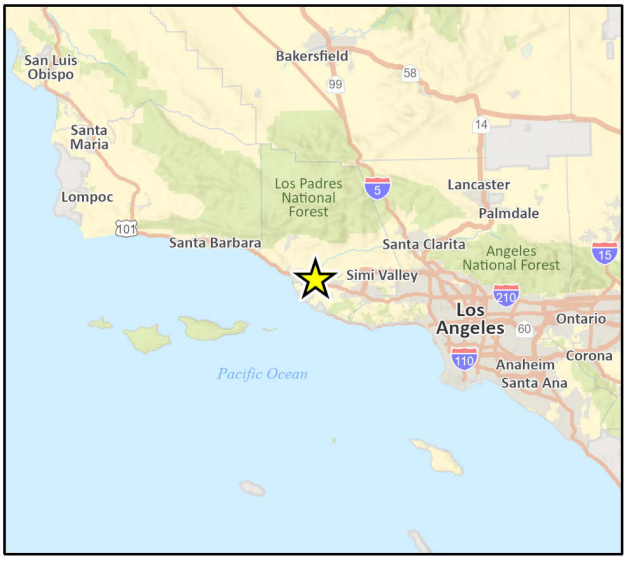

Figure 2 Project Location

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Fig 2 Project Location

Figure 3 Project Corridor - Southern Segment

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Fig 3 Project Corridor - Southern Segment

Figure 4 Project Corridor - Northern Segment

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Fig 4 Project Corridor - Northern Segment

5. General Plan Designations and Surrounding Land Uses

The project corridor is located along an existing paved roadway within the public right-of-way (ROW). The areas surrounding the project's southern segment are designated in the Ventura County General Plan as Low-Density Residential, Very Low-Density Residential, and Agricultural (County of Ventura 2019). Land uses immediately adjacent to the southern segment include single-family residential homes to the northwest, Rio Del Valle Junior High School to the southeast, and agricultural lands to the southeast. The project's northern segment is entirely surrounded by lands designated in the Ventura County General Plan as Agricultural (County of Ventura 2019). Existing farm roads flank a portion of the northern segment to the northwest and the southeast.

According to the Ventura County General Plan Background Report (County of Ventura 2020a), the Agricultural land use designation is applied to lands which are suitable for the cultivation of crops and the raising of livestock. The Low-Density Residential land use designation provides for a variety of single-family homes and neighborhoods, with typical building types including small-lot single family homes and other similar housing types, such as second units. The Very Low-Density Residential land use designation provides a physical transition between the outer edges of an Existing Community or Urban Area and nearby agricultural and open space areas and uses, with typical building types including large-lot single family homes in a rural setting (County of Ventura 2020a).

6. Zoning

The project's southern segment is zoned as Residential Exclusive, Single-Family Residential, and Agricultural Exclusive; the project's northern segment is zoned as Agricultural Exclusive (County of Ventura 2023a).

According to Division 8, Chapter 1 of the Ventura County Non-Coastal Ordinance Code (County of Ventura 2022a), the purpose of the Agricultural Exclusive zone is "to preserve and protect commercial agricultural lands as a limited and irreplaceable resource, to preserve and maintain agriculture as a major industry in Ventura County and to protect these areas from the encroachment of nonrelated uses which, by their nature, would have detrimental effects upon the agriculture industry." The purpose of the Residential Exclusive zone is "to provide for and maintain rural residential areas in conjunction with horticultural activities, and to provide for a limited range of service and institutional uses which are compatible with and complementary to rural residential communities." The purpose of the Single-Family Residential zone is "to provide for and maintain areas which are appropriate for single-family dwellings on individual lots."

7. Description of Project

Project Overview

The project consists of bikeway improvements on two segments along Rose Avenue, separated from one another by approximately one mile. These improvements would include pavement widening and restriping of the roadway to accommodate Class II bike lanes[1] on both sides of the road. The

[1] Class II bike lanes provide a striped lane for one-way bike travel on a street or highway and are typically designated by bike lane signs and markings (County of Ventura 2020b).

southern segment would include installation of concrete sidewalks, curbs, and gutters. At the intersection at Rose Avenue and Walnut Drive, signal poles would be upgraded to improve driver visibility of approaching traffic lights. Some signal poles may be relocated to enhance Americans with Disability Act accessibility to pedestrian push buttons. Additional signal equipment may also be incorporated, such as Lead Pedestrian Intervals to the northerly crosswalk to activate an early pedestrian crossing phase.

To support the proposed bikeway improvements the project would also include a maximum of 70,000 square feet of ROW acquisition (up to approximately 36,000 square feet for the southern segment and up to approximately 34,000 square feet for the northern segment), relocation of the water valves at the entrance of Rio Del Valle Junior High School and the school's message sign, and the relocation of approximately 34 utility poles (13 utility poles in the southern segment and 21 utility poles in the northern segment) ,shown in Figure 5 and Figure 6. Based on the final design for the project, the actual square footage of ROW acquisition required may be less than the current estimate. ROW acquisition would not involve the acquisition of California Department of Transportation (Caltrans) ROW. However, the project boundary extends north slightly into Caltrans ROW on SR 118 and extends approximately 300 feet south of Central Avenue for the project to tie into existing connections during utility relocation.

Project Construction

Construction of the southern segment would take place over approximately 12 weeks, currently planned between June 2026 and September 2026. Construction of the northern segment would also take place over approximately 12 weeks, currently planned between June 2028 and August 2028. Construction of each segment is expected to be active five days per week (Monday through Friday) between the hours of 7 a.m. and 7 p.m. Evening, nighttime, and weekend construction activities are not anticipated but may be required due to the high volume of cars traveling along the corridor during the day; any evening, nighttime, or weekend construction activities would be required to comply with the County of Ventura Construction Noise Threshold and Criteria and Control Plan (County of Ventura 2010).

Construction equipment is anticipated to be staged outside of the project corridor, outside of the public ROW, and on a previously disturbed site, which would be identified by the contractor prior to the initiation of project construction. Worker parking is anticipated to occur along the shoulder of the unincorporated Ventura County roadways surrounding the project. Direct access to construction work areas would be provided via Rose Avenue. Construction equipment and worker haul routes would primarily utilize SR 118 and SR 126 for travel to and from the project corridor.

Up to 207,500 square feet (approximately 4.8 acres) of new asphalt pavement would be added within the existing and proposed ROW to support construction of the Rose Avenue Bike Lanes Project (approximately 37,500 square feet for the southern segment, and up to 170,000 square feet for the northern segment). The southern segment would include approximately 25,000 additional square feet of concrete sidewalks and 2,500 additional square feet of curb and gutter. The project would result in approximately 31.9 acres of direct disturbance associated with the proposed improvements (approximately 10.8 acres for the southern portion and 21.1 acres for the northern portion), and up to 58.6 acres in indirect disturbance associated with an estimated 100-foot temporary disturbance buffer around the project corridor (approximately 17.8 acres for the southern portion and 40.8 acres for the northern portion) (Figure 7 and Figure 8). In total, construction of the proposed bike lanes would require approximately 14,000 cubic yards of excavation (approximately 4,800 cubic yards for the southern segment and 9,100 for the northern

segment) at an anticipated depth of up to 36 inches below ground surface, assuming that the relocation of 34 utility poles would require up to 35 cubic yards of excavation at an anticipated depth of up to seven feet below ground surface; however, the total amount of excavation required for utility relocations would be determined by the utility company in coordination with the County at the time of construction. Demolition activities would result in the export of approximately 7,000 cubic yards of materials from the project corridor. A truck and auger drill rig would also be required during the relocation of each utility pole.

Construction activities for the southern segment would require approximately one week of site preparation (June 2026), four weeks of utility relocation (June through July 2026), two weeks of demolition (July 2026), one week of grading and excavation (July 2026 through August 2026), three weeks of asphalt paving and pouring of concrete sidewalks (August 2026), and one week of signage and striping (August 2026 through September 2026). Construction activities for the northern segment would require approximately one week of site preparation (June 2028), four weeks of utility relocation (June 2028 through July 2028), two weeks of demolition (July 2028), one week of grading and excavation (July 2028 through August 2028), three weeks of asphalt paving and pouring of concrete sidewalks (August 2028), and one week of signage and striping (August 2028 through September 2028). Although construction of the northern segment is anticipated to occur between June 2028 and September 2028, construction funding for the northern segment has not yet been secured. The County of Ventura is actively pursuing construction funding, but the construction schedule may be postponed until funding is secured.

In accordance with the Ventura County Stormwater Program, construction activities would include best management practices (BMPs) to reduce fugitive dust emissions, such as routine watering of exposed areas within the project corridor during dry weather (County of Ventura 2023b). Furthermore, in accordance with the Construction General Permit (Order No. 2009-0009-DWQ, as amended by 2010-0014-DWQ and 2012-0006-DWQ), the project would implement a Stormwater Pollution Prevention Plan (SWPPP) that would include the use of additional BMPs to protect nearby surface water quality during project construction.

Operation and Maintenance

The increase in pavement width associated with the addition of bike lanes along Rose Avenue would not increase the frequency of required pavement inspections or maintenance in the County. However, the additional pavement would marginally increase the total quantity of pavement requiring regular inspection and maintenance. In addition, the County currently maintains the integrity of bike lanes with street sweeping. Following completion of construction, the new bike lanes on Rose Avenue would be added to the list of locations that require regular street sweeping.

Figure 5 Proposed Utility Pole Relocations – Southern Segment

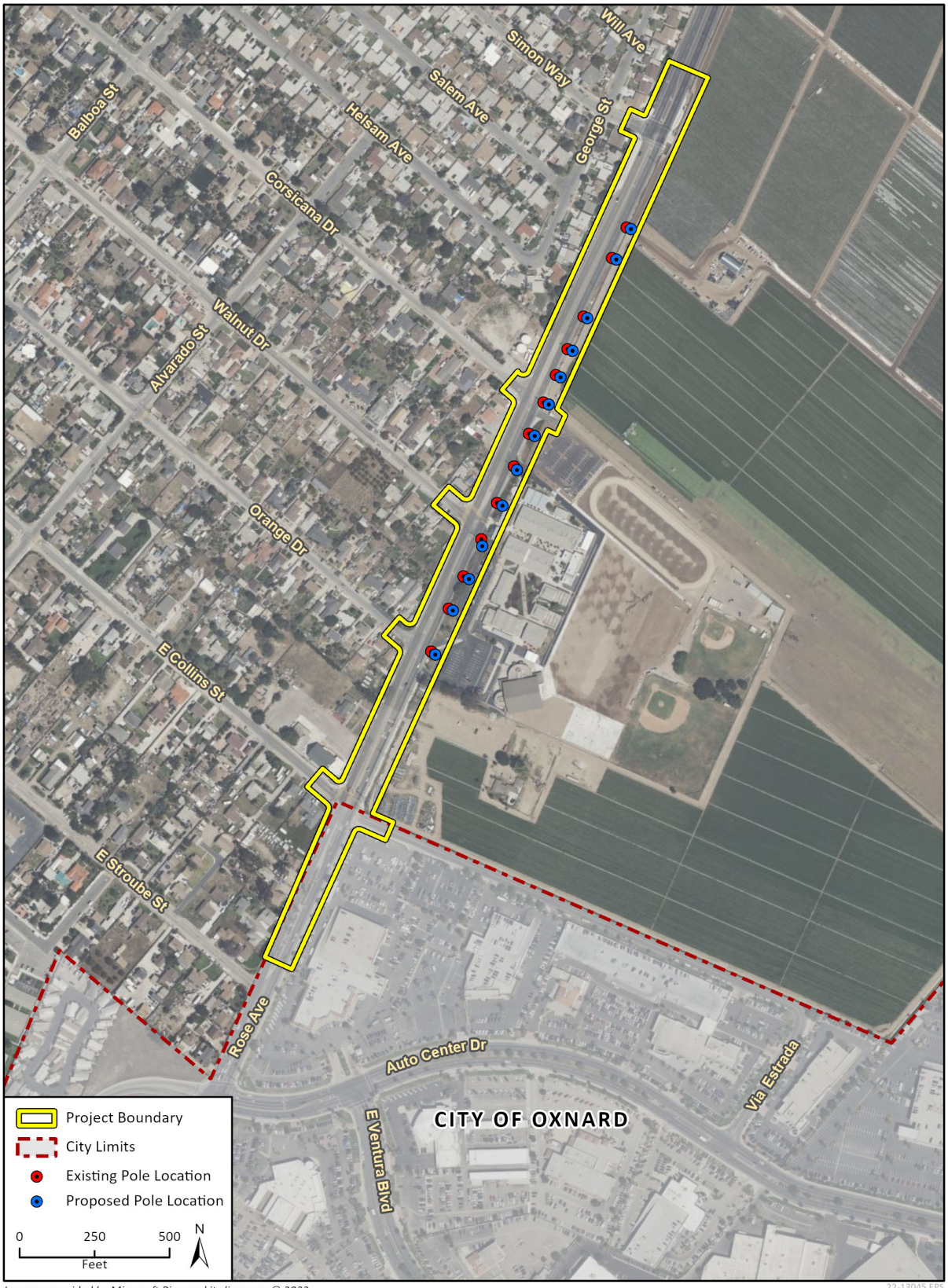

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Fig 5 Proposed Utility Pole Relocations - Southern Segment

Figure 6 Proposed Utility Pole Relocations – Northern Segment

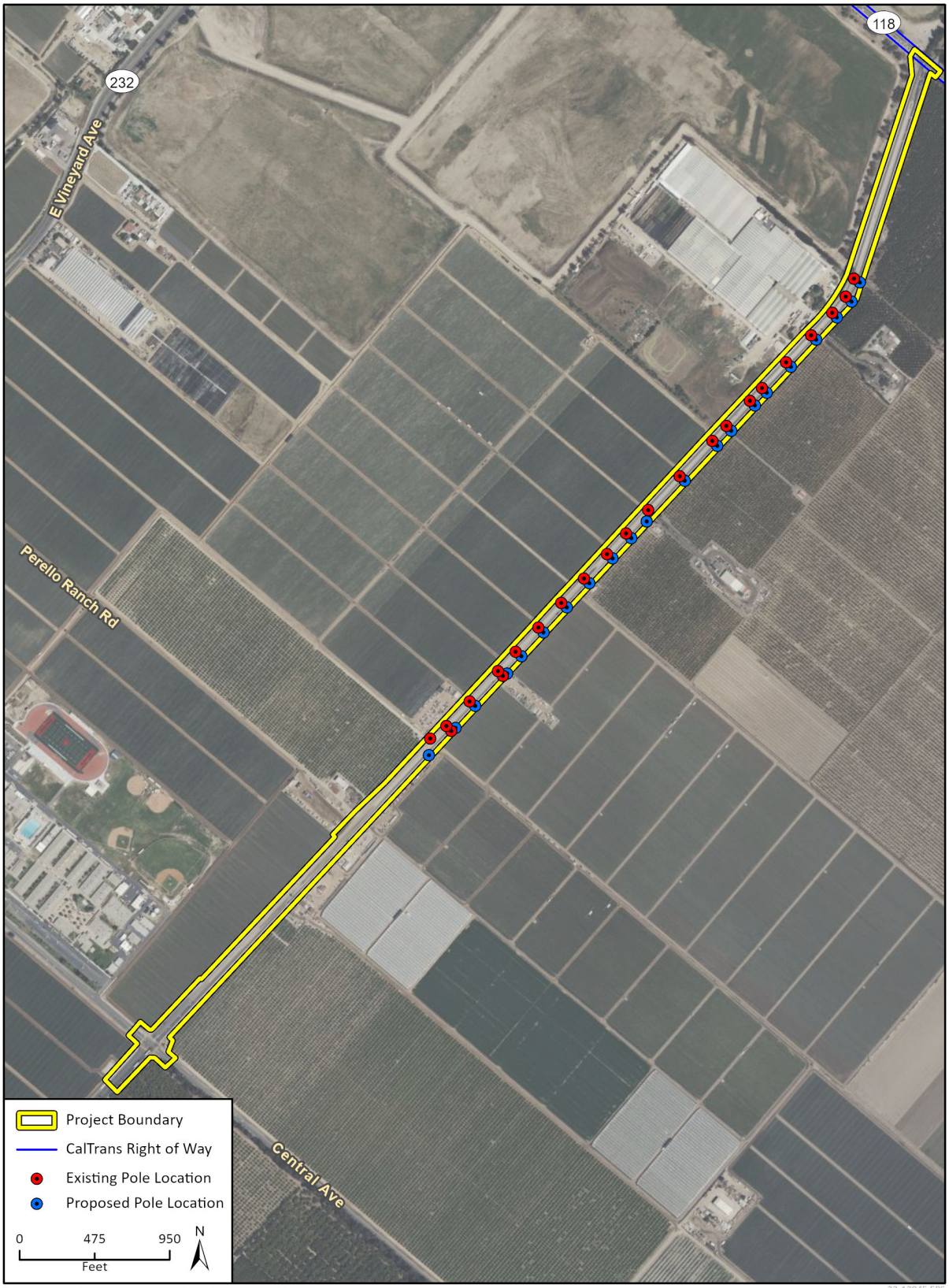

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Fig 6 Proposed Utility Pole Relocations - Northern Segment

Figure 7 Project Disturbance Limits – Southern Segment

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Fig X Project Disturbance Limits - Southern Segment

Figure 8 Project Disturbance Limits – Northern Segment

8. Other Public Agencies Whose Approval is Required

Ventura County is the lead agency with responsibility for approving the project. The project would not require regulatory permits from the United States Army Corps of Engineers, the Los Angeles Regional Water Quality Control Board (LARWQCB), or the California Department of Fish and Wildlife (CDFW), as there would be no modifications to aquatic features or impacts to jurisdictional Waters of the State or Waters of the United States. However, an encroachment permit from the City of Oxnard would be required for the portion of the southern segment of the project within Oxnard City Limits, and a Caltrans Encroachment Permit would be required at the intersection of Rose Avenue and SR 118.

9. Have California Native American Tribes Traditionally and Culturally Affiliated with the Project Area Requested Consultation Pursuant to Public Resources Code Section 21080.3.1?

In accordance with Public Resource Code (PRC) Section 21080.3.1, the County sent consultation request letters to the following Native American tribes on February 6, 2023:

- Barbareño/Ventureño Band of Mission Indians
- Chumash Council of Bakersfield
- Coastal Band of the Chumash Nation
- Gabrieleño/Tongva San Gabriel Band of Mission Indians
- Gabrieliño/Tongva Nation
- Gabrieliño-Tongva Tribe
- Northern Chumash Tribal Council
- San Luis Obispo County Chumash Council
- Santa Ynez Band of Chumash Indians

One response to the consultation request letters was received, summarized below:

- Crystal Mendoza, Cultural Resources Administrative Assistant of the Santa Ynez Band of Chumash Indians, replied on March 8, 2023. Ms. Mendoza informed Ventura County Public Works staff that the Elders' Council requested no further consultation on this project.

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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.

Signature	Date
Printed Name	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. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from 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?	☐	☐	■	☐

The project corridor is characterized by a generally flat paved roadway surrounded by agricultural land and residential development. Views from the project corridor include vistas of the Topatopa mountain range in the Los Padres National Forest to the north and northwest, and the Santa Monica Mountains to the south and southeast. Both the Topatopa mountain range and the Santa Monica Mountains are identified as scenic resources in the Ventura County General Plan. Goal COS-3 of the General Plan's Conservation and Open Space Element is intended to preserve, protect, and enhance the unique scenic resources in Ventura County, and ensure access to scenic resources within Ventura County for present and future generations (County of Ventura 2020b).

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

The project consists of surface level features that would not obstruct existing views of these resources from the project corridor. Rather, the project would improve accessibility of the scenic vistas for residents and visitors as implementation of the project would allow for bicyclists to travel along the roadway, providing panoramic views of the identified scenic resources to new users. The only long-term change in above-ground features would be the relocation of approximately 34 utility

poles. The proposed project involves the relocation of approximately 34 utility poles, which would not obstruct any existing views or modify existing scenic vistas. Therefore, the project's impact on scenic vistas 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?

A scenic highway is generally defined by Caltrans as a public highway that traverses an area of outstanding scenic quality, containing striking views, flora, geology, or other unique natural attributes (Caltrans 2012). The portion of SR 118 in the northern segment is not officially designated, or eligible for designation, as a state scenic highway. U.S. 101, located approximately 0.28-mile southwest of the southern segment, is an eligible state scenic highway but is not officially designated as such (Caltrans 2023). The project corridor is not visible from U.S. 101. Therefore, the project would not block, alter, or otherwise damage scenic resources within a state scenic highway. No impact would occur.

NO IMPACT

c. Would the project, in non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings?

The project is a paved roadway surrounded by agricultural land and residential development within a primarily non-urbanized area. The project would result in Class II bike lanes, realignment of the existing roadway, and the relocation of approximately 34 utility poles. Utility pole relocation would primarily involve removing utility poles on the west side of Rose Avenue and installing replacement poles at a 1:1 ratio on the east side of Rose Avenue. Upon project completion, the visual character of the project corridor would be similar to existing conditions. Furthermore, the project would improve access to surrounding public views by allowing bicyclists to travel along the roadway. The project would not degrade the existing visual character or quality of public views of the site and its surroundings. No impact would occur.

NO 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?

Existing sources of light or glare in the project corridor include the paved roadway, streetlights at the intersections of North Rose Avenue with Central Avenue and North Rose Avenue with Los Angeles Avenue, vehicular headlights, and farm equipment. Although the project would result in the addition of asphalt pavement in the project corridor, the project would not add vehicular travel lanes or otherwise promote vehicular travel, and no overhead or ground-level lighting is proposed to support the bike lanes. Therefore, the project would not create a new source of substantial light or glare that would adversely affect daytime or nighttime views. This impact would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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?	☐	☐	■	☐

The project corridor is surrounded by lands designated in the Ventura County General Plan as Agricultural, Very Low-Density Residential, Low-Density Residential, and High-Density Residential (County of Ventura 2019). Existing farm access roads flank a portion of the northern segment to the northwest and the southeast. According to the Ventura County General Plan Background Report (County of Ventura 2020a), the Agricultural land use designation is applied to lands which are suitable for the cultivation of crops and the raising of livestock while Residential uses apply to land suitable for residential development, including single-family, multifamily, and manufactured/mobile homes. The project corridor is zoned as Agricultural Exclusive and Rural Exclusive (County of Ventura

2023a). The project corridor is surrounded by agricultural uses, residential uses, and an existing school.

