Draft

Watt Avenue Bridge over Dry Creek Replacement Project

Initial Study/Mitigated Negative Declaration



Placer County

April 2021

Dewberry | drake haglan

Draft

Watt Avenue Bridge Replacement Project Initial Study/Mitigated Negative Declaration

Placer County, California Rio Linda 7.5-Minute Quadrangle, Township 10N, Range 05E, Section 11

Submitted to:

Placer County Department of Public Works 3091 County Center Drive, Suite 220 Auburn, CA 95603

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April 2021

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EXECUTIVE SUMMARY

The Placer County Department of Public Works (County) proposes to replace the existing twolane Watt Avenue Bridge over Dry Creek (Bridge No. 19C0084) with a structure designed to meet present and projected traffic volumes. The proposed project would provide a new four-lane bridge. The bridge is located along Watt Avenue between Dyer Lane and PFE Road, approximately four miles west of the City of Roseville, Placer County, California. The general setting of the project site is a perennial creek surrounded by rural residential and agricultural land uses. Within the project limits, Watt Avenue exists as a two-lane, south-to-north rural road with minimal paved shoulders that carries traffic over Dry Creek.

The proposed project is funded primarily by the federal-aid Highway Bridge Program (HBP) administered by the Federal Highway Administration (FHWA) through the California Department of Transportation (Caltrans) Local Assistance. The replacement bridge would be designed to meet current applicable County, American Association of State Highway and Transportation Officials (AASHTO), Caltrans design standards, and future land use and circulation demands for the Placer County General Plan, Placer Vineyards Specific Plan, Riolo Vineyard Specific Plan, and the Dry Creek/West Placer Community Plan.

The Draft Initial Study/Mitigated Negative Declaration (IS/MND) will be submitted to the State Clearinghouse for a 30-day public review period. During the public review period, the Draft IS/MND will be available for review at the Placer County Department of Public Works 3091 Country Center Drive, Suite 220, Auburn, CA 95603, and at the County Website: <u>https://www.placer.ca.gov/1571/Projects</u>.

The Draft IS/MND prepared for the proposed project assesses the potential effects on the environment and the significance of those effects. Based on the results of the Initial Study, the proposed project would not have significant impacts on the environment with the implementation of mitigation measures. This conclusion is supported by the following findings:

- The proposed project would have no impact on land use and planning, mineral resources, population and housing, public services, recreation, or utilities and service systems.
- The proposed project would have a less-than-significant impact on aesthetics, agriculture and forestry resources, energy, greenhouse gas emissions, noise, and utilities and service systems.
- The proposed project would have a less-than-significant impact with the implementation of mitigation measures on air quality, biological resources, cultural resources, geology and

soils, hazards and hazardous materials, hydrology and water quality, transportation, tribal cultural resources, and wildfire.

• No substantial evidence exists that the proposed project would have a significant negative or adverse effect on the environment.

The proposed project would incorporate standard construction best management practices and standard construction measures required by the Caltrans Standard Specifications and other applicable laws, regulations, and policies. The proposed project would implement mitigation measures, as described in Section 4 of this IS/MND. **Appendix A: Mitigation Monitoring and Reporting Program** provides the resource impact statements, level of significance, mitigation measures (if required), and level of significance after the implementation of mitigation measures.

Initial Study

1.	Project Title:	Watt Avenue Bridge (No. 19C-0084) over Dry Creek Replacement Project
2.	Lead Agency:	Placer County Department of Public Works 3091 County Center Drive, Suite 220 Auburn, CA 95603
3.	Contact Person and Phone Number	Jean Hanson, PE (530) 745-7553 JHanson@placer.ca.gov
4.	Project Location:	Watt Avenue Bridge, Placer County, CA Rio Linda U.S. Geological Survey 7.5-Minute quadrangle, Township 10 North, Range 05E, Section 11
5.	Project Sponsor:	Jean Hanson, PE Placer County Department of Public Works 3091 County Center Drive, Suite 220 Auburn, CA 95603
6.	Adjacent General Plan Designation(s):	Agriculture-Residential Development Reserve 4.6 - 20 Acre Minimum (Ac. Min.), Greenbelt & Open Space, Low Density Residential Development Reserve 1 - 2 dwelling units per acre (DU/Ac), Commercial, Professional Office.
7.	Adjacent Zoning:	Low Density Residential, Open Space, Commercial/High Density Residential, Residential, Cemetery, C1-UP-Dc, OP-Dc.

1 INTRODUCTION

The Placer County Department of Public Works (County) proposes to replace the existing twolane Watt Avenue Bridge over Dry Creek (Bridge No. 19C0084) with a structure designed to meet present and projected traffic volumes. The proposed project would provide a new four-lane bridge. The bridge is located along Watt Avenue between Dyer Lane and PFE Road, approximately four miles west of the City of Roseville, Placer County, California (**Figures 1-1, 1-2, and 1-3**). The general setting of the project site is a perennial creek surrounded by rural residential and agricultural land uses. Within the project limits, Watt Avenue exists as a two-lane, south-to-north rural road with minimal paved shoulders that carries traffic over Dry Creek.

The proposed project is funded primarily by the federal-aid Highway Bridge Program (HBP) administered by the Federal Highway Administration (FHWA) through the California Department of Transportation (Caltrans) Local Assistance. The replacement bridge would be designed to meet current applicable County, American Association of State Highway and Transportation Officials (AASHTO), Caltrans design standards, and future land use and circulation demands for the Placer County General Plan, Placer Vineyards Specific Plan, Riolo Vineyard Specific Plan, and the Dry Creek/West Placer Community Plan.







2 PROJECT DESCRIPTION

2.1 Existing Conditions

The existing bridge was built in 1940 and consists of a three-span structure composed of steel girders and a concrete cast-in-place deck. The bridge is founded on solid wall reinforced concrete piers and seat abutments with monolithic wingwalls of unknown foundation type. It currently has a length of approximately 171 feet and a width of approximately 25 feet. The existing bridge is coded as a 5 "not eligible" by the California Department of Transportation (Caltrans) for listing on the National Register of Historic Places (NRHP). The Placer County Department of Public Works (County) has determined the structure has no historical significance and therefore does not qualify for special historical considerations.

The existing bridge has vertical cracking in the wingwalls and rock pockets in the face of both abutments. There is transverse deck cracking on the bridge, some of which are reflected on the bridge soffit representing full depth cracks. Additionally, an exterior girder is bent which was likely caused by equipment damage. The bridge railings consist of steel railings attached to the sides of the bridge. The abutment and pier concrete footings have become exposed and show signs of undermining. The paint system on the steel elements has failed and provides limited effectiveness for moisture control.

Additionally, the existing structure has a deck geometry that is designated as intolerable and a high priority for replacement. The bridge provides two lanes with no shoulders and non-crash tested barriers.

2.2 Purpose and Need

<u>Purpose</u>

The purpose of this project is to remove the existing functionally obsolete bridge and replace it with a new bridge designed to meet current structural and geometric standards and future land use and circulation demands imposed by the Placer County General Plan, Placer Vineyards Specific Plan, Riolo Vineyard Specific Plan, and the Dry Creek/West Placer Community Plan.

<u>Need</u>

The existing Watt Avenue bridge was last inspected by Caltrans in 2019 and has a sufficiency rating (SR) of 39.3 out of a possible score of 100. In addition, the existing bridge does not meet current applicable County, American Association of State Highway and Transportation Officials

(AASHTO), California Department of Forestry and Fire Protection (Cal Fire), and Caltrans design criteria and standards, and would not meet future land use and circulation demands imposed by the Placer County General Plan, Placer Vineyards Specific Plan, Riolo Vineyard Specific Plan, or the Dry Creek/West Placer Community Plan. The existing bridge is also hydraulically deficient and cannot pass the 200-year storm flows.

2.3 Proposed Project

The proposed bridge would be approximately 375 feet long, with a maximum ultimate build-out width of approximately 134 feet. The interim proposed bridge would have a maximum width of 111 feet; this width would accommodate four 12-foot lanes, two eight-foot minimum shoulders, a 12-foot minimum pedestrian pathway on the east side, and a variable width roadway median. The roadway width would match developer improvements for Placer Vineyards to the north and Riolo Vineyard to the south. The pedestrian pathway would be separated from the roadway by an interior barrier. In addition, the proposed bridge elevation would be approximately eight feet higher than the existing bridge in order to meet the Central Valley Flood Protection Board (CVFPB) clearance requirement of passing the 200-year storm event flows with three feet of freeboard. The centerline alignment of the proposed bridge would be parallel to and offset west of the existing bridge, with an overall width that overlaps the existing bridge's footprint. Dyer Lane may be adjusted to conform to improvements made at the intersection with Watt Avenue.

The proposed project would require roadway improvements along Watt Avenue and Dyer Lane to conform to the proposed bridge replacement. Watt Avenue improvements would establish four 12-foot lanes, two eight-foot minimum shoulders, and a variable width concrete median. The proposed project would extend approximately 1,510 feet to the south and 470 feet to the north of the new bridge to match up with developer improvements.

The proposed bridge would be constructed in two stages, with all work in the channel of Dry Creek taking place between June 15 and September 30 of each construction year (the time of year in which listed anadromous fish species are unlikely to be present in the action area). During the first stage, traffic flow along Watt Avenue would be maintained over the existing bridge while the western portion of the new bridge is constructed. Traffic would then be routed on to the western portion of the new structure during the second and third stages while the existing bridge is removed and the eastern portion of the new structure is completed.

2.4 Utility Relocation

There are several public service utilities in the immediate vicinity of the project site including overhead electrical (OHE) and telephone/communication (OHT) distribution lines located on

wooden poles parallel to Watt Avenue and Dyer Lane. OHE and OHT lines are also observed to run perpendicular to Watt Avenue along the northern bank of Dry Creek and at the intersection of Watt Avenue and Dyer Lane. Surface utilities observed on the project site include electrical and irrigation facilities. A pump station facility is located adjacent to the existing bridge along northwestern bank of Dry Creek. Underground utilities observed along the proposed alignments include storm drain and irrigation pipelines.

Existing utilities on or adjacent to the project site would be relocated prior to the beginning of construction. Utilities may need to be temporarily relocated during construction and moved to the new bridge following the completion of construction. These utilities would remain in service throughout construction activities.

2.5 Right-of-Way Acquisitions

Placer County does not own right-of-way along Watt Avenue or Dyer Lane. Placer County claims prescriptive rights over the paved portion of the roadways. Since the proposed project plans to expand Watt Avenue to address future traffic demands, permanent right-of-way would be required along both sides of the existing bridge. Several areas identified as potential construction staging areas may require temporary construction easements from adjacent parcels. Below is a list of Accessor Parcel Numbers (APNs) that would require either permanent right of way acquisition or temporary easements:

- APN 023-200-015
- APN 023-200-018
- APN 023-200-019
- APN 023-200-025
- APN 023-200-027
- APN 023-200-028
- APN 023-200-041 APN 023-200-042
 - APN 023-200-048 APN 023-200-049

APN 023-200-035

- APN 023-200-049 APN 023-200-050
- APN 023-200-056
- APN 023-200-062
- APN 023-200-063
- APN 023-200-066
- APN 023-200-074
- APN 023-210-001

2.6 Construction Activities

Construction would consist of the following activities in this general order:

•

•

•

Installing Construction Area and Detour Signs

Sufficiently in advance of construction operations, necessary construction signage would be installed along Watt Avenue, Dyer Lane, PFE Road, and Straight Road. Signage would remain in place throughout the duration of construction activities and would change to reflect the needs of each stage of construction.

Relocating Utilities

Existing utilities that conflict with proposed improvements and equipment would be relocated. Whenever possible, existing utilities would be relocated onto the new bridge upon its completion.

Clearing, Grubbing, and Tree Removals

Portions of existing roadway, hardscape, and landscaping in conflict with construction would be removed. Areas around the corners of the new bridge would be cleared of vegetation and fencing to gain access for constructing the new bridge. Vegetation and trees adjacent to Dry Creek and within the footprint of the new bridge would be removed.

New Bridge Foundations

The new bridge would be supported by three multi-column piers and two abutments. Each pier would be composed of reinforced concrete columns supported by Type II, Cast-in-drilled-hole (CIDH) piles. CIDH pile construction would follow Caltrans standard methods for either wet or dry pile construction, depending on the actual subsurface conditions encountered. Standard methods include using temporary or permanent steel casings and/or bentonite slurry to stabilize drilled hole walls. For wet pile construction, slurry or water displaced from the drilled hole would be pumped from the hole into tanks, treated, and disposed of in an appropriate way consistent with project permits (401 404, 1602 permits). The abutments would be supported on CIDH piles. Prior to construction, a pile installation plan would be prepared by the contractor for approval by the County, in conformance with applicable permits, environmental measures, and conditions. All piers and abutments, including placement of rock slope protection around the abutments and rock trenches between the abutments and the creek, would be constructed outside of the wetted portion of the channel, allowing all construction work to occur on dry areas.

New Bridge Construction

New bridge construction would involve placement of falsework to support the wet concrete of the superstructure, bridge formwork construction, placing reinforcement, and then casting the bridge superstructure. A concrete curb with pedestrian fencing would be placed at the edge of the deck and along the ramp approaches to the bridge. The falsework would be erected after the footings, columns, and abutments have been completed. A typical conventional falsework system would be used consisting of timber posts and caps, timber diagonal bracing, either timber beams or steel stringers, and timber joists. It is anticipated that foundation support would be provided by timber pads set on the surface of the ground. The typical falsework span lengths would be 3.75 feet.

A 60-foot-wide opening over Dry Creek would be required such that no supports are placed within the low flow portion of the creek channel during the dry season. All falsework would be completely removed after the construction of the new bridge structure is finished.

Existing Bridge Demolition

The existing bridge would be demolished and properly disposed of off-site following the completion of the western portion of the new bridge. The creek below the bridge would be protected from contamination and all debris generated by the demolition. Heavy equipment may be required to demolish and remove such features. Drainage features would be protected from contamination, and all debris generated by the demolition would be removed from the site. Access to the flowing portion of the channel would be required to remove the existing bridge piers. The existing bridge piers would be removed to three feet below the bottom of the channel. Prior to entering the flowing portion of the channel, the work area for removal of the existing bridge would be temporarily dewatered by installing a flow diversion consisting of either multiple corrugated metal or plastic pipe culverts, K-rail with visquine, sandbags, or an equivalent method. This flow diversion would occur during the summer work window when low flows and high water temperatures make it extremely unlikely that listed salmonids would be present in the action area. During removal of the existing bridge, a tarp or other approved barrier would be used below the structure to prevent debris from falling into the channel below. Standard Best Management Practices (BMPs), including the preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP), would be adhered to in order to minimize turbidity increases and sedimentation that could result from construction activities.

Approach Roadway and Intersection Construction

Adjacent roadway and intersection improvements would require excavation for a new structural section and placement of a hot mix asphalt finish.

Table 4.2-1 provides a description of the type of equipment likely to be used during the construction of the proposed project.

Table 4.2-1
Construction Equipment

Equipment	Construction Purpose
Hydraulic Hammer	Demolition
Hoe ram	Demolition
Jack Hammer	Demolition
Water Truck	Earthwork construction + dust control
Bulldozer / Loader	Earthwork construction + clearing and grubbing
Haul Truck	Earthwork construction + clearing and grubbing
Boom Truck	Rebar installation and bridge removal
Front-End Loader	Dirt or gravel manipulation
Grader	Ground grading and leveling
Dump Truck	Fill material delivery
Bobcat	Fill distribution
Excavator	Soil manipulation and placement of rock slope protection
Compaction Equipment	Earthwork
Roller / Compactor	Earthwork and asphalt concrete construction
Backhoe	Soil manipulation + drainage work
Drill Rig	Construction of drilled or driven pile foundations
Oscillator	CIDH Pile Installation
Holding tanks	Slurry storage for pile installation
Crane	Placement of false work beams
Concrete Truck and Pump	Placing concrete
Paver	Asphalt concrete construction
Truck with seed sprayer	Erosion control landscaping
Air Compressor	Bridge Removal and Finishing Work
Generators	Power Hand Tools

2.7 Construction Schedule and Timing

National Environmental Policy Act (NEPA) clearance is anticipated by summer 2021. Design and right-of-way certifications are expected to be completed one to two years after NEPA clearance, with construction to begin immediately after. Construction is anticipated to last two years.

2.8 Permits and Approvals Needed

The following permits, reviews, and approvals are required for proposed project construction.

Agency	Permit/Approval	Status			
Caltrans/FHWA	Approval of Categorical Exclusion (CE)	Follows approval of technical studies and IS/MND			
California Department of Fish and Wildlife	Section 1602 Streambed Alteration Agreement	Application to follow release of IS/MND			
Placer County	Placer County Conservation Plan Permit	Application to follow release of IS/MND			
Placer County	Final Bridge and Roadway Plan	Upon final design			

Table 4.2-2 Permits and Approvals Needed

3 Environmental Factors Potentially Affected

The proposed project could potentially affect the environmental factor(s) checked below. The following pages present a more detailed checklist and discussion of each environmental factor.



3.1 Determination: (To be completed by Lead Agency)

On the basis of this initial study:

- I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- ☑ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT (EIR) is required.
- □ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An EIR is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, no further environmental documentation is required.

Signature	Date	
Printed Name	For	
Watt Avenue Bridge over Dry Creek Replacement Project Initial Study/Mitigated Negative Declaration	Page 13	April 2021 Dewberry Drake Haglan

4 ENVIRONMENTAL CHECKLIST

4.1 Aesthetics

Issu	es (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Aes	thetics – Except as provided in Public Resources Code Sect	tion 21099, wou	ld the project:		
a)	Have a substantial adverse effect on a scenic vista?				\boxtimes
b)	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				\boxtimes
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 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?			\boxtimes	
d)	Create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area?			\boxtimes	

i. Setting

The analysis below follows the guidance and the definitions outlined in the publication *Guidelines for the Visual Impact Assessment of Highway Projects* published by the U.S. Department of Transportation (USDOT) Federal Highway Administration (FHWA) in January 2015.