The entirety of the southern segment is classified as Urban and Built Up Land according to the California Department of Conservation (DOC) (DOC 2022). Most of the northern segment is classified as Prime Farmland while the portion of the northern segment adjacent to the agricultural business Hollandia Produce is classified as Farmland of Local Importance, and the northernmost portion of the northern segment is classified as Urban and Built Up Land (DOC 2022).

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?

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 would occur adjacent to land designated and zoned for agricultural use and surrounding land is currently in use for agricultural purposes. The northern segment is mapped as Prime Farmland and Farmland of Local Importance. In addition, some parcels adjacent to the northern segment (Assessor's Parcel Numbers 144-001-032, 147-004-032, 147-004-037, 147-006-029, 109-039-021) are subject to a Williamson Act contract (DOC 2024). Although, the northern segment is primarily comprised of existing ROW, up to 34,000 square feet of ROW acquisition would be required. Work within the existing ROW would not conflict with existing Farmland or a Williamson Act contract. ROW acquisition along the northern segment would extend up to 15 feet from the existing roadway within roadway buffers or hedgerows, which would not convert agriculturally active farmland to non-agricultural use, preclude existing agricultural activities, or require the cancellation of Williamson Act contracts. The southern segment is not designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. No Williamson Act contracted land is adjacent to the southern segment. Therefore, the project would not convert farmland to non-agricultural use or conflict with existing zoning or Williamson Act contract and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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?

The project corridor is a paved roadway surrounded by agricultural land, residential development, and a school, and does not contain forest land or timberland. Therefore, the project would not facilitate conversion or loss of forest land. The project corridor also is not zoned for forest land or timberland, and does not include such land uses. Therefore, the project would have no impact on forest land or timberland.

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?	☐	☐	■	☐

Located in the South Central Coast Air Basin (SCCAB), under the jurisdiction of Ventura County Air Pollution Control District (VCAPCD) and bordered by the South Coast Air Basin to the south and east, the San Joaquin and Mojave Desert Air Basins to the north, and the Pacific Ocean to the west, the project corridor lies approximately seven miles inland from the coast in an interior valley. Air pollutant emission sources in the SCCAB are typically grouped into two categories: stationary and mobile sources. Stationary sources can be divided into two major subcategories: point and area sources. Point source emissions originate from manufacturing and industrial processes, whereas area emissions originate from residential heaters, small engines, and other consumer products. Mobile source emissions can be attributed to vehicles and transportation-related activities. Both major emissions categories are widely distributed within SCCAB and may have a cumulative effect.

The air pollutants of primary concern in the SCCAB include Ozone (O_3), Particulate Matter $(PM)_{10}$, $PM_{2.5}$, carbon monoxide (CO), Nitrogen dioxide (NO_2), and sulfur dioxide (SO_2). O_3, PM_{10} and $PM_{2.5}$ are generally considered to be regional pollutants, because they or their precursors affect air quality on a regional scale. Pollutants such as CO, NO_2, and SO_2 are considered local pollutants, because they tend to accumulate in the air locally. Other local pollutants of concern within VCAPCD jurisdiction include toxic air contaminants, lead, and San Joaquin Valley Fever. The USEPA designates Ventura County as a nonattainment area for O_3. Under California Ambient Air Quality Standards, the County is designated as a nonattainment area for O_3 and PM_{10} (VCAPCD 2023).

VCAPCD prepares the Air Quality Management Plan (AQMP) for meeting federal and State air quality standards (the most recent of which is the 2022 AQMP) and develops rules and regulations and permitting requirements. The Ventura County Air Quality Assessment Guidelines (October 2003) is the most recent comprehensive publication regarding air quality assessment published by VCAPCD. The Ventura County Air Quality Assessment Guidelines provides detailed guidance on how to evaluate and mitigate a project's air quality impacts, and recommends operational significance

thresholds for projects proposed in Ventura County. Since the project's construction impacts would be temporary, these thresholds are not applicable to the project. Instead, to evaluate temporary construction impacts, VCAPCD recommends minimizing fugitive dust through various dust control measures. However, as stated in VCAPD's Guidelines, "construction-related emissions should be mitigated if estimates of ROC and NO_X emissions from the heavy-duty construction equipment anticipated to be used for a particular project exceed the […]25 pounds per day threshold in the […] county." Furthermore, 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 is considered to have a significant air quality impact by the VCAPCD. This threshold is particularly applicable to the generation of fugitive dust during construction grading operations.

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

The 2022 AQMP estimates Ventura County's population and population forecasts using the Southern California Association of Governments Connect SoCal 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (2020-2045 RTP/SCS). The VCAPCD Guidelines also state that "if there are more recent population forecasts that have been adopted by the Ventura Council of Governments where the total county population is lower than that included in the most recently adopted AQMP population forecasts, lead agencies may use the more recent Ventura Council of Governments forecasts for determining AQMP consistency" (VCAPCD 2003). As discussed in Section 14, *Population and Housing*, the project would not involve the construction of infrastructure that could induce substantial population growth such as new or increased capacity sewer or water lines, or the construction of new streets and roads for motorized vehicles. While the proposed roadway improvements would make non-motorized transportation safer, striping for a Class II bikeway and roadway realignment would not induce substantial growth in Ventura County. Therefore, the project would not result in or contribute to an exceedance of Ventura County's forecasted population, and the project would be consistent with the 2022 AQMP. As the project would not conflict with or obstruct implementation of the AQMP, no impact would occur.

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?

CONSTRUCTION

Project construction would primarily generate temporary criteria pollutant from construction equipment operating on-site, construction worker vehicle trips, and haul trips to and from the project corridor. Criteria pollutant emissions that could result from construction of the bikeway improvements were estimated in California Emissions Estimator Model (CalEEMod) version 2022.1. The modeling outputs are included in Appendix A of this document. Construction was assumed to occur over approximately 24 weeks, split between two 12-week periods in 2026 and 2028. The anticipated construction footprint includes a total of seven acres and is assumed to result in up to 14,000 cubic yards of excavation and export of 7,000 cubic yards of demolition materials.

Table 1 summarizes average daily emissions of pollutants throughout the construction period. Estimated average daily emissions would not exceed VCAPCD screening level thresholds during

project construction. Therefore, project construction would not result in a cumulatively considerable net increase of any criteria pollutant.

Table 1 Construction Criteria Pollutant Emissions

	Maximum Daily Emissions (lbs/day)					
	ROC	NO_x	CO	SO_2	PM_{10}	$PM_{2.5}$
Construction (2026)	2.3	21.8	23.6	<0.1	4.7	2.4
Construction (2028)	2.1	20.0	23.2	<0.1	4.6	2.3
VCAPCD Thresholds	25	25	N/A	N/A	N/A	N/A
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

See Appendix A for modeling results. Some numbers may not add up due to independent rounding.

OPERATION

The project would result in roadway improvements, including inclusion of a Class II bicycle lane, which encourages non-motorized transportation. As determined in Section 17, *Transportation,* one of the regional benefits of increased trips from bicyclists is a reduction in vehicle miles traveled (VMT). A reduction in VMT would result in a corresponding reduction in vehicular air pollutant emissions. Thus, the project would not result in a substantial contribution to an air quality violation during operation. This impact would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

CONSTRUCTION

Construction-related activities would result in short-term, project-generated emissions of diesel particulate matter (DPM) exhaust emissions from off-road, heavy-duty diesel equipment for site preparation grading, building construction, and other construction activities. California Air Resources Board identifies DPM as a TAC, which has a potential cancer risk from inhalation that outweighs its potential non-cancer health impacts (California Air Resources Board 2022a). At this time, VCAPCD has not adopted a methodology for analyzing non-cancer health impacts.

Generation of DPM from construction projects typically occurs in a single area for a short period. The dose to which the receptors are exposed is the primary factor used to determine health risk. According to the Office of Environmental Health Hazard Assessment (OEHHA), health risk assessments, which determine the exposure of sensitive receptors to toxic emissions, should be limited to the period/duration of activities associated with the project, and OEHHA guidance states that it is not appropriate to conduct HRAs for projects with construction periods of less than two months.

The DPM emissions would occur during grading activities. While grading emissions represent the worst-case condition, grading activities would only occur for approximately two total weeks split between one-week periods in 2026 and 2028, which is less than the two-month period OEHHA recommends. The overall construction period of 24 weeks, while equal to approximately six months, would occur over 1.6 linear miles and include various phases of construction that do not generate substantial DPM emissions. Therefore, this impact would be less than significant.

OPERATION

The project would not introduce new sources of operational pollutants that would expose adjacent sensitive receptors such as homes, hospitals, and schools to substantial pollutant concentrations. Furthermore, because the project is intended to facilitate non-motorized transportation, it would not increase VMT in Ventura County (as discussed further in Section 17,*Transportation*), and as a result, the project would not increase the exposure of sensitive receptors to pollutant concentrations from motor vehicles.

During operation of the project, bicyclists using the roadway would be exposed to particulate matter, carbon monoxide, and other pollutants from motor vehicle exhaust. However, bicyclists are not considered sensitive receptors because they would not be exposed to air pollutants for a substantial duration that would typically have the potential to result in a significant health effect while using the roadway. Therefore, this impact 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?

During construction of the project, emissions from construction equipment could potentially result in odors. However, construction activities would be temporary and would not involve materials or activities that are a potential source of significant odors. As a result, construction activities would not result in the creation of objectionable odors affecting a substantial number of people. In addition, roadway users would not be exposed to any objectionable odors from construction because the affected segment of Rose Avenue would be closed to the public when under construction. Therefore, this impact would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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?	☐	☐	☐	■

Rincon conducted a reconnaissance-level biological survey of the northern segment on April 25, 2023. Rincon conducted a subsequent reconnaissance-level biological survey of the southern segment on January 9, 2024. The purpose of the surveys was to document existing biological conditions along the project corridor, including plant and wildlife species, vegetation communities, and the potential for presence of sensitive species. The existing conditions inventory and biological resources analysis are derived from the reconnaissance surveys, as well as a literature and database review of sensitive biological resources that have been recorded in the region.

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?

Special-status species are those plants and animals that are: 1) listed, proposed for listing, or candidates for listing as Threatened or Endangered by the United States Fish and Wildlife Service and National Marine Fisheries Service under the Federal Endangered Species Act; 2) those listed or proposed for listing as Rare, Threatened, or Endangered by CDFW under the California Endangered Species Act ESA; 3) those recognized as Species of Special Concern or Fully Protected by CDFW; and 4) plants occurring on lists 1 and 2 of the CDFW California Rare Plant Rank system.

Although not considered special status, most nesting birds are afforded protection under the federal Migratory Bird Treaty Act and/or California Fish and Game Code 3505.

A review of records from the California Natural Diversity Database and California Native Plant Society's Electronic Inventory identified 20 special-status animal species and 29 special-status plant species with occurrence records within five miles of the project corridor, including 21 federal and/or State listed species. The project corridor consists of historically disturbed areas, including an existing paved roadway, dirt and gravel road shoulders, a cement V-ditch, and adjacent agricultural land. The project corridor does not contain any suitable or critical habitat for special status species. As described in Section 13, *Noise*, the project corridor (including Rose Avenue, Central Avenue, and SR 118) produces a high volume of traffic noise.

Wildlife species observed on-site during the reconnaissance-level biological surveys included: American crow (*Corvus brachyrhynchos*), house finch (*Haemorhous mexicanus*), American goldfinch (*Spinus tristis*), northern mockingbird (*Mimus polyglottos*), house sparrow (*Passer domesticus*), American robin (*Turdus migratorius*), black phoebe (*Sayornis nigricans*), Anna's hummingbird (*Calypte anna*), Eurasian collared dove (*Streptopelia decaocto*), European starling (*Sturnus vulgaris*), red shouldered hawk (*Buteo lineatus*), red tail hawk (*Buteo jamaicensis*), western fence lizard (*Sceloporus occidentalis*), orange-crowned warbler (*Vermivora celata*), California towhee (*Melozone crissalis*), California scrubjay (*Aphelocoma californica*), dark-eyed junco (*Junco hyemalis*), hooded oriole (*Icterus cucullatus*), song sparrow (*Melospiza melodia*), bushtit (*Psaltriparus minimus*), Brewer's blackbird (*Euphagus cyanocephalus*), and western seagull (*Larus occidentalis*). No sensitive or special status plant or animal species were observed. No nesting birds or nesting bird behavior were observed in the project corridor, although a high volume of swallows and house finches were observed nesting on the eave soffits of a home on private property approximately 150 feet from the northern segment. The northern segment was determined to provide low-medium nesting bird habitat suitability while the southern segment was determined to provide low nesting bird habitat suitability. The project is not anticipated to result in any direct impacts to species identified as a candidate, sensitive, or special status species, and any indirect effects on candidate, sensitive, or special status species would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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?

During a review of the National Hydrography Dataset and the National Wetlands Inventory, two potential ponds were identified near the project corridor, one south of SR 118 and one north of SR 118. During the reconnaissance-level biological survey, water was not observed in the pond south of SR 118. Although water was observed in the pond north of SR 118, the project would not disturb this location. A riverine feature was also identified along Rose Avenue in the National Wetlands Inventory but was not observed during the biological survey. A cement V-ditch was observed along the road shoulder at the intersection of Central Avenue and Rose Avenue but contained no water.

Plant communities are considered sensitive if they have limited distributions or high wildlife value, include sensitive species, or are particularly susceptible to disturbance. CDFW ranks sensitive communities as “threatened” or “very threatened” and keeps records of their occurrences in California Natural Diversity Database. Although the California Natural Diversity Database does identify sensitive plant communities as potentially occurring in or near the project corridor, no sensitive plant communities were observed in the project corridor during the reconnaissance-level biological survey. Therefore, the project would result in a less than significant impact to any riparian habitat, other sensitive natural communities, or State or federally protected wetlands.

LESS THAN SIGNIFICANT 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 movement corridors, or habitat linkages, are generally defined as connections between habitat patches that allow for genetic exchange between otherwise isolated animal populations. Such linkages may serve a local purpose, such as connecting foraging and denning areas, or they may be regional in nature. Some habitat linkages may serve as migration corridors, wherein animals periodically move away from an area and then subsequently return. Others may be important as dispersal corridors for young animals. A group of habitat linkages in an area can form a wildlife corridor network.

Wildlife movement corridors can be both large and small scale. Regionally, portions of Ventura County are located within an Essential Connectivity Area (ECA) as mapped in California Essential Habitat Connectivity Project: A Strategy for Conserving a Connected California (Spencer et al. 2010). ECAs represent principal connections between Natural Landscape Blocks and are regions in which land conservation and management actions should be prioritized to maintain and enhance ecological connectivity. ECAs are generally mapped based on coarse ecological condition indicators, rather than the needs of species and thus serve most species in each region.

No mapped wildlife movement corridors occur in the project corridor. Furthermore, there are no riverine or wetland resources in the project corridor that would support the presence of migratory

fish. Therefore, the project would result in no impact to the movement of fish or wildlife species or wildlife corridors.

NO IMPACT

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

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 would not involve removal of or encroachment upon any trees or other protected vegetation. The project corridor is not located within any Conservation Land Boundaries, Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plans. As discussed in criterion a. above, the project's potential impact on sensitive species and habitats would be less than significant. Therefore, there would be no impact regarding conflicts with local policies or ordinances protecting biological resources or a local, regional, or state habitat conservation plan.

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?	☐	☐	■	☐

This section provides an analysis of the project's potential impacts on cultural resources, including historical, archaeological resources, and human remains, and is based on the Cultural Resources Technical Report prepared by Rincon Consultants in 2023[2]. The Cultural Resources Technical Report includes background and archival research utilizing historical aerial photographs and USGS topographical maps, historical newspapers, and biographical information on property owners and occupants. The Cultural Resources Technical Report also includes a search of the California Historical Resources Information System (CHRIS) at the South Central Coastal Information Center located at California State University, Fullerton, and Rincon contacted the Native American Heritage Commission (NAHC) on January 30, 2023, to request a search of the Sacred Lands File. The CHRIS records search identified 53 previously conducted cultural resources studies within one mile of the project corridor. Of these studies, four include portions of the current project corridor. None of these four studies identified cultural resources in the current project corridor. Rincon conducted pedestrian surveys of the project corridor on April 19, 2023, October 24, 2023, and November 2, 2023. Overall, 100 percent of the project corridor has been surveyed within the last 50 years.

The California Environmental Quality Act (CEQA) requires that a lead agency determine whether a project may have a significant effect on historical resources (PRC Section 21084.1). State CEQA Guidelines Section 15064.5 also states the term "historical resources" shall include the following:

1) A resource listed in or determined to be eligible by the State Historical Resources Commission for listing in the California Register of Historical Resources (CRHR; PRC Section 5024.1, Title 14, California Code of Regulations [CCR], Section 4850 et. Seq.).
2) A resource included in a local register of historical resources, as defined in Section 5020.1(k) of the PRC or identified as significant in an historical resource survey meeting the requirements of Section 5024.1(g) of the PRC, shall be presumed to be historically or culturally significant. Public

[2] The Cultural Resources Technical Report is not appended to this environmental document due to confidentiality purposes, but can be made available for review through a direct request to the County of Ventura.

agencies must treat any such resource as significant unless the preponderance of evidence demonstrates it is not historically or culturally significant.

3) Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California, may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing in the CRHR (PRC Section 5024.1, Title 14 CCR, Section 4852) as follows:
   - Is associated with events which have made a significant contribution to the broad patterns of California's history and cultural heritage;
   - Is associated with the lives of persons important in our past;
   - Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
   - Has yielded, or may be likely to yield, information important in prehistory or history.

Properties listed on the National Register of Historic Places (NRHP) are automatically listed on the CRHR, along with State Landmarks and Points of Interest. The CRHR can also include properties designated under local ordinances or identified through local historical resource surveys.

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

The fieldwork and background research conducted to support Rincon's Cultural Resources Technical Report resulted in the identification of two historic-age properties in the project corridor, an agricultural property and a school. The properties were recorded and evaluated for listing in the NRHP, CRHR, and as a Ventura County local landmark, site of merit, or point of interest. The agricultural property's use and development is consistent with agricultural development of the Oxnard Plain and Santa Clara River Valley of Ventura County for citrus groves that was first spurred by the establishment of an irrigation canal from the Santa Clara River in the 1870s. However, the agricultural property is not significant within the context of agricultural development and is not strongly representative of local agricultural history. Furthermore, the agricultural property has been altered over time, including the demolition of associated buildings including accessory agricultural buildings and a single-family residence related to its historic use as an agricultural property. As such, it no longer retains sufficient integrity to convey its history as an agricultural property from the late nineteenth to mid-twentieth century, and was ultimately recommended as ineligible for national, State, or local listing for lack of historical significance.

The second historic-age property, Rio Del Valle Junior High School, has historically served as a school and a community center for town meetings, society or organization meetings, and presentations. Though the school was a large part of the El Rio community, research did not support that the school played an important role in a historical event for the area during Post-World War II development. The property was not the site of an improvement in education or technological advancements in education. The property is not associated with individuals significant in local, state, or national history. Though it retains its historic location and setting, the building lacks design and material integrity as it has been continually altered since its construction in 1961. Several new buildings and structures were constructed throughout its history from the 1960s to the present and

several original buildings and structures were altered or demolished. Therefore, the property is recommended ineligible for listing in the NRHP, CRHR, and as a Ventura County local landmark, site of merit, or point of interest. As a result, no impact to historical resources would occur as a result of the project.

NO IMPACT

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

The CHRIS records search and background research identified ten previously recorded cultural resources within one mile of the project corridor, three of which are considered archaeological resources pursuant to Section 15064.5. No archaeological resources are located in the project corridor. The April 2023, October 2023, and November 2023 pedestrian survey of the project corridor did not identify any previously unknown archaeological resources.

Geoarchaeological background research indicates the project corridor is underlain by Holocene age sediments which date to the era of human occupation. These sediments consist of unconsolidated alluvial deposits of valley and floodplain areas and are composed of silt, sand, and gravel. Although the lack of surface evidence of archaeological materials does not preclude their subsurface existence, the floodplain sediments underlying the project corridor have an episodic nature and as a result, have an increased likelihood of burying archaeological deposits. However, the project corridor has been heavily disturbed from the construction and maintenance of Rose Avenue, underground utility installation, and adjacent agricultural activity.

Overall, the absence of substantial prehistoric or historic-period archaeological remains within the immediate vicinity, coupled with the geoarchaeological analysis and existing level of disturbance in the project corridor, suggest there is a low potential for encountering subsurface archaeological deposits. Although there is a low potential to encounter archaeological resources and no archaeological resources were documented on the project site, the possibility remains, although unlikely, that unanticipated archaeological resources could be discovered during ground disturbing construction activities. Therefore, Mitigation Measure CUL-1 is necessary in the event that currently unknown subsurface archaeological resources are encountered during project-related ground-disturbing activities. The project would also be required to adhere to existing regulations regarding the unanticipated discovery of human remains, as detailed below. With adherence to Mitigation Measure CUL-1, the project impacts to archaeological resources would be less than significant with mitigation incorporated.

Mitigation Measures

CUL-1 Unanticipated Discovery of Cultural Resources

In the event that archaeological resources are unexpectedly encountered during ground-disturbing activities, work within 50 feet of the find shall halt and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (National Park Service 1983) shall be contacted immediately to evaluate the resource. If the resource is determined by the qualified archaeologist to be prehistoric, a Native American representative shall also be contacted to participate in the evaluation of the resource. If the qualified archaeologist and/or Native American representative determine the resource to be potentially eligible for the CRHR, archaeological testing for CRHR eligibility shall be completed.

If the resource is found to be eligible for the CRHR and significant impacts to the resource cannot be avoided via project redesign, a qualified archaeologist shall prepare a data recovery plan tailored to the physical nature and characteristics of the resource, per the requirements of CCR Guidelines Section 15126.4(b)(3)(C). The data recovery plan shall identify data recovery excavation methods, measurable objectives, and data thresholds to reduce any significant impacts to cultural resources related to the resource. Pursuant to the data recovery plan, the qualified archaeologist and Native American representative, as appropriate, shall recover and document the scientifically consequential information that justifies the resource's significance. The County shall review and approve the treatment plan and archaeological testing. The resulting documentation shall be submitted to South Central Coastal Information Center, per CCR Guidelines Section 15126.4(b)(3)(C).

Significance After Mitigation

Implementation of Mitigation Measure CUL-1 would reduce impacts to archaeological resources in the project corridor by ensuring proper handling and documentation in the event of unexpected discovery of archaeological resources. Therefore, with implementation of Mitigation Measure CUL-1, this impact would be reduced to a less than significant level.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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

No human remains are known to be present in the project corridor. However, the discovery of human remains is always a possibility during ground disturbing activities. If human remains are encountered during project construction, the State of California Health and Safety Code Section 7050.5 requires that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to PRC Section 5097.98. In the event of an unanticipated discovery of human remains, the County Coroner must be notified immediately. If the human remains are determined to be of Native American origin, the County Coroner will notify the Native American Heritage Commission, which will determine and notify a most likely descendant (MLD). The MLD has 48 hours from being granted site access to make recommendations for the disposition of the remains. If the MLD does not make recommendations within 48 hours, the landowner shall reinter the remains in an area of the property secure from subsequent disturbance. With adherence to existing regulations, effects related to the discovery of human remains would be less than significant.

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?	☐	☐	■	☐

The primary sources of energy in Ventura County are electricity provided by Southern California Edison and natural gas provided by Southern California Gas Company. In 2021, the most recent year for which data is available, SCE's electrical power mix was 22.3 percent natural gas, 31.4 percent renewable (10.2 percent wind, 14.9 percent solar, 5.7 percent geothermal, 0.6 percent biomass, biowaste, and eligible hydroelectric), 9.2 percent nuclear, 2.5 percent large hydroelectric or other, and 34.6 percent unspecified (from transactions that are not traceable to specific generation sources) (SCE 2021).

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 of the project would result in short-term consumption of energy from the use of construction equipment and processes. Construction would primarily involve replacement (demolition and excavation) of existing roadway, roadway restriping, realignment, safety improvements, and utility pole relocation. Construction would also require material export from excavation and demolition, which would consume transportation fuel. Energy use during construction would be primarily from fuel consumption to operate heavy equipment, light-duty vehicles, machinery, and generators.

Energy use during construction would be temporary in nature, and construction equipment used would be typical of construction projects in the region. It is reasonable to assume contractors would avoid wasteful, inefficient, and unnecessary fuel consumption during construction, as a standard cost-reducing practice. Project construction contractors would be required to comply with the CARB In-Use Off-Road Diesel-Fueled Fleets Regulation, which imposes limits on idling and restricts the use of older vehicles. This would reduce fuel consumption and lead to the use of fuel-efficient vehicles on the construction site. Construction equipment would be required to be maintained to applicable standards, and construction activity and associated fuel consumption and energy use would be typical for the construction of transportation-related infrastructure.

After construction, the project would enhance non-motorized transportation through the project corridor, as discussed in Section 17, *Transportation*. Since the project would reduce VMT, it would also reduce long-term energy consumption, primarily from reduced transportation motor vehicle fuel consumption. Therefore, the project would have a less than significant impact from wasteful, inefficient, or unnecessary consumption of energy resources.

LESS THAN SIGNIFICANT IMPACT

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

The 2040 General Plan Conservation and Open Space Element describes Ventura County's energy efficiency and climate action policies (County of Ventura 2020b). Goal COS-8 aims "To minimize energy consumption and increase the use of renewable energy," while Policy COS-8.1 calls to reduce the reliance of fossil fuels. The 2040 General Plan Circulation, Transportation, and Mobility Element includes policies that call for the construction and use of bicycle infrastructure, which would improve transportation energy efficiency. Goal CTM-3 aims "To develop an accessible and interconnected bicycle network that addresses resident and visitor needs for commuting, daily activities, and recreation" and Policy CTM-3.2 calls to "develop a bicycle network for all user types and routes across the county," while Policy CT-3.5calls for development of "bicycle network connectivity in rural, agricultural, and open space areas" (County of Ventura 2020b). As discussed in Section 17, *Transportation,* the project would encourage residents to substitute multi-modal trips for motor vehicle trips, which would reduce VMT. This would improve energy efficiency in the County consistent with Policy COS-8.1 and Mobility Element policies in the General Plan. Overall, the project would not conflict with any State or local plans for energy efficiency, and this impact would be less than significant.

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 18-1-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?	☐	☐	☐	■

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	■	☐

This section evaluates the project's potential impacts on geology and soils based on Yeh and Associates, Inc.'s Preliminary Geotechnical and Geohazards Report (Appendix B).

Similar to much of California, the project corridor is located in a seismically active region where earthquakes resulting in strong and damaging ground motion have occurred. The severity of ground shaking depends primarily upon the magnitude of the earthquake, the location of the fault with respect to the site, and the soil and/or rock conditions at the site. Faults generally produce damage in two ways: ground shaking and surface rupture. Nearby faults with potential to create strong ground motion at the project corridor are listed in Table 2.

Table 2 Faults in Proximity to the Project Corridor

Fault	Distance from Project Corridor
Wright Road Fault	1.3 miles
Oak Ridge onshore Fault	1.9 miles
Simi-Santa Rosa Fault	3.3 miles
Ventura-Pits Point Fault	4.1 miles
Red Mountain Fault	12 miles
Channel Islands Thrust Fault	12 miles

Source: Appendix B

The Alquist-Priolo Act provides for special seismic design considerations if developments are planned in areas adjacent to active or potentially active faults. The nearest known Alquist-Priolo fault zone is the Wright Road Fault, located approximately 1.3 miles east of the northern segment (California Geologic Survey [CGS] 2023).

Liquefaction is the sudden loss of soil strength due to a rapid increase in soil pore water pressure resulting from seismic ground shaking. Liquefaction potential is dependent on such factors as soil type, depth to groundwater, degree of seismic shaking, and the relative density of the soil. When liquefaction of the soil occurs, buildings and other objects on the ground surface may tilt or sink, and lightweight buried structures (such as pipelines) may float toward the ground surface. Liquefied soil may be unable to support its own weight or that of structures, which could result in loss of foundation bearing or differential settlement. The entire county is susceptible to liquefaction, but the most vulnerable locations are along the Santa Clara River and in the Oxnard Plain (County of Ventura 2020). CGS maps the project corridor as a liquefaction zone (CGS 2023).

Landslides result when the driving forces that act on a slope (i.e., the weight of the slope material, and the weight of objects placed on it) are greater than the slope's natural resisting forces (i.e., the shear strength of the slope material). Areas susceptible to landslides are typically characterized by steep, unstable slopes in weak soil/bedrock units which have a record of previous slope failure.

Although the Ventura County Multi-Jurisdictional Hazard Mitigation Plan does indicate that unincorporated Ventura County has a high susceptibility to landslides, the project corridor is generally flat and is not surrounded by hillsides, and there is no record of previous slope failure in its vicinity (County of Ventura 2022b).

Expansive soils can change substantially in volume depending on moisture content. When wet, these soils can expand; conversely, when dry, they can contract or shrink. Sources of moisture that can trigger this shrink-swell phenomenon include seasonal rainfall, landscape irrigation, utility leakage, and/or perched groundwater. Expansive soil can develop wide cracks in the dry season, and changes in soil volume have the potential to damage concrete slabs, foundations, and pavement. Special building/structure design or soil treatment are often needed in areas with expansive soils.

Erosion is the wearing away of the soil mantle by running water, wind or geologic forces. It is a naturally occurring phenomenon and ordinarily is not hazardous. However, excessive erosion can contribute to landslides, siltation of streams, undermining of foundations, and ultimately the loss of structures. Removal of vegetation tends to heighten erosion hazards.

The California Building Code (CBC) requires, among other things, seismically resistant construction and foundation and soil investigations prior to construction. The CBC also establishes grading requirements that apply to excavation and fill activities and requires the implementation of erosion control measures. The County is responsible for enforcing the 2022 CBC. Ordinance No. 4548 adopts the Ventura County Building Code (VCBC) and adopts by reference the most current editions of the CBC. VCBC contains provisions to ensure that development occurs in a manner which protects the natural and topographic character and identity of the environment, visual integrity of hillsides and ridgelines, sensitive species and unique geologic/geographic features, and the health, safety, and welfare of the general public. VCBC regulates grading on private and public property and includes standards and design criteria to control storm water and erosion during construction activities. The ordinance sets forth rules and regulations to control excavation, grading, earthwork construction (including fills and embankments), and development on hillsides and along ridgelines; establishes the administrative procedures for the issuance of permits; and provides for approval of plans and inspection of grading construction in compliance with storm water management requirements.

Subsurface soil types in the project corridor consist of artificial fill and alluvial and overbank deposits from the Holocene (Qha) (Tan, et al. 2004). The Holocene epoch refers to approximately the last 11,700 years since the preceding glacial period. Holocene deposits contain only the remains of modern taxa (if any resources are present), which are not considered “unique” paleontological resources. The artificial fill is expected to range from depths of two to four feet and consist of predominantly silty sand, underlain by the older alluvial well-graded to poorly graded sands and gravels. The alluvial and overbank deposits are part of the Oxnard Forebay and comprise a surfacing of the underlying Oxnard Aquifer (Appendix B).

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?

The project corridor does not cross a mapped Quaternary of active fault, is not within a designated Alquist-Priolo Fault Hazard Zone, and is approximately two miles from the nearest mapped active fault (Appendix B). The project corridor is still susceptible to strong seismic ground shaking in the event of a major earthquake due to nearby active faults, which are capable of producing strong seismic ground shaking at the project corridor. Construction of the bicycle infrastructure and relocation of utility infrastructure would be required to meet current seismic standards in the VCBC, which are intended to ensure that structures could withstand the adverse effects of strong ground shaking. The VCBC adopts the most recent CBC by reference. The CBC contains specific requirements for structural design, including seismic loads, and requires that structures be designed and constructed to resist seismic hazards. Ventura County would ensure that the project would be designed and constructed consistent with the current CBC, thereby ensuring that appropriate design measures have been employed to effectively minimize or avoid potential hazards associated with redevelopment and/or new construction.

Compliance with all applicable County building and fire code standards, as well as the CBC (CBC, Title 24 of the California Code of Regulations), would ensure the project would be engineered to withstand the expected ground acceleration. The final design plans for the project would be required to be reviewed and approved by County safety officials prior to project approval. Once constructed, the County would be responsible for resurfacing pavement that is substantially damaged by ground shaking to prevent a long-term risk of injury. The project does not include bridges or habitable structures that could be vulnerable to collapse during ground shaking. Therefore, the project would not expose people or structures to substantial adverse effects of seismic ground shaking or substantial risk of fault rupture in an Alquist-Priolo Fault Hazard Zone. This impact would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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?

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?

As discussed above, unincorporated Ventura County has a high susceptibility to landslides, and the project corridor is located in an identified liquefaction zone (County of Ventura 2022b; CGS 2023). The Geotechnical and Geohazards Report (Appendix B) indicates that the soil encountered in the upper 20 to 25 feet of a site on the Oxnard Plain may contain loose or medium dense sandy soil that could be potentially liquefiable, depending on the groundwater depths at the site, and liquefaction during an earthquake could damage pavement along the project corridor. Groundwater in the vicinity of the project corridor has been measured at approximately 28 feet below ground surface. The maximum excavation depth during construction of the project is anticipated to be 7 feet below ground surface, and the project would not include habitable structures that could expose people to

adverse effects from seismic-related ground failure. New and enhanced bicycle infrastructure would not involve major excavation or grading that could increase the instability of underlying geologic units or soil, or otherwise increase existing exposure to liquefaction by users of Rose Avenue. The final design plans for the project would be required to comply with the VCBC, which requires structures to be designed and constructed to resist liquefaction potential from seismic-related ground failure. Furthermore, the project corridor is generally flat and is not surrounded by hillsides, and there is no record of previous slope failure in its vicinity (County of Ventura 2022b). Therefore, no hazards related to geologic or soil instability were identified for the project, and this impact would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

Landslides are typically a hazard on or near slopes or hillside areas, rather than generally level areas such as the project corridor and its vicinity. The project corridor is generally flat and is not surrounded by hillsides. Therefore, the project corridor is not susceptible to landslides (CGS 2023; Ventura County 2020). Overall, the project has a low potential for slope instability and there would be no impact related to landslides.

NO IMPACT

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

Grading activity during construction of the project would loosen surface soils, making them susceptible to erosion by wind and water. However, because the project would involve grading on more than one acre, all construction activity would be subject to the erosion control requirements set by the National Pollutant Discharge Elimination System (NPDES) Construction General Permit (Order No. 2009-0009-DWQ, as amended by 2010-0014-DWQ and 2012-0006-DWQ) and Ventura County Stormwater Municipal Permit No. CAS004002. As described in Section 10, Hydrology and Water Quality, compliance with existing regulations would reduce the potential for substantial erosion to occur during construction. Therefore, this impact would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

Soils beneath the project corridor are well drained to excessively drained, have a low to negligible runoff class, and generally expand and contract very little when exposed to moisture. Therefore, the project corridor is unlikely to be in areas underlain by expansive soils and the shrinking and swelling of soil is unlikely to disrupt or damage paved surfaces. The project corridor is generally comprised of previously graded and paved ground that is underlain by artificial fill material with a lower risk of expansiveness than the native soil. Even if proposed features are underlain by expansive soil, the project improvements would not alter the existing susceptibility to expansive soil or increase the exposure of recreational users to this risk. Therefore, the project would not result in a substantial risk associated with expansive soils, and this impact would be less than significant.

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 project would not involve the construction of septic tanks or alternative wastewater disposal systems. No impact would occur.

NO IMPACT

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

Significant paleontological resources are fossils or assemblages of fossils that are unique, unusual, rare, uncommon, diagnostically important, or are common but have the potential to provide valuable scientific information for evaluating evolutionary patterns and processes, or which could improve our understanding of fossil chronologies, the ecology and geographic distribution of fossil organisms, or the history of geologic layers.

The project corridor consists of alluvial deposits from the Holocene (Qha), which are not considered "unique" paleontological resources. Intact Holocene deposits are typically considered too young to preserve paleontological resources and are assigned a low paleontological sensitivity. It is anticipated that grading for the project would extend up to seven feet below ground surface, for the purpose of relocating utility poles. At this depth in the mapped geologic unit, grading for the project would be unlikely to yield intact fossil resources. Furthermore, such resources if present would not be found in intact sedimentary formations that provide historical context. The project corridor also has been highly disturbed by prior grading to construct Rose Avenue and plowing from agricultural uses. Ground disturbance would be relatively shallow and may primarily encounter fill material. Therefore, the project's potential impact on paleontological resources would be less than significant.

LESS THAN SIGNIFICANT IMPACT

8 Greenhouse Gas Emissions

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

Most individual projects do not generate sufficient greenhouse gases (GHG) missions 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]).

In 2011, VCAPCD staff provided a report entitled "Greenhouse Gas Thresholds of Significance Options for Land Use Development Projects in Ventura County" to the Ventura County Air Pollution Control Board by way of a letter dated November 8, 2011. The VCAPCD letter concludes that "unless directed otherwise by [the Air Pollution Control] Board, District staff will continue to evaluate and develop suitable GHG threshold options for Ventura County with preference for GHG threshold consistency with the South Coast AQMD and the Southern California Association of Governments region." However, to date, VCAPCD has not established quantitative significance thresholds for evaluating GHG emissions in CEQA analyses for non-industrial development projects or roadway projects.

To date, no quantitative GHG emissions significance threshold for general use in the environmental review process of non-industrial projects that would be applicable to the project have been adopted by a local, regional, or State agency per the requirements of *CEQA Guidelines* Section 15064.7(b). As such, for this analysis, the potential significance of the project's GHG emissions will be qualitatively evaluated based on the "extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions" (*CEQA Guidelines* Section 15064.4[b]). The project would be required by the County to comply with applicable regulations or requirements adopted to implement statewide, regional, or local plans for the reduction or mitigation of GHG emissions.

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

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

The project would involve construction activities that generate GHG emissions, primarily during excavation, grading, and paving. For informational purposes, construction GHG emissions have been quantified. During construction the largest source of GHG emissions is the use of trucks to haul soil and grading equipment for earth movement. The project's potential construction GHG emissions were estimated using the same modeling approach and assumptions described in Section 3, Air Quality. In 2026, project construction would generate approximately 87 metric tons of carbon dioxide equivalent (CO_2e)[3]. In 2028 project construction would generate approximately 52 metric tons of CO_2e. The project's construction phase would generate a total of approximately 139 metric tons of CO_2e (see Appendix A for air quality modeling).

The project would encourage residents to substitute multi-modal trips for motor vehicle trips by providing an alternative means of travel, which would reduce VMT (see Section 17, *Transportation)*. Because vehicle emissions comprise the largest share of GHG emissions in California, projects that make active transportation a more viable and attractive option would contribute to achieving State goals for emissions reductions by reducing VMT. Therefore, the project would have a less than significant impact on the environment from GHG emissions and would not conflict with applicable plans to reduce GHG emissions.

LESS THAN SIGNIFICANT IMPACT

[3] CO_2e is a measure used to compare the emissions from various greenhouse gases on the basis of their global warming potential (i.e., how much energy the emissions of one ton of gas will absorb over a given period of time, relative to the emissions of one ton of carbon dioxide).

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 review of historical aerial photographs and topographic maps indicates that the project corridor has been developed as a road, similar to present day, since approximately 1947. Adjacent properties have been developed for rural residential and agricultural use since approximately 1947 (Nationwide Environmental Title Research, LLC 2023).

According to the Department of Toxic Substance Control (DTSC)'s EnviroStor database, there are no active or inactive hazardous waste or cleanup sites within 1,000 feet of the project corridor (DTSC 2023). However, according to the State Water Resources Control Board (SWRCB)'s GeoTracker database, there are eight known release sites located within 1,000 feet of the project corridor, as follows (SWRCB 2023a):

- Grether Farming Inc. (5010 N Rose Avenue): This agricultural facility is located adjacent to the southeast of the northern segment and is associated with one Leaking Underground Storage Tank (LUST) case, closed as of 1989. According to GeoTracker and Ventura County Environmental Health Division (VCEHD; VCEHD 2023), no impacted soil was left in place at the facility.
- Rio Mesa High School Nursery (545 Central Avenue): This facility is located approximately 400 feet northwest of the northern segment and is associated with one LUST case, closed as of 1989. According to GeoTracker and VCEHD (VCEHD 2023), no impacted soil was left in place at the facility.
- Lexus of Oxnard (1621 Auto Center Drive): This facility is located approximately 390 feet southwest of the southern segment and is associated with one LUST case, closed as of 2002. According to GeoTracker and VCEHD (VCEHD 2023), no impacted soil was left in place at the facility.
- Honda of Oxnard (1500 Ventura Boulevard): This facility is located approximately 500 feet southeast of the southern segment and is associated with one LUST case, closed as of 2003. According to GeoTracker and VCEHD (VCEHD 2023), no impacted soil was left in place at the facility.
- GTE El Rio Central Office (1505 Ventura Boulevard): This facility is located approximately 550 feet southeast of the southern segment and is associated with one LUST case, closed as of 1991. According to GeoTracker and VCEHD (VCEHD 2023), no impacted soil was left in place at the facility.
- Rio Del Valle School Southern Parcel (2600 N Rose Avenue): This facility is located approximately 1,000 feet east of the project site and is classified as a school cleanup site due to past agricultural uses. The site's cleanup status was active as of March 30, 2022.
- United Water Conservation District's El Rio Booster Pumping Station (3561 N Rose Avenue): This facility is located approximately 875 feet northwest of the southern segment and is associated with one LUST case, closed as of 2004. According to GeoTracker and VCEHD (VCEHD 2023), no impacted soil was left in place at the facility.
- Oxnard College Technical Building (4000 N Rose Avenue): This facility is located approximately 450 feet northwest of the southern segment and is associated with one LUST case, closed as of 2003. According to GeoTracker and VCEHD (VCEHD 2023), no impacted soil was left in place at the facility.

Additional research was completed to determine if landfills, oil and gas wells, hazardous material transportation pipelines, and per- and polyfluoroalkyl substances investigative sites are located onsite or could be affecting the project corridor.

According to a review of the California Department of Resources, Recycling, and Recovery (CalRecycle) online Solid Waste Information System database, no landfills are located within 2,000 feet of the project corridor (CalRecycle 2023). The nearest landfill, Saticoy County 1962 (Saticoy Avenue and North Bank Drive), is located approximately 1.4 miles northwest of the northern segment (CalRecycle 2023). This facility is classified as a closed solid waste disposal site. According to a review of California Department of Conservation, Geologic Energy Management Division online oil and gas well and field records, the project corridor is not located within an oil/gas field (California Department of Conservation, Geologic Energy Management Division 2023). However, there are two plugged dry hole wells both located within 1,000 feet of the northern segment. API 0411105764 is located approximately 170 feet northwest and API 0411120226 is located approximately 950 feet south-southeast of the northern segment.

According to a review of the United States Department of Transportation (U.S. DOT), Pipeline Hazardous Materials Safety Administration's online National Pipeline Mapping System database, five hazardous material pipelines are located within or adjacent to the project corridor (U.S. DOT 2023):

- Two active crude oil pipelines located within or adjacent to the northern terminus of the project corridor along SR 118 (Crimson Pipeline L.P. Pipeline IDs 334 and 1203)
- One active natural gas pipeline located within or adjacent to the northern terminus of the project corridor along SR 118 (Southern California Gas Company Pipeline ID 6266)
- One active crude oil pipeline located within or adjacent to the southern terminus of the project corridor along Central Avenue (CalNRG Operating, LLC Pipeline ID PL-7033)

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?

The project would not involve the transport, use, or disposal of hazardous materials other than the routine use of chemicals during construction (e.g., fuel and engine fluids for equipment, paint, and asphalt) and would not create conditions which could lead to the release of hazardous substances. Hazardous materials used during construction would be required to be transported under U.S. DOT regulations (U.S. DOT Hazardous Materials Transport Act, 49 Code of Federal Regulations), which stipulate the types of containers, labeling, and other restrictions to be used in the movement of such material on interstate highways.