Visual character is a description (not evaluation) of a site and includes attributes such as form, line, color, and texture. Visual quality is the intrinsic appeal of a landscape or scene due to the combination of natural and built features in the landscape, and this analysis rates visual quality as high, moderate, or low. Visual sensitivity is the level of interest or concern that the public has for maintaining the visual quality of a particular aesthetic resource and is a measure of how noticeable proposed changes might be in a particular scene and is based on the overall clarity, distance, and relative dominance of the proposed changes in the view, as well as the duration that a particular view could be seen.

Proposed Project Site

The proposed project would replace and widen the existing Watt Avenue Bridge over Dry Creek, expand Watt Avenue, construct a bicycle and pedestrian pathway roughly parallel to the new

alignment of Watt Avenue, and adjust Dyer Lane to conform to improvements made at the intersection with Watt Avenue. The proposed bridge would be 375 feet long, with a maximum build-out width of approximately 134 feet. The surrounding landscape is characterized by agricultural land, riparian habitat, grassland, oak woodland, and the existing residences. Primary land uses include residential, agriculture, greenbelt/open space, and commercial/professional uses.

No roadways within or near the proposed project impact area are designated as National Scenic Byways (FHWA, 2020). The nearest National Scenic Byway is State Route 4 (Ebbetts Pass Scenic Byway), which begins approximately 75 miles southeast of the proposed project site. There are no officially designated state scenic highway or byway routes near or within the proposed project location. The nearest designated State Scenic Highway is State Route 49, located 20 miles northeast of the proposed project (Caltrans, 2020).

Currently, the existing Watt Avenue Bridge is a three-span structure composed of steel girders and a concrete cast-in-place deck. It currently has a length of approximately 171 feet and a width of approximately 25 feet. The proposed project would require roadway improvements along Watt Avenue and Dyer Lane to conform to the proposed bridge alignment, as the proposed replacement structure would establish four 12-foot lanes, two eight-foot minimum shoulders, and a variable width concrete median. The center alignment of the proposed replacement structure would be parallel to and offset west of the existing bridge, with an overall width that overlaps the existing bridge's footprint.

Sensitive Receptors

The proposed project includes the replacement of the Watt Avenue Bridge over Dry Creek. Although the proposed project would not be incompatible with the existing visual character, it would change from the rural two-lane bridge currently in place to a much longer and wider fourlane bridge. This change is designed to accommodate the ultimate build-out of the nearby approved Specific Plans (the Placer Vineyards Specific Plan or the Riolo Vineyard Specific Plan) and *Placer County Design Guide Manual* and may be more visually appealing since it would present a newer, cleaner appearance. Sensitive receptors in the vicinity of the proposed project include roadway users, pedestrians, the residences at 9400 Watt Avenue, 9255 Watt Avenue, 9099 Watt Avenue, 9420 Watt Avenue, and visitors to the Union Cemetery.

The proposed project would implement the following avoidance and minimization measures to protect the existing visual character and quality of the Watt Avenue Corridor through the proposed project site:

- Incorporate architectural design, including but not limited to, architectural form liners and concrete staining on the exterior girders and bridge railing.
- In compliance with the Caltrans Standard Specifications, revegetate and restore disturbed areas with native vegetation compatible with the existing landscape in the area to minimize erosion and visual contrast with existing vegetation. The landscape concept, plan, and plant palette shall be determined in coordination with Placer County and the District Landscape Architect during the Plans, Specifications, and Estimates (PS&E) phase.

ii. Discussion

- a) No impact. The proposed project is not located within or near any designated scenic resources or scenic vistas. Many views in the proposed project vicinity are limited to the foreground and middle ground and largely consist of rural single-family development and grasslands.
- **b)** No Impact. No visually unique features or outcroppings, including rocks, or historic buildings, are located within or in the vicinity of the proposed project site. Vegetation removal including trees would occur, however this impact would be minor and disturbed areas would be revegetated to the maximum extent possible. No State Scenic Highways or National Scenic Byways are located within viewable distance of the proposed project (FHWA, 2020). The closest officially designated scenic highway is State Route 4, which begins approximately 75 miles southeast of the proposed project site. There are no officially designated state scenic highway or byway routes near or within the proposed project location. The nearest designated State Scenic Highway is State Route 49, located 20 miles northeast of the proposed project would not affect any eligible or officially designated state scenic routes, highways, or their viewsheds.
- c) Less than Significant Impact. The proposed project site is located within a rural setting in western Placer County. Receptors sensitive to visual change include roadway users, neighbors, and visitors to the Union Cemetery. The proposed project is part of a larger plan for Placer County to urbanize and visually improve main thoroughfares through the County. The proposed project is a bridge replacement and Class I bicycle lanes that are intended to be visually pleasing and improve the overall visual character of the Watt Avenue corridor.

Construction

Construction activities would introduce heavy equipment and associated vehicles, including backhoes, compactors, tractors, cranes, and trucks, into the viewshed of all viewer groups. Vegetation and trees adjacent to Dry Creek and within the footprint of the new bridge would

be removed during construction. Construction activities and the presence of equipment and vehicles would create a temporary visual impact on views seen of and from the proposed project site during the construction period. This impact would not be significant due to the temporary nature of construction and the transient nature of viewers passing by the proposed project site. The project proposes to revegetate areas of temporary disturbance within the proposed project footprint with native, drought-tolerant vegetation and use native, drought-tolerant vegetation for landscaping wherever possible. Trees and vegetation would be replanted after construction to restore the visual character of the proposed project site consistent with Section 20, "Landscape" of the Caltrans Standard Specifications 2015. Additionally, removal of exotic plant species and revegetation with native plants would help restore the site to a more natural condition, making it more consistent with the indigenous visual character of the area. Caltrans Design Guidelines and Placer County Design Guidelines would be followed to keep construction visual impacts to a minimum.

Operation

Upon construction completion, the proposed project would be visually consistent with the ultimate build-out of the Specific Plans and *Placer County Design Guide Manual.* The new appearance would not be any less visually appealing than the existing bridge and may be more appealing since it would present a newer, cleaner appearance. The proposed project also includes the addition of a raised median that would be a mix of hardscape and landscape, consistent with the Placer Vineyards Final EIR. The proposed project would include avoidance and minimization measures listed above in the setting section to protect the existing character and quality of Watt Avenue. Therefore, the proposed project would have a less than significant impact on the visual character and quality of public views of the proposed project site and surrounding area and no mitigation measures would be required.

d) Less than Significant Impact. The proposed project would involve installing a new lighting infrastructure compatible with the Specific Plan design requirements. As required by the avoidance and minimization measures listed above in the Settings section, architectural design choices and revegetation would minimize the potential effects of light and glare on neighbors, roadway users, and pathway users. Construction activities would be temporary in nature, would occur during daylight hours, and would not increase light or glare. The proposed project would have a less than significant impact to light and glare, and no mitigation measures would be required.

iii. Mitigation Measures

No mitigation required.

iv. References

- Federal Highway Administration (FHWA). 2020. America's Byways. Available at <u>https://www.fhwa.dot.gov/byways/states/CA</u>.
- California Department of Transportation (Caltrans). 2020. List of eligible and officially designated State Scenic Highways (XLSX). Available at https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways.
- Placer County. 1990. Dry Creek/West Placer Community Plan Design Element. Available at <u>https://www.placer.ca.gov/3023/Dry-Creek-West-Placer-Community-Plan</u>.
- Placer County. Placer County Code. Article 12 Section. Available at <u>http://qcode.us/codes/placercounty/</u>.
- Placer County. 1994. Placer County General Plan Land Use Element. Updated 2013. Available at <u>https://www.placer.ca.gov/DocumentCenter/View/8573/Land-Use-PDF</u>.
- Placer County. 2015. Placer Vineyards Specific Plan. Chapter 6 Community Design Element. Available at <u>https://www.placer.ca.gov/DocumentCenter/View/10052/Chapter-6---</u> <u>Community-Design-PDF</u>.
- Placer County. 2015. Riolo Vineyard Specific Plan. Chapter 3 Land Use. Available at https://www.placer.ca.gov/DocumentCenter/View/9093/Land-Use-PDF.

4.2 Agricultural Resources

Issue	es (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact		
Agr age Cali Wo	Agricultural Resources – In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:						
a)	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?			\square			
b)	Conflict with existing zoning for agricultural use, or a Williamson Act contract?				\boxtimes		
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?				\boxtimes		
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?			\boxtimes			

i. Setting

A Farmland Memorandum was prepared for the proposed project by Drake Haglan & Associates, 2019. The proposed project is situated in the Antelope region of south Placer County, dominated by rural land uses such as intensive agriculture operations, grazing land, and family ranches. This section of Dry Creek supports a riparian corridor that contains mature oak trees and scattered eucalyptus trees. The new bridge lanes would encroach into this area and require some tree removal. The new bridge lanes and pedestrian walkway are situated in areas that are either open space or agricultural land adjacent to the existing bridge. A review of the California Department of Conservation (CDOC) Farmland Mapping database indicates agricultural lands near the existing bridge are classified as Prime Farmland on the southeastern side of Dry Creek Bridge and grazing land on the northeastern side of the bridge (CDOC 2018). There is an active farm on the Prime Farmland based on a review of Google Earth and site survey.

Placer County is a major producer of a wide variety of farm products, with the top five crops for 2019 in order of total revenue generation were rice (\$26 million), cattle and calves (\$13 million), walnuts (\$12 million), nursery stock (\$7 million), and timber (\$6 million) (Placer County 2019). According to the Farmland Mapping and Monitoring Program (FMMP), there were 155,311 acres of land identified as farmland or grazing land in Placer County in 2016 (CDOC 2016a). The agricultural land in Placer County in 2016 was as follows: 4.78 percent prime farmland, 2.64 percent farmland of statewide importance, 12.09 percent unique farmland, 61.00 percent farmland of local importance, and 19.49 percent grazing farmland (CDOC 2016a). Prime farmland is the only farmland type mapped within the proposed project footprint; however, grazing lands and other land types are also designated within the proposed project area (**Figure 4.2-1**).



Project Extent	Temporary Impacts		Permanent Impacts		
Parcels	Grazing Lands	Other Lands	Grazing Lands	Other Lands	
	Prime Farmland		Prime Farmland		
0 75 150	Source: ESRI Online Basemap, Aerial 300 Feet NAD 83 State Plane California V FIPS Notes: This may was created for inf	l Imagery; Coordinate System 3 0405 Feet; DHA, 2019 ormational and disolav purcoses only	Watt Avenue at Dry Creek Pla	Bridge (19C-0084) Replacement Project acer County, CA	

According to the CDOC, Division of Land Resource Protection, 38,856 acres of land within Placer County were enrolled under the Williamson Act in 2015 (CDOC 2016b), which is approximately 25.02 percent of all farmland and grazing land identified by the FMMP in Placer County. None of the adjacent parcels are enrolled in a Williamson Act, and therefore the proposed project would not affect lands enrolled in the Williamson Act.

The Farmland Mapping and Monitoring Program (FMMP) monitors and documents land use changes that affect California's farmland. The FMMP, administered by the California Department of Conservation (CDOC), Division of Land Resource Protection, produces Important Farmland Maps, which use a classification system based on NRCS soil survey data and land use (CDOC 2002). The FMMP classifies land as Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance, Grazing Land, Urban and Built-Up Land, and Other Land. Definitions of these classifications are outlined in **Table 4.2-1**.

Classifications	Definition
Prime Farmland	Land with the best combination of physical and chemical characteristics able to sustain
Filleralliallu	long-term production of agricultural crops.
Farmland of	Land with a good combination of physical and chemical characteristics for agricultural use,
Statewide	having only minor shortcomings, such as less ability to store soil moisture, compared to
Importance	Prime Farmland.
	Land used for production of the state's major crops on soils not qualifying for Prime or
Unique Farmland	Statewide Importance. This land is usually irrigated but may include non-irrigated fruits and
	vegetables as found in some climatic zones in California.
	Land that meets all the characteristics of Prime and Statewide, except irrigation. Farmlands
Farmland of Local	not covered by the above categories but are of substantial economic importance to the
Importance	county. They have a history of good production for locally adapted crops. The soils are
	grouped in types that are suitable for truck crops and soils suited for orchard crops.
Grazing Land	Land on which the existing vegetation is suitable for grazing of livestock. The minimum
	mapping unit for this category is 40 acres.
Urban and Ruilt	Residential land with a density of at least six units per 10-acre parcels, as well as land used
Un Land	for industrial and commercial purposes, golf courses, landfills, airports, water treatment,
Op Land	and water control structures.
	Land does not meet the criteria of any other category. Common examples include low-
Other Land	density rural developments, wetlands, dense brush and timberlands, gravel pits, and small
	water bodies.

Table 4.2-1 Farmland Designations

ii. Discussion

a) Less than Significant. The proposed project would result in the permanent loss of up to 0.15 acres of actively cultivated prime farmland and would also result in temporary impacts to up

to 0.95 acres of active cultivation prime farmland (Table 4.2-2). Impacts to designated farmlands present within the proposed project area are broken down by farmland type, type of impact, and parcel in Table 4.2-3. The proposed project would permanently impact up to 0.66 acres of designated prime farmland and temporarily impact up to 1.98 acres of designated prime farmland to accommodate the proposed bridge and associated approach roadwork (Figure 4.2-1). The proposed project would also result in the permanent loss of up to 2.88 acres of grazing lands and up to 2.21 acres of other lands. The proposed project would temporarily impact up to 7.86 acres of grazing lands and 5.11 acres of other lands. Permanent and temporary impacts to prime farmland, grazing lands, and other land are minimal when compared to the 132,000 acres of arable land in the County and would not cause a burden to the surrounding community beyond the far greater impacts to farmland that were approved in the Placer Vineyards and Riolo Vineyard Specific Plans. Impacts to farmland from the bridge project are considered minimal, restricted to marginal areas of adjacent parcels, and would not create a significant loss of land used for farming purposes. Therefore, the farmland impacts from the Watt Avenue Bridge Replacement Project are considered less than significant and would not result in long-term adverse effects to Placer County farmlands.

Table 4.2-2	
Summary of Impacts to Farmland	Гурез

Project Impact		Prime Farmland (acres)	Grazing Lands (acres)	Other Types (acres)	Total (acres)
Permanent	Designated Farmland	0.66	2.88	2.21	5.75
Impacts	Active Cultivation Area	0.15	0	0	0.15
Temporary	Designated Farmland	1.98	7.86	5.11	14.95
Impacts	Active Cultivation Area	0.95	0	0	0.95

Breakdown of impacts to Farmland Types					
	Parcel Number	Prime Farmland (acres)	Grazing Lands (acres)	Other Lands (acres)	
APN 023-200-018		0.22	24.46	14.10	
Permanent	Designated Farmland	0	0.28	0.54	
Impacts	Active Cultivation Area	0	0	0	
Temporary	Designated Farmland	0	1.43	1.82	
Impacts	Active Cultivation Area	0	0	0	
APN 023-200-019		22.24	1.68	3.43	
Permanent	Designated Farmland	0.66	0.02	0.04	
Impacts	Active Cultivation Area	0.15	0	0	
Temporary	Designated Farmland	1.98	0.07	0.44	
Impacts	Active Cultivation Area	0.95	0	0	
APN 023-200-027		0	0	1.89	

Table 4.2-3Breakdown of Impacts to Farmland Types

Parcel Number		Prime Farmland	Grazing Lands	Other Lands
		(acres)	(acres)	(acres)
Permanent	Designated Farmland	0	0	0.11
Impacts	Active Cultivation Area	0	0	0
Temporary	Designated Farmland	0	0	0.28
Impacts	Active Cultivation Area	0	0	0
APN 023-200	-035	0	0	0.92
Permanent	Designated Farmland	0	0	0.07
Impacts	Active Cultivation Area	0	0	0
Temporary	Designated Farmland	0	0	0.17
Impacts	Active Cultivation Area	0	0	0
APN 023-200)-041	0	97.95	22.36
Permanent	Designated Farmland	0	1.60	0.99
Impacts	Active Cultivation Area	0	0	0
Temporary	Designated Farmland	0	1.98	1.43
Impacts	Active Cultivation Area	0	0	0
APN 023-200)-042	0	19.68	7.72
Permanent	Designated Farmland	0	0.54	0.11
Impacts	Active Cultivation Area	0	0	0
Temporary	Designated Farmland	0	3.52	0.18
Impacts	Active Cultivation Area	0	0	0
APN 023-200)-048	0	0.01	3.09
Permanent	Designated Farmland	0	0	0.15
Impacts	Active Cultivation Area	0	0	0
Temporary	Designated Farmland	0	0.01	0.35
Impacts	Active Cultivation Area	0	0	0
APN 023-200)-049	0	0	1.24
Permanent	Designated Farmland	0	0	0.06
Impacts	Active Cultivation Area	0	0	0
Temporary	Designated Farmland	0	0	0.12
Impacts	Active Cultivation Area	0	0	0
APN 023-200)-050	0	0	2.08
Permanent	Designated Farmland	0	0	0.14
Impacts	Active Cultivation Area	0	0	0
Temporary	Designated Farmland	0	0	0.21
Impacts	Active Cultivation Area	0	0	0
APN 023-200)-056	0	3.88	0.10
Permanent	Designated Farmland	0	0.32	0.01
Impacts	Active Cultivation Area	0	0	0
Temporary	Designated Farmland	0	0.54	0.02
Impacts	Active Cultivation Area	0	0	0
APN 023-200)-074	0	88.82	9.39
Permanent	Designated Farmland	0	0.11	0
Impacts	Active Cultivation Area	0	0	0
Temporary	Designated Farmland	0	0.31	0.10
Impacts	Active Cultivation Area	0	0	0

- **b)** No Impact. The proposed project area does not include or affect parcels enrolled under the Williamson Act. The closest Williamson Act enrolled parcel is located just south of the project site along PFE Road and is designated as Williamson Act- Non-Prime Agricultural Land. Therefore, there is no impact to Williamson Act contracts from the project.
- c) No Impact. Current zoning for the agricultural properties impacted by the proposed project is agricultural. There are no lands uses within, or adjacent to the proposed project that are zoned as forest land, timberland or timberland zoned Timberland Production. Lands in the area not classified as Timber Production Zone as mapped by CDOC. Therefore, the proposed project would not result in a conflict with existing zoning regarding forest land or timberland. The proposed project would not cause rezoning of forestland, timberland, or timberland zoned Timberland Production.
- **d)** No Impact. There are no land uses within, or adjacent to, the proposed project site that are zoned as forest land. The proposed project would not result in the loss of forest land or conversion of forest land to non-forest use.
- e) Less than Significant Impact. As shown in Table 4.2-1, the proposed project would permanently impact 5.75 acres of designated farmland and 0.15 acres of actively cultivated farmland. The additional roadway lanes of the proposed project would result in a relatively small conversion of farmland to non-agricultural use. This farmland impact is considered less than significant because it is relatively small acreage compared to the amount of productive farmland in Placer County and when compared to urban growth plans for South Placer County. No mitigation is required.

iii. References

- Drake Haglan & Associates 2019. Farmland Impact Technical Memorandum for the Watt Avenue Bridge Replacement Project.
- California Department of Conservation (CDOC). 2016a. Table A-24, Placer County, 2014-2016 Land Use Conversion. Available at <u>https://www.conservation.ca.gov/dlrp/fmmp/Pages/Placer.aspx</u>. Accessed April 17, 2019.