The use, storage, and disposal of hazardous materials are regulated through the Resources Conservation and Recovery Act (RCRA). DTSC is responsible for implementing the RCRA program, as well as California's own hazardous waste laws. DTSC regulates hazardous waste, cleans up existing contamination, and looks for ways to control and reduce the hazardous waste produced in California. DTSC does this primarily under the authority of RCRA and in accordance with the California Hazardous Waste Control Law (California H&SC Division 20, Chapter 6.5) and the Hazardous Waste Control Regulations (Title 22, California Code of Regulations, Divisions 4 and 4.5). Additionally, as discussed in further detail in Section 10, *Hydrology and Water Quality,* the County would have to prepare a Storm Water Pollution Prevention Plan (SWPPP), which includes BMPs to control erosion and sediment. Compliance with existing regulations would reduce the risk of potential release of hazardous materials during construction.

Roadway users would be subject to a very small risk of exposure to upset and accident conditions from the release of hazardous materials being transported for motor vehicles or used on nearby agricultural, industrial and commercial sites. However, this is not a reasonably foreseeable risk to roadway users. These impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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 northern segment is located within one-quarter mile of Rio Mesa High School, and the southern segment is located within one-quarter mile of Rio Del Valle Junior High School. Ground disturbance during construction of the project could temporarily expose nearby receptors, which includes students and staff of Rio Mesa High School and Rio Del Valley Junior High School to emissions of fugitive dust. However, construction activity would be temporary, which would reduce the time of exposure to dust emissions. Construction also would proceed along the linear pathway of Rose Avenue, which would reduce the amount of construction time within one-quarter mile of Rio Mesa High School and Rio Del Valle Junior High School. Therefore, construction within one-quarter mile of schools would be short-term (less than the estimated 24-week construction period for the project corridor), resulting in minimal fugitive dust emissions. Additionally, construction activities would be required to comply with RCRA and DOT regulations, as discussed above.

Operation of the project would not involve hazardous emissions or handling of hazardous materials beyond the routine application of roadway maintenance materials like asphalt or paint. The potential impact on schools 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?

As discussed above, there are eight known release sites included on the SWRCB's GeoTracker database located within 1,000 feet of the project corridor. As such, the project would be located near a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5. Furthermore, the project corridor has been developed with a road since at least 1947, and adjacent properties consist mainly of agricultural land uses, crude oil pipelines (located within or adjacent to the northern and southern terminuses of the project corridor). Therefore, there is the potential for soil within the project corridor to be contaminated with hazardous substances, which could create a significant hazard to the public or the environment.

Groundwater in the vicinity of the project corridor has been measured at approximately 28 feet below ground surface. The maximum excavation depth during construction of the project is anticipated to be 7 feet below ground surface. Therefore, groundwater is not expected to be encountered during construction activities at the project corridor. However, there is a potential for demolition, grading, and construction workers to be exposed to contaminants present in the former agricultural areas, adjacent to roadways, and/or along the crude oil pipelines (e.g., total petroleum hydrocarbons [TPH], organochlorine pesticides [OCPs], arsenic, and lead) via dust and/or soil. Additionally, if offsite disposal of soils from the project corridor would occur during project construction, the soil may require special handling or disposal as a waste.

The unknown existing conditions at the project corridor would result in a potentially significant hazard to the public or the environment during demolition and grading/construction at the project corridor. Once the project is operational, the potentially impacted media may be removed or covered and would no longer pose a risk. Implementation of Mitigation Measures HAZ-1 through HAZ-3 prior to and during construction activities would reduce the demolition, grading, and construction impacts related to unknown hazardous substance releases to a less than significant level.

Mitigation Measures

HAZ-1 Subsurface Investigation

Prior to commencement of demolition and construction/grading activities at the project corridor, a qualified environmental consultant (Professional Geologist [PG] or Professional Engineer [PE]) shall conduct a subsurface investigation, which shall include, but would not be limited to, sampling for the presence of the following chemicals of potential concern within the construction envelope/proposed soil disturbance areas:

- OCPs, lead, and arsenic in current/former agricultural areas
- TPH (crude oil range) along oil pipelines

As part of the subsurface investigation, analytical results shall be screened against the Regional Water Quality Control Board's Environmental Screening Levels (ESL). ESLs are risk-based screening levels for direct exposure of construction workers and residential and commercial/industrial land uses. Subsurface investigation reporting shall include recommendations to address any identified hazards and indicate when to apply those recommended actions in relation to project activities based upon the ESL findings.

HAZ-2 Soil Management Plan

If any amount of contaminants is detected in the project corridor during the required subsurface investigation, or if impacted soils are discovered in the project corridor during construction, a qualified environmental consultant (PG or PE) shall prepare a Soil Management Plan (SMP) for the project corridor. The SMP shall address:

1. On-site handling and management of impacted soils or other impacted wastes (e.g., stained soil, and soil or groundwater with solvent or chemical odors) if such soils or impacted wastes are encountered, and
2. Specific actions to reduce hazards to construction workers and offsite receptors during the construction phase.

The SMP shall establish measures and soil management practices to ensure construction worker safety, the health of future workers and visitors, and the off-site migration of contaminants from the project. These measures and practices shall include, but are not limited to:

- Imported soil management
- Stockpile management, including stormwater pollution prevention and the installation of BMPs
- Proper disposal procedures of impacted soils

- Investigation procedures for encountering known and unexpected odorous or visually stained soils, other indications of hydrocarbon piping or equipment, and/or debris during ground-disturbing activities
- Monitoring and reporting
- A health and safety plan for contractors working at the project corridor that addresses the safety and health hazards of each phase of site construction activities with the requirements and procedures for worker protection
- The health and safety plan shall outline proper soil handling procedures and health and safety requirements to minimize worker and public exposure to hazardous materials during construction

The County shall review and approve the SMP prior to construction (demolition and grading) activities at the project corridor and prior to issuance of grading permits. The County shall implement the SMP measures and soil management practices during demolition, grading, and construction at the project.

HAZ-3 Remediation

If contaminants are detected at concentrations exceeding construction worker and/or commercial/industrial ESLs and/or hazardous waste screening thresholds for contaminants in soil (CCR Title 22, Section 66261.24) during the required subsurface investigation, the project applicant shall retain a qualified environmental consultant (PG or PE) to properly delineate and dispose of the contaminated soil. The qualified environmental consultant shall utilize the subsurface investigation reporting and Soil Management Plan for waste characterization purposes prior to offsite transportation or disposal of potentially impacted soils or other impacted wastes. The qualified consultant shall provide disposal recommendations and arrange for proper disposal of the waste soils or other impacted wastes (as necessary), and/or provide recommendations for remedial engineering controls, if appropriate.

Remediation of impacted soils and/or implementation of remedial engineering controls may require additional delineation of sub-surface impacts; additional analytical testing per landfill or recycling facility requirements; soil excavation; and offsite disposal or recycling.

Ventura County, Los Angeles Regional Water Quality Control Board, or the Department of Toxic Substances Control (DTSC) shall be responsible for review, approval, and implementation of the project corridor disposal recommendations for regulated waste prior to transportation of impacted soils offsite, as well as review and approval of remedial engineering controls, prior to construction and prior to the County issuing a grading permit.

Significance After Mitigation

Implementation of Mitigation Measure HAZ-1, and, if required, Mitigation Measure HAZ-2 and Mitigation Measure HAZ-3, during demolition, grading, and construction of the project would reduce potential hazardous material impacts in the project corridor below applicable thresholds of significance by ensuring additional investigation and remedial measures, transportation of impacted materials, and/or site management practices, thereby reducing potential impacts to construction worker safety and the health of future workers and visitors. Therefore, compliance with these mitigation measures would ensure this impact remains less than significant.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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 closest airport to the project corridor is the Camarillo Airport, approximately three miles southeast. Therefore, no airport is within two miles of the project corridor, and no impact would occur.

NO IMPACT

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

The project would improve roadway, pedestrian, and bicycle infrastructure along the project corridor. Construction of the project would take place over approximately 24 weeks, split between two 12-week periods, during which the extent of the project corridor may be partially or entirely closed to vehicle traffic five days per week. Vehicles would be either diverted from Rose Avenue, or traffic may move only in one direction at a time. However, Rose Avenue is not identified by the County as a primary evacuation route, and, in an evacuation event, motorists would have access to other roadways to reach highways or arterials. Therefore, the project would not impair the implementation or physically interfere with an adopted emergency response plan or emergency evacuation plan and this impact would be less than significant.

LESS THAN SIGNIFICANT 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?

Refer to Section 20, *Wildfire*, for a discussion of the project's potential impacts related to wildland fires. As discussed therein, the project corridor is not in or near a CAL FIRE designated very high FHSZ, and therefore the project would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires. No impact would occur.

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?	☐	☐	■	☐

The project corridor is under the jurisdiction of the LARWQCB. The project corridor is located in the South Coast hydrologic region approximately 1.2 miles southeast of the Santa Clara River. While the National Wetlands Inventory (NWI) indicates an excavated unknown perennial riverine system running parallel to northbound lane of Rose Avenue (NWI 2023), this feature was not observed during a site visit conducted by a qualified biologist in April 2023. The qualified biologist identified a cement V-ditch along the road shoulder at the intersection of Central Avenue and Rose Avenue.

The Federal Emergency Management Agency (FEMA) establishes base flood elevations for 100-year and 500-year flood zones and establishes Special Flood Hazard Areas (SFHA). SFHAs are those areas within 100-year flood zones or areas that will be inundated by a flood event having a one percent chance of being equaled or exceeded in any given year. The project corridor is located in an "Area of Minimal Flood Hazard" on FEMA map 06111C0770E or FEMA map 06111C0910E, which is not a SFHA or 100-year flood zone (FEMA 2010; FEMA 2023).

The project corridor is underlain by the Santa Clara River Valley Oxnard Groundwater Subbasin. The Fox Canyon Groundwater Management Agency (FCGMA) oversees the Groundwater Sustainability Plan for the Subbasin in compliance with the Sustainable Groundwater Management Act. The Oxnard Subbasin is designated as critically over-drafted. The sustainable yield of the Upper Aquifer System was calculated to be approximately 32,000 acre-feet per year, while the sustainable yield of the Lower Aquifer System was calculated to be approximately 7,000 acre-feet per year (FCGMA 2020).

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

During construction of the roadway improvements and utility pole relocation, soils in the project corridor would be disturbed. Unless measures are taken to prevent erosion of disturbed soils, rain events could wash loose soil and carry pollutants like nutrients, heavy metals, pesticides and herbicides, toxic chemicals, oils and fuels, and lubricants into surrounding storm drains or agricultural irrigation canals. However, because the project would involve disturbance of soil on more than one acre, it would be subject to erosion control requirements in the NPDES Construction General Permit (Order No. 2009-0009-DWQ, as amended by 2010-0014-DWQ and 2012-0006-DWQ). Compliance with the Construction General Permit would limit peak post-project runoff levels to pre-project levels. The County would be required to prepare a SWPPP, which includes BMPs to control erosion and sediment. Typically required construction BMPs may include, but would not be limited to, silt fencing, fiber rolls, stabilized construction entrances, stockpile management, and solid waste management. The Construction General Permit also requires that construction sites be inspected before and after storm events and every 24 hours during extended storm events. The purpose of the inspections is to identify maintenance requirements for the BMPs and to determine the effectiveness of the BMPs that are being implemented.

Operation of the project would not introduce new uses that discharge additional water pollutants relative to existing conditions. Therefore, compliance with existing regulatory requirements would ensure that the project does not violate water quality standards or waste discharge requirements and would not create substantial runoff water or otherwise degrade water quality. This impact 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?

The project would use minimal water during construction and maintenance of the roadway, and thus use a minimal portion of the sustainable yield as budgeted by FCGMA. The project corridor is currently paved; however, implementation of the project would increase the amount of impervious surface by up to approximately 4.8 acres. As discussed above, the project's final design plans would be required to comply with the General Permit requirement to limit peak post-project runoff levels to pre-project levels. Development in Ventura County achieves LARWQCB post-construction requirements to maximize infiltration through implementation of the Technical Guidance Manual for Stormwater Quality Control Measures (Technical Guidance Manual; County of Ventura 2018). Pursuant to the Technical Guidance Manual, projects subject to the implementation of post-construction stormwater management control measures include streets, roads, highways, and freeway construction of 10,000 square feet or more of impervious surface area (County of Ventura 2018). The Technical Guidance Manual provides specific requirements for roadways, including incorporating United States Environmental Protection Agency guidance from the *Managing Wet Weather with Green Infrastructure Municipal Handbook* (County of Ventura 2018). The minimum requirement for roadway projects, as designated in the Technical Guidance Manual, include providing BMPs to capture and treat the project's stormwater quality design volume or the stormwater quality design flow, and, to the maximum extent feasible, minimizing street width, using porous pavement, and adding tree canopy.

The project's final design plans would be required to implement post-construction control measures in accordance with Ventura County's Technical Guidance Manual for Stormwater Quality Control Measures which would maximize drainage, infiltration, and groundwater recharge. Furthermore, the land adjacent to the project corridor is predominantly unpaved agricultural land that would continue to facilitate drainage, infiltration, and groundwater recharge post-construction. Overall, the project would not materially impact absorption of stormwater runoff and the potential for groundwater recharge compared to existing conditions. Therefore, the project would not result in a net deficit in aquifer volume or a lowering of the groundwater table. Impacts 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?

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?

The Santa Clara River is the nearest stream or river to the project corridor, located approximately 1.2 miles northwest of the project corridor and does not flow through or adjacent to the corridor. The project would result in the addition of up to 4.8 acres of additional asphalt pavement. However, as described under criterion a., the project would be subject to the NPDES Construction General Permit and would be required to implement BMPs to maintain or replicate the pre-development hydrologic regime. Implementation of required BMPs would minimize the effect of project development on stormwater drainage patterns and would ensure the project would not substantially increase runoff from the project corridor such that new or increased erosion, siltation, or flooding would occur on- or off-site. As discussed under criterion a., the project would also be subject to the post-construction stormwater management requirements of the Technical Guidance Manual which requires implementation of BMPs to maximize drainage and infiltration. The minimum requirement for roadway projects, as designated in the Technical Guidance Manual, include providing BMPs to capture and treat the project's stormwater quality design volume or the stormwater quality design flow, and, to the maximum extent feasible, minimizing street width, using porous pavement, and adding tree canopy.

Implementation of BMPs in accordance with the Technical Guidance Manual and implementation of post-construction control measures in accordance with the Technical Guidance Manual would ensure the project would not substantially alter the existing drainage pattern of the project site such that an adverse environmental impact would occur. Stormwater leaving the project corridor would enter existing and modified drainages along Rose Avenue, as it does under existing conditions, and would not directly affect a stream or river. Therefore, the project would not substantially alter the existing drainage pattern of the site or area, create or contribute runoff that would exceed the capacity of the existing stormwater conveyance infrastructure, add new sources of polluted runoff, or otherwise result in flooding on or near the project corridor. This impact would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

The project corridor is located in an Area of Minimal Flood Hazard, and is not within a SFHA or a 100-year flood zone. The project corridor is located on relatively flat topography, and there is little likelihood of mudflow occurring as a result of project construction and operation. The DOC's tsunami inundation map shows that the project corridor is not located in a tsunami inundation zone (DOC 2023). The project corridor is not adjacent to a large body of water that could create a seiche. Therefore, no impacts related to seiche, tsunami, or mudflow would occur.

NO IMPACT

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

The project corridor overlies the Santa Clara River Valley Oxnard Groundwater Subbasin, which is a critically over-drafted subbasin and managed by the FCGMA. While groundwater supplies are critically over-drafted, the project does not include water-intensive uses and would use minimal water during construction and maintenance of the roadway. Therefore, the project would not conflict with the Groundwater Sustainability Plan prepared by FCGMA for the Oxnard Subbasin.

The LARWQCB has designated water quality objectives in the County in *The Los Angeles Regional Board's Basin Plan* (LARWQCB 2023). As discussed under criteria a. and b., the project would be required to comply with NPDES requirements to protect water quality. As discussed under criteria a. and b., the project would not use substantial groundwater, violate water quality standards, or degrade water quality during construction or operation.

The project would not interfere with water quality control plans or sustainable groundwater management plans. This impact would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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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?	☐	☐	☐	■

Land use within Ventura County is governed by the 2040 General Plan Update in coordination with other planning documents, such as the Countywide Bicycle Master Plan. The Countywide Bicycle Master Plan identifies Rose Avenue from U.S. 101 to Los Angeles Avenue as a bikeway gap suitable for bicycle improvements (County of Ventura 2008). The Ventura County General Plan Circulation, Transportation and Mobility Element contains policies related to building a regional multimodal system that takes a "Complete Streets" approach to transportation planning. Specifically, Policy CTM-2.12 calls for a countywide bicycle lane and trail system, Policy CTM-2.13 encourages elimination of gaps in bikeway networks, and Goal CTM-3 aims to develop an accessible and interconnected bicycle network (County of Ventura 2020b).

a. Would the project physically divide an established community?

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 project is intended to increase connectivity in Ventura County by improving Rose Avenue to allow for safer bicycle access. Therefore, the project would be consistent with policies set forth in the County's General Plan related to bicycle mobility. The proposed improvements would provide residents with improved access to destinations without the need for motorized transportation. The project does not include any new roads or other large or linear facilities that would physically divide existing neighborhoods. Therefore, the project would not divide an established community, and rather would enhance its connectivity. No impact would occur.

NO IMPACT

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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?	☐	☐	■	☐

According to the County's General Plan, the project corridor is in Mineral Resource Zone (MRZ)-2 (County of Ventura 2020b). MRZ-2 is an area underlain by mineral deposits where geologic data show significant measured or indicated resources are present or inferred. The project corridor is also within the County's Mineral Resource Protection (MRP) Overlay under the County's Non-Coastal Zoning Ordinance, given its classification as an MRZ-2 area, defined pursuant to Section 8104-7.2. Section 8109-4.4.2 sets forth the conditions under which discretionary permits would not be granted within an MRP Overlay; those conditions arise only when the use will significantly hamper or preclude access to or extraction of a mineral resource.

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?

While the project corridor is within an MRZ-2 area and is subject to the County's MRP Overlay, the project corridor is already developed with the existing roadway. The project improvements would not introduce a new use that would significantly hamper or preclude access to mineral resources. Therefore, these impacts would be less than significant.

LESS THAN SIGNIFICANT 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 sound that is loud, unpleasant, unexpected, or undesired and may therefore be classified as a more specific group of sounds. The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance, and, in the extreme, hearing impairment. Noise levels are commonly measured in decibels using the A-weighted sound pressure level (dBA). The A-weighting scale is an adjustment to the actual sound pressure levels so that they are consistent with the human hearing response. Decibels are measured on a logarithmic scale that quantifies sound intensity in a manner similar to the Richter scale used to measure earthquake magnitudes (Caltrans 2013).

Sound changes in both level and frequency spectrum as it travels from the source to the receiver. The most obvious change is the decrease in the noise level as the distance from the source increases. The manner by which noise reduces with distance depends on factors such as the type of sources (e.g., point or line), the path the sound will travel, site conditions, and obstructions. Noise from a line source (e.g., roadway, pipeline, railroad) typically attenuates at about 3 dBA per doubling of distance (Caltrans 2013). Noise levels may also be reduced by intervening structures; the amount of attenuation provided by this "shielding" depends on the size of the object and the frequencies of the noise levels. Natural terrain features, such as hills and dense woods, and man-made features, such as buildings and walls, can significantly alter noise levels. (Federal Highway Administration 2011).

The impact of noise is not a function of loudness alone. The time of day when noise occurs and the duration of the noise are also important factors of project noise impact. Most noise that lasts for more than a few seconds is variable in its intensity. Consequently, a variety of noise descriptors have been developed. The noise descriptor used for this study is the equivalent noise level (L_{eq}). L_{eq} considers both duration and sound power level (Federal Transit Administration [FTA] 2018).

Construction noise thresholds are not specified in the County's General Plan or Municipal Code. Adopted on November 2005 and last amended in July 2020, the Ventura County Construction Noise Threshold Criteria and Control Plan describes the County's construction noise thresholds. The County identifies hospitals, nursing homes, residential units, hotels, motels, schools, churches, and libraries as noise-sensitive receptors. The County has adopted daytime, evening, and nighttime thresholds for construction noise (County of Ventura 2010). The daytime criteria are shown in Table 3 and would apply to construction activity associated with the project between the hours of 7:00 a.m. to 7:00 p.m. Monday through Friday, and between the hours of 9:00 a.m. to 7:00 p.m. Saturday, Sunday and local holidays. Evening and nighttime construction activities are not anticipated but may be required due to the high volume of cars traveling along the corridor during the day. The evening criteria is 50 dBA and would apply to construction activity between the hours of 7:00 p.m. to 10:00 p.m.; the nighttime criteria is 45 dBA and would apply to construction activity between the hours of 01:00 p.m. to 7:00 a.m. Monday through Friday, and between the hours of 10:00 p.m. to 9:00 a.m. Saturday, Sunday and local holidays (County of Ventura 2010).

Table 3 Ventura County Daytime Construction Noise Criteria

Construction Duration Affecting Noise-Sensitive Receptors	Noise Threshold Criteria shall be the greater of these noise levels at the nearest receptor area or 10 feet from the nearest noise-sensitive building	
	Fixed L_{eq}(h), dBA	Hourly Equivalent Nose Level (L_{eq}), dBA[1, 2]
0 to 3 days	75	Ambient L_{eq}(h) + 3 dB
4 to 7 days	70	Ambient L_{eq}(h) + 3 dB
1 to 2 weeks	65	Ambient L_{eq}(h) + 3 dB
2 to 8 weeks	60	Ambient L_{eq}(h) + 3 dB
Longer than 8 weeks	55	Ambient L_{eq}(h) + 3 dB

[1] The instantaneous L_{max} shall not exceed the Noise Threshold Criteria by 20 dBA more than 8 times per daytime hour.

[2] Local ambient L_{eq} measurements shall be made on any mid-week day prior to project work.

Source: County of Ventura 2010

Groundborne vibration of concern in environmental analysis consists of the oscillatory waves that move from a source through the ground to adjacent buildings or structures and vibration energy may propagate through the buildings or structures. Vibration amplitudes are usually expressed in peak particle velocity (PPV). The PPV is normally described in inches per second (in/sec). PPV is often used as it corresponds to the stresses that are experienced by buildings (Caltrans 2020). Table 4 summarizes the vibration damage criteria recommended by the FTA for evaluating the potential for architectural damage to buildings.

Table 4 Criteria for Vibration Damage Potential

Building Category		PPV (in/sec)
I.	Reinforced concrete, steel, or timber (no plaster)	0.5
II.	Engineered concrete and masonry (no plaster)	0.3
III.	Nonengineered timber and masonry buildings	0.2
IV.	Buildings extremely susceptible to vibration damage	0.12

in/sec = inches per second; PPV = peak particle velocity

Source: FTA 2018

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

Construction of the project would take place over approximately 24 weeks, split between two 12-week periods in 2026 and 2028. Construction is expected to be active five days per week (Monday through Friday) between the hours of 7 a.m. and 7 p.m. Evening, nighttime, and weekend construction activities are not anticipated but may be required due to the high volume of cars traveling along the corridor during the day; any evening, nighttime, or weekend construction activities would be required to comply with the County of Ventura Construction Noise Threshold and Criteria and Control Plan (County of Ventura 2010). Construction of the project would include typical construction equipment such as trucks, dozers, loaders, backhoes, excavators, graders, and paving equipment. Drilling is expected to be required for the relocation of approximately 34 utility poles.

The nearest sensitive receptors to the project corridor include:

- Residence at 5163 North Rose Avenue, located approximately 50 feet northwest of the northern segment;
- Residence at 6135 North Rose Avenue, located approximately 135 feet northwest of the northern segment;
- Residence at 6114 North Rose Avenue, located approximately 320 feet southeast of the northern segment;
- Multiple residences adjacent to North Rose Avenue between Will Avenue and East Stroube Street, located approximately 25 feet west of the southern segment; and
- Rio Del Valle Junior High School, located approximately 40 feet east of the southern segment.

Given the linear nature of the project construction activity, construction near any individual receptor is assumed to last no more than 3 days. Over the course of a typical construction day, construction equipment would be located as close as 25 feet to the nearest sensitive receptor, which would yield a maximum noise level of up to 96 dBA L_{eq}. However, due to the nature of construction and the linear nature of the project, construction equipment would typically be located at an average distance farther away. For instance, during a typical construction day, equipment may operate approximately 25 to 300 feet from the nearest sensitive receptors. Therefore, it is more appropriate to assume that, over the course of a typical construction day, construction equipment would operate at an average distance of 150 feet from the nearest sensitive receptor.

Of the equipment anticipated to be used during project construction activities, water trucks would generate the highest noise levels of up to 81 dBA L_{eq} at a distance of 150 feet (County of Ventura

2010). Therefore, construction noise is expected to exceed 81 dBA L_{eq} at closer distances (5163 North Rose Avenue, residences adjacent to North Rose Avenue from Will Avenue to East Stroube Street, and Rio Del Valle Junior High School). Other construction equipment, including backhoes, compactors, compressors, dozers, generators, graders, loaders, pavers, roller, scrapers, and trenchers, would result in noise levels exceeding 75 dBA L_{eq} at residences adjacent to North Rose Avenue from Will Avenue to East Stroube Street, and Rio Del Valle Junior High School. Given that construction duration affecting sensitive receptors would last no more than 3 days, the appropriate daytime criteria is 75 dBA L_{eq}, which project construction noise has the potential to exceed. In the event that evening or nighttime construction activities are required, the project has the potential to exceed the evening and nighttime criteria of 50 dBA L_{eq} and 45 dBA L_{eq}, respectively. Therefore, construction noise impacts are potentially significant, and mitigation would be required.

During operation, the project is not anticipated to increase roadway noise; rather, the project would encourage residents to substitute multi-modal trips for motor vehicle trips, which would reduce VMT and associated roadway noise, as discussed in Section 17, *Transportation*. Therefore, operational noise impacts would be less than significant.

Mitigation Measure

NOI-1 Construction Noise Control Plan

The construction contractor shall prepare a Construction Noise Control Plan prior to the start of construction and implement the Construction Noise Control Plan during construction. The construction contractor shall submit the Construction Noise Control Plan to the Ventura County Public Works Department for review and approval prior to initiation of construction. The details of the Construction Noise Control Plan shall be included as part of the construction drawing set. The Construction Noise Control Plan shall include the following measures:

- At least 21 days prior to the start of construction activities, all off-site businesses, residents, and schools within 500 feet of the project site shall be notified of the planned construction activities. The notification shall include a brief description of the project, the activities that would occur, the hours when construction would occur, and the construction period's overall duration. The notification shall include the telephone numbers of the County's and contractor's authorized representatives that are assigned to respond in the event of a noise complaint.
- During the entire active construction period, equipment, tools, and trucks used for project construction shall utilize the best available noise control techniques (e.g., improved mufflers, use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds).
- The contractor shall be required to use impact tools that are hydraulically or electrically powered wherever feasible. Where the use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used along with external noise jackets on the tools.
- Stockpiling of materials shall be located as far as feasible from nearby noise-sensitive receptors.
- Signs shall be posted at the job site entrance(s) to reinforce the prohibition of unnecessary engine idling. All equipment shall be turned off if not in use for more than five minutes.
- Use of stereos and other amplified noise not necessary for the completion of construction work shall be prohibited.

- During the entire active construction period, the use of noise producing signals, including horns, whistles, alarms, and bells shall be for safety warning purposes only. The construction manager shall ensure the use of use smart back-up alarms, which automatically adjust the alarm level based on the background noise level or switch off back-up alarms and replace with human spotters in compliance with safety requirements and laws.
- Following receipt of a noise complaint during periods of construction noise activity, the construction noise shall be monitored by a designated person trained in the use of a sound meter in accordance with the methods of Appendix C of the Construction Noise Threshold Criteria and Control Plan. When construction noise fails to comply with the appropriate noise threshold criteria described in the Construction Noise Threshold Criteria and Control Plan, or falls out of compliance during use, the designated noise monitor shall immediately identify the non-compliant activity or equipment. Either the non-compliant activity must be stopped, or effective remedial action must be taken, similar to the noise mitigation measures of Appendix D of the Construction Noise Threshold Criteria and Control Plan, to restore compliance with the respective noise threshold criteria. The designated noise monitor shall discuss and implement appropriate remedial action with concurrence from the County and construction contractor.

Significance After Mitigation

Mitigation Measure NOI-1 would implement several effective noise reduction measures described in Appendix D of the County's Construction Noise Threshold Criteria and Control Plan, including use of mufflers, shielding, and construction site noise barriers to minimize construction noise. The use of best available noise control techniques (e.g., improved mufflers, use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds) would be consistent with the construction equipment noise mitigation described in Figure D-1 of the Construction Noise Threshold Criteria and Control Plan. As described in the Construction Noise Threshold Criteria and Control Plan, incorporating these measures would reduce construction noise impacts. In the event that construction noise after incorporation of feasible noise reduction measures would exceed the applicable noise threshold criteria, the construction noise monitor would halt construction activities to remediate noise levels. With implementation of Mitigation Measure NOI-1, project construction noise would be less than significant.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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

The greatest source of groundborne vibration during construction would be a large bulldozer. At 25 feet, the distance to the nearest residences, a large bulldozer typically produces a vibration level of approximately 0.089 in/sec PPV (FTA 2018). For the purposes of this analysis, the residences and school are considered non-engineered timber and masonry buildings and therefore the threshold of 0.2 PPV in/sec is used. The anticipated vibration levels from project construction activity would not have the potential to damage Rio Del Valle Junior High School or the nearest residential structures. Therefore, groundborne vibration impacts during the project construction phase would be less than significant.

During operation the project would not induce additional vehicle trips that could increase traffic vibration. The project would encourage residents to substitute multi-modal trips for motor vehicle

trips, which would reduce VMT, as discussed in Section 17, *Transportation*. Therefore, groundborne vibration impacts during operation of the project 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 closest airport to the project corridor is the Camarillo Airport, approximately three miles southeast. Because there is no public airport or private airstrip within two miles of the project corridor, no impact would occur.

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?	☐	☐	☐	■

According to the California Department of Finance, the population of Ventura County is 825,653 as of January 1, 2023 (Department of Finance 2023).

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)?

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

The project would not involve the construction of infrastructure that could induce substantial population growth, such as new or increased capacity sewer or water lines, or the construction or extension of streets and roads. The proposed bike lanes along Rose Avenue would serve existing residents in the surrounding communities. As the bike lanes would be located within the existing road corridors and would not require the extension of roads, this project would not expand the capacity of the motor vehicle system, and therefore would not induce population growth or require the displacement of housing or people. No impact related to population and housing would occur.

NO IMPACT

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15 Public Services

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	☐	☐	■	☐

Fire protection services are provided by the Ventura County Fire Protection District and police services are provided by the Ventura County Sheriff's Office. The nearest schools to the project corridor are the Rio Del Valle Junior High School, located adjacent to the east of the southern segment, and the Rio Mesa High School, located approximately 500 feet northwest of the northern segment. Several recreational facilities are located within 2 miles of the project corridor, including Collection Park, East Park, Central Park, Windrow Park, Crescent Park, River Linear Park, and Kennebec Linear Park.

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?

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?

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?

a.4. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered parks, 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?

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 other 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?

As discussed in Section 14, Population and Housing, the project would not induce additional population growth. Because the project would not induce additional population or create new employment opportunities, it is not anticipated that the project would generate need for new or altered public facilities, such as fire protection, police protection, schools, or parks. Rather, implementation of the project would result in the addition of recreational resources for existing residents and visitors. As a result, potential impacts related to public services 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?	☐	☐	☐	■
a. 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?	☐	☐	☐	■

Several recreational facilities are within 2 miles of the project corridor, including Collection Park, East Park, Central Park, Windrow Park, Crescent Park, River Linear Park, and Kennebec Linear Park.

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?

As discussed in Section , Public Services, the project would not would not induce additional population or create new employment opportunities resulting in new use of parks or recreational facilities. New Class II bicycle lanes could serve recreational users (cyclists) and thus would help meet countywide demand for new recreational facilities. Therefore, the project does not require new or expanded recreational facilities, and would not significantly accelerate, cause the physical deterioration of existing parks, requiring repair or expansion, which might have an adverse physical effect on the environment. There would be no impact.

NO 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?	☐	☐	■	☐

Roadways and highways surrounding the project corridor include SR 118 to the north, SR 232 to the west, U.S. 101 to the south, and Santa Clara Avenue to the east. There are currently no formally designated bicycle or pedestrian facilities along North Rose Avenue north of Central Avenue. There are existing Class II bicycle lanes and an intermittent sidewalk on North Rose Avenue south of Central Avenue until approximately Simon Way, where the existing bicycle lanes end. The sidewalk continues along North Rose Avenue south of Simon Way through to U.S. 101. Existing Class II bicycle lanes begin again on North Rose Avenue south of the intersection with Ventura Boulevard and Auto Center Drive, through U.S. 101. There are existing Class II bicycle lanes and a sidewalk along Central Avenue. The Gold Coast Transit District currently serves the cities of Ojai, Oxnard, Port Hueneme, and Ventura in addition to unincorporated Ventura County.

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

Roadway Facilities

Construction of the project would take place over approximately 24 weeks, split between two 12-week periods during which the project corridor may be partially or entirely closed to vehicle traffic five days per week. Vehicles would be either diverted from Rose Avenue or traffic may move only in one direction at a time. Therefore, construction work along the project corridor could slow vehicle traffic during the construction period. Following construction, use and maintenance of the proposed bikeway improvements are not anticipated to impact roadway facilities. During operation, the project may encourage travelers to opt for bicycle use over personal vehicles, which could incrementally decrease the long-term volume of vehicle traffic. Overall, the project would not

conflict with any program, plan, ordinance, or policy addressing roadway facilities and impacts would be less than significant.

Bicycle Facilities

The project would improve safety and access for bicyclists on Rose Avenue. Proposed Class II bike lanes accompanied by safety improvements in the project corridor would let cyclists use a delineated route next to vehicles. This would marginally reduce the risk of drivers hitting cyclists. These proposed bicycle facilities would be consistent with General Plan policies to enhance existing bicycle routes and facilities. Therefore, the project would not conflict with applicable policies for bicycle facilities.

Pedestrian Facilities

The project corridor does not currently include pedestrian facilities, nor do the proposed improvements include sidewalks or other pedestrian infrastructure. Therefore, since no changes to existing conditions regarding pedestrian facilities would occur, the project would not conflict with policies related to pedestrian facilities.

Transit Facilities

The project corridor would not impact transit facilities. No Gold Coast Transit bus lines run along Rose Avenue between Central Avenue and West Los Angeles Avenue (Gold Coast Transit 2023). No Gold Coast Transit bus lines run along the southern segment (Gold Coast Transit 2023). As discussed in Section 14, Population and Housing, the project would not increase Ventura County's population, so it would have no effect on the capacity of transit facilities to accommodate public demand. Therefore, the project would not conflict with policies in the Circulation, Transportation, and Mobility Element of the City's General Plan to improve transit access and impacts to transit facilities would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

The Governor's Office of Planning and Research (OPR)'s Technical Advisory on Evaluating Transportation Impacts in CEQA (2018) identifies several criteria that may be used to identify types of projects that are unlikely to have a significant VMT impact and can thus be "screened" from further analysis. One project type includes small projects that generate or attract fewer than 110 vehicular trips per day. The OPR also provides a list of projects that are not likely to lead to a substantial or measurable increase in vehicle travel and do not require an induced travel analysis, including the addition of new or enhanced bike or pedestrian facilities on existing streets/highways or within existing public rights-of-way (OPR 2018).

Development of the proposed bikeway improvements would reduce VMT in the vicinity of the project corridor, as the Class II bike lanes and roadway realignment would encourage residents to substitute multi-modal trips for motor vehicle trips by providing an alternative means of travel. Furthermore, the project does not include the addition of parking or bathroom facilities, both of which could generate additional trips to the project corridor. Therefore, the project would not induce travel or increase VMT. As the project would not increase total daily vehicle trips during operation, the project would meet the OPR's small project screening criteria of fewer than 110

vehicular trips per day. Therefore, the project would be consistent with statewide policy to reduce VMT under CEQA Guidelines section 15064.3, subdivision (b), and this impact 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 would not add sharp curves, new intersections, or incompatible uses on Rose Avenue. By adding safety improvements, the project would reduce potential hazards for vehicle and bicycle users. Therefore, impacts related to roadway hazards would be less than significant.

LESS THAN SIGNIFICANT IMPACT

d. Would the project result in inadequate emergency access?

Rose Avenue would remain accessible to emergency vehicles after completion of the roadway improvements and realignment. During construction of the project roadways may be partially or entirely closed to vehicle traffic five days per week. However, emergency vehicles would be able circumvent construction by accessing surrounding roadways, such as Central Avenue, Los Angeles Avenue, Santa Clara Avenue, and Vineyard Avenue. Furthermore, Rose Avenue is not identified by the County as a primary evacuation route, and, in an evacuation event, motorists would have access to other roadways to reach highways or arterials. Therefore, the project would not cause delays in emergency access on roadways, and the project's impact on emergency access would be less than significant.

LESS THAN SIGNIFICANT 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)?	☐	■	☐	☐
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.	☐	■	☐	☐

This section provides an analysis of the project's potential impacts on tribal cultural resources and is based on Rincon's Cultural Resources Technical Report (Rincon Consultants. Inc. 2023), as well as the required tribal consultation that occurred under Assembly Bill (AB) 52.

Tribal cultural resources are defined in PRC 21074 as sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either:

- Included or determined to be eligible for the California Register of Historical Resources
- Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1

As of July 1, 2015, 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" (Public Resources Code Section 21084.2). AB 52 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 (Public Resources Code Section 21084.3).

AB 52 establishes a formal project consultation process for California Native American tribes and lead agencies regarding tribal cultural resources, referred to as government-to-government consultation. Per PRC Section 21080.3.1(b), the AB52 consultation process must begin prior to

release of a negative declaration, mitigated negative declaration, or environmental impact report. Native American tribes to be included in the formal consultation process are those that have requested notice of projects proposed within the jurisdiction of the lead agency. AB 52 provides dedicated timeframes for inquiries and responses regarding consultation and information sharing. AB 52 also provides for confidential information sharing between the governments involved for a meaningful consultation process.

Pursuant to AB 52, Native American tribes have 30 days to respond and request formal consultation. On February 7, 2023, the County of Ventura distributed AB 52 consultation letters for the project, including project information, location map, and contact information, to each of the seven (7) Native American tribes previously requesting to consult on County of Ventura projects. The tribal governments that were provided an AB 52 consultation letter include the following:

- Barbareño/Ventureño Band of Mission Indian
- Chumash Council of Bakersfield
- Coastal Band of the Chumash Nation
- Gabrieleño/Tongva San Gabriel Band of Mission Indians
- Northern Chumash Tribal Council
- San Luis Obispo County Chumash Council
- Santa Ynez Band of Chumash Indians

On March 8, 2023, the Santa Ynez Band of Chumash Indians responded to the AB 52 consultation letter, confirming that no further consultation on the project was requested. No additional responses to the AB 52 consultation letters were received.

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)?

b. Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code 21074 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 2024.1?

Rincon contacted the NAHC on January 30, 2023, to request a search of the project corridor and a one-mile radius. As part of this request, Rincon asked the NAHC to provide a list of Native American groups and/or individuals culturally affiliated with the area who may have knowledge of cultural resources in the project corridor. The NAHC responded on February 18, 2023, stating the results of the Sacred Lands File search were negative.

The CHRIS records search and background research identified ten previously recorded cultural resources within 1.0-mile of the project corridor, three of which are considered an archaeological resource. None of these resources are located in the project corridor. The Cultural Resources Technical Report identified no additional archeological resources within or adjacent to the project corridor. However, there is potential for Native American resources to be present in the project corridor. With project adherence to the standard permit conditions and mitigation outlined in Section 5, Cultural Resources, these impacts would be less than significant.

Mitigation Measures

Implementation of Mitigation Measure CUL-1, Unanticipated Discovery of Cultural Resources.

Significance After Mitigation

Implementation of Mitigation Measures CUL-1 would reduce impacts to archaeological resources in the project corridor by ensuring proper handling and documentation in the event of unexpected discovery of tribal cultural resources. Therefore, with implementation of Mitigation Measure CUL-1, this impact would be less than significant.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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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?	☐	☐	■	☐

Utility providers along the project corridor include Southern California Edison and California Gas Company. Water used during project construction would be provided by Ventura County Public Works.

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?

The project's proposed bicycle infrastructure would require the relocation of approximately 34 utility poles, the environmental impacts of which are analyzed throughout this IS-MND. The project would not result or require in the relocation of new or expanded water, wastewater treatment,

stormwater drainage, electric power, natural gas, or telecommunications facilities beyond what is evaluated throughout this IS-MND. Therefore, no new impact would occur.

NO IMPACT

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?

During construction of the project, water may be required on a temporary basis to wet down disturbed areas and minimize emissions of fugitive dust. Water consumption by construction workers and cleaning of portable toilets along the project alignment may also account for a small amount of overall construction water demand. Water demand associated with project construction would be similar to other construction projects in the region. Because water use would be temporary and would only occur during construction activities, the project would not substantially decrease water supplies. Therefore, the project would have a less than significant impact on water supplies.

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?

The project would not include construction of new restrooms or septic systems that could generate additional wastewater or additional demand for wastewater treatment. Therefore, implementation of the project would not affect the ability of wastewater treatment providers to accommodate wastewater generated in Ventura County. No impact would occur.

NO 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?

The project would not lead to a permanent increase in solid waste generated in Ventura County. During construction, waste would be limited to debris from subsurface material. The long-term use of new on-street bicycle facilities would not generate solid waste. Therefore, the project would not substantially increase solid waste generation. These impacts 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?	☐	☐	☐	■

According to CAL FIRE's fire hazard severity zone (FHSZ) maps for State Responsibility Area and Local Responsibility Area, the project corridor is not in a FHSZ (CAL FIRE 2007; CAL FIRE 2022). The nearest very high FHSZ is approximately 3.5 miles northwest of the project corridor.

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?

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?

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?

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?

Since the project corridor is not in or near a CAL FIRE designated very high FHSZ, implementation of the project would not impair an adopted emergency response plan or emergency evacuation plan (see Section 9, *Hazards and Hazardous Materials*); exacerbate wildfire risks; require the installation or maintenance of associated infrastructure that may exacerbate fire risk; or 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 in or near state responsibility areas or lands classified as very high FHSZ. No impact 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 discussed in Section 4, Biological Resources, no sensitive plant or animal species were observed, and no wetland, riparian, or otherwise sensitive habitats occur in the project corridor. As discussed in Section 5, Cultural Resources, and Section 18, Tribal Cultural Resources, project construction would not impact historical resources, or any known archaeological or tribal cultural resources. Potential impacts to undiscovered cultural and tribal cultural resources would be reduced to a less than significant level through implementation of Mitigation Measures CUL-1. Therefore, impacts to the quality of the environment, reduction in the habitat of a fish or wildlife species, reduction of a

fish or wildlife population below self-sustaining levels, elimination of a plant or animal community, or reduction in the number or restriction of the range of a plant or animal would be less than significant, and impacts to important examples of major periods of California history or prehistory would be reduced to a less than significant level with implementation of the identified mitigation measure.

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 project's potential to result in cumulative impacts associated with Air Quality and Greenhouse Gas Emissions are evaluated in the individual resource sections above and found to be less than significant. The proposed active transportation project would reduce VMT and greenhouse gas emissions while improving overall air quality and reducing energy use. Therefore, the project would not contribute to a cumulatively considerable energy or transportation impact. Cumulative noise impacts would be less than significant because the project would not increase traffic on area roadways and would therefore not result in a long-term noise increase in the project vicinity. As a roadway infrastructure project that would demand minimal service from utilities, the project's contribution to cumulative utilities and service systems impacts would not be considerable. Other resource areas (e.g., land use and planning, population/housing, public services, recreation, and wildfire) were determined to have no project-level impact and would therefore not contribute to any cumulative impacts. Remaining resource areas (e.g., aesthetics, agriculture/forestry resources, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, mineral resources, and tribal cultural resources) are by their nature site-specific, such that impacts at one location would not contribute to impacts at other locations or create additive impacts.