CDOC. 2016b. The California Land Conservation Act of 1965 – 2016 Status Report. December 2016. Available at <u>https://www.conservation.ca.gov/dlrp/wa/Documents/stats_reports/2016%20LCA%20St</u> <u>atus%20Report.pdf</u>. Accessed April 17, 2019.

- CDOC. 2018. Farmland Mapping and Monitoring Program Overview. Available at http://www.conservation.ca.gov/dlrp/fmmp/PFarmlages/Program_Overview.aspx. Accessed April 17, 2019.
- County of Placer Agriculture Weights and Measures. 2019. 2019 Crop Report. Available at <u>https://www.placer.ca.gov/Archive.aspx?AMID=44</u>. Accessed November 23, 2020.

4.3 Air Quality

 Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
Air Quality – Where available, the significance criteria estable	ished by the app	licable air qualit	y management o	or air pollution
control district may be relied upon to make the following det	erminations. Wo	uld the project:		
a) Conflict with or obstruct implementation of the applicable air quality plan?			\square	
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?		\square		
 c) Expose sensitive receptors to substantial pollutant concentrations? 			\square	
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?			\square	

i. Setting

An Air Quality Technical Report and a Traffic Study was prepared (LSA 2019, Fehr & Peers 2018) for the Watt Avenue Bridge Replacement Project. The project site is located in the southwest corner of Placer County, California and is within the Placer County Air Quality Management District (PCAPCD). Air quality districts are public health agencies whose mission is to improve the health and quality of life for all residents through effective air quality management strategies. Concentrations of ozone, carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), lead (Pb), and particulate matter (PM_{10} and $PM_{2.5}$) are commonly used as indicators of ambient air quality conditions. These pollutants are known as "criteria pollutants" and are regulated by the U.S. Environmental Protection Agency (USEPA) and California Air Resources Board (CARB) through national and California ambient air quality standards (National Ambient Air Quality Standards [NAAQS] and California Ambient Air Quality Standards [CAAQS]), respectively. The NAAQS and CAAQS limit criteria pollutant concentrations to protect human health and prevent environmental and property damage. The PCAPCD is responsible for ensuring the NAAQS and CAAQS are met within Placer County. The PCAPCD manages air quality through a comprehensive program of long-term planning, regulations, incentives for technical innovation, education, and community outreach.

Existing Air Quality in Placer County

This section summarizes existing air quality conditions near the proposed project area. It includes attainment statuses for criteria pollutants, describes local ambient concentrations of criteria pollutants for the past three years, and discusses Mobile Source Air Toxics (MSAT) and Greenhouse Gas (GHG) emissions. PCAPCD, together with CARB, maintains ambient air quality monitoring stations within the Basin. The North Highlands air quality monitoring station is the closest monitoring station to the project site, approximately 1.7 miles south of the project site. However, the North Highlands monitoring station is within Sacramento County and monitored by the Sacramento Metropolitan Air Pollution Control District (SMAPCD). Therefore, the closest air quality monitoring station within Placer County would be the Roseville monitoring station located at 151 N. Sunrise Avenue, approximately 6.9 miles west of the project site.

Air quality monitoring stations are located throughout the nation and are maintained by local air districts and state air quality regulating agencies. Data collected at permanent monitoring stations are used by the USEPA to identify regions as "attainment," "nonattainment," or "maintenance," depending on whether the regions meet the requirements stated in the primary NAAQS. Nonattainment areas are imposed with additional restrictions as required by the USEPA. In addition, different classifications of nonattainment (e.g., marginal, moderate, serious, severe, and extreme) are used to classify each air basin in the state on a pollutant-by-pollutant basis. The classifications are used as a foundation to create air quality management strategies to improve air quality and comply with the NAAQS. **Table 4.3-1** lists the state and federal attainment status for all regulated pollutants.

Pollutant	State Attainment Status	Federal Attainment Status	
Ozone (O₃)	1-Hour - Nonattainment 8-Hour – Nonattainment	8-Hour – Nonattainment (Severe 15)	
Respirable Particulate Matter (PM ₁₀)	24-Hour – Nonattainment Annual - Nonattainment	24-Hour - Attainment	
Fine Particulate Matter (PM _{2.5})	Annual – Attainment	24-Hour – Nonattainment (Moderate) Annual - Attainment	
Carbon Monoxide (CO)	1-Hour – Attainment 8-Hour - Attainment	Attainment – Maintenance	

 Table 4.3-1

 State and Federal Air Quality Attainment Status of Regulated Pollutants

Pollutant	State Attainment Status	Federal Attainment Status	
Nitrogen Dioxide (NO ₂)	Attainment	Attainment	
Sulfur Dioxide (SO ₂)	Attainment	Attainment	
Lead (Pb)	Attainment	Attainment	
Visibility- Reducing Particles	Unclassified	N/A	
Sulfates	Attainment	N/A	
Hydrogen Sulfide	Unclassified	N/A	
Vinyl Chloride	N/A	N/A	

Source: State criteria status from PCAPCD CEQA Air Quality Handbook, Chapter 1: Project Review & Analysis. Available at http://www.placerair.org/landuseandceqa/ceqaairqualityhandbook.

Federal criteria status from the USEPA's *Greenbook*. Available at https://www.epa.gov/green-book.

Notes: **BOLD** indicates nonattainment status.

¹The national one-hour ozone standard was revoked by the USEPA on June 15, 2005.

Severe 15 (8 Hour Ozone) Classification indicates area has a design value of 0.113 up to but not including 0.119 parts per million (ppm).

The USEPA initially classified all nonattainment areas for PM_{2.5} as Moderate, expecting each area to practicably attain the national ambient air quality standard by a set date. The Sacramento federal nonattainment area is expected to reach attainment status by the year 2024 (PCAPCD, 2017).

The air quality trends from the Roseville Monitoring Station are used to represent the ambient air quality in the project area. The pollutants monitored were O₃, PM_{2.5}, PM₁₀, and NO₂. The nearest monitoring station monitoring CO is the N. Highlands-Blackfoot station. The ambient air quality data in **Table 4.3-2** shows that CO, PM₁₀, PM_{2.5}, and NO₂ levels comply with and are below the applicable state and federal standards. The final data for the ambient air quality monitored in the year 2020 was not available at the time of report preparation; therefore, the data used in **Table 4.3-2** is for the years 2012 through 2017.
Table 4.3-2Air Quality Concentrations for the Past Five Years Measured at the Roseville and N. Highlands-
Blackfoot Monitoring Stations

			-				
Pollutant	Standard	2012	2013	2014	2015	2016	2017
Ozone from the Roseville Station				•		•	
Max 1-hour concentration		0.108	0.111	0.097	0.098	0.115	0.117
No. days exceeded: State	0.09 ppm	NA	NA	4	1	5	4
Max 8-hour concentration		0.092	0.083	0.087	0.085	0.093	0.088
No. days exceeded: State	0.070 ppm	NA	NA	21	6	21	10
Federal	0.070 ppm	NA	NA	19	6	20	9
Carbon Monoxide from the N. Hig	hlands-Blackf	oot Station		1		1	
Max 1-hour concentration		2.1	1.9	1.8	2.1	2.3	
No. days exceeded: State	20 ppm	0	0	0	0	0	0
Federal	35 ppm	0	0	0	0	0	0
Max 8-hour concentration		1.7	1.4	1.4	1.3	1.6	1.5
No. days exceeded: State	9.0 ppm	0	0	0	0	0	0
Federal	9 ppm	0	0	0	0	0	0
PM ₁₀ from the Roseville Station				•		•	
Max 24-hour concentration		43	55	31.8	59.1	39.2	65.8
No. days exceeded: State	50 μg/m ³	0	0	0	1	0	0
Federal	150 μg/m³	0	0	0	0	0	0
Annual average concentration (μg	/m³)	14.8	17.8	17.9	13	15.8	NA
Exceeded: State	20 µg/m ³	No	No	No	No	No	NA
PM _{2.5} from the Roseville Station							
Max 24-hour concentration		16.1	23.7	30.7	44.1	24.4	28.8
No. days exceeded: Federal	35 μg/m³	0	0	0	0	0	0
Annual average concentration (μg	/m³)	6.5	7.4	10.5	8.1	6.9	
No. days exceeded: State	12 μg/m ³	0	0	0	0	0	0
Federal	12.0 μg/m³	0	0	0	0	0	0
Nitrogen Dioxide from the Rosevi	lle Station						
Max 1-hour concentration		55.0	56.3	54.1	50.8	50.0	52.0
No. days exceeded: State	180 ppb	0	0	0	0	0	0
Federal	100 ppb	0	0	0	0	0	0
Annual average concentration (pp	b)	10.2	10.2	8	8	8	9

No. days exceeded: State	30 ppb	0	0	0	0	0	0
Federal	53 ppb	0	0	0	0	0	0

Source: Placer County 2019. U.S. Environmental Protection Agency. 2014–2017 Air Quality Data. Available at https://www.epa.gov/outdoor-air-quality-data. California Air Resources Board. iADAM: Air Quality Data Statistics. Available at http://www.arb.ca.gov/adam/welcome.html.

Regional Conformity

The proposed project is in an attainment/maintenance area for the federal CO standard; therefore, the proposed project is subject to a regional conformity determination. The proposed project is listed in the financially constrained Sacramento Area Council of Governments (SACOG) 2019/2022 Metropolitan Transportation Improvement Program (MTIP). This program was found to conform by SACOG on September 20, 2018, and the Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) made a regional conformity determination finding on December 15, 2020. The design concept and scope of the proposed project is consistent with the project description. Conformity status information is summarized in **Table 4.3-3**.

			-	-	
MPO	Plan/TIP	Date of	Date of	Last	Date of
		adoption by	Approval by	Amendment	Approval by
		MPO	FHWA		FHWA of Last
					Amendment
SACOG	2019/2022	September	December 17,	N/A	N/A
	Metropolitan	20,2018	2018		
	Transportation				
	Improvement				
	Program (MTIP)				

 Table 4.3-3

 Status of Plans Related to Regional Conformity

FHWA = Federal Highway Administration

RTIP = Regional Transportation Improvement Program

MPO = Metropolitan Planning Organization

N/A = Not Applicable

SACOG = Sacramento Area Council of Governments

TIP = Transportation Improvement Program

Project-Level Conformity

The proposed project is located in an attainment/maintenance area for federal CO standards, a nonattainment area for federal $PM_{2.5}$ and an attainment/maintenance area for federal PM_{10} standards; thus, a project-level hot-spot analysis is required under 40 Code of Federal Regulations (CFR) 93.109 for all three pollutants. The proposed project does not cause or contribute to any new localized CO, $PM_{2.5}$, and/or PM_{10} violations or delay timely attainment of any NAAQS or any

required interim emission reductions or other milestones during the timeframe of the transportation plan (or regional emissions analysis).

Interagency Consultation

On April 3, 2019, the SACOG Project Level Conformity Group determined that the project is not a project of air quality concern (POAQC). Membership of the Project Level Conformity Group includes federal (USEPA, FHWA, and FTA), state (CARB and Caltrans), regional (Air Quality Management Districts and SACOG), and other stakeholders. Per the transportation conformity rules and regulations, all nonexempt projects must go through review by the SACOG Project Level Conformity Group. The proposed project was approved and concurred upon by Interagency Consultation as a project not having adverse impacts on air quality, and the proposed project meets the requirements of the CAA and 40 CFR, Section 93.116. A copy of the SACOG Project Level Conformity Document is included in **Appendix B**.

Sensitive Receptors

Sensitive receptors are defined as residential uses, schools, daycare centers, nursing homes, and medical centers. Individuals particularly vulnerable to diesel particulate matter are children, whose lung tissue is still developing, and the elderly, who may have serious health problems that can be aggravated by exposure to diesel particulate matter. Exposure from diesel exhaust associated with construction activity contributes to both cancer and chronic non-cancer health risks.

The closest sensitive receptors to the project site would be McClellan High School, located approximately 1,000 feet south on Watt Avenue. Across the street from the high school, there is a community of single-family residences. There are a few properties with single-family homes along Watt Avenue adjacent to the proposed project site; however, these properties are on open agricultural land with little to no obstructions interfering with cross wind. Exposure to concentrations of criteria air pollutants would not be expected to be significant.

ii. Discussion

a) Less than Significant Impact. The proposed project is being implemented to accommodate the urban growth approved in the Placer County General Plan, Placer Vineyards Specific Plan, Riolo Vineyard Specific Plan, and the Dry Creek/West Placer Community Plan and would not conflict with or obstruct implementation of the Placer County air quality attainment plan. All construction equipment would be maintained in a manner consistent with state and federal regulations applicable to off-road, construction diesel equipment. Neither the short-term

construction impacts nor the long-term operational impacts would exceed thresholds. For these reasons, this impact is considered less than significant.

b) Less than Significant Impact with Mitigation Incorporated. The Placer County region is in non-attainment with state and federal air quality standards for criteria pollutants ozone, PM₁₀ (24-hour and annual), and PM_{2.5}. The construction period for the proposed project would span 18 to 24 months. Construction emissions were estimated using the latest Sacramento Metropolitan Air Quality Management District's Road Construction Model (RoadMod, Version 8.1.0) and are included in Appendix C. Construction emissions were estimated for the project alternatives using detailed equipment inventories and project construction scheduling information provided by the applicant.

Construction

Site preparation and roadway construction would involve clearing, cut-and-fill activities, grading, removing or improving existing roadways, and paving roadway surfaces. During construction, short-term degradation of air quality is expected from the release of particulate emissions (airborne dust) generated by excavation, grading, hauling, and other activities related to construction. Emissions from construction equipment powered by gasoline and diesel engines are also anticipated and would include CO, NO_X, volatile organic compounds (VOCs), directly emitted PM₁₀ and PM_{2.5}, and TAC such as diesel exhaust particulate matter. Construction activities are expected to increase traffic congestion in the area, resulting in increases in emissions from traffic during the delays. These emissions would be temporary and limited to the immediate area surrounding the construction site.

Under the transportation conformity regulations (40 CFR 93.123(c)(5)), construction-related activities that cause temporary increases in emissions are not required in a hot-spot analysis. These temporary increases in emissions occur only during the construction phase and last five years or less at any individual site. They typically fall into two main categories:

Fugitive Dust: A major emission from construction due to ground disturbance. All air districts and the California Health and Safety Code (Sections 41700-41701) prohibit "visible emissions" exceeding three minutes in one hour – this applies not only to dust but also to engine exhaust. In general, this is interpreted as visible emissions crossing the right-of-way line.

Sources of fugitive dust include disturbed soils at the construction site and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the site may deposit mud on local streets, which could be an additional source of airborne dust after it dries. PM₁₀ emissions may vary from day to day, depending on the nature and

magnitude of construction activity and local weather conditions. PM₁₀ emissions depend on soil moisture, the silt content of soil, wind speed, and the amount of equipment operating. Larger dust particles would settle near the source, while fine particles would be dispersed over greater distances from the construction site.

• *Construction equipment emissions*: Diesel exhaust particulate matter is a Californiaidentified toxic air contaminant, and localized issues may exist if diesel-powered construction equipment is operated near sensitive receptors.

As shown in **Table 4.3-4** below, the model predicts a maximum of 14.39 pounds per day of PM_{10} , and a total of 3.05 tons would be generated during project construction.

Lotiniateu e	Estimated construction Emissions for the WaterAvenue Bruger roject										
		F	Pollutant Emissi	ons							
Source			(Pounds/Day)							
	Total PM ₁₀	Total PM _{2.5}	CO	NO _x	CO ₂						
Grubbing/Land Clearing	11.53	3.51	21.82	35.67	5,409.89						
Grading/Excavation	14.39	6.08	64.94	94.63	13,099.32						
Drainage/Utilities/Sub-Grade	12.70	4.57	43.45	53.95	7,539.99						
Paving	0.71	0.64	13.34	12.38	2,205.33						
Maximum Daily	14.39	6.08	64.94	94.63	13,099.32						
Project Total (tons during construction)	3.05	1.20	12.26	16.95	2,385.52						

Table 4.3-4 Estimated Construction Emissions for the Watt Avenue Bridge Project

Source: RoadMod Version 8.1.0 Model Results Compiled by LSA 2019.