Although the County may undertake other nearby projects concurrently with the identified project, all other projects would be required to complete separate environmental analysis under either CEQA, the National Environmental Policy Act, or both. Overall, cumulative impacts 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?

Impacts to human beings are generally associated with air quality, hazards and hazardous materials, and noise impacts. As detailed in Section 3, Air Quality, the project would not result in a direct or indirect air quality impact. As discussed in Section 13, Noise, construction of the proposed facilities may affect nearby sensitive receptors, but implementation of MM NOI-1 would reduce construction noise impacts by implementing several effective noise reduction measures, including use of mufflers and shielding to minimize construction noise. As discussed in Section 9, Hazards and Hazardous Materials, implementation of Mitigation Measures HAZ-1, HAZ-2, and HAZ-3 would ensure the project would have a less than significant impact related to hazards or hazardous materials. Therefore, impacts to human beings would be less than significant with mitigation incorporated.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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Appendix A

CalEEMod Worksheets

Rose Avenue Bikes Lanes v2 Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Rose Avenue Bikes Lanes v2
Construction Start Date	6/1/2028
Lead Agency	Ventura County
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.70
Precipitation (days)	7.20
Location	34.259605, -119.132882
County	Ventura
City	Unincorporated
Air District	Ventura County APCD
Air Basin	South Central Coast
TAZ	3451
EDFZ	8
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.21

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Road Widening	1.90	Mile	58.6	0.00	—	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.28	21.8	23.6	0.05	0.82	3.87	4.69	0.76	1.63	2.38	—	6,692	6,692	0.21	0.49	7.34	6,850
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	—	—	—	—	—	—	—	—	—	—	—	1.17	1.17	< 0.005	< 0.005	—	1.18
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.20	1.70	2.10	< 0.005	0.07	0.18	0.25	0.06	0.06	0.12	—	517	517	0.02	0.02	0.14	523
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.04	0.31	0.38	< 0.005	0.01	0.03	0.05	0.01	0.01	0.02	—	85.7	85.7	< 0.005	< 0.005	0.02	86.6
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	25.0	25.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	No	No	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	25.0	25.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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

2.2. Construction Emissions by Year, Unmitigated

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

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	2.28	21.8	23.6	0.05	0.82	3.87	4.69	0.76	1.63	2.38	—	6,692	6,692	0.21	0.49	7.34	6,850
2028	2.14	20.0	23.2	0.05	0.72	3.87	4.59	0.66	1.63	2.29	—	6,548	6,548	0.20	0.47	6.19	6,699
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	—	—	—	—	—	—	—	—	—	—	—	0.67	0.67	< 0.005	< 0.005	—	0.67
2028	—	—	—	—	—	—	—	—	—	—	—	1.17	1.17	< 0.005	< 0.005	—	1.18
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.20	1.70	2.10	< 0.005	0.07	0.18	0.25	0.06	0.06	0.12	—	517	517	0.02	0.02	0.14	523
2028	0.11	0.95	1.19	< 0.005	0.04	0.16	0.19	0.03	0.05	0.09	—	309	309	0.01	0.01	0.09	313
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.04	0.31	0.38	< 0.005	0.01	0.03	0.05	0.01	0.01	0.02	—	85.7	85.7	< 0.005	< 0.005	0.02	86.6
2028	0.02	0.17	0.22	< 0.005	0.01	0.03	0.04	0.01	0.01	0.02	—	51.1	51.1	< 0.005	< 0.005	0.01	51.8

3. Construction Emissions Details

3.1. S - Site Preparation (2026) - Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.13	18.0	21.2	0.03	0.78	—	0.78	0.72	—	0.72	—	3,557	3,557	0.14	0.03	—	3,569
Dust From Material Movement	—	—	—	—	—	2.76	2.76	—	1.34	1.34	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.25	0.29	< 0.005	0.01	—	0.01	0.01	—	0.01	—	48.7	48.7	< 0.005	< 0.005	—	48.9
Dust From Material Movement	—	—	—	—	—	0.04	0.04	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.05	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.07	8.07	< 0.005	< 0.005	—	8.09
Dust From Material Movement	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.10	1.47	0.00	0.00	0.33	0.33	0.00	0.08	0.08	—	328	328	< 0.005	0.01	1.23	332
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.32	4.32	< 0.005	< 0.005	0.01	4.38
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.72	0.72	< 0.005	< 0.005	< 0.005	0.73
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. S - Demolition (2026) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.83	7.26	7.97	0.01	0.40	—	0.40	0.37	—	0.37	—	1,122	1,122	0.05	0.01	—	1,126

Dust From Material Movement	—	—	—	—	—	0.41	0.41	—	0.04	0.04	—	—	—	—	—	—	—
Demolition	—	—	—	—	—	0.99	0.99	—	0.15	0.15	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.20	0.22	< 0.005	0.01	—	0.01	0.01	—	0.01	—	30.8	30.8	< 0.005	< 0.005	—	30.9
Dust From Material Movement	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Demolition	—	—	—	—	—	0.03	0.03	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.04	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.09	5.09	< 0.005	< 0.005	—	5.11
Dust From Material Movement	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Demolition	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	1.17	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	262	262	< 0.005	0.01	0.98	266
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	1.56	0.39	0.01	0.02	0.32	0.34	0.02	0.09	0.11	—	1,209	1,209	0.03	0.19	2.62	1,270
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.91	6.91	< 0.005	< 0.005	0.01	7.01
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	33.1	33.1	< 0.005	0.01	0.03	34.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.14	1.14	< 0.005	< 0.005	< 0.005	1.16
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.48	5.48	< 0.005	< 0.005	0.01	5.75

3.5. N - Site Preparation (2028) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.00	16.6	21.1	0.03	0.68	—	0.68	0.63	—	0.63	—	3,559	3,559	0.14	0.03	—	3,571

Dust From Material Movement	—	—	—	—	—	2.76	2.76	—	1.34	1.34	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.23	0.29	< 0.005	0.01	—	0.01	0.01	—	0.01	—	48.7	48.7	< 0.005	< 0.005	—	48.9
Dust From Material Movement	—	—	—	—	—	0.04	0.04	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.04	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.07	8.07	< 0.005	< 0.005	—	8.10
Dust From Material Movement	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	1.29	0.00	0.00	0.33	0.33	0.00	0.08	0.08	—	316	316	< 0.005	0.01	1.01	321
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.17	4.17	< 0.005	< 0.005	0.01	4.22
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.69	0.69	< 0.005	< 0.005	< 0.005	0.70
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. N - Demolition (2028) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.71	6.45	7.90	0.01	0.30	—	0.30	0.28	—	0.28	—	1,123	1,123	0.05	0.01	—	1,127
Dust From Material Movement	—	—	—	—	—	0.41	0.41	—	0.04	0.04	—	—	—	—	—	—	—
Demolition	—	—	—	—	—	0.99	0.99	—	0.15	0.15	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.18	0.22	< 0.005	0.01	—	0.01	0.01	—	0.01	—	30.8	30.8	< 0.005	< 0.005	—	30.9
Dust From Material Movement	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Demolition	—	—	—	—	—	0.03	0.03	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.03	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.09	5.09	< 0.005	< 0.005	—	5.11
Dust From Material Movement	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Demolition	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	1.03	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	253	253	< 0.005	0.01	0.81	257
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	1.43	0.37	0.01	0.02	0.32	0.34	0.02	0.09	0.11	—	1,150	1,150	0.02	0.18	2.22	1,208

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.67	6.67	< 0.005	< 0.005	0.01	6.76
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	31.5	31.5	< 0.005	0.01	0.03	33.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.10	1.10	< 0.005	< 0.005	< 0.005	1.12
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.22	5.22	< 0.005	< 0.005	< 0.005	5.48

3.9. S - Grading and Excavation (2026) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.13	18.0	21.2	0.03	0.78	—	0.78	0.72	—	0.72	—	3,557	3,557	0.14	0.03	—	3,569
Dust From Material Movement	—	—	—	—	—	2.79	2.79	—	1.34	1.34	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.25	0.29	< 0.005	0.01	—	0.01	0.01	—	0.01	—	48.7	48.7	< 0.005	< 0.005	—	48.9
Dust From Material Movement	—	—	—	—	—	0.04	0.04	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.05	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.07	8.07	< 0.005	< 0.005	—	8.09
Dust From Material Movement	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.10	1.47	0.00	0.00	0.33	0.33	0.00	0.08	0.08	—	328	328	< 0.005	0.01	1.23	332
Vendor	< 0.005	0.11	0.03	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	90.9	90.9	< 0.005	0.01	0.24	95.1
Hauling	0.04	3.51	0.87	0.02	0.04	0.72	0.76	0.04	0.20	0.24	—	2,716	2,716	0.06	0.43	5.88	2,853
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.32	4.32	< 0.005	< 0.005	0.01	4.38
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.25	1.25	< 0.005	< 0.005	< 0.005	1.30

Hauling	< 0.005	0.05	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	37.2	37.2	< 0.005	0.01	0.03	39.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.72	0.72	< 0.005	< 0.005	< 0.005	0.73
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.21	0.21	< 0.005	< 0.005	< 0.005	0.22
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.16	6.16	< 0.005	< 0.005	0.01	6.46

3.11. N - Grading and Excavation (2028) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.00	16.6	21.1	0.03	0.68	—	0.68	0.63	—	0.63	—	3,559	3,559	0.14	0.03	—	3,571
Dust From Material Movement	—	—	—	—	—	2.79	2.79	—	1.34	1.34	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.23	0.29	< 0.005	0.01	—	0.01	0.01	—	0.01	—	48.7	48.7	< 0.005	< 0.005	—	48.9
Dust From Material Movement	—	—	—	—	—	0.04	0.04	—	0.02	0.02	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.04	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.07	8.07	< 0.005	< 0.005	—	8.10
Dust From Material Movement	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	1.29	0.00	0.00	0.33	0.33	0.00	0.08	0.08	—	316	316	< 0.005	0.01	1.01	321
Vendor	< 0.005	0.10	0.03	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	87.0	87.0	< 0.005	0.01	0.18	91.0
Hauling	0.04	3.22	0.84	0.02	0.04	0.72	0.76	0.04	0.20	0.24	—	2,585	2,585	0.05	0.42	4.99	2,715
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.17	4.17	< 0.005	< 0.005	0.01	4.22
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.19	1.19	< 0.005	< 0.005	< 0.005	1.25
Hauling	< 0.005	0.05	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	35.4	35.4	< 0.005	0.01	0.03	37.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.69	0.69	< 0.005	< 0.005	< 0.005	0.70
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.20	0.20	< 0.005	< 0.005	< 0.005	0.21
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.86	5.86	< 0.005	< 0.005	< 0.005	6.15

3.13. S - Utility Relocation (2026) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.51	4.49	5.29	0.02	0.17	—	0.17	0.16	—	0.16	—	1,622	1,622	0.07	0.01	—	1,628
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.25	0.29	< 0.005	0.01	—	0.01	0.01	—	0.01	—	88.9	88.9	< 0.005	< 0.005	—	89.2
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.04	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	14.7	14.7	< 0.005	< 0.005	—	14.8

Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.73	0.00	0.00	0.16	0.16	0.00	0.04	0.04	—	164	164	< 0.005	0.01	0.61	166
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.64	8.64	< 0.005	< 0.005	0.01	8.76
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.43	1.43	< 0.005	< 0.005	< 0.005	1.45
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.15. N - Utility Relocation (2028) - Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.48	4.10	5.28	0.02	0.15	—	0.15	0.14	—	0.14	—	1,621	1,621	0.07	0.01	—	1,627
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.22	0.29	< 0.005	0.01	—	0.01	0.01	—	0.01	—	88.8	88.8	< 0.005	< 0.005	—	89.1
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.04	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	14.7	14.7	< 0.005	< 0.005	—	14.8
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.65	0.00	0.00	0.16	0.16	0.00	0.04	0.04	—	158	158	< 0.005	0.01	0.50	160
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.34	8.34	< 0.005	< 0.005	0.01	8.45
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.38	1.38	< 0.005	< 0.005	< 0.005	1.40
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.17. S + N - Asphalt Paving and Pouring (2026) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.92	7.86	9.74	0.02	0.31	—	0.31	0.28	—	0.28	—	2,235	2,235	0.09	0.02	—	2,243
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.65	0.80	< 0.005	0.03	—	0.03	0.02	—	0.02	—	184	184	0.01	< 0.005	—	184
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.12	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	30.4	30.4	< 0.005	< 0.005	—	30.5
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	1.17	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	262	262	< 0.005	0.01	0.98	266
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	20.7	20.7	< 0.005	< 0.005	0.03	21.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.43	3.43	< 0.005	< 0.005	0.01	3.48
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

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

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

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

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
S - Site Preparation	Linear, Grubbing & Land Clearing	6/1/2026	6/7/2026	5.00	5.00	—
S - Demolition	Linear, Grubbing & Land Clearing	7/6/2026	7/19/2026	5.00	10.0	—
N - Site Preparation	Linear, Grubbing & Land Clearing	6/1/2028	6/7/2028	5.00	5.00	—
N - Demolition	Linear, Grubbing & Land Clearing	7/6/2028	7/19/2028	5.00	10.0	—
S - Grading and Excavation	Linear, Grading & Excavation	7/20/2026	7/24/2026	5.00	5.00	—
N - Grading and Excavation	Linear, Grading & Excavation	7/26/2028	8/1/2028	5.00	5.00	—
S - Utility Relocation	Linear, Drainage, Utilities, & Sub-Grade	6/8/2026	7/5/2026	5.00	20.0	—
N - Utility Relocation	Linear, Drainage, Utilities, & Sub-Grade	6/8/2028	7/5/2028	5.00	20.0	—

S + N - Asphalt Paving and Pouring	Linear, Paving	8/3/2026	9/11/2026	5.00	30.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
S - Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
S - Site Preparation	Plate Compactors	Diesel	Average	1.00	8.00	8.00	0.43
S - Site Preparation	Air Compressors	Diesel	Average	1.00	8.00	37.0	0.48
S - Site Preparation	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
S - Site Preparation	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
S - Site Preparation	Graders	Diesel	Average	1.00	8.00	148	0.41
S - Site Preparation	Rubber Tired Loaders	Diesel	Average	1.00	8.00	150	0.36
S - Site Preparation	Signal Boards	Diesel	Average	1.00	8.00	6.00	0.82
S - Site Preparation	Skid Steer Loaders	Diesel	Average	1.00	8.00	71.0	0.37
S - Site Preparation	Trenchers	Diesel	Average	1.00	8.00	40.0	0.50
S - Demolition	Signal Boards	Electric	Average	3.00	8.00	6.00	0.82
S - Demolition	Crawler Tractors	Diesel	Average	2.00	8.00	87.0	0.43
S - Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
N - Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
N - Site Preparation	Plate Compactors	Diesel	Average	1.00	8.00	8.00	0.43
N - Site Preparation	Air Compressors	Diesel	Average	1.00	8.00	37.0	0.48
N - Site Preparation	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
N - Site Preparation	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
N - Site Preparation	Graders	Diesel	Average	1.00	8.00	148	0.41

N - Site Preparation	Rubber Tired Loaders	Diesel	Average	1.00	8.00	150	0.36
N - Site Preparation	Signal Boards	Diesel	Average	1.00	8.00	6.00	0.82
N - Site Preparation	Skid Steer Loaders	Diesel	Average	1.00	8.00	71.0	0.37
N - Site Preparation	Trenchers	Diesel	Average	1.00	8.00	40.0	0.50
N - Demolition	Signal Boards	Electric	Average	3.00	8.00	6.00	0.82
N - Demolition	Crawler Tractors	Diesel	Average	2.00	8.00	87.0	0.43
N - Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
S - Grading and Excavation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
S - Grading and Excavation	Plate Compactors	Diesel	Average	1.00	8.00	8.00	0.43
S - Grading and Excavation	Air Compressors	Diesel	Average	1.00	8.00	37.0	0.48
S - Grading and Excavation	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
S - Grading and Excavation	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
S - Grading and Excavation	Graders	Diesel	Average	1.00	8.00	148	0.41
S - Grading and Excavation	Rubber Tired Loaders	Diesel	Average	1.00	8.00	150	0.36
S - Grading and Excavation	Signal Boards	Diesel	Average	1.00	8.00	6.00	0.82
S - Grading and Excavation	Skid Steer Loaders	Diesel	Average	1.00	8.00	71.0	0.37
S - Grading and Excavation	Trenchers	Diesel	Average	1.00	8.00	40.0	0.50
N - Grading and Excavation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
N - Grading and Excavation	Plate Compactors	Diesel	Average	1.00	8.00	8.00	0.43

N - Grading and Excavation	Air Compressors	Diesel	Average	1.00	8.00	37.0	0.48
N - Grading and Excavation	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
N - Grading and Excavation	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
N - Grading and Excavation	Graders	Diesel	Average	1.00	8.00	148	0.41
N - Grading and Excavation	Rubber Tired Loaders	Diesel	Average	1.00	8.00	150	0.36
N - Grading and Excavation	Signal Boards	Diesel	Average	1.00	8.00	6.00	0.82
N - Grading and Excavation	Skid Steer Loaders	Diesel	Average	1.00	8.00	71.0	0.37
N - Grading and Excavation	Trenchers	Diesel	Average	1.00	8.00	40.0	0.50
S - Utility Relocation	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
S - Utility Relocation	Paving Equipment	Diesel	Average	1.00	8.00	89.0	0.36
S - Utility Relocation	Signal Boards	Diesel	Average	1.00	8.00	6.00	0.82
S - Utility Relocation	Surfacing Equipment	Diesel	Average	1.00	8.00	399	0.30
S - Utility Relocation	Cement and Mortar Mixers	Diesel	Average	1.00	8.00	10.0	0.56
N - Utility Relocation	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
N - Utility Relocation	Paving Equipment	Diesel	Average	1.00	8.00	89.0	0.36
N - Utility Relocation	Signal Boards	Diesel	Average	1.00	8.00	6.00	0.82
N - Utility Relocation	Surfacing Equipment	Diesel	Average	1.00	8.00	399	0.30
N - Utility Relocation	Cement and Mortar Mixers	Diesel	Average	1.00	8.00	10.0	0.56
S + N - Asphalt Paving and Pouring	Plate Compactors	Diesel	Average	1.00	8.00	8.00	0.43
S + N - Asphalt Paving and Pouring	Air Compressors	Diesel	Average	1.00	8.00	37.0	0.48

S + N - Asphalt Paving and Pouring	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
S + N - Asphalt Paving and Pouring	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
S + N - Asphalt Paving and Pouring	Paving Equipment	Diesel	Average	1.00	8.00	89.0	0.36
S + N - Asphalt Paving and Pouring	Rollers	Diesel	Average	1.00	8.00	36.0	0.38
S + N - Asphalt Paving and Pouring	Signal Boards	Diesel	Average	1.00	8.00	6.00	0.82
S + N - Asphalt Paving and Pouring	Surfacing Equipment	Diesel	Average	1.00	8.00	399	0.30

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
S - Site Preparation	—	—	—	—
S - Site Preparation	Worker	25.0	18.5	LDA,LDT1,LDT2
S - Site Preparation	Vendor	0.00	10.2	HHDT,MHDT
S - Site Preparation	Hauling	0.00	20.0	HHDT
S - Site Preparation	Onsite truck	0.00	0.00	HHDT
S - Utility Relocation	—	—	—	—
S - Utility Relocation	Worker	12.5	18.5	LDA,LDT1,LDT2
S - Utility Relocation	Vendor	0.00	10.2	HHDT,MHDT
S - Utility Relocation	Hauling	0.00	20.0	HHDT
S - Utility Relocation	Onsite truck	0.00	0.00	HHDT
S - Demolition	—	—	—	—
S - Demolition	Worker	20.0	18.5	LDA,LDT1,LDT2
S - Demolition	Vendor	0.00	10.2	HHDT,MHDT

S - Demolition	Hauling	17.8	20.0	HHDT
S - Demolition	Onsite truck	0.00	0.00	HHDT
S - Grading and Excavation	—	—	—	—
S - Grading and Excavation	Worker	25.0	18.5	LDA,LDT1,LDT2
S - Grading and Excavation	Vendor	3.00	10.2	HHDT,MHDT
S - Grading and Excavation	Hauling	40.0	20.0	HHDT
S - Grading and Excavation	Onsite truck	0.00	0.00	HHDT
S + N - Asphalt Paving and Pouring	—	—	—	—
S + N - Asphalt Paving and Pouring	Worker	20.0	18.5	LDA,LDT1,LDT2
S + N - Asphalt Paving and Pouring	Vendor	0.00	10.2	HHDT,MHDT
S + N - Asphalt Paving and Pouring	Hauling	0.00	20.0	HHDT
S + N - Asphalt Paving and Pouring	Onsite truck	0.00	0.00	HHDT
N - Site Preparation	—	—	—	—
N - Site Preparation	Worker	25.0	18.5	LDA,LDT1,LDT2
N - Site Preparation	Vendor	0.00	10.2	HHDT,MHDT
N - Site Preparation	Hauling	0.00	20.0	HHDT
N - Site Preparation	Onsite truck	—	—	HHDT
N - Demolition	—	—	—	—
N - Demolition	Worker	20.0	18.5	LDA,LDT1,LDT2
N - Demolition	Vendor	0.00	10.2	HHDT,MHDT
N - Demolition	Hauling	17.8	20.0	HHDT
N - Demolition	Onsite truck	—	—	HHDT
N - Grading and Excavation	—	—	—	—
N - Grading and Excavation	Worker	25.0	18.5	LDA,LDT1,LDT2
N - Grading and Excavation	Vendor	3.00	10.2	HHDT,MHDT
N - Grading and Excavation	Hauling	40.0	20.0	HHDT
N - Grading and Excavation	Onsite truck	—	—	HHDT

N - Utility Relocation	—	—	—	—
N - Utility Relocation	Worker	12.5	18.5	LDA,LDT1,LDT2
N - Utility Relocation	Vendor	0.00	10.2	HHDT,MHDT
N - Utility Relocation	Hauling	0.00	20.0	HHDT
N - Utility Relocation	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (Ton of Debris)	Acres Paved (acres)
S - Site Preparation	—	—	58.6	0.00	—
S - Demolition	—	0.00	7.00	711	—
N - Site Preparation	—	—	58.6	0.00	—
N - Demolition	—	0.00	58.6	711	—
S - Grading and Excavation	—	7,000	7.00	0.00	—
N - Grading and Excavation	—	7,000	58.6	0.00	—
S - Utility Relocation	—	—	58.6	0.00	—
N - Utility Relocation	—	—	58.6	0.00	—

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%
Water Demolished Area	2	36%	36%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Road Widening	58.6	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2026	88.1	532	0.03	< 0.005
2028	88.1	532	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

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

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

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

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	8.58	annual days of extreme heat
Extreme Precipitation	5.95	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	36.5	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

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

Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

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

6.3. Adjusted Climate Risk Scores

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

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

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	42.6
AQ-PM	34.8
AQ-DPM	17.1
Drinking Water	98.3
Lead Risk Housing	32.7
Pesticides	97.0
Toxic Releases	20.9
Traffic	8.22
Effect Indicators	—
CleanUp Sites	19.0
Groundwater	63.4
Haz Waste Facilities/Generators	67.6
Impaired Water Bodies	99.0
Solid Waste	96.2
Sensitive Population	—
Asthma	27.5
Cardio-vascular	22.1
Low Birth Weights	41.5
Socioeconomic Factor Indicators	—
Education	63.4
Housing	39.2

Linguistic	67.2
Poverty	41.5
Unemployment	29.4

7.2. Healthy Places Index Scores

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

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	76.10676248
Employed	68.92082638
Median HI	83.69049147
Education	—
Bachelor's or higher	61.31143334
High school enrollment	100
Preschool enrollment	26.60079559
Transportation	—
Auto Access	78.96830489
Active commuting	62.03002695
Social	—
2-parent households	29.86013089
Voting	84.89670217
Neighborhood	—
Alcohol availability	78.98113692
Park access	4.632362376
Retail density	6.569998717
Supermarket access	9.957654305
Tree canopy	62.59463621

Housing	—
Homeownership	65.95662774
Housing habitability	77.21031695
Low-inc homeowner severe housing cost burden	59.25830874
Low-inc renter severe housing cost burden	80.94443732
Uncrowded housing	46.83690491
Health Outcomes	—
Insured adults	38.84255101
Arthritis	0.0
Asthma ER Admissions	77.7
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	42.2
Cognitively Disabled	36.6
Physically Disabled	22.7
Heart Attack ER Admissions	80.5
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	19.6
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—

Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	15.2
SLR Inundation Area	0.0
Children	83.0
Elderly	13.7
English Speaking	55.4
Foreign-born	41.4
Outdoor Workers	8.3
Climate Change Adaptive Capacity	—
Impervious Surface Cover	94.3
Traffic Density	16.8
Traffic Access	23.0
Other Indices	—
Hardship	40.8
Other Decision Support	—
2016 Voting	85.3

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	51.0
Healthy Places Index Score for Project Location (b)	67.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	Applicant provided schedule. CalEEMod does not allow for duplicate linear paving phases, therefore the combined paving schedule (six weeks) for both segments is used
Construction: Demolition	Applicant provided dimensions of pavement to be demolished. Converted to tons of debris (32,000 cubic feet = 1185 cy; 1185 cy X 1.2 tons per cy of concrete (broken) = 1422 tons of debris.
Construction: Trips and VMT	Maximum of 40 one-way haul truck trips per day per applicant provided data
Construction: Dust From Material Movement	Applicant provided. Grading material export split proportionally between construction of north and south segments
Construction: Off-Road Equipment	Per applicant provided data. Defaults used for demolition phase in absence of available project-specific data. Equipment list adjusted based on knowledge of similar linear projects.

Appendix B

Geotechnical and Geohazards Report

Preliminary Geotechnical and Geohazards Report

Rose Avenue Bike Lanes

Oxnard, Ventura County, California

Yeh Project No.: 222-292

October 30, 2023

Prepared for:

Rincon Consultants, Inc.
180 North Ashwood Avenue
Ventura, CA 93003
Attn: Mr. Chris Bersbach, Supervising Environmental Planner

Prepared by:

Yeh and Associates, Inc.
56 East Main Street, Suite 104
Ventura, California 93001
Phone: 805-481-9590

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October 30, 2023

Project No. 222-292

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

Attn: Chris Bersbach

Subject: **Preliminary Geotechnical and Geohazards Report, Rose Avenue Bike Lane, Ventura County, CA**

Dear Mr. Bersbach:

Yeh and Associates, Inc. is pleased to submit this *Preliminary Geotechnical and Geologic Hazards Report* as input to the Environmental Impact report (EIR) being prepared by Rincon Consultants for the Rose Avenue Widening and Bike Lanes project in Oxnard, California. This report provides a summary of the data reviewed, pertinent geologic maps, and a discussion of the geologic hazards, and geotechnical considerations for the preliminary design and construction of the project. The evaluation was performed in general compliance with Appendix G of CEQA based on a site reconnaissance, published data available for the site vicinity and geotechnical data from the County as also provided. This data supports widening on Rose Avenue: approximately 1.5 miles from Central Avenue to Los Angeles Avenue (SR118), and approximately 0.35 miles from East Collins Drive to Simon Way, that includes northbound and southbound widening.

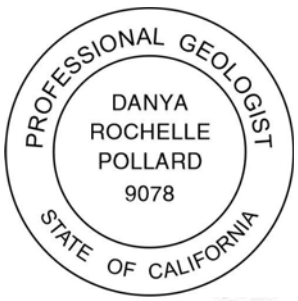
We appreciate the opportunity to be of service. Please contact Danya Pollard at 805-481-9590 or dpollard@yeh-eng.com if you have questions or require additional information.

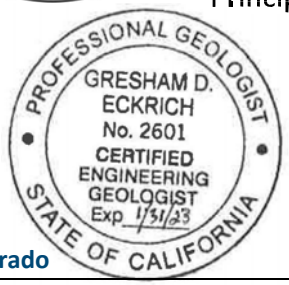
Sincerely,
YEH AND ASSOCIATES, INC.

Danya R. Pollard

Danya Pollard, P.G.
Project Geologist/Manager

Gresham D. Eckrich, C.E.G.
Senior Engineering Geologist





Reviewed by:

Jonathan Blanchard, G.E.
Principal Geotechnical Engineer

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1. Purpose and Scope of Study

Yeh and Associates was retained by Rincon Consultants, Inc. (Rincon) to provide geotechnical services as input to the environmental impact report for the widening of Rose Avenue for new Class II bike lanes. The location of the site is shown in Figure 1.

The geotechnical evaluation consisted of a desktop study, reviewing published maps and previous geotechnical studies available for the site vicinity, evaluating the potential for the site to be impacted by geologic hazards, and providing geotechnical considerations that may be considered for preliminary design.

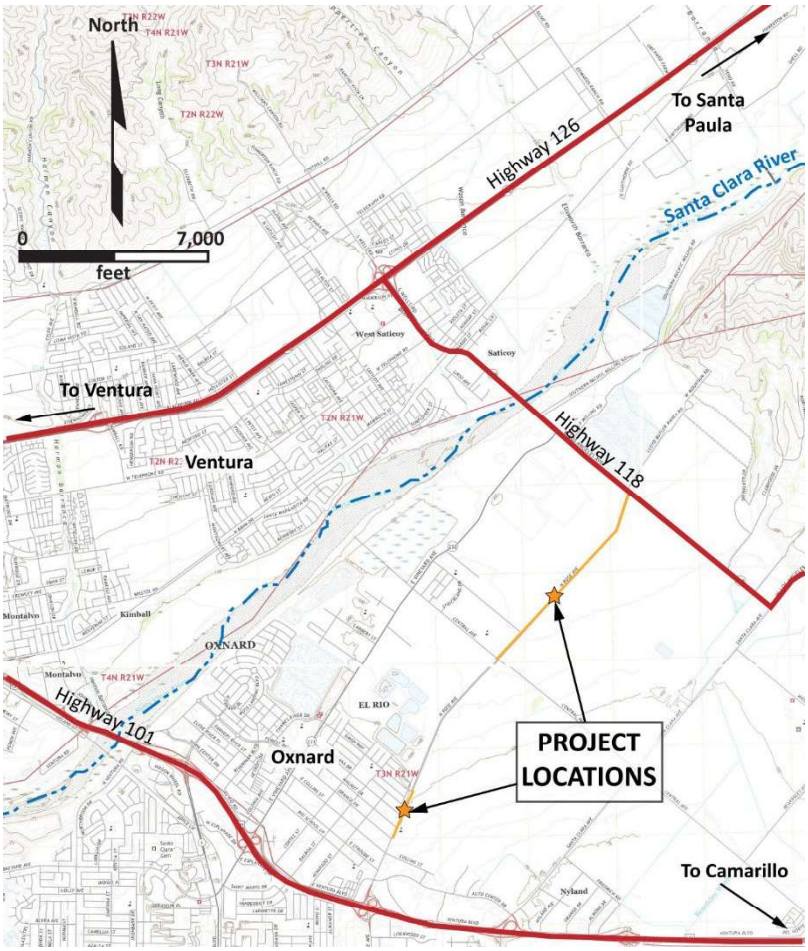

Figure 1: Project Locations Map

2. Project Understanding

2.1 Proposed Improvements

The street improvements are shown on preliminary plans prepared by the County of Ventura that were provided by Rincon on July 15, 2022 (5 layout sheets for County Project No. 50621). The project consists of widening along the northbound and southbound sides of Rose Avenue, approximately 1.5 miles from Central Avenue to Los Angeles Avenue (SR118), and approximately 0.35 miles from East Collins Drive to Simon Way.

2.2 Existing Site Description

2.2.1 Central Avenue to Route 118 Site

The terrain along Rose Avenue (previously mapped as Ditch Road) from Central Avenue to SR118 is sloping at less than 0.5% grade southwest, with existing site grades ranging from approximately 120

feet elevation (NAVD88) at the Rose Avenue and Central Avenue intersection, to approximately 140 feet elevation (NAVD88) at the Rose Avenue and SR118 intersection.

At the intersection of Central Avenue, Rose Avenue has two northbound lanes, narrowing to one lane 350 feet north of the intersection and remains one lane until the lane splits to a left and right turn lane 100 feet south of the SR118 intersection. At the intersection of SR118, Rose Avenue has one southbound lane that becomes a left turn lane, and a right turn lane within approximately 350 feet north of the Central Avenue intersection. The northbound and southbound lanes of Rose Avenue are approximately 12 feet wide along the route with a 20-25-foot unpaved median or left turn lane along the route. The roadway has an approximately 3-foot-wide paved shoulder and a typical 5-foot-wide outside shoulder composed of compacted dirt and gravel along the northbound side of Rose Avenue. The southbound side of Rose Avenue has an approximately 2-foot-wide paved shoulder and a typical 3-foot-wide outside shoulder also composed of compacted dirt and gravel.

These shoulders are relatively clear, except for utility poles in the first 2,700 feet north from the intersection with Central Avenue, where the utility poles cross the southbound lane and continue north along Rose Avenue in the median space; the utility lines split and go back to the shoulder spaces approximately 1,000 feet south of the SR118 intersection. There is a shoulder area crowded with tree stumps and roots along the southbound shoulder from approximately 2,500 to 3,500 feet north of the Central Avenue intersection. Beyond the shoulder of the Rose Avenue southbound lane is a drainage ditch from the Central Avenue intersection to approximately 500 feet north. Beyond the ditch, the current land use in this site vicinity is agricultural. Existing site conditions along the route can be viewed in the Project Site Photography Log in Appendix C.

2.2.2 East Collins Drive to Simon Way Site

The terrain along Rose Avenue (shown on historical maps as Ditch Road) from East Collins Drive to Simon Way is sloping at less than 0.5% grade southwest, with existing site grades ranging from approximately 94 feet elevation (NAVD88) at the Rose Avenue and East Collins Drive intersection, to approximately 106 feet elevation (NAVD88) at the Rose Avenue and Simon Way intersection.

At the intersection of East Collins Drive, Rose Avenue has two northbound lanes, left turn lane and right turn lane in the northbound direction, two southbound lanes, and a left turn lane in the southbound direction. At the intersection of Orange Drive, Rose Avenue has two northbound lanes, two southbound lanes and a southbound left turn lane for school parking lot access. At the intersection of Walnut Drive, Rose Avenue has two northbound lanes, a northbound left turn lane for access to Walnut Drive, and two southbound lanes. At the intersection of Corsicana Drive, Rose Avenue has two northbound lanes, a northbound left turn lane for access to Corsicana Drive, and two southbound lanes. At the intersection of Simon Way, Rose Avenue has two northbound lanes, a

northbound left turn lane for access to Simon Way, and two southbound lanes. Between the intersections of Walnut Drive and Simon Way there is unpaved median. At the intersection of SR118, Rose Avenue has one southbound lane that becomes a left turn lane, and a right turn lane within approximately 350 feet north of the Central Avenue intersection.

These shoulders are relatively narrow in the northbound direction along Rose Avenue, with approximately 18 inches of paved space and utility poles and utility boxes approximately 3 to 5 feet from the edge of the northbound lane, from Orange Drive to Corsicana Drive. There is approximately 3 feet of paved shoulder, and the utility poles are located approximately 6 feet from the edge of the northbound lane, from Corsicana Drive to Simon Way on the northbound side of Rose Avenue. There is a bus stop on the shoulder of Rose Avenue in the southbound lane nearest to Simon Way. The southbound shoulder lane is paved but narrows from approximately 6 feet to 1 foot with a guardrail that protects a pedestrian sidewalk between the bus stop at Simon Way and Corsicana Drive. The narrow southbound shoulder and protective guardrail and pedestrian sidewalk continue through the intersection of Rose Avenue and Orange Drive. Existing site conditions along the route can be viewed in the Project Site Photography Log in Appendix C.

3. Data Review and Previous Field Exploration

3.1 Previous Studies

Boring logs and field penetration test data were collected for previous bridge and highway improvements in the site vicinity from the State of California, Department of Transportation (Caltrans) records. The previous investigations were reviewed to provide subsurface information in the site vicinity. Selected as-built Log of Test Borings considered most significant to the site are provided in Appendix A and summarized as follows:

- Log of Test Borings for the Rose Road Overcrossing (1957), prepared for Caltrans Bridge Department that included Borehole B-6 (35-footdepth) and the log for a Penetration Test Pile #18 and #40 (approximately 17-foot depth). The overcrossing is located 2 miles southwest of the site vicinity.
- Log of Test Borings for the Rose Avenue Overcrossing (1972), prepared for Caltrans, that included logs for Borehole B-4 (51.5-foot depth) and a Penetration Test B-1 (27.5-foot depth). The overcrossing is located 2 miles southwest of the site vicinity.
- Log of Test Borings for the Sparrow Draw Culvert Widening (1992), prepared for Caltrans, that included a log for B-1 (31.0-foot depth). The culvert is located 1 mile east of the site's vicinity.
- Geotechnical Report and Log of Test Borings for the Rose Avenue/Highway 101, Interchange Improvements, PM21.01 (1994), prepared for Moffatt & Nichol, Engineers by Fugro West, Inc.

that included B-5 (31.5-foot depth). The interchange is located 2 miles southwest of site vicinity.

- Foundation Investigation for Rio Mesa High School (1963), prepared by LeRoy Crandall & Associates for Fisher and Wilde, Architects that included logs for14 borings drilled to depths of 11 to 15 feet for the development of Rio Mesa High School located approximately 2,500 feet northwest of the intersection of Central and Rose Avenue.

3.2 Aerial Photography

Aerial photography for each decade, dating from 1927 through 2020 were collected by Environmental Data Resources, Inc. and reviewed for Rose Avenue extending from Central Avenue to SR118 and extending from Orange Drive to Simon Way (Appendix B).

3.2.1 Central Avenue to Route 118 Site

- The 1927 photo shows Ditch Road existed as a tree lined road, surrounded by agricultural fields, with 5 structures built along the southbound lane and 3 structures built along the northbound lane.
- The 1938 and 1947 photos show Ditch Road existed as a tree lined road, surrounded by agricultural fields, with 4 structures built along the southbound lane and 4 structures built along the northbound lane.
- The 1953 and 1959 photos show the existing agricultural buildings and utilities were being developed within the fields along the site vicinity.
- The 1967 photo shows Rio Mesa High School beginning development on the southern end of this project site.
- The 1978 photo shows the existing agricultural buildings and utilities continued developing within their footprints in the fields along the site vicinity. It is unclear if the roadway was paved.
- The 1985 photo shows the trees lining Ditch Road have been cleared for 1,000 feet from the intersection of Central Avenue, and the roadway has been paved in two directions.
- The 1994 photo shows more trees lining Ditch Road have been cleared and the roadway has been paved in two directions. The agricultural buildings have expanded and lots for parking adjacent to those facilities are being used.
- The 2005 photo shows most trees lining Rose Avenue have been cleared and the roadway is clearly paved in two directions. The agricultural buildings include four structures built along the southbound lane and five structures built along the northbound lane with expanded parking lots adjacent to those facilities being used.
- The 2009 through 2020 photos show the site vicinity is primarily agricultural with the agricultural buildings and lots still being utilized in the same manner.

3.2.2 East Collins Drive to Simon Way Site

- The 1927 photo shows Ditch Road (now Rose Avenue) existed as a tree lined road, surrounded by agricultural fields, with 2 structures built along the northbound lane.
- The 1947 photo shows Ditch Road with development of East Collins Street, just south of the project site vicinity.
- The 1953 photo shows the residential development of Orange Drive, Walnut Drive and Corsicana Drive along the southbound side of Ditch Road.
- The 1959 photo shows continued dense residential development from Orange Drive to Simon Way along the southbound side of Ditch Road.
- The 1967 photo shows that trees have been cleared along the shoulders of both northbound and southbound Ditch Road and that Rio Del Valle Junior High School began development on the southern end and northbound side of the project site vicinity.
- The 1978, 1985, and 1994 photos show the existing residential, school, and agricultural buildings and utilities expanded development within their footprints in the site vicinity from Orange Drive to Simon Way along Ditch Road.
- The 2005, 2009, 2012, 2016 and 2020 photos show most trees lining Rose Avenue have been cleared and the roadway is clearly paved in two directions. The agricultural buildings include two structures built along the southbound lane, as well as the Rio Del Valle Junior High School and dense residential housing along the northbound lane of Rose Avenue, from Orange Drive to Simon Way.

4. Engineering Geology and Site Conditions

4.1 Regional Geologic Setting

The project site is located on the Oxnard Plain proximal to the Santa Clara River and within the Western Transverse Ranges Geomorphic Province of California. The Western Transverse Ranges are a regional deformation belt characterized by a northeast-southwest trending structural grain and corresponding geomorphic features that extend from the Santa Barbara Channel to the Mojave section of the San Andreas Fault. The Oxnard Plain is an alluvial fan that is bordered to the southeast by the Santa Monica Mountains, to the northwest by the Santa Clara River, and to the east by the Camarillo and the Las Posas Hills. The regional geology is mapped by Tan, et al. (2004) and Clahan

(2003) is shown in Figure 2. The surface geology in the site vicinity is mapped as Holocene alluvial deposits (Qha) that were placed in point bar and overbank settings associated with active and historic wash deposits. The Qha unit is recognized by scour and incised channeling features.

4.2 Subsurface Conditions

The following units are the predominant soil types encountered in previous explorations and are

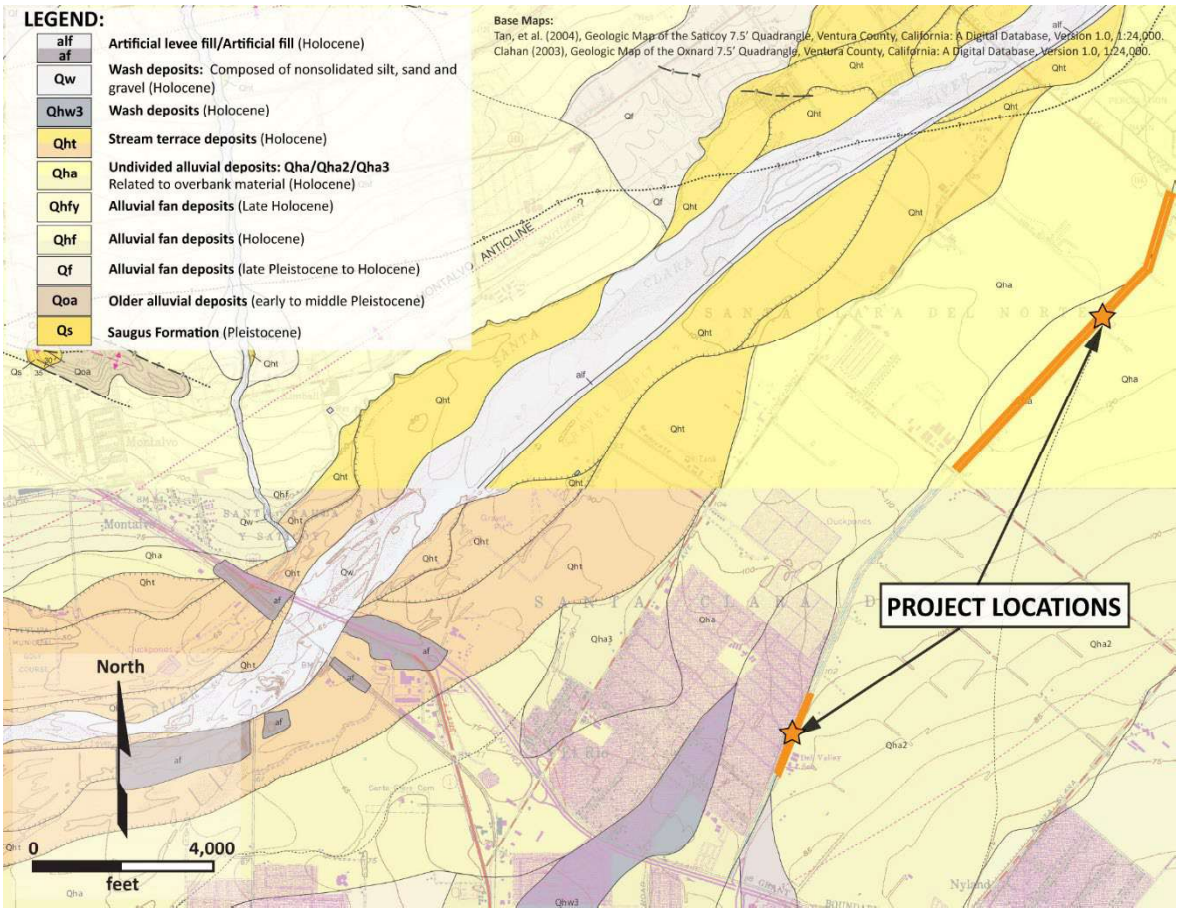

Figure 2: Geologic Map (Tan, et al. 2004, Clahan 2003)

assumed to be typical of the site vicinity for the purposes of this report, and are presented in Appendix A.