Notes: ROG = reactive organic gases

 PM_{10} = particulate matter less than 10 microns in size

NO_x = nitrogen oxides

This is considered a cumulatively considerable significant impact given the county's nonattainment for PM_{10} . For $PM_{2.5}$, the model estimated that a maximum of 6.08 pounds per day or a total of 1.2 tons would be generated during project construction. Carbon monoxide emissions would be 64.95 pounds per day for a total of 12.26 tons. This incremental increase in $PM_{2.5}$ is considered a cumulatively considerable significant impact given the 24-hour nonattainment status of the Placer County air basin. Implementation of **Mitigation Measure AQ-1** and **AQ-2** would reduce the impacts to less than significant levels.

Operation

The purpose of this project is to remove the existing functionally obsolete bridge and replace it with a new bridge designed to meet current structural and geometric standards and future land use and circulation demands imposed by the Placer Vineyards Specific Plan and the Dry Creek/West Placer Community Plan. However, there is a possibility that some traffic currently using other routes would use the new facilities, thus resulting in increased Vehicle Miles Traveled (VMT) in the project area. Therefore, the potential impact of the proposed project on regional vehicle emissions was calculated using traffic data for the project region and emission rates from the Caltrans Emissions Factors Model (CT-EMFAC2014), which uses emission factors developed by CARB in its Emission Factor Model, Version 2014 (EMFAC2014).

Operational emissions take into account long-term changes in emissions due to the project (excluding the construction phase). The operational emissions analysis compares forecasted emissions for existing, No-Build, and all Build alternatives. The project-area traffic for the existing, No Build Alternative, and three Build Alternatives were estimated using data from the May 11, 2018 Fehr & Peers Traffic Memorandum. The traffic data, along with the CT-EMFAC2014 emission rates, were used to calculate the ROG, NO_X, and PM₁₀ emissions for the existing (2017), 2022, and 2042 conditions. The modeling results are summarized in **Table 4.3-5** and are available for review at Placer County Public Works Department.

Alternative		2022 Opening Year (lbs/day)				2042 Horizon Year (lbs/day)				
Alternative	со	PM10	PM2.5	NOx	со	PM10	PM2.5	NOx		
Existing (2017)	9.52	0.05	0.05	4.00	9.52	0.05	0.05	4.00		
No-Build	11.75	0.04	0.04	3.83	21.43	0.07	0.06	11.10		
Change from Existing (2017)	2.23	-0.01	-0.01	-0.17	11.90	0.02	0.02	7.10		
Proposed Project	12.87	0.04	0.04	4.32	32.53	0.10	0.10	16.85		
Change from Existing (2017)	3.35	0.00	0.00	0.32	23.01	0.06	0.05	12.85		
Change from No Build Alternative	1.12	0.00	0.00	0.50	11.11	0.04	0.03	5.75		

Table 4.3-5
2022 Opening Year and 2042 Horizon Year Project Operational Emissions

Source: Compiled by LSA using CT-EMFAC2014.

Note: Totals may not appear to sum correctly due to rounding. Fugitive dust is comprised of tire and brake wear and reentrained road dust.

 PM_{10} = particulate matter less than 10 microns in size

ROG = reactive organic gases

Operational impacts under future conditions would not result in significant impacts as air emissions would be reduced due to improved traffic flow and circulation based on modeling results. The proposed project would not cause an exceedance of NO_x or CO air quality

standards which are in attainment in the basin. The implementation of **Mitigation Measures AQ-1** and **AQ-2** would reduce impacts to less than significant levels.

As **Table 4.3-5** shows for the vehicle exhaust emissions in 2022, the No Build scenario exhaust emissions are lower than the existing condition emissions for PM_{10} , $PM_{2.5}$, and NO_x . However, the proposed project would be higher for all pollutants due to the increased Average Daily traffic (ADT).

In addition to local project emissions, each project alternative provides a different Volumeto-Capacity ratio of Watt Avenue between Baseline Road and PFE Road, each affecting the regional traffic circulation differently as well as regional emissions. **Table 4.3-6** shows the annual regional emissions associated with each alternative along with the regional VMT change.

Project Scenario	2	042 Horizon	Annual VMT	VMT			
	СО	PM ₁₀	PM _{2.5}	NOx		Change	
No-Build	33,697	82	77	5,386	48,483,718		
Proposed Project	33,683	82	77	5,384	48,464,122	-19,596	
Change from No Build	-14	0	0	-2			

Table 4.3-62042 Horizon Year Regional Vehicle Emissions

Source: Compiled by LSA utilizing Fehr & Peers traffic data and CT-EMFAC2014 emissions factors for 2042. Notes: Average Speed = 50 mph

VMT = Vehicle Miles Traveled

As indicated above in **Table 4.3-6**, the proposed project would result in regional CO and NO_x emission reductions (-14 pounds per day and -2.0 pounds per day, respectively), with no increase in PM_{10} and $PM_{2.5}$. Regional emission reductions would result from the change in traffic circulation and the reduced regional VMT (-19,596). For these reasons, operational impacts from the bridge project are considered less than significant as the proposed project would reduce air emissions in the long-term.

c) Less than Significant Impact. Sensitive receptors are defined as residential uses, schools, daycare centers, nursing homes, and medical centers. Individuals particularly vulnerable to diesel particulate matter are children, whose lung tissue is still developing, and the elderly, who may have serious health problems that can be aggravated by exposure to diesel particulate matter. As presented earlier, the area near the proposed project is not heavily populated, but there are several nearby residences and small farms. McClellan High School is 1,000 feet south of the proposed project. Exposure to air emissions is not expected to be significant to the students given dispersion and the long distance from the proposed project

and the temporary nature of emissions during construction. There are a few properties with single-family homes along Watt Avenue adjacent to the project site; however, these properties are on open agricultural land with little to no obstructions interfering with dispersion and crosswinds. Short-term exposure to concentrations of criteria air pollutants would not be expected to be significant. Long-term operational impacts to sensitive receptors would also not be expected to be significant. For these reasons, this impact is considered less than significant.

d) Less than Significant Impact. While offensive odors rarely cause any physical harm, they can be unpleasant, leading to considerable distress among the public and often generating citizen complaints to local governments and air districts. Project-related odor emissions would be predominately limited to the construction period, when emissions from equipment may be evident in the immediately surrounding area. These activities would be short term and are not likely to result in nuisance odors. Odor emissions during proposed project operations are not expected to result in nuisance odors. This impact is considered less than significant.

iii. Mitigation Measures

Mitigation Measure AQ-1. Transportation Plan: The contractor shall implement Placer County Regional Transportation Plan as well as include the following measures on the Notes page of the Grading Plans/Improvement Plans:

• A dust control plan shall be prepared by the contractor in accordance with Air Pollution Control District Rule 228 (Fugitive Dust Emissions). The dust control plan shall use reasonable precautions to prevent dust emissions, which may include cessation of operations at times, cleanup, sweeping, sprinkling, compacting, enclosure, chemical or asphalt sealing, or other recommended actions by the Air Pollution Control District.

Mitigation Measure AQ-2. Air Quality BMP: The contractor shall implement and include the following measures on the Notes page of the Grading Plans/Improvement Plans:

- Project grading plans will show the duration of construction. Ozone precursor emissions from construction equipment vehicles will be controlled by maintaining equipment engines in good condition and in proper tune per manufacturers' specifications.
- All trucks that are to haul excavated or graded material on-site will comply with State Vehicle Code Section 23114, with special attention to Sections 23114(b)(F), (e)(2), and

(e)(4), as amended, regarding the prevention of such material spilling onto public streets and roads.

- The contractor will adhere to the California Department of Transportation (Caltrans) Standard Specifications for Construction, Sections 14.9-02 and 14- 9.03.
- Should the project geologist determine that asbestos-containing materials (ACM) are present at the project study area during final inspection prior to construction, the appropriate methods will be implemented to remove ACMs.
- All construction vehicles both on- and off-site shall be prohibited from idling in excess of five minutes.
- All graders and scrapers to be used during the proposed project must operate at Tier 4 standards in order to meet thresholds set by the PCAPCD.

iv. References

Placer County. 2013. *Placer County General Plan*. Prepared by Placer County, updated May 21. Available at

https://www.placer.ca.gov/departments/communitydevelopment/planning/documentlibr ary/commplans/placer-county-gp. Accessed April 2018.

- Fehr and Peers. 2018. Traffic Study for Watt Avenue Bridge Replacement Project. Prepared for Placer County Public Works Department.
- LSA Associates. 2019. December 5 Air Quality Report, Watt Avenue Bridge Replacement Project at Dry Creek. Prepared for Placer County Public Works Department.
- Caltrans 2015. *Standard Specifications*. Prepared by the State of California Department of Transportation. Available at <u>http://www.dot.ca.gov/hq/esc/oe/construction_contract_standards/std_specs/2015_Std</u> <u>Specs/2015_StdSpecs.pdf</u>. Accessed April 2018.
- Placer County Air Pollution Control District (PCAPCD) 2003. Rule 228- Fugitive Dust, amended April 10. Available at <u>http://www.placerair.org/rules</u>. Accessed April 2018.
- Placer County Transportation Planning Agency (PCTPA). 2016. *Final Placer County 2036 Regional Transportation Plan*. Prepared by the Placer County Transportation Planning Agency in cooperation with the California Department of Transportation and the Sacramento Area Council of Governments, amended February 12. Available at:

http://www.pctpa.net/library/rtp/2036/RTP/Final 2036 RTP Full.pdf. Accessed April 2018.

Placer County Transportation Air Pollution Control District. 2017. *CEQA Handbook* Available at: <u>https://www.placer.ca.gov/1801/CEQA-Handbook</u>. Accessed December 2020.

4.4 Biological Resources

Issu	ues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Bio	logical Resources - Would the project:				
a)	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?				
b)	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game 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?		\square		
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?				\square

i. Setting

A Natural Environment Study (NES) and a Biological Assessment (BA) were prepared for the proposed project (Dewberry | Drake Haglan, 2019a and 2019b) and are available for review at the Placer County Department of Public Works. An evaluation of biological resources was conducted to determine whether any special-status species or associated sensitive habitat occurs within the proposed project area. Data for the area was obtained from state and federal agencies. Maps and aerial photographs of the proposed project site and surrounding areas were reviewed. A field survey was conducted to determine the habitats present.

Habitats

Terrestrial habitat types within the proposed project area include agriculture, annual grassland, valley oak riparian forest, valley oak woodland, and urban (developed). Aquatic habitat types include riverine (lower perennial drainage) and riparian forested wetland. Dry Creek is the primary feature within the proposed project area. Watt Avenue is a paved, north-to-south aligned road in the proposed project area. The topography is generally flat, with localized steeper slopes, particularly along the highly incised banks of Dry Creek. The proposed project area is at an elevation of approximately 85 feet above sea level.

Figure 4.4-1 provides a habitat map of the proposed project area and **Figure 4.4-2** provides the corresponding Placer County Conservation Plan (PCCP) habitats, while **Table 4.4-1** summarizes the habitat types within the proposed project area.

Habitat Type	PCCP/CARP Habitat Type	Acres	Percent (%) Composition	Acres Impacted*
Upland Communities				
Agriculture	Cropland, Orchard	1.30	5	0.18 (Permanent) 0.00 (Temporary)
Annual Grassland	Pasture, Vernal Pool Complex – Low Density	10.13	40	1.21 (Permanent) 4.27 (Temporary)
Urban (Developed)	Roads, Rural Residential, Urban Parks	6.91	27	3.07 (Permanent) 0.00 (Temporary)
Valley Oak Riparian Forest	Riverine/Riparian	5.41	21	1.49 (Permanent) 0.10 (Temporary)
Valley Oak Woodland	Valley Oak Woodland	0.68	3	0.28 (Permanent) 0.00 (Temporary)
Aquatic Communities				
Riparian Forested Wetland	Fringe Wetland	0.15	1	0.07 (Permanent) 0.00 (Temporary)
Riverine – Ephemeral Drainage	Ephemeral Stream	0.05	<1	0.03 (Permanent) 0.00 (Temporary)
Riverine – Lower Perennial	Perennial Stream	0.59	2	0.11 (Permanent) 0.75 (Temporary)
	Total	25.22	100	6.44 (Permanent) 5.12 (Temporary)

Table 4.4-1Habitat Types within the Proposed Project Area

Source: Dewberry | Drake Haglan, 2019.

Notes: * acres are preliminary and will likely change as a result of design refinement. Numbers will be updated and finalized during permitting

Special-Status Plant Species

The NES identified 12 special-status plant species that have the potential to occur in and around the proposed project area; however, due to a lack of suitable habitat, none of these species are expected to occur within the proposed project area.

Special-Status Wildlife Species

The NES identified 30 special-status wildlife species and one critical habitat that have the potential to occur within the proposed project vicinity. Of these 31 special-status wildlife species, 11 special-status wildlife species have the potential to occur within the biological study area (BSA). These species include Central Valley (CV) steelhead (*Oncorhynchus mykiss*), western pond turtle (*Emys marmorata*), Cooper's hawk (*Accipiter cooperii*), tricolored blackbird (*Aeglaius tricolor*), burrowing owl (*Athene cunicularia*), ferruginous hawk (*Buteo regalis*), Swainson's hawk (*Buteo swainsoni*), white-tailed kite (*Elanus leucurus*), song sparrow ("Modesto" population) (*Melospiza melodia*), purple martin (*Progne subis*), pallid bat (*Antrozous pallidus*), and Townsend's big-eared bat (*Corynorhinus townsendii*). In addition, Dry Creek is designated critical habitat and provides essential fish habitat (Dewberry | Drake Haglan, 2019).





	Q \			Watt Avenue At Dry Creek	PCCP Habitat Types within the	Figuro
	2 -		Source: ESRI Online Basemap, Aerial Imagery; Coordinate System NAD 83 State Plane California II FIPS 0402 Feet; DHA, 2018	Bridge (19C-0084) Replacement Project	reer habitat types within the	riguie
145	290	580 Feet	Notes: This map was created for informational and display	Placer County CA	Proposed Project Area	4.4-2
•	•	• •	purposes only			

The **CV steelhead** distinct population segment (DPS) was listed as threatened by the National Oceanic and Atmospheric Administration National Marine Fisheries Service (NOAA Fisheries) in 1998 and is not State listed. The range of the CV steelhead includes the Sacramento and San Joaquin Rivers, along with the tributaries of the Sacramento, Feather, Yuba, and lower American river drainages. Juvenile salmonids were observed during the survey of the proposed project area in 2018; and steelhead have been caught in previous years during surveys in the upper limits of Dry Creek (California Department of Fish and Wildlife [CDFW] 2018). The NOAA Fisheries list for the Rio Linda U.S. Geological Survey (USGS) 7.5-minute quadrangle includes critical habitat for Central Valley steelhead, and Dry Creek provides the necessary physical and biological elements, such as freshwater rearing sites, and freshwater migration corridor for migrating and foraging adults and juveniles, to be considered as such. In addition, the proposed project area falls within the area identified as Essential Fish Habitat (EFH) for Pacific coast salmon species identified in Amendment 14 of the Pacific Coast Salmon Fisheries Management Plan (FMP). See below for a more complete description of critical habitat and EFH.

Western pond turtle, including both the northwestern (ssp. marmorata) and southwestern (ssp. pallida) subspecies, is a California species of concern. The western pond turtle range is throughout California, from southern coastal California and the Central Valley, east to the Cascade Range and the Sierra Nevada. There are no recorded occurrences of western pond turtles within five miles of the proposed project area. However, due to the private ownership of the surrounding lands, there is the potential for a lack of recorded observations and does not necessarily preclude the presence of this species. Dry Creek does provide suitable habitat for this species. Water is present year-round, and the instream woody debris provides a suitable basking structure. The presence of aquatic vegetation and small amphibians (i.e., tree frogs) provide suitable forage for this species. This species was not observed during the surveys conducted in May 2018.

Cooper's hawk, a California watch list species, occur in various types of mixed deciduous forests and open woodlands, including small woodlots, riparian woodlands in dry country, open and pinyon woodlands, and forested mountainous regions and also now nests in many cities. They construct a nest in a tree, 25 to 50 feet off the ground. The nest is often built on top of an old nest or clump of mistletoe. Cooper's hawks hunt in broken woodland and habitat edges. There are no recorded occurrences of western pond turtles within five miles of the proposed project area. However, due to the private ownership of the surrounding lands, there is the potential for a lack of recorded observations and does not necessarily preclude the presence of this species. The mature trees within the riparian corridor along Dry Creek could provide potential nesting areas while the surrounding annual grasslands and agricultural fields to provide suitable foraging habitat. This species was not observed during the surveys conducted in May 2018. **Tricolored blackbird** is state-listed as threatened and is considered a species of special concern by CDFW; this species is considered nearly endemic to California. This species historically nested throughout the Central Valley and along the coast from Sonoma County to Mexico. This species historically nested almost exclusively in freshwater marshes dominated by cattails or bulrushes with smaller numbers nesting in willow, blackberry (*Rubus* spp.), thistle (*Cirsium* and *Centaurea* spp.), and nettles (*Urtica* spp.) (Beedy and Hamilton 1999). In recent decades, many colonies have been observed in areas of dense Himalayan blackberry (*Rubus armeniacus*). High-quality foraging habitat for tricolored blackbirds includes irrigated pastures, lightly grazed rangelands, dry seasonal pools, mowed alfalfa fields, feedlots, and dairies. Low-quality foraging habitat includes cultivated row crops, orchards, vineyards, and heavily grazed rangelands (Beedy and Hamilton 1999). There is one recorded occurrence of tricolored blackbird approximately 4.8 miles west-northwest of the proposed project area. The Himalayan blackberry thickets within the annual grassland areas may provide marginal nesting habitat for tricolored blackbirds, while the surrounding grasslands and agricultural fields provide medium to low-quality foraging habitat for this species. This species was not observed during the surveys conducted in May 2018.

Western burrowing owl is a California species of special concern that inhabits grassland, desert, and open shrub habitats throughout the State from sea level to approximately 5,300 feet. Burrowing owls nest in ground burrows, often occupying old ground squirrel burrows or badger dens. They are also known to use artificial burrows such as abandoned pipes or culverts. The nesting season for burrowing owls can begin as early as February 1 and continues through August 31. The owl commonly perches on fence posts or on top of mounds outside its burrow. Burrowing owls forage in adjacent grasslands and other suitable habitats primarily for insects and small mammals, and less often for reptiles, amphibians, and other small birds. The closest recorded occurrence is approximately 3.4 miles east southeast of the proposed project area. Soils within portions of the proposed project area are sandy and friable and, although there are no mounds, the fence posts along the properties and the snags within the annual grasslands could provide suitable perching habitat. The annual grassland habitat also provides suitable foraging habitat for this species. No western burrowing owls or signs of owl activity were observed during the surveys conducted in 2018.

Ferruginous hawk, a California watch list species, are often found in the arid and semiarid grassland regions of North America. The countryside is open, level, or rolling prairies; foothills or middle elevation plateaus largely devoid of trees; and cultivated shelterbelts or riparian corridors. Rock outcrops, shallow canyons, and gullies may characterize some habitats. These hawks avoid high elevations, forest interiors, narrow canyons, and cliff areas (Zeiner et al. 1990). During the breeding season, the preference is for grasslands, sagebrush, and other arid shrub country. Nesting occurs in the open areas or trees such as cottonwoods, willows, and swamp oaks along waterways. The winter habitat is similar to that used during the summer. One

requisite of the habitat is perches such as poles, lone trees, knolls, rocky outcrops, or large boulders. Ferruginous hawks nest in trees if they are available, including riparian strips, but the presence of water does not appear to be critical to them (Zeiner et al. 1990). There are no recorded occurrences of ferruginous hawk within five miles of the proposed project area. However, due to the private ownership of the surrounding lands, there is the potential for a lack of recorded observations and does not necessarily preclude the presence of this species. The mature trees within the riparian corridor along Dry Creek could provide potential nesting areas while the surrounding annual grasslands and agricultural fields to provide suitable foraging habitat. This species was not observed during the surveys conducted in May 2018.

Swainson's hawk is a state-listed threatened species under the California Endangered Species Act (CESA). Swainson's hawks were once found throughout lowland California and were absent only from the Sierra Nevada, north Coast Ranges, Klamath Mountains, and portions of the desert regions of the state. Presently, Swainson's hawks are restricted to portions of the Central Valley and Great Basin regions where suitable nesting and foraging habitat is still available. Swainson's hawks nest in riparian forests, remnant oak woodlands, isolated trees, and roadside trees. They forage primarily in open agricultural habitats, particularly those that optimize the availability of prey (e.g., alfalfa and other hay crops, some row and grain crops), but they also use irrigated pastures and annual grasslands (Estep 1989, England et al. 1997). Swainson's hawks breed in the Central Valley, occurring in California only during the spring and summer breeding season (generally, March through August), and migrate to Mexico and portions of Central and South America during winter. The closest occurrence is located approximately 0.14 miles northwest of the proposed project area. The proposed project area and landscape within 0.5 miles were assessed for potential Swainson's hawk nesting and foraging habitat; however, no Swainson's hawks were observed during the surveys conducted in May 2018.

White-tailed kite is a year-round resident in central California and is considered to be a fully protected species. It typically nests in oak woodlands or trees, especially along marshes or river margins and may use any suitable tree or shrub of moderate height. Its nesting season may begin as early as February and extends into August. This raptor forages during the day for rodents, especially voles, in wet or dry grasslands and fields (Zeiner et al., 1990). The closest recorded occurrence is located approximately 4.5 miles west-northwest of the proposed project area. The mature trees within the riparian corridor along Dry Creek could provide potential nesting areas while the surrounding annual grasslands and agricultural fields to provide suitable foraging habitat. This species was not observed during the surveys conducted in May 2018.

Song sparrow is a California species of special concern and is the largest swallow in North America. Modesto song sparrow is found in a variety of habitats, including riparian willow thickets, valley oak riparian with an understory of blackberry, ruderal areas along levees and

irrigation canals, and cattail and tule marshes (Gardali 2008). The song sparrow is endemic to California, where it resides only in the north-central portion of the Central Valley with highest densities occurring in the Butte Sink area of the Sacramento Valley and in the Sacramento–San Joaquin River Delta (Humple and Geupel 2004). There are no recorded occurrences of song sparrow within five miles of the proposed project area. However, due to the private ownership of the surrounding lands, there is the potential for a lack of recorded observations and does not necessarily preclude the presence of this species. The Himalayan blackberry thickets within the annual grassland areas may provide marginal nesting habitat for song sparrow, while the surrounding grasslands and agricultural fields provide medium to low-quality foraging habitat for this species. This species was not observed during the surveys conducted in May 2018.

Purple martin is a California species of special concern and is the largest swallow in North America. Purple martins forage over towns, cities, parks, open fields, dunes, streams, wet meadows, beaver ponds, and other open areas. In the West, martins have stuck with woodpecker holes in mountain forests or Pacific lowlands but would also utilize birdhouses, gourds, dead trees, saguaro cacti, buildings, or cliffs, but sometimes in other structures like traffic lights, streetlamps, dock pilings, or oil pumps. There are no recorded occurrences of purple martin within five miles of the proposed project area. However, due to the private ownership of the surrounding lands, there is the potential for a lack of recorded observations and does not necessarily preclude the presence of this species. The mature trees within the riparian corridor along Dry Creek could provide potential nesting areas while the surrounding annual grasslands and agricultural fields to provide suitable foraging habitat. This species was not observed during the surveys conducted in May 2018.

Migratory birds and raptors. The proposed project area provides potential nesting habitat for migratory birds and raptors. Swallows, such as the barn swallow (*Hirundo rustica*) and cliff swallow (*Petrochelidon pyrrhonota*), and black phoebes commonly nest on the undersides of bridges that cross over or are in close proximity to aquatic habitats such as rivers, streams, and lakes. Common raptors, such as red-shouldered hawk (*Buteo lineatus*) and red-tailed hawk (*Buteo jamaicensis*), and birds, such as tree swallows (*Tachycineta bicolor*) and sparrows, commonly nest in large trees that overhang or are in close proximity (within 0.25 miles), to aquatic habitats such as rivers, streams, and lakes. All the habitat types within the proposed project area, as well as the existing Watt Avenue Bridge, provide potential nesting and foraging habitat for birds listed by the Migratory Bird Treaty Act (MBTA). An active turkey nest was observed along the eastern edge of the riparian woodland, and cliff swallow nests, partially formed and/or destroyed, were observed on the underside of the bridge.

Roosting Bats. The proposed project provides potential habitat for special-status pallid bat (*Antrozous pallidus*) and Townsend's big-eared bat (*Corynorhinus townsendii*). These species are known to utilize bridge structures for day roosting or maternity roosting habitat because they can provide either the cave-like or crevice-like roosting habitat some species require. The existing Watt Avenue Bridge does not appear to provide substantial roosting habitat as there no accessible large crevices within the bridge to provide the enclosed cover necessary to protect bats during the day. Surveys conducted for the NES and BA did not document any signs of bat presence (i.e. guano under the bridge or urine staining). However, the large trees and snags within the proposed project area could provide suitable roosting habitat for bats.

Critical Habitat and Essential Fish Habitat

Dry Creek is within designated critical habitat for CV steelhead. The main physical and biological features for this species within the portion of Dry Creek in the proposed project area include freshwater rearing sites and freshwater migration corridor for migrating and foraging adults and juveniles. Dry Creek is also mapped as EFH for Pacific Salmon. Habitat Areas of Particular Concern within the proposed project area include thermal refugia.

The reach of Dry Creek in the proposed project area provides suitable migration and natal rearing habitat for CV steelhead but does not provide suitable spawning habitat. Aquatic habitat is characterized by low gradient, slow-moving water, dominated by sand/silt substrate. Juvenile salmonids were observed within the proposed project area during the May 2018 surveys.

Valley oak riparian forest is the predominant vegetation type surrounding Dry Creek. Trees and shrubs growing along the banks of the channel provide shade for the water column adjacent to the stream bank and deposit insects and nutrients into the water. Over-hanging vegetation provides shaded riverine aquatic habitat (SRA) and food for fish and other aquatic wildlife.

Jurisdictional Waters

The aquatic resources delineation identified several potentially jurisdictional aquatic features within the BSA, including Dry Creek, and ephemeral drainage, and a riparian forested wetland. All aquatic features, including potentially jurisdictional wetlands and other waters of the U.S., County are shown below in **Table 4.4-2** and discussed further in the aquatic resources delineation.

Map ID	Wetland Type – Cowardin Classification ¹	CARP Classification ²	Average Width of OHWM (feet)	Length (feet)	Acres	Acres Impacted ⁴	
Wetland Featu	Wetland Features						
Riparian Forested Wetland	Palustrine Forested Temporary Flooded (PFOA)	Fringe Wetland			0.15	0.07 (Permanent) 0.00 (Temporary)	
Other Waters							
Dry Creek	Riverine Lower Perennial Unconsolidated Bottom Sand Permanently Flooded (R2UB2H)	Perennial Stream	41	630	0.59	0.11 (Permanent) 0.75 (Temporary)	
Ephemeral Drainage	Riverine – Ephemeral ³	Ephemeral Stream	4	545	0.05	0.03 (Permanent) 0.00 (Temporary)	
Total Area of Potentially Jurisdictional Features:					0.79	0.21 (Permanent) 0.75 (Temporary)	

 Table 4.4-2

 Potentially Jurisdictional Features within the Study Area

Source: DHA, 2018; ¹Classification of Wetlands and Deepwater Habitats of the U.S. (Cowardin et al. 1979); ²Western Placer County Aquatic Resources Program (Placer County Conservation Program 2020); ³No Cowardin classification for ephemeral systems; ⁴ acres are preliminary and will likely change as a result of design refinement. Numbers will be updated and finalized during permitting

Within the proposed project area, one riparian forested wetland (PFOA; fringe wetland) consists of a side-channel to Dry Creek. The dominant species within this habitat type are box elder (*Acer negundo*), narrow-leaved willow (*Salix exigua*), Gooding's willow (*Salix gooddingii*), mugwort (*Artemisia douglasiana*), rabbit's-foot grass (*Polypogon monospliensis*), creeping wildrye (*Leymus triticoides*), and tall flat sedge (*Cyperus eragrostis*). The vegetation throughout these features was a mixture of hydrophytic plant species and species more adapted to upland hydrologic conditions. During high precipitation events (typically December through March), water flows through this area.

Dry Creek is a lower perennial riverine feature supporting a riparian corridor dominated by valley oak (*Quercus lobata*), interior live oak (*Quercus wislizeni*), and Northern black walnut (*Juglans hindsii*) characterizes this habitat. Cottonwood (*Populus fremontii*), box elder, eucalyptus (*Eucalyptus spp.*), and Gooding's willow also occur within this habitat type. The understory consists of narrow-leaved willow, creeping wild rye, rose (*Rosa californica*), mugwort, Himalayan blackberry (*Rubus armeniacus*), poison oak (*Toxicodendron diversilobum*), and cocklebur

(*Xanthium strumarium*). Tall flatsedge, rabbitsfoot grass, Johnson grass (*Sorghum halepense*), and sandbar willow occur in riparian habitat at the transition zone between riparian and riverine habitat. Dry Creek had approximately four feet of flowing water at the time of the delineation. When water is flowing, it appears that the majority of the creek in the proposed project area consists of a mix of shallow and deep riffles and glides. The deepest glides in the creek obtain a maximum depth of approximately eight to 10 feet during high spring flows. Substrate within Dry Creek is dominated by sand and small cobbles.

Approximately 0.05 acre of ephemeral drainage is located in the southern portion of the BSA that appears to have historically been connected to Dry Creek; however, with the urbanization of the area this feature appears to be disconnected and may function more as an agricultural drainage feature. Vegetation within and around this feature is similar to that found within the riparian corridor surrounding Dry Creek.

Movement Corridors

Dry Creek, as well as the associated riparian forest habitats, provides a relatively undisturbed movement corridor from the Sacramento River through the northwest portion of Sacramento County and southern portion of Placer County. The creek allows common aquatic and terrestrial wildlife species to safely disperse through the creek and riparian corridor, through the highly developed areas of Sacramento and Placer Counties. Highways and roads can present an impassable barrier to many wildlife species and are hazardous for wildlife to cross. Relatively unimpeded waterways such as Dry Creek provide important movement corridors, which allow dispersal and subsequent gene flow between wildlife populations separated by roads and populated areas. The proposed project would not remove, degrade, or otherwise interfere substantially with the structure or function of these wildlife movement corridors, though some temporary disruption of wildlife movement would occur during the construction period.

ii. Discussion

a) Less than significant with mitigation. The following analyzes potential impacts to specialstatus species. Impacts specific to sensitive natural communities are discussed in detail below, under question b, while impacts to wetlands are discussed in detail below, under question c.

Special-Status Plant Species

As discussed above, there is the potential 12 special-status plant species to occur in and around the proposed project area; however, none of these species are expected to occur within the proposed project area due to lack of suitable habitat.

Special-Status Wildlife Species

Impacts to special-status wildlife species could include both indirect and direct harm if they were to become trapped in the construction area, come into contact with construction personnel and/or equipment, or be inhibited from movement through the construction area. The following provides a discussion regarding impacts to the specialstatus wildlife species that have the potential to occur within the BSA:

CV Steelhead. The reach of Dry Creek in the BSA provides suitable migration and natal rearing habitat for CV steelhead but does not provide suitable spawning habitat. Available fish habitat is limited to undercut banks, overhanging vegetation, and some instream woody debris. Juvenile steelhead were observed within the BSA during the May 2018 surveys. Implementation of **Mitigation Measure BIO-1** would reduce potential impacts on special-status species or habitats to a less than significant level.

Western Pond Turtle. There are no recorded occurrences of western pond turtles within five miles of the proposed project area. However, due to the private ownership of the surrounding lands, there is the potential for a lack of recorded observations and does not necessarily preclude the presence of this species. Dry Creek does provide suitable habitat for this species. Water is present year-round, and the instream woody debris provides a suitable basking structure. The presence of aquatic vegetation and small amphibians (i.e., tree frogs) provide suitable forage for this species. If western pond turtles are present within the work area during construction, the movement of equipment within uplands and construction of bridge structures could crush pond turtles or nests containing eggs or young. Additionally, the removal of riparian vegetation could also negatively contribute to loss of stream channel shading (i.e., increased ambient water temperature) or increased erosion, resulting in a change in habitat and the movement of the **Mitigation Measure BIO-2**, the proposed project would have less than significant impacts on western pond turtle.

Special Status Birds Cooper's Hawk, Tricolored Blackbird, Ferruginous Hawk, Whitetailed Kite, Song Sparrow ("Modesto" population), and Purple Martin. The mature trees within the riparian corridor along Dry Creek could provide potential nesting areas for Cooper's Hawk, ferruginous hawk, white-tailed kite, and purple martin while the surrounding annual grasslands and agricultural fields provide suitable foraging habitat. If construction begins during the breeding season (February 1 through August 31) and birds are nesting in or immediately adjacent to the BSA, the new disturbance associated with the use of heavy equipment in the BSA could adversely affect nesting birds. Indirect impacts to nesting birds during construction could extend up to 250 feet from the limits of construction. Potential impacts could include abandonment of nest sites and the mortality of young. With implementation of the **Mitigation Measure BIO-3**, the proposed project would have less than significant impacts on non-listed special-status bird species.

Western Burrowing Owl. The proposed Project could potentially impact individual burrowing owls if they occupied the PIA prior to construction. Indirect impacts to nesting birds during construction could extend up to 500 feet from the limits of construction. Potential impacts could include abandonment of nest sites and the mortality of young. The proposed project could also result in a temporary loss of foraging opportunities for burrowing owl in and adjacent to the PIA during construction. With implementation of the **Mitigation Measure BIO-4**, the proposed project would have less than significant impacts on Western Burrowing Owl.

Swainson's Hawk. Noise associated with construction activities involving heavy equipment operation that occurs during the breeding season (generally between February 1 and August 31) could disturb nesting Swainson's hawk if an active nest is located near these activities. If tree removal begins during the breeding season, the proposed project could result in mortality of young through forced fledging or nest abandonment by adult birds. Potential impacts could include abandonment of nest sites and the mortality of young. Any disturbance that causes Swainson's hawk nest abandonment and subsequent loss of eggs or developing young at active nests located near the Project Site would violate the CESA, (CFGC Sections 2800, 3503, and 3503.5) and the MBTA. With implementation of the **Mitigation Measure BIO-5**, the proposed project would have less than significant impacts on Swainson's hawk.

Other Migratory Birds and Raptors. If demolition of the bridge begins during the breeding season (February 1 to August 31), the proposed project could result in mortality of young through forced fledging or nest abandonment by adult birds. Exclusion of nesting adult birds from the underside of the bridge could potentially result in disruption of nesting activities and the loss of nesting productivity for the season for some birds that do not move to other nesting sites outside of the BSA. However, widening of the bridge could ultimately result in a net increase of potential nesting habitat for swallows, black phoebes, and other bridge nesting birds.

If it is necessary to remove the trees within the riparian corridor prior to construction or construction activities begin during the breeding season, the proposed project could result in mortality of young through forced fledging or nest abandonment by adult birds, as well as destruction of nests. With implementation of the **Mitigation Measure BIO-3**, the proposed project would have less than significant impacts on migratory birds and raptors.

Roosting bats. The project could result in impacts to Pallid bat and Townsend's big-eared bat from implementation of the project including tree removal. With implementation of the **Mitigation Measure BIO-6**, the proposed project would have a less than significant impact to roosting bat species.

b) Less than significant with mitigation. There are 5.41 acres of valley oak riparian forest at the proposed project site. While not considered a sensitive natural community, the valley oak riparian forest is regulated by CDFW under Section 1602 of the California Fish and Game Code (CFGC) for the purpose of protecting fish and wildlife resources and the Placer County Interim Guidelines for Oak Woodland Impacts The proposed project would result in the permanent loss of approximately 1.49 acres of valley oak riparian forest in the proposed project area. In addition, a total of 0.03 acres of valley oak riparian forest would be temporarily disturbed due to construction access.

The proposed project would require the necessary permits from the U.S. Army Corps of Engineers (Corps), CDFW, the Regional Water Quality Control Board (RWQCB), and Placer County. Impacts would be mitigated in accordance with agency requirements. In addition, **Mitigation Measures BIO-1** and **BIO-7** will be implemented to reduce potential proposed project impacts to less than significant levels.

c) Less than significant with mitigation. Potentially jurisdictional features within the proposed project area include 0.15 acres of wetlands (riparian forested wetland or fringe wetland) and 0.59 acres of other waters of the U.S., State and County including Dry Creek, a lower perennial stream system (perennial stream). In addition, the ephemeral drainage (ephemeral stream) is also considered to be other waters of the State and County. It is unlikely that the Corps will take jurisdiction over this feature as there is no direct hydrologic connection to Dry Creek, however, this information must be submitted to the PCA for verification. The proposed project has been designed to minimize impacts to wetlands and waters to the maximum extent practicable. The new bridge design is a three-span with the new foundation and abutments to be constructed outside of the creek channel; however, due to the wider bridge structure there will be a permanent increase in acreage, approximately 0.11 acres, of artificial shade over waters of the U.S., State and County (i.e. Dry Creek). Due to the placement of RSP, approximately 0.03 acres of waters of the State and County (i.e. ephemeral drainage) will be permanently impacted; there will be no temporary impacts to this feature. In addition, the proposed project would result in approximately 0.75 acres of temporary impacts to potentially jurisdictional waters of the U.S., State, and County due to the installation of a stream diversion and dewatering activities as well as from construction access and the construction of temporary falsework. Lastly, the proposed project would result in the permanent loss of 0.07 acres of riparian forested wetland (fringe wetland) due to disturbance from proposed project activities; there, will be no temporary impacts to this feature. **Mitigation Measure BIO-8** will be implemented to reduce potential proposed project impacts to less than significant levels.

- d) Less than significant with mitigation. Dry Creek, as well as the associated riparian forest habitats, provides a relatively undisturbed movement corridor from the Sacramento River through the northwest portion of Sacramento County and the southern portion of Placer County. The creek allows common aquatic and terrestrial wildlife species to safely disperse through the creek and riparian corridor, through the highly developed areas of Sacramento and Placer Counties. Highways and roads can present an impassable barrier to many wildlife species and are hazardous for wildlife to cross. Relatively unimpeded waterways such as Dry Creek provide important movement corridors, which allow dispersal and subsequent gene flow between wildlife populations separated by roads and populated areas. The proposed project would not remove, degrade, or otherwise interfere substantially with the structure or function of these wildlife movement corridors, though some temporary disruption of wildlife movement would occur during the construction period. Mitigation Measures BIO-1 through 6 will be implemented to reduce potential proposed project impacts to less than significant levels.
- e) Less than significant with mitigation. The proposed project would conflict with a local County ordinance protecting native trees. While a formal tree survey has not been conducted for the proposed project, native oak and other riparian tree species were observed during the field visit along the banks of Dry Creek and in the upland areas. Implementation of the proposed project would result in permanent and temporary impacts on protected trees. Permanent impacts would result from tree removal or root compaction caused by construction equipment operation in the protected zone of the trees. Temporary impacts include pruning and minor root zone disturbance. Mitigation Measure BIO-7 will be implemented to reduce potential proposed project impacts to less than significant levels.
- f) Less than significant with mitigation. The Project is a covered activity under the PCCP and will be submitting an application for PCCP/CARP Authorization, which includes goals and policies for the protection of multiple special-status species and sensitive natural communities. All special-status species and sensitive natural communities protected under the PCCP are discussed above, under subsections a through c, and are evaluated in detail in the NES documented for the Project (Dewberry | Drake Haglan 2018). The Project has been designed to avoid potential impacts to both PCCP-covered species and species protected only under CEQA. Project timing, preconstruction surveys, and implementation

of buffers around any potential habitat, nests or roost sites would avoid potential impacts to these species. Compensatory mitigation for PCCP-covered species would provide for loss of habitat for species protected under CEQA. **Mitigation Measures BIO-1 through 8** will be implemented to reduce impacts to special-status species and sensitive natural communities covered by the PCCP to less than significant levels.

iii. Mitigation Measures

Mitigation Measure BIO-1. Sensitive Species: The County will implement measures to avoid and minimize potential adverse effects on CV steelhead, designated critical habitat and EFH. Prior to conducting work and during work, the following measures, taken from the NOAA Fisheries Biological Opinion (WCRO-2020-04039), will be implemented:

- Construction will occur in the period between June 15 and September 30.
 - Construction activities occurring within the creeks banks and channel beds will be limited to the low-flow period, when the creeks are less likely to support CV steelhead.
 - In-channel construction activities in the channel, such as flow diversion, pile driving and demolition work, will be restricted to this work window.
- Fish screens and temporary diversions will be installed to exclude CV steelhead from areas where in-water or near-water construction activities are conducted.
 - The dewatering area will be limited to the workspace, which will be isolated to avoid construction activities in flowing water.
 - Creek diversions and dewatering will occur only during the low-flow work window of June 15 to September 30.
 - The bed and banks of Dry Creek will be re-compacted and returned to their original configuration immediately following the completion of instream construction work and prior to restoring flow to the original channel.
 - No heavy equipment will be used in flowing water.
 - A Placer Conservation Authority (PCA)-approved fisheries biologist will design and conduct a fish capture and relocation plan to collect fish and species from the isolated work area involving the capture and return of those fish to suitable habitat within Dry Creek. To ensure compliance, a fisheries biologist will provide

observation during initial dewatering activities within the cofferdam. The fish relocation plan will be approved by the PCA and CDFW prior to flow diversion installation and dewatering.

- If surface water is present when instream construction must be conducted, stream diversion will be implemented such that diverted surface flow is returned to Dry Creek immediately downstream of the work area. Prior to any work within surface water, a PCA-approved fisheries biologist will complete a survey for steelhead. If steelhead are found in the work area, all work affecting Dry Creek will cease and CDFW, and the PCA will be notified.
- No RSP will be placed below the ordinary highwater mark.
- Wetlands, riverine and associated riparian habitats located in the vicinity of the proposed project area (within 200 feet of proposed construction) will be protected by installing fencing to demarcate the edge of construction areas.
 - The construction specifications will contain clear language that prohibits construction-related activities, vehicle operation, material and equipment storage, trenching, grading, or other surface-disturbing activities outside of the designated construction area.
 - Signs will be erected along the protective fencing to indicate the area is environmentally sensitive and no construction or other operations may occur beyond this fencing.
- The proposed project will conform to water pollution control standards, including adherence to a Stormwater Pollution Prevention Plan (SWPPP) that will be implemented and monitored by Caltrans. This will address prevention procedures, including proper management of construction site materials and equipment, covering and stabilization of loose soils and stockpiles, development of a spill response plan and containment of

potentially hazardous materials, and prevention of oil, grease, or fuel leaks into the ground, storm drains or surface waters.

- The proposed project will include implementing best management practices (BMPs) that control for dust, erosion, sedimentation, and turbidity, such as soil covers, silt fences, and establishing perimeters around work areas.
- Non-erosive materials (e.g., gravel bags, sheet pile, rubber/plastic tubes) will be used to construct the diversion berm. An energy dissipater and sediment trap (fiber rolls, or equivalent) will be used at the diversion pipeline outlet.
- Excavated material will be stored away from the low-flow channel to prevent incidental discharge.
- Any streambed access points will be stabilized using a pad of coarse aggregate underlain by filter cloth to reduce erosion and tracking of sediment.
- Silty or turbid water produced from dewatering or other proposed project activities will be filtered or allowed to settle prior to discharge into Dry Creek.
- Surface water will be sampled during the installation and removal of the diversion system to ensure that turbidity levels do not go above lethal levels.
- A barrier will be deployed beneath the bridge structure preventing any debris from falling to the ground or entering the water below the work site.
- All materials placed in stream will be nontoxic.
- Good site management "housekeeping" requirements will be implemented for construction materials, waste management, vehicle storage and maintenance, landscape materials, and other potential pollutant sources. These will include proper management of construction site materials and equipment; covering and/or stabilization of loose soils and stockpiles; tracking controls; proper use, containment and management of portable toilets and other sanitation facilities; development of a spill response plan and containment of potentially hazardous

materials; and prevention of oil, grease, or fuel leaks in to the ground, storm drains or surface waters.

- Non-stormwater management will be conducted, including washing vehicles and cleaning streets in a manner that prevents non-storm water discharges from reaching surface water or municipal drainage systems.
- The proposed project will minimize impacts to riparian vegetation and will incorporate restoration and enhancement of the riparian corridor into the final design plans and construction specifications. A Restoration and Revegetation Plan, approved by the CDFW, the PCA, and the Placer County Planning Services Division, will include on-site replanting and purchase of mitigation credits to compensate for permanent and temporary loss of riparian cover.
 - The revegetation plan may include plant salvage, seeds, and seedlings obtained from local native sources and irrigation, as necessary.
 - The annual five-year monitoring program will be implemented and will employ standard ecological methods to estimate plant cover and to document survival rates and growth characteristics.
 - Current riparian vegetation and oaks will be retained. A Tree Protection Zone (TPZ), will be delineated around these trees by an International Society of Arborists (ISA) Certified Arborist and be demarcated using fencing. Constructionrelated activities within the TPZ will be limited to those activities that can be done by hand.
- Impacts to CV steelhead resulting from the proposed action will be mitigated through the PCCP.

Mitigation Measure BIO-2: Western Pond Turtle. The County will implement measures to avoid and minimize potential adverse effects on western pond turtle. Prior to conducting work and during work, the following measures will be implemented:

- The construction area shall be dewatered prior to construction activities. CDFW shall be notified prior to dewatering activities.
- No more than two weeks prior to the commencement of ground-disturbing activities, the County shall retain a qualified biologist to perform surveys for western pond turtle within suitable aquatic and upland habitat within the proposed project area. Surveys will include

western pond turtle nests as well as individuals. The biologist (with the appropriate agency permits) will temporarily move any identified western pond turtles upstream of the construction area, and temporary barriers will be placed around the construction area to prevent ingress. Construction will not proceed until the work area is determined to be free of turtles. The results of these surveys will be documented in a technical memorandum that will be submitted to CDFW (if turtles are documented).

• Standard construction BMPs shall be implemented throughout construction to avoid and minimize adverse effects to the water quality within the proposed project area.

Mitigation Measure BIO-3: Special-Status Birds: The County will implement measures to avoid and minimize potential adverse effects on Cooper's hawk, tricolored blackbird, ferruginous hawk, white-tailed kite, song sparrow, and purple martin. Prior to conducting work and during work, the following measures will be implemented:

- To avoid and minimize impacts to tree and shrub nesting species, the following measures shall be implemented:
 - Conduct all tree and shrub removal and grading activities during the non-breeding season (generally September 1 through January 31).
 - If grading and tree removal activities are scheduled to occur during the breeding and nesting season (February 1 through August 31), pre-construction surveys shall be performed prior to the start of proposed project activities.
- If construction, grading or other proposed project-related activities are schedule during the nesting season (February 1 to August 31), preconstruction surveys for other migratory bird species shall take place no less than 14 days and no more than 30 days prior to the beginning of construction within 250 feet of suitable nesting habitat.
- If the pre-construction surveys do not identify any nesting migratory bird species within areas potentially affected by construction activities, no further mitigation shall be required.
- If the pre-construction surveys do identify nesting bird species within areas that are within 250 feet of construction activities, the following measures shall be implemented:
 - Proposed project-related construction impacts shall be avoided by establishment of appropriate no-work buffers to limit proposed project-related construction activities near the nest site. The size of the no-work buffer zone shall be

determined in consultation with the CDFW. The no-work buffer zone shall be delineated by highly visible temporary construction fencing. In consultation with CDFW, monitoring of nest activity by a qualified biologist shall be required if the proposed project-related construction activity has potential to adversely affect the nest or nesting behavior of the bird. No proposed project-related construction activity shall commence within the no-work buffer area until a qualified biologist and CDFW confirms that the nest is no longer active.

Mitigation Measure BIO-4: Burrowing Owl: The County will implement measures to avoid and minimize potential adverse effects on burrowing owl. Prior to conducting work and during work, the following measures will be implemented:

- During the non-breeding season (September 1 through January 31), burrowing owls occupying the Project Impact Area (PIA) should be evicted from the PIA by passive relocation as described in the Staff Report on Burrowing Owls (CDFW 2012).
- During the breeding season (February 1 through August 31), occupied burrows shall not be disturbed and shall be provided with a 250-foot protective buffer unless a qualified biologist approved by CDFW and the PCA verifies through non-invasive means that either:
 1) the birds have not begun egg laying, or 2) juveniles from the occupied burrows are foraging independently and are capable of independent survival. Once the fledglings are capable of independent survival, the burrow can be destroyed.

Mitigation Measure BIO-5: Swainson's Hawk. The County will implement measures to avoid and minimize potential adverse effects on Swainson's hawk. Prior to conducting work and during work, the following measures will be implemented:

Prior to construction, surveys will be conducted by a qualified biologist to determine the presence/absence of nesting Swainson's hawk in and within 0.50 miles of the BSA according to the Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley (Swainson's Hawk Technical Advisory Committee 2000). If no Swainson's hawks are found during any of the surveys, no further mitigation will be necessary. If Swainson's hawk nests are found, CDFW and the PCA will be consulted regarding measures to reduce the likelihood of forced fledging of young or nest abandonment by adult birds. These measures will likely include, but are not limited to,

the establishment of a no-work zone around the nest until the young have fledged as determined by a qualified biologist.

Mitigation Measure BIO-6 Roosting bats: Prior to tree removal activities, bat surveys shall be conducted by a qualified wildlife biologist within 14 days before any tree removal or clearing during construction activities. Locations of vegetation and tree removal or excavation will be examined for potential bat roosts. Specific survey methodologies will be determined in coordination with CDFW, and may include visual surveys of bats (e.g., observation of bats during foraging period), inspection for suitable habitat, bat sign (e.g., guano), or use of ultrasonic detectors (e.g., SonoBat, Anabat). Removal of any significant roost sites located will be avoided to the extent feasible. If it is determined that an active roost site cannot be avoided and will be affected, bats will be excluded from the roost site before the site is removed. The biologist shall first notify and consult with CDFW on appropriate bat exclusion methods and roost removal procedures. Exclusion methods may include use of one-way doors at roost entrances, (bats may leave, but not reenter), or sealing roost entrances when the site can be confirmed to contain no bats. Once it is confirmed that all bats have left the roost, crews will be allowed to continue work in the area.

Exclusion efforts may be restricted during periods of sensitive activity (e.g., during winter hibernation or while females in maternity colonies are nursing young [generally, during late spring and summer]). If hibernation or maternity roosting site is discovered, the project developer will consult CDFW to establish appropriate exclusionary buffers until all young are determined to be volant (i.e., be able to fly) by a qualified biologist. Once it is determined that all young are volant, passive exclusion devices shall be installed and all bats will be allowed to leave voluntarily. Once it is determined by a qualified biologist that all bats have left the roost, crews will be allowed to work within the buffer zone.

Mitigation Measure BIO-7 Valley Oak Riparian Forest: The County will implement measures to avoid and minimize potential adverse effects on valley oak riparian forest. Prior to conducting work and during work, the following measures will be implemented:

• Prior to the removal of any trees, an ISA Certified Arborist will conduct a tree survey in areas that may be impacted by construction activities. This survey will document tree resources that may be adversely impacted by the Proposed Action. The survey will follow standard professional practices. In addition, the County will obtain a Tree Permit from the Placer County Planning Services Division. For areas temporarily impacted by construction activities, replanting will be required; therefore, a planting plan will be implemented as detailed in a Restoration and Revegetation Plan approved by the CDFW, the PCA, and the Placer County Planning Services Division. The Restoration Plan will include performance

standards for revegetation that will ensure the successful restoration of the on-site riparian areas. The Restoration Plan will be developed during the permitting phase when the engineering design is near completion.

- Current riparian vegetation and oaks will be retained as shown on the engineering plans. A Tree Protection Zone (TPZ) will be established around any tree or group of trees to be retained. The TPZ will be delineated by an ISA Certified Arborist. The TPZ will be defined by the radius of the dripline of the tree(s) plus one foot. The TPZ of any protected trees will be demarcated using fencing that will remain in place for the duration of construction activities.
- Construction-related activities will be limited within the TPZ to those activities that can be done by hand. No heavy equipment or machinery will be operated within the TPZ. Grading will be prohibited within the TPZ. No construction materials, equipment, or heavy machinery will be stored within the TPZ.
- Wetlands, riverine and associated riparian habitats located in the vicinity of the Action Area will be protected by installing protective fencing. Protective fencing will be installed along the edge of construction areas, including temporary and permanent access roads where construction will occur within 200 feet of the edge of wetland and riverine habitat (as determined by a qualified biologist). The location of fencing will be marked in the field with stakes and flagging and shown on the construction drawings. The construction specifications will contain clear language that prohibits construction-related activities, vehicle operation, material and equipment storage, trenching, grading, or other surfacedisturbing activities outside of the designated construction area. Signs will be erected along the protective fencing at a maximum spacing of one sign per 50 feet of fencing. The signs will state: "This area is environmentally sensitive; no construction or other operations may occur beyond this fencing. Violators may be subject to prosecution, fines, and imprisonment." The signs will be clearly readable at a distance of 20 feet and will be maintained for the duration of construction activities in the area.
- Where riparian vegetation occurs along the edge of the construction easement, the County will minimize the potential for long-term loss of riparian vegetation by trimming vegetation rather than removing the entire plant. Trimming will be conducted per the direction of a biologist and/or Certified Arborist.

Mitigation Measure BIO-8 Jurisdictional Aquatic Features: The County will implement measures to avoid and minimize potential adverse effects on jurisdictional aquatic features. Prior to beginning work, with the project's improvement plans, the County will submit an application for

PCCP and CARP authorization for review by the Placer Conservation Authority. The project shall implement conditions of the Authorization prior to approval of ground disturbing activities.

iv. References:

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4.5 Cultural Resources

 lssues (a	nd Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact	
Cultural	Resources – Would the project:					
a)	Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?		\boxtimes			
b)	Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?		\square			
c)	Disturb any human remains, including those interred outside of formal cemeteries?		\boxtimes			

i. Setting

A cultural resource is a broad term that includes prehistoric, historic, and traditional cultural properties that reflect the physical evidence of past human activity across the landscape. Cultural resources, along with prehistoric and historic human remains and associated grave goods, must be considered under various federal, state, and local regulations, including the California Environmental Quality Act (CEQA) and the National Historic Preservation Act of 1966 (NHPA). Cultural resources that are listed on, or eligible for inclusion in, the National Register of Historic Places (National Register) are also considered eligible for listing in the California Register of Historical Resources (California Register).

Cultural and historical survey reports for this project were prepared in compliance with Caltrans and FHWA NEPA and the National Historic Preservation Act (NHPA) and include an Historic Properties Survey Report (HPSR; LSA Associates, Inc. [LSA] 2019a), Archeological Survey Report (ASR; LSA 2019b), Historical Resources Evaluation Report (HRER; LSA 2019c), Extended Phase I Report (XPI; LSA 2020a), and Finding of No Adverse Effect (FNAE) and Environmental Sensitive Area (ESA) Action Plan (LSA 2020b). Some information from these studies is considered confidential under the California Public Resources Code (PRC) and the Code of Federal Regulations (CFRs) in compliance to the Freedom of Information Act and the California Public Records Act in order to protect the integrity of tribal cultural resources, and, thus, would not be available to the public (7 PRC 21082.3 and 36 CFR 800.11).
Environment

The proposed project is located in the Sacramento Valley within a primarily rural setting near the southern edge of Placer County. The average elevation for the proposed project site is 90 feet above mean sea level (AMSL) with low rolling hills that contribute to an average slope of 3.3 percent rendering an elevation range from 76 feet AMSL to 102 feet AMSL (Google Earth 2017). The native vegetation type in this region consisted of California grassland, a dry, grassy plain environment characterized by various perennial bunch grasses (LSA 2019b). The proposed project site consists of the Cometa-Ramona soil series, which is associated with the Riverbank Formation within the Sacramento Valley, and correlates to Middle Pleistocene-aged (circa 450,000 - 130,000 BP) landform. Since this landform predates known human occupation of the region, there is very low sensitivity for encountering buried archaeological deposits as any resources present should be visible on or near the ground surface (LSA 2019b).

Overall, the proposed project site has experienced heavy alluvial events along the vicinity of Dry Creek as well as historic-period and modern agricultural disturbances. Historic-period settlement, agricultural activities, and modern development have significantly altered this native environment (LSA 2019b). These activities are likely to have disturbed surficial archaeological deposits. Though subsurface archaeological deposits may be encountered due to heavy alluvial deposition, these resources are unlikely to be in their original context.

History

<u>Precontact</u>

Human populations during the Paleoindian period (10,000-6,000 B.C.) in the vicinity of the project area were low and probably consisted of small groups moving frequently in order to exploit plant and animal resources.

The Central Valley has had many population movements and waves of cultural influence from neighboring regions; it was probably first occupied at the end of the Pleistocene, as evidenced by core and flake tools. Hokan speakers may have been the early occupants of the Central Valley, eventually displaced by migrating Penutian speakers (ancestral Nisenan) coming from areas outside California. They most likely entered the Central Valley in several minor waves, slowly replacing the original Hokan speakers, causing them to migrate to the periphery of the Valley. By about A.D. 300-500, the Penutian settlement of the Central Valley was complete (LSA 2019b).

Evidence of ancestral Nisenan culture appears around 700 A.D. in western Placer County in the form of small projectile points. After 1500 A.D. a highly developed exchange network with shell bead currency appears, with "exotic obsidian from the eastern Sierra and the North Coast

Ranges, coastal shells, and distinctive projectile points showing up one hundred miles or more from their source" (LSA 2019b).

Regional History

Spanish explorations of California were driven by religious pursuits. Determined to reduce what was considered heathenism in the world, the Spanish crown set out to convert as many Native Americans as possible to Christianity. From 1769 to 1823, 21 missions were established along the California coast intended to convert and civilize the California indigenous population. Expeditions of California's Central Valley were limited to the retrieval of neophytes. Only five documented expeditions reported to have seen the Sacramento delta before 1800. Spanish explorer Gabriel Moraga first explored the Sacramento region and named the area sometime before 1808 (LSA 2019b).

When Mexico gained independence from Spain in 1821, the Mexican government gained control of California and began secularizing the missions by 1834. Mission lands were parceled out in the form of ranchos and awarded to prestigious Mexican citizens, or Californios. Rancho Del Paso, or "Ranch of the Pass," was included in these land grants. Captain John A. Sutter laid claim to the land grant upon his arrival to the Sacramento area in 1839; however, there is no documentation to support Sutter's ownership of the Del Paso land grant. Four years later, Sutter also claimed rights to New Helvetia where he later established Sutter's Fort. Upon acquiring New Helvetia, he deeded the 44,371-acre Rancho Del Paso to Eliab Grimes and John Sinclair (LSA 2019b).

Following the Mexican-American War and as part of the Treaty of Guadalupe Hidalgo, Mexico ceded Upper California and New Mexico to the United States. As part of the Treaty, many previously instated land grants were honored by the U.S. government. In 1848, the discovery of gold on the South Fork of the American River in Coloma caused an influx of settlers into California. Early pioneers passed through this area on their way east into the foothill mining camps. Placer County was established in 1851 from parts of Sutter and Yuba counties three years after the discovery of gold in California (LSA 2019b). Placer mining was the principal method of mining for gold in the county and this Spanish term was given to the new county (LSA 2019b). In response to the population increase that occurred during the Gold Rush, farms and ranches spread along waterways to address growing agricultural needs of the state. Due to a lack of irrigation and California's natural weather patterns, livestock and wheat farming were the Central Valley's predominant agricultural pursuits in the first few decades following the Gold Rush. After devastating droughts and soil exhaustion from mono farming wheat in the 1860s, however, many championed the advancement of irrigation and crop diversification (LSA 2019b). Additionally, the flumes and ditches built for transporting water for mining purposes changed the region's

viewpoint on technological implications of water as a natural resource. As the gold supply dissipated, many miners turned to farming as an economic means (LSA 2019b).

Placer County was established in 1851, from parts of Sutter and Yuba counties, three years after the discovery of gold in California (LSA 2019b). The new county derived its name from the Spanish term for the principal method of gold mining in the region (LSA 2019b). The Gold Rush brought thousands of opportunistic miners into the region. The Dry Creek area west of Roseville soon developed into an agricultural community focused on small-scale fruit tree farming, primarily apples, pears, and peaches. Citrus, such as oranges, were not extensively planted until the 1880s (LSA 2019b).

Dry Creek History

After the Gold Rush, the Dry Creek District in southwestern Placer County west of Roseville was one of the first areas developed into an agricultural community. Early on, Dry Creek District ranches consisted of livestock husbandry and/or wheat, hay, and grain production since they were adaptable to dry soil. The Dry Creek District was one of the first settlements located in the southwest area of Placer County consisting of an agricultural community considered to be roots for the "first families" of Roseville Early Dry Creek District ranches featured livestock husbandry and/or wheat, hay, and grain production, since these crops were adaptable to dry soil. The predominant agricultural use of the Dry Creek District shifted to small-scale fruit tree farming after the North Fork Ditch Company constructed ditches throughout the region, primarily apples, pears, and peaches. Citrus trees were not extensively planted until the 1880s (LSA 2020a). It was during this time of agricultural productivity that the area experienced an increase in settlement.

In 1861, the United States granted the southwest quarter of Section 12, Township 10 North, Range 5 East, Mount Diablo Base Meridian, under the Scrip Warrant Act of 1855 to Chester Harris Hooker. Hooker received the land for his military service during "California Indian disturbances" with the Captain Lucas Company California Volunteers. The 1860 census lists Hooker as a farmer and lists one of his deceased wife's brothers, 15-year-old Charles Moore, living with him on his Placer County land. In 1860, Hooker's children George and Mary were living with their grandparents in Sutter, California. Mary died three years later of diphtheria. By 1870, Hooker moved to Grass Valley, was remarried, and working as an innkeeper. Hooker died in 1872 (LSA 2019c)). By 1890, Josiah Gould owned the west side of Section 12 (LSA 2019c).

In 1882, the State Land Office sold Philip Forsyth the northwest quarter of Section 12, Township 10 North, Range 5 East, Mount Diablo Base Meridian. Reportedly, Forsyth established Union Cemetery in the early 1870s, and it was used by many of the pioneer families that settled in the area from the latter half of the 19th century up through the early 20th century. Before Forsyth's death in 1892, he sold his property to his neighbor, Josiah Gould, who was also a farmer; Gould and his family farmed their land in the Dry Creek area until 1976 (LSA 2020a).

In 1890, Gould and his brother, Charles, owned the majority of land within the proposed project site. Josiah owned the west half of Section 12, while Charles owned the southeast quarter of Section 11. By that same year, J.R. Dyer owned the northeast quarter of Section 11. All were farmers. By 1915, Charles had sold his property to Arthur Booth. Charles and Booth had lived together in 1910 and worked on a fruit ranch that Arthur was mortgaging – presumably from Charles. Alice May Booth, Arthur Booth's widow, owned the entirety of Section 11 by 1940 (LSA 2019c).

By 1920, Anton Riolo purchased the Dyer Ranch, settled on the property with his family, and established a fruit farm in the Dry Creek District. In 1948, Riolo purchased the north half of Section 12 from John and Alma Hallstrom, who had owned the land by at least 1940. Riolo's son, Frank, settled on the farm at present day 8875 Watt Avenue around 1948. Frank planted vineyards, bred horses, and raised hunting dogs on his property. Frank died in 2016 and was buried at Union Cemetery, located just south of his farm (LSA 2020a).

The cemetery was neglected for many years and burial records lost in a fire sometime in the 1950s. The earliest burials are located in the northwest portion of the cemetery (LSA 2020a).

Ethnography

The proposed project site is ethnographically attributed to the Nisenan (Southern Maidu) people. Nisenan is a Penutian language with many local dialects, including Valley Nisenan, Oregon House, Auburn, Clipper Gap, Nevada City, Colfax, and Placerville (LSA 2019b). The territory of the Nisenan, which included the drainage of the American River, extended from the crest of the Sierra Nevada in the east to the Sacramento River in the west; as far south as the Cosumnes River; and north to the divide of the North Fork of the Yuba River and Middle Fork of the Feather River. The nearest ethnographic village to the APE was called *Pichiku*, approximately seven miles east of the proposed project site, near present day Maidu Park (LSA 2019b).

The lifeways of the Nisenan changed drastically in the mid-19th century beginning with Spanish and American incursions into their territory. During the 1800s, infectious European disease and the influx of Europeans settlers had devastating effects on Native Californians (LSA 2019b).

Record Search

LSA conducted background research to identify cultural resources within, and cultural resources studies of proposed project site, and to assess the potential for subsurface archaeological deposits. The background research consisted of a records search at the California Historical Resources Information System (CHRIS) North Central Information Center (NCIC) to identify previous cultural resources studies and site records for the proposed project area. The NCIC records search identified four cultural resource investigations within the proposed project site and an additional six cultural resource investigations within 0.5 miles of the proposed project site. The records search identified five archaeological cultural resources and one historic-period cemetery within the 0.5-mile study area. Of these, two archaeological resources and a portion of the historic-period cemetery are located within the proposed project site (LSA 2019a, 2019b, 2019c, 2020a, and 2020b). The other three archaeological resources identified by the NCIC are within the 0.5-mile of the study area, but outside of the proposed project site boundaries.

Methodology

Proposed Project Surveys

The United Auburn Indian Community (UAIC) requested a site visit as part of Assembly Bill (AB) 52 consultation to locate cultural resource P-39-000195/CA-PLA-000069 on May 21, 2018. The recorded location for the resource was inaccessible due to dense vegetation coverage. Mr. Hutcheson recommended vegetation clearing of the area prior to conducting fieldwork (LSA 2019b).

LSA Archaeologists Mariko Falke and Rhea Sanchez surveyed all accessible portions of the proposed project site on October 4-5, 2018. LSA Senior Cultural Resources Manager Katie Vallaire surveyed one parcel, APN 023-200-035-000, on November 8, 2018, after speaking with the property owner and receiving access. Coordination was conducted with UAIC to conduct survey per the Tribe's recommendations, including mechanical vegetation removal along the south banks of Dry Creek in the vicinity of P-31-000195 on the west side of Watt Avenue, and P-31-002901 on the east side of Watt Avenue. Upon conducting the survey, UAIC Archaeologist Marcos Guerrero decided to opt out of the survey due to wet conditions. A pedestrian survey was conducted in areas that were accessible and appeared unobstructed by road fill. Overall, ground visibility was approximately 75 percent, limited by paved or developed surfaces and dense vegetation coverage, particularly along Dry Creek. The pedestrian survey consisted of 15-meter-spaced transects. In areas where dense vegetation was observed, surface scrapes were conducted every 15 meters, which consisted of scuffing the earth with a boot heel or light trowel. Additionally, areas that documented a precontact archaeological resource were weed whacked to clear dense vegetation and view the ground surface to determine if the resource could be located. For those parcels where permission to enter was not granted and for those parcels that were inaccessible, windshield survey was conducted from County right-of-way, where possible. Of these, portions of two parcels were not surveyed due to lack of permission, inaccessibility, and inability to view the ground surface from an adjacent parcel or County right-of-way. These two parcels (APN 023-200-019-000 and 023-200-049-000) have been reviewed by previous cultural investigations (LSA 2019b).

A built environment survey of the proposed project site was conducted on November 8, 2018. The survey consisted of documenting all built environment resources identified during the background research, historical aerial and map review, and GoogleEarth and ParcelQuest review through field notes and photographs (LSA 2019c).

Union Cemetery Surveys

While surveying the Union Cemetery (P-31-002603), consultation with the groundskeeper was conducted to determine the known limits of human burials on the western extent of the property, within the proposed project site. The groundskeeper explained that the burial records were lost in a fire and that it is unknown where exactly some older burials are located. Union Cemetery staff believe that additional unknown burials may be present due to the theft, undocumented relocation, or vandalism of gravestones during the time of neglect (LSA 2020a).

After the pedestrian surveys were completed, additional ground penetrating radar (GPR) was used to further survey the Union Cemetery within the proposed project site. The initial GPR surveys documented graves in known portions of the cemetery for comparison and calibration. After the initial survey of known graves, six GPR grids were set up with perimeter stakes and guide string to allow for 141 parallel transects. Grids 1-3 were spaced approximately 0.3 meters apart while Grids 4 to 6 were spaced 0.5 meters apart due to obstructions caused by roots, limbs, and rubble. The six GPR grids, along with approximately 30 additional transects, were plotted to maximize the efficiency of identifying potential burial features. The GPR survey was conducted using a GSSI SIR4000 GPR instrument with a 350 MHz digital antenna. A total of 24 modern graves were identified in the Union Cemetery and in the proposed project site. All graves identified in the proposed project site are modern and not associated with the historic portion of the Union Cemetery.

Known Resources

There are three resources within the proposed project site boundaries are as follows:

- P-39-000195/CA-PLA-000069 (CA-PLA-69) is a precontact-period lithic scatter located within the proposed project site, on the west side of Watt Avenue and south of Dry Creek. The resource consisted of groundstone, manos and pestles, projectile points, and a lithic scatter uncovered by flood action in the 1960s (LSA 2019b).
- P-31-002901 is a precontact-period isolated mano fragment. This isolate is located within the proposed project site approximately 20 meters south of Dry Creek (LSA 2019b).
- P-31-002603 is the 1.75-acre Union Cemetery located on the east side of Watt Avenue. Philip Forsyth, one of the early Americans settlers and fruit farmers in Placer County, established this pioneer cemetery along present-day Watt Avenue in the early 1870s. The

records for this cemetery were lost in a fire; however, the earliest burials are located in the northwest portion of this cemetery.

The three archaeological resources within the 0.5-mile of the study area, but outside of the proposed project site boundaries are summarized below.

- P-31-000173/CA-PLA-000047 is a precontact-period site originally recorded in 1960 as a lithic scatter, habitation debris, midden and groundstone (LSA 2019b).
- P-31-000202/CA-PLA-000076 is a precontact-period site comprised of a lithic scatter and groundstone (LSA 2019b). A survey completed in 1965 collected pestles, manos, metate fragment, and chert and obsidian projectile points from the surface (LSA 2019b). This resource is 0.4-mile east of the proposed project site, along the south bank of Dry Creek.
- P-31-002863/CA-PLA-001982 is a historic-period well/cistern that is located approximately 0.4 miles east of the proposed project site (LSA 2019b).

ii. Discussion

- a) Less than Significant Impact with Mitigation. The proposed project site contains, or is within close proximity to, six properties over 50 years old (LSA 2019c):
 - 8875 Watt Avenue contains a 1940s-1960s ranch complex comprising six buildings and numerous structures and corrals situated on the property.
 - 9255 Watt Avenue contains a residence constructed in 1948 situated on APN 023-200-019-000.
 - 9075 Watt Avenue, constructed circa 1950 was found not eligible for listing the National Register in 2017 (2019c).
 - P-31-002603 is the Union Cemetery is a mid-19th-century cemetery and was recorded as a building and element of a district (LSA 2019a, 2019b, 2019c, 2020a).
 - Watt Avenue over Dry Creek Bridge (Bridge No. 19C0084), constructed in 1940, is listed as a Category 5 bridge. This bridge is not considered eligible for listing
 - Dyer Lane, established 1911, was found not eligible for listing in the National Register in 2017 (LSA 2019c).

Five of these properties were evaluated in accordance with Section 15064.5(a)(2)-(3) of the CEQA Guidelines, using the criteria outlined in Section 5024.1 of the California PRC. The evaluations determined the properties not eligible for listing in the National Register or

California Register: 9075 Watt Avenue, 8875 Watt Avenue, 9255 Watt Avenue, Dyer Lane, and Watt Avenue over Dry Creek Bridge (LSA 2019c). These properties are not historical resources for the purposes of CEQA (LSA 2019c). Therefore, impacts to historical resources is considered less than significant. One site, the Union Cemetery, was surveyed, but have not yet been fully evaluated.

Union Cemetery

The Union Cemetery comprises 1.75 acres located on the east side of Watt Avenue, north of PFE Road and south of Dry Creek. As mentioned above, Philip Forsyth, one of the early Americans settlers and fruit farmers in Placer County, established this pioneer cemetery along present-day Watt Avenue in the early 1870s. The records for this cemetery were lost in a fire; however, based on grave marker dates, the earliest burials are located in the northwest portion of this cemetery adjacent to, and potentially within, the proposed project. Although the cemetery was evaluated under Criteria 1 through 3 of the California Register, it has not yet been evaluated for its potential to yield valuable information in history; specifically, health, population, and burial practices of early rural Placer County residents (LSA 202b).

LSA prepared an ASR (LSA 2019a) and a HRER (LSA 2019b) for the proposed project. Field survey results and information provided by cemetery staff indicate that modern burial features were within the proposed project site, and there is a high potential to affect unmarked human burials within the proposed project site. Although no historic-period grave markers were noted in the proposed project site, the cemetery records did not contain precise location data correlating missing markers with known burial plots. As a result, the true extent and disposition of burial plots is not known in certain portions of the cemetery. Based on the results of the ASR, LSA proposed further investigation of the ADI to delimit the extent of possible burials, including a geophysical survey to identify areas that likely comprise discrete burial plots (LSA 2020b).

As mentioned above, LSA conducted an XPI Study to identify burial features in portions of the Union Cemetery that are within the proposed project site. The GPR field survey identified six distinct burial features in the proposed project site; however, all were determined to be modern graves and would not be considered contributors to the cemetery's historic significance as a pioneer cemetery in Placer County. In addition to GPR, Mr. Ehrman, Superintendent of the Roseville Public Cemetery District, provided information about the horizontal extent of burials identified by the investigation, as well as the potential for other subsurface features. On March 5, 2020, Ms. Vallaire met Mr. Ehrman on site to discuss exploratory backhoe trenching that he had conducted the week of February 24, 2020, to determine the precise location of the westernmost row of burials. The trench measured 32

inches wide by approximately 16 feet long and extended across the five burials identified in the GPR survey. The trench was excavated to a depth of approximately 4 feet where burial cases were identified. Mr. Ehrman explained that two of the burials in this row are scheduled to be moved to a different cemetery in Roseville within the next few months, one would be relocated to another plot in the cemetery, one is currently located east of the headstone and would not be moved, and the last is being moved from its current location west of the headstone to be completely east of the headstone. On March 31, 2020, Ms. Vallaire monitored backhoe excavation at both locations of the unknown features identified during the GPR survey (in Grids 3 and 4), as well as at the new burial relocation plot (LSA 2020b).

The Union Cemetery has not yet been fully evaluated under significance criteria for the National Register or the California Register. Typically, cemeteries are exempt from being considered eligible for listing in the National Register unless they meet special requirements; however, the Union Cemetery, being one of the oldest cemeteries in Placer County, has the potential to yield valuable information regarding the health and lifeways of Placer County's early settlers that may contradict the written record. With respect to National Register Criterion D, study of the cemetery's earliest human burials may reveal important information regarding the health, population, status, and mortuary practices of rural Placer County residents in the latter half of the 19th century. Based on the XPI Study's negative findings for historic-period burials within the proposed project site, it is assumed that the cemetery is eligible under Criterion D for the remainder of the cemetery within the proposed project site for purposes of this project only (LSA 2020b).

Assuming the Union Cemetery is eligible for the National Register and the California Register, the proposed project would not result in a significant impact to the cemetery as a whole. The historic-period burials, which is the main contributing factor of this historic resource, are located outside of areas of disturbance for the proposed project. The widened road would increase the visual and audible signature of the roadway, which would diminish the integrity of the property's historic setting and feeling. However, the significance of the Union Cemetery is not primarily dependent on its integrity of setting or feeling, as the burials would still be able to yield important data. Widening Watt Avenue into a portion of the cemetery lot would not wholly remove the cemetery, nor would it remove or alter any of the historic property's contributors. No physical alteration to any contributors or change in use is proposed for the Union Cemetery. No contributors would be affected; they would all retain their integrity of location, design, materials, and association, and their gravesite markers would retain their integrity of workmanship. The contributing features of the Union Cemetery would be protected during construction and would still be able to provide valuable osteological information to future researchers. Therefore, the effects are not considered significant. The Union Cemetery would retain integrity of location, design, material,

workmanship, and association (LSA 2020b). **Mitigation Measures CUL-1**, **CUL-2**, and **CUL-3** would reduce impacts to the Union Cemetery. Therefore, impacts are considered less than significant with mitigation.

b) Less than Significant Impact with Mitigation. The field survey did not result in any newlyidentified cultural resources (LSA 2019b). Furthermore, the two precontact-period archaeological resources within the proposed project site, CA-PLA-69/P-39-000195 and P-31-002901, were not relocated (LSA 2019b). The lithic and groundstone scatter (CA-PLA-69/P-39-000195) was determined not eligible for listing in the National Register by the State Historic Preservation Officer (SHPO) in 2017 and not eligible for listing in the California Register by Placer County in 2016. The isolated groundstone fragment (P-31-002901) recorded in 1991 that was not located during a 2015 survey or during the survey conducted for the ASR (LSA 2019b) is exempt from further consideration per Attachment 4 of the Section 106 Programmatic Agreement. No further consideration of these two archaeological resources is necessary for purposes of this project (LSA 2019b). Impacts from the proposed project on these known resources are considered less than significant.

The likelihood of encountering previously undocumented buried archaeological deposits in the proposed project site is considered low. Nonetheless, there remains a chance that construction activities associated with the proposed project could result in accidentally discovering archaeological resources. With implementation of **Mitigation Measure CUL-1** and **Mitigation Measure CUL-2**, the proposed project would result in a less-than-significant impact on archaeological resources.

c) Less than Significant Impact with Mitigation. Refer to the discussion under question a, above, for details regarding the Union Cemetery. A total of 24 modern graves were identified in the Union Cemetery and in the proposed project site during the surveys conducted for the XPI Study (LSA 2020a). All graves identified in the proposed project site are modern and not associated with the historic portion of the Union Cemetery. Union Cemetery staff believe that additional unknown burials may be present due to the theft, undocumented relocation, or vandalism of gravestones during the time of neglect (LSA 2020a). Construction activities could impact unknown grave sites in the area. Implementation of Mitigation Measures CUL-01, CUL-02, and CUL-03 would reduce this potential impact to a less than significant level. Impacts would be less than significant with the implementation of mitigation measures.

iii. Mitigation Measures

Mitigation Measure CUL-1: Immediately Halt Construction Activities if Any Cultural Materials Are Discovered. If an inadvertent discovery of cultural materials (e.g., unusual amounts of shell,

animal bone, flaked stone, bottle glass, ceramics, structure/building remains, etc.) is encountered during project-related construction activities, ground disturbances in the area of the find shall be halted immediately, and a qualified professional archaeologist shall be notified regarding the discovery. The archaeologist shall determine whether the resource is potentially significant as per the California Register of Historical Resources (California Register) and shall develop appropriate mitigation. Appropriate mitigation may include no action, avoidance of the resource, and potential additional data recovery. The Improvement Plans and/or Grading Plan shall include this language on the Notes page.

Mitigation Measure CUL-2: Follow Protocol for the Unanticipated Discovery of Cultural Resources or Human Remains. If buried cultural materials, including human remains, are encountered during construction, stop work in that area until a qualified archaeologist can evaluate the find's nature and significance. In the event that human remains or associated funerary objects are encountered during construction, cease all work within the vicinity of the discovery. In accordance with CEQA and the California Health and Human Safety Code (14 CCR § 15064; 7 HSC § 7050.5), the County coroner will be contacted immediately. If the human remains are determined to be Native American, the coroner will notify the Native American Heritage Commission, who will notify and appoint a Most Likely Descendent (MLD). The MLD will work with a qualified archaeologist to decide the proper treatment of the human remains and any associated funerary objects.

Mitigation Measure CUL-3: Implement Environmental Sensitive Area Action Plan. Placer County shall implement the Environmentally Sensitive Area (ESA) mitigation actions and measures to protect potential resources at the Union Cemetery. The Project Manager and Project Engineer will clearly describe and illustrate the ESA fencing in the plans, specifications, and estimates prepared to guide construction of the undertaking. The Project Manager will attach the ESA Action Plan to the contract in place with each contractor conducting excavation. The Resident Engineer, the Project Manager, and the Project Archaeologist will review the PS&E package and ensure that Standard Special Provisions (SSP) for the ESA is included and will ensure the ESA Action Plan is included in the Environmental Commitment Record.

The ESA will be delineated and protected by four-foot-high orange polyethylene construction fencing as depicted in the ESA Action Plan (**Figure 4.5-1**). The purpose of the fencing is to restrict access by construction personnel and equipment within portions of the Union Cemetery that contain or may be likely to contain contributing features. The fencing will be installed at the ESA prior to any ground-disturbing construction activities and maintained for the duration of the project. Conspicuous signage attached to the fence will indicate that no construction activity within the fenced area is allowed. The responsibility lies with the Resident Engineer to confirm that the County's Project Archaeologist is present when ESA fencing is installed and removed.

Three weeks prior to installation or removal of the ESA fencing, the Project Manager and/or Resident Engineer will notify the Project Archaeologist. The County's Resident Engineer will contact the Project Archaeologist at least one week prior to the day construction begins and provide the Project Archaeologist with Contractor contact information. The Project Archaeologist will coordinate with the Contractor and attend the pre-construction meeting. During the pre-construction meeting, the Project Archaeologist will discuss the importance of the ESA fencing to the Contractor and all construction staff.

If a sub-consultant is scheduled to begin construction on the proposed project and has not attended the pre-construction meeting, the Project Manager and/or Resident Engineer will make arrangements for the Project Archaeologist to meet with the sub-consultant to inform them about ESA procedures.

The ESAs will remain in place during the proposed project. The Project Archaeologist will monitor the ESA fencing periodically (at least once every two weeks) during project construction to ensure the integrity of the ESA fencing. When construction activities are complete, the Resident Engineer and Project Archaeologist will coordinate to confirm that protective measures are no longer necessary, and the ESA fencing can be removed by the Contractor.

The procedures described in this ESA Action Plan must be followed. Breaches of the ESA Action Plan procedures must be reported to the Project Manager and/or Resident Engineer, who will notify the Caltrans Archaeologist and Project Archaeologist. The Caltrans Archaeologist will then inform the SHPO of the breach within 48 hours and begin consultation to determine how the situation will be addressed.



iv. References

Google Earth. 2017. Aerial Imagery of Latitude 38.734577°, Longitude -121.392545°.

- LSA Associates, Inc. 2019a. Historic Property Survey Report, Watt Avenue at Dry Creek Bridge (19C0084) Replacement Project. Placer County, CA BRLS 5919(115). Prepared for Drake Haglan Associates and Placer County Department of Public Works.
- LSA Associates, Inc. 2019b. Archeological Survey Report for the Watt Avenue Bridge Replacement Project. Prepared for Drake Haglan Associates and Placer County Department of Public Works.
- LSA Associates, Inc. 2019c. Historic Resources Evaluation Report, Watt Avenue at Dry Creek Bridge (19C0084) Replacement Project. Placer County, CA. BRLS 5919 (115) Prepared for Drake Haglan Associates and Placer County Department of Public Works.
- LSA Associates, Inc. 2020a. Extended Phase I Proposal Watt Avenue at Dry Creek Bridge Replacement Project.
- LSA Associates, Inc. 2020b. Finding of No Adverse Effect and ESA Action Plan, Watt Avenue at Dry Creek Replacement Project. Placer County, CA. BRLS-5919(115).

4.6 Energy

Issues (and Supporting Information Sources):		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Ene	ergy –Would the project:				
a)	Results in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?			\boxtimes	
b)	Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?				\boxtimes

i. Setting

In 1975, the California State Legislature adopted Assembly Bill (AB) 1575 in response to the oil crisis of the 1970s. Public Resources Code Section 21100(b)(3) and California Environmental Quality Act (CEQA) Guidelines Appendices F and G require a description of the wasteful, inefficient, and unnecessary consumption of energy caused by a project. CEQA Guidelines Appendix F provides guidance for assessing potential impacts within Environmental Impact Reports (EIRs) that a project could have on energy supplies. Appendix G provides guidance related to energy resources within the context of the Initial Study (IS). Both aim to focus on conservation energy by ensuring projects consider the efficiency of energy use.

The production of electricity requires the consumption or conversion of energy stored in natural resources such as water, wind, oil, gas, coal, solar radiation, certain minerals (for nuclear power), and geothermal energy. The use of energy from transportation facilities in the vicinity of the proposed project is currently caused by vehicles traveling along Watt Avenue. Production of energy and energy use both result in pollution and depletion of these renewable and nonrenewable resources.

According to the California Energy Commission (CEC), the total estimated energy use from both residential and nonresidential uses for Placer County was estimated to be approximately 2,914.87 GWh (gigawatt hours) in 2019 (CEC, 2020).

ii. Discussion

a) Less than Significant. The proposed project is a bridge replacement project and would not create new energy demand beyond the construction period. Energy in the form of gasoline and diesel fuel would be consumed by large construction equipment and worker

vehicles during the demolition and construction period. During construction, minor and temporary increases in energy use may occur as traffic control may increase travel time for motor vehicle traffic that crosses the bridge. Diesel equipment would be used during construction; however, compliance with local, state, and federal regulations (e.eg., limit engine idling times, require the recycling of construction debris, etc.) would reduce short-term energy demand during the proposed project's construction to the extent feasible. All standard Best Management Practices (BMPs) to minimize energy waste would be implemented. Construction of the proposed project would not result in wasteful or inefficient use of energy. Operation of the proposed project would not require the creation of new energy sources, and no mitigation is required.

b) No Impact. The proposed project does not conflict with any local, state, or federal regulations regarding energy use, energy efficiency, or construction regulations. All BMPs and existing industry-standard measures would be implemented by the county's contractor to reduce impacts to energy use to the extent feasible. The proposed project has no impact, and no mitigation is required.

iii. Mitigation Measure

No mitigation is required.

iv. References

California Energy Commission (CEC). 2016. Electricity Consumption by County. Available at

https://ecdms.energy.ca.gov/elecbycounty.aspx. Accessed January 8, 2021.

4.7 Geology, Soils, and Seismicity

Issu	es (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
Geo	ology, Soils and Seismicity –Would the project:				
a)	 Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial avidance af a known fault? (Refer to compare the state and the substantial avidance af a known fault?) 			\boxtimes	
	 iii) Strong seismic ground shaking? iii) Seismic-related ground failure, including liquefaction? iv) Landslides? 			\boxtimes	
b)	Result in substantial soil erosion or the loss of topsoil?			\boxtimes	
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?			\square	
d)	Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?			\square	
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?				\square
f)	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.		\boxtimes		

i. Setting

The proposed project site is located west of the City of Roseville in the southwestern portion of Placer County, California. The subject site is located within the Great Valley Geomorphic Province. The geology of this region is typically characterized by ongoing alluvial sediment deposition since the Jurassic period. The province encompasses the San Joaquin and Sacramento valleys and is bounded by the Sierra Nevada Mountains to the east, the Cascade and Coast Ranges to the west, the Transverse Range (Tehachapi Mountains) to the south, and the Klamath Mountains to the north.

The Sacramento Valley is a structural trough that covers approximately 5,000 square miles and makes up the northern third of the Great Valley Geomorphic Province. The Sacramento Valley extends from the Stockton-Tracy area on the south to the Klamath Mountains on the north. The Sacramento Valley is underlain by sediments transported from the Sierra Nevada Mountains and Coast Ranges by the Sacramento River and its tributaries. The topography ranges from gentle hills to approximately flat. During the late Mesozoic and to the early and middle Cenozoic eras (approximately 20 to 100 million years before the present), the deposition of thousands of feet of marine sediments occurred within the Great Valley. Continental deposits (generally alluvium) of late Tertiary- and Quaternary-age (approximately 20 million years ago to the present) overlie these marine sediments.

The proposed project site and adjacent areas are shown on the Preliminary Geologic Map of Cenozoic Deposits of the Davis, Knights Landing, Lincoln, and Fair Oaks Quadrangles, California (Helley, 1979) as underlain by the Modesto Formation lower unit in the vicinity of the bridge. Quaternary aged Turlock Lake Formation is shown bordering the channel area to the south, east, and north. Quaternary aged Riverbank Formation lower unit is shown bordering the channel area to the west. The Modesto Formation lower member is described as alluvium composed