Deeper Pleistocene age alluvial sediments are expected to extend below the Oxnard Plain by up to approximately 500 feet below the surficial alluvial sediments that are in turn underlain by Pico Formation, based on interpretations projected from the South to North Structural Cross-Section A-A' through the Santa Paula Quadrangle (Dibblee, 1992).

Artificial Fill (Af). Artificial fill was encountered during the Foundation Investigation for Rio Mesa High School in 14 explorations. The fill ranged from 1 to 4 feet in depth and consisted of moderately firm silty sand underlain by firm to very firm sand and gravel (Crandall, 1963). Artificial fill encountered along the existing approach embankments to the 101-overpass ranged from the ground surface up to approximately 14.5 feet thick. The fill consisted of loose, dry, brown sandy silt (ML); loose, brown, moist, well-graded sand with silt (SW-SM); and poorly graded Sands (SP). Alluvial and overbank deposits were encountered below the artificial fill in both of those explorations. There is no geotechnical data available along the proposed road widening; however, we assume that the upper 2 to 4 feet of surface sediments are predominately silty sands and are underlain by the older alluvial well-graded to poorly graded sands and gravels to depth, throughout the project site vicinity.

Alluvial and Overbank Deposits (Qha). The alluvial and overbank deposits immediately underlying the site vicinity are part of the Oxnard Forebay and comprise a surfacing of the underlying Oxnard Aquifer. These units appear to unconformably overlie underlying Pleistocene sediments. All are considered alluvial deposits and generally show some lenticularity laterally and vertically. Sediments range from slightly clayey very sandy silts to fine to coarse grain sands. Fines are minimal and appear to form a matrix for coarser clastic materials (Buena Engineers Inc., 1976). During the Foundation Investigation for Rio Mesa High School in 14 explorations Crandall (1963) encountered older alluvial deposits composed of well-graded and poorly-graded sand and gravel to 15-feet depth. Alluvial and overbank deposits were encountered below the artificial fill in explorations up to as deep as 51.5 feet below the road surface that generally consisted of medium dense to very dense sand and gravel with varying amounts of clay and silt) with interbedded layers of cobbles in Caltrans (1957 and1972) borings.

4.3 Regional and Local Groundwater Conditions

The groundwater conditions are variable across the site. Historically high groundwater in the site vicinity has ranged from approximately 25 feet below the ground surface near the intersection of Rose Avenue and Central Avenue, to 10 feet below ground surface at the intersection of Rose Avenue and SR118 (SHRZ 066, 2003 and SHRZ 052, 2002).

5. Geologic Hazard Considerations

5.1 Earthquake Hazards

5.1.1 Historic Seismicity

The site is located within a seismically active region of Southern California where earthquakes resulting in strong and damaging ground motion have occurred within the historical record. A summary of magnitude 2.0 and greater seismic events recorded from 1931 through May 2016 by the

Advanced National Seismic System (ANSS 2023) and Quaternary faults in the region of the site (CGS) is presented on Plate 2. Record of strong ground shaking that pre-date the ANSS catalogue, includes the Ventura Earthquake of 1812 (Magnitude >7.0), believed to have damaged multiple missions and created a seismic sea wave that damaged a Spanish vessel 61 kilometers off the coast of Santa Barbara (SCEDC). An example of recorded ground motion in recent time includes The Santa Barbara Earthquake of 1925 (Magnitude 6.8), which was felt as far away as Mojave, Lake Arrowhead, and even San Diego, reached an intensity of VIII (on the Modified Mercalli intensity scale) in Carpinteria and Santa Barbara, breaking several water mains, cracking walls, snapping off the tops of streetlights and throwing goods from store shelves. (SCEDC). Strong ground motion impact the site vicinity in response to the Northridge Earthquake of 1994 (Magnitude 6.7) that occurred on a blind thrust fault and produced the strongest ground motions ever instrumentally recorded in an urban setting in North America, with widespread damage (SCEDC).

5.1.2 Regional Faulting and Seismicity

Highway structures such as bridges, retaining walls, soundwalls, are designed with consideration for seismic shaking and related hazards in accordance with applicable state and federal design manuals and practices. While those design methods are not specifically applicable to the design of a road or street, pavement, or bike lane, seismic forces are considered in slope stability analyses used in the evaluation and design of slopes, embankments, and landslide mitigation projects.

The seismic setting for the site was characterized using the Caltrans program ARS online application. The site location was input at -34.2582 degrees latitude and -119.1337 degrees longitude for a central point at the site. The general time-averaged shear-wave velocity in the upper 30 meters of the site (Vs30) was assumed to be 270 meters per second for stiff soil condition. ARS online estimated that the design earthquake for the site having a 5 percent probability of occurrence in 50 years would be a magnitude 7.0 earthquake occurring about 3.5 miles from the site and resulting in a peak ground acceleration of approximately 0.72g. Significant nearby faults with potential to create strong ground motion at the site were researched using ARS Online and are listed in Table 1 with their approximate distance to the rupture surface and maximum magnitude.

Table 1: Summary of Nearby Active Faults

Fault	Approximate Distance to Rupture Surface from Site (Miles)	Maximum Magnitude (M_{Max})
Oak Ridge (onshore)	1.9	7.2
Oak Ridge (onshore)	2.9	7.6
Oak Ridge (offshore)	7.9	6.8
Simi-Santa Rosa	3.3	6.8

Fault	Approximate Distance to Rupture Surface from Site (Miles)	Maximum Magnitude (M_{Max})
Ventura-Pitas Point	4.1	7.4
Red Mountain	12	7.2
Channel Islands Thrust	12	7.0

The closest mapped fault to the site is the Oak Ridge Fault mapped trending east-west approximately 2 miles north of the site. The Oak Ridge Fault is a thrust fault that forms an east-west ridge roughly paralleled by the Santa Clara River and Highway 126 and extends from the town of Piru to the coast, southeast of Ventura, and then continuing offshore. The Oakridge Fault dips to the south at a shallow (<45 degree) angle with epicenters of historical earthquakes on this fault that appear far removed from the fault's surface trace. Evidence of Holocene activity on the Oakridge Fault is apparent as far east as the towns of Bardsdale and Fillmore, California and the offshore zone to the west is associated with a definite zone of seismic activity (SCEDC).

5.1.3 FAULT RUPTURE

Fault rupture or coseismic deformation is the displacement of the ground surface caused by tectonic movement during a seismic event. The Caltrans Highway Design manual acknowledges that streets, roads, highway and transportation systems commonly traverse known faults and generally cannot function without doing so. Highway structures, arterial junctions, or interchanges will be sited away from active faults where possible.

Plate 2 shows a map of Quaternary age faults in the project region that were obtained from the CGS fault database (Bryant, W.A. 2005). The faults shown on Plate 2 are classified as Historic, Holocene, Late Quaternary or Quaternary. CGS defines these terms based on the age of a fault as follows:

Historic. Faults that show evidence of displacement or activity within the historical record; approximately the last 200 years.

Holocene. Faults that show evidence of displacement in Holocene time (the last 11,000 years).

Late Quaternary. Faults that show evidence of displacement in the Late Quaternary period (the last 750,000 years), but no evidence of movement in Holocene time.

Quaternary. Faults that show evidence of displacement in the Quaternary period (the last 1,600,000 years), but no evidence of movement in Holocene time.

The site does not cross a mapped Quaternary of active fault, is not within a designated Alquist Priolo Fault Hazard Zone, and is about 2 miles away from the nearest mapped active fault. Fault rupture does not need to be considered in the design for this project.

5.2 Tsunami and Seiche

Tsunamis are long-period sea waves created due to seismic events or submarine landslides, which have historically occurred along the coast in the project region. Tsunamis behave like a very fast-moving tide and can result in run-ups or bores extending great distances up streams, rivers, and creeks. Tsunami loading can be estimated by the AASHTO Guide Specifications for Bridges Subjected to Tsunami Effects (AASHTO 2022). The estimated limits of tsunami inundation for a 1,000-year return event are shown on the Natural Hazards Risk and Resiliency Research Center Tsunami Inundation Portal (NHR3 2022). The site is located approximately 7 miles from the coast, 1 mile southeast of the Santa Clara River, with site elevations that range from about 110 feet to 150 feet above sea level. The site is not proximal to a tsunami inundation hazard area based on the Ventura County General Plan Hazards Appendix (VC, 2013) or AASHTO. Tsunami hazards are not a consideration for this project.

A seiche is a wave caused by an earthquake or seismically-induced landslide falling into an isolated body of water such as a bay, lake or reservoir. The site is not immediately downstream or near a reservoir or water body that would produce a seiche or inundation hazard to the site, unless that event was associated with a complete failure of the dam as discussed in a following section of this report.

5.3 Flooding

The project site is not located within a flood hazard zone prepared by the Federal Emergency Management Program and referenced in the Ventura County General Plan Hazard Appendix (VC, 2013). Flooding hazards are not a consideration for this project. Storm runoff and surface drainage provisions, such as culverts and catch basins, will need to be designed according to applicable codes and design standards.

5.4 Dam Inundation

The project site is located within a flood hazard inundation zone based on maps provided by the California Division of Safety of Dams prepared by the Federal Emergency Management Program and referenced in the Ventura County General Plan Hazard Appendix (VC, 2013).

The site is located downstream of two dams that could result in inundation of areas along the Santa Clara River in the event of a major breach or failure of one of those dams. Lake Piru and the Santa Felecia Dam are located approximately 26 miles upstream of the site. The Rose Avenue-SR118

Intersection is located at the edge of the estimated limits for the inundation zone for the "Main Dam Scenario" due to failure of the Santa Felecia Dam. The zone runs parallel to Rose Avenue about 0.1 miles north of the route west of the Rose Avenue-SR118 intersection.

The site is located approximately 35 miles downstream of the dam at Castaic Lake. The site is within the estimated limits of inundation zone for a failure of the main dam. The estimated water depths at the site could range from more than 2 feet to up to 10 feet.

The Ventura County Office of Emergency Services utilizes a hazard alert and notification system to alert residents and those registered at their site of emergency events and evacuations.

5.5 Liquefaction, Seismic Settlement and Lateral Spreading

Liquefaction typically occurs in young loose to medium dense granular sand or sensitive clay and silt below the groundwater table that are subject to ground motions from an earthquake. The potential for liquefaction is dependent on site-specific properties such as the relative density, plasticity, particle size of soil, groundwater conditions, and geologic history. Potentially liquefiable soil may be vulnerable to loss of strength and foundation support, seismic settlement, slope instability or lateral spreading depending on the severity of the liquefaction hazard and site conditions. Liquefaction and seismic settlement are considered in the design of highway structures, foundation systems, and roadway embankments.

No field exploration nor site-specific evaluation of potential liquefaction hazards has been performed for the project at this time. For the most part, the Quaternary sediments in the Oxnard Quadrangle typically consist of interbedded sand, silt, clay, and gravel deposited in alluvial fan, alluvial valley, and stream channel (wash) depositional environments associated with the Santa Clara River. These geologic units include late Quaternary alluvial and fluvial sedimentary deposits and artificial fill, which generally have been found to contain thick clay layers and variable depth to ground water that make it often not vulnerable to liquefaction. The interbedded nature of the material and depth of the groundwater make a site-specific evaluation necessary to assess liquefaction and seismic settlement hazards for a project. Although, it would be unusual for a design for bike lane project to include an assessment for liquefaction hazards unless the project involved structures, bridges or high embankments that would be particularly vulnerable to those hazards or costly to repair.

It is our experience that the soil encountered in the upper 20 to 25 feet of a site on the Oxnard Plain may contain loose or medium dense sandy soil that could be potentially liquefiable depending on the groundwater depths at the site, similar to the conditions encountered at the Rose Avenue Interchange at Highway 101 (Fugro, 1994). However, groundwater was not encountered within these sediments and therefore no liquefaction hazards were identified for the design of that project. It is

not likely that liquefaction induced hazards such as seismic settlement and lateral spreading will need to be addressed for the design of this project.

5.6 Hydroconsolidation, Collapse and Subsidence

Hydroconsolidation is the potential for a soil to consolidate or collapse due to wetting. Roadways can be impacted by poor subgrade soils that are loose or soft and prone to excessive settlement or collapse upon wetting. More regional subsidence can occur from deep extraction of groundwater or oil that can impact roads and other infrastructure over a large or localized area.

Deep subsidence is typically associated with the extraction of groundwater from water or oil wells that results in lowering of the groundwater table. Dewatering of young sediments or porous soil types that are prone to consolidation or collapse due to an increase in effective overburden stress that occurs when the groundwater level is lowered can result in subsidence of the ground surface over the area where dewatering occurred. The subsurface conditions encountered are not considered prone to subsidence from the removal of groundwater and there are no known or documented (Luhdorff & Scalmanini 2014) subsidence cases in the immediate area due to the extraction of fluids from the ground. Deep subsidence due to extraction of fluids does not need to be considered in the design of this project.

Near-surface soil that may be prone to settlement or collapse due to wetting would be addressed and mitigated based on the design-level geotechnical report and site investigation. The report should provide recommendations for the design of earthwork and preparation of the subgrade for support of pavements to reduce the potential for post-construction settlement or subsidence of the subgrade to impact the roadway.

5.7 Expansive Soil

Roads built on expansive soil can be vulnerable to differential heaving and cracking of the paved surface. Expansive soil conditions are predominantly associated with specific clay minerals that shrink and swell when subjected to cycles of wetting and drying. Caltrans pavement design methods, and R-value testing that are performed on samples of the subgrade, estimate the expansion potential of the subgrade and allow for the pavement thickness to be increased to mitigate expansive subgrade conditions if needed. Mitigation for severely expansive soil conditions may include subgrade treatments with lime or other stabilizers to reduce the expansiveness of the soil, subsurface drainage, or removal and replacement of the subgrade with non-expansive soil prior to placing the pavement structural section.

Subgrade soil that may be prone to shrinking and swelling would be addressed and mitigated based on the design-level geotechnical report and site investigation. The report should provide

recommendations for the design of earthwork and preparation of the subgrade for support of pavements to reduce the potential for shrinking and swelling of the subgrade to impact the roadway.

5.8 Corrosive Soil

Corrosive soil and surface water can damage concrete or steel culverts, foundations, and substructures associated with the road system. Those conditions are mitigated by providing appropriate mix designs for concrete, steel thicknesses, coating, or other methods that are evaluated based on site-specific testing of soil and water samples, and design methods in the Caltrans design manuals and AASHTO *LRFD Bridge Design Specifications.* There are no test results for pH and electrical resistivity test performed on the borings previously drilled near the project site.

The corrosion potential of the on-site soil would be addressed and mitigated based on the design-level geotechnical report and site investigation. The report should provide corrosivity data that can be used by designers to mitigate for corrosive soil or environments using established design methods and protocols for design of reinforced concrete and steel structures and infrastructure.

5.9 Erosion

Graded slopes are vulnerable to erosion. Erosion control and suitable vegetation should be provided to reduce the potential for erosion on graded slopes. On-going maintenance of the slopes should be provided, as needed, to assist in establishing appropriate vegetation on the slope and to repair erosion that occurs. Concentrated flows of runoff should not be permitted to run over slopes. Lined ditches, drainage culverts, and pipes should be provided as needed to reduce the potential for erosion. Energy dissipation devices should be provided at outlets of drainage pipes and in areas of concentrated flows of runoff to reduce the potential for erosion.

6. Geotechnical Considerations

6.1 Road Widening

Widening Rose Avenue would involve earthwork to widen the existing embankment and roadway to accommodate the new bike lanes. Rose Avenue is constructed near or within 1 to 2 feet above the adjacent site grades. The earthwork for the widening would likely consist of clearing and grubbing to remove existing vegetation and fencing within the footprint of the new road, preparing the subgrade by removing a 1 to 2 feet of the existing soil below the widening and replacing that material as compacted fill. The earthwork could involve importing additional fill material for the embankment widening. The earthwork would typically provide at least a 3-foot-wide outside shoulder beyond the new edge of pavement, and any additional embankment fill beyond that point to conform to adjacent grades. Fill materials for embankment construction would typically consist of onsite soil removed from excavations or similar soil that is imported to the site and is free of oversized rock (greater than

3 inches), organics or other deleterious material. Embankment fill should be compacted to at least 90 percent relative compaction per ASTM D-1557 and to at least 95 percent relative compaction within 3 feet of finished grade below pavements.

6.2 Pavement Structural Section

The exposed pavement surface along Rose Avenue consisted of asphalt concrete. The overall roadway was in fair condition with a posted limiting speed of 55 mph between Central Avenue and the SR118 Intersections. The pavement surface along Rose Avenue had mild raveling and block cracking. It appears that crack sealing and filling has been performed as part of roadway maintenance. Typical surface pavement conditions observed along Rose Avenue are shown in photos in Appendix C.

The pavement will be designed to support the traffic loads projected for a design life of at least 20 years. Traffic loads for the pavement design should be provided by the County. Borings and R-value testing of the subgrade soil are used to characterize the subgrade support for pavement design. The pavement design should be consistent with the procedures in the Caltrans Highway Design Manual. We assume that Rose Avenue would be widened in-kind, with a layer of hot mix asphalt pavement over aggregate base course materials. The asphalt thickness would likely be about 6 inches thick for an arterial street over 12 to 24 inches of base course material depending on the quality of the subgrade.

6.3 Design of Graded Slopes

Cut and fill slopes for the widening should be designed to inclinations of 2h:1v or flatter. Flatter slopes may be appropriate to conform to existing grades. Slopes should have adequate drainage and landscaping to reduce the potential for erosion.

6.4 Erosion and Site Drainage

Newly graded slopes are vulnerable to erosion. Providing suitable vegetation, erosion control mats where needed, and proper surface drainage can help to reduce the potential for erosion to impact slopes and assist in establishing suitable vegetation. Areas where gullies or erosion occurs should be repaired promptly and slopes should be maintained. Concentrated flows of runoff should not be allowed to run uncontrolled over slopes. Lined ditches, down drains, and culverts should be provided when needed to convey drainage water to slope bases. Energy dissipation devices should be provided at the outlet of drainage devices or concentrated flows of runoff to reduce the potential for scour and erosion. Surface drainage improvements should be provided to reduce the potential for concentrated flows to run over slopes.

6.5 Construction Considerations

6.5.1 Reuse of On-Site Soil

The existing fill and alluvial soil at the project site should be suitable for reuse as compacted fill for general embankment construction, earthwork and trench backfill. The soil is likely not suitable for reuse as select material such as maybe needed for pipe bedding and pipe zone material for culverts, retaining wall backfill, or road base.

6.5.2 Compaction

Compacted fill should be constructed by conditioning the soil being placed to a moisture content suitable for compaction, typically within about 2 percent of the optimum moisture content needed for compaction as determined by laboratory tests. The fill should be placed in lifts, typically 8 inches or less, and be compacted with equipment that is suitable for the location and type of soil being compacted. The lift thickness may need to be reduced to achieve the minimum compaction with the equipment being used. Soil that is too wet should be aerated by scarifying and blading to reduce the moisture content to near optimum. Water should be added to soil that is dry, and the soil should then be bladed and mixed to provide a relatively uniform moisture content throughout the material being placed.

Climatic conditions can affect the ability to control and condition the moisture content of the fill. The late summer and early fall months along the Oxnard Plain frequently reach highs of up to 90 degrees while winter months' high temperatures are around 60 degrees. Coastal fog that is common in the summer can slow the time it takes to aerate and dry the fill. Increased water conditioning of soil may be needed for grading performed during periods of hot and dry conditions that typically occur in the summer and fall months. Precipitation can increase the soil moisture above what is suitable for compaction and may delay earthwork during construction until more suitable weather conditions allow for proper control and handling of the soil.

6.5.3 Recycling of On-site Materials

Existing roadways and building materials (rubberized asphalt, concrete and brick) may be processed to manufacture graded aggregate materials. Construction specifications typically allow for reclaimed materials to be included in base coarse aggregates, provided quality and gradation requirements are met.

6.5.4 Dewatering

Dewatering to lower groundwater levels for construction is likely not needed for foundation excavations. Control of surface water and storm water control plans will be needed if the construction is performed during periods of wet weather.

6.5.5 Excavation Characteristics

Artificial fill underlain with Alluvium and overbank materials are expected to be excavatable with conventional earthmoving equipment, such as bulldozers, excavators, and backhoes.

6.5.6 Temporary Excavations and Shoring

Temporary slopes and shoring systems may be needed for trenches to construct culvert and should be designed by the contractor based on the soil types and conditions encountered using Cal OSHA guidelines. Shoring systems such as trench shields or slide rail shoring systems that do not provide positive support for excavated slopes may allow soil movement beyond the limits of the shoring. Sheet pile or tight shoring systems that are cross braced can be used to provide active support for excavations and reduce the potential for ground movement beyond the excavation limits. Competent personnel at the time of construction should review the excavations and provide input to augment slopes and shoring as needed.

6.6 Design-Level Geotechnical Report

A design-level geotechnical report should be prepared based on subsurface exploration that includes additional laboratory testing of soil samples and design recommendations for earthwork, pipelines, foundations, slabs, erosion, and other project components.

7. Limitations

Yeh prepared this report for Rincon Consultants and their authorized agents only. It is not intended to address issues or conditions pertinent to other parties, projects or for other uses. This report is for preliminary planning purposes only and is not intended for use in final design or construction. The results of this study are preliminary and subject to change pending the results of our design-level field exploration and geotechnical evaluation. No services have been performed to evaluate environmental impacts, or the presence of hazardous or toxic materials.

Site conditions will vary between points of observation or sampling, seasonally, and with time. The nature and extent of subsurface variations across the site may not become evident until excavation is performed. If during construction, fill, soil, or water conditions appear to be different from those described herein, Yeh should be advised and provided the opportunity to evaluate those conditions and provide additional recommendations, if necessary.

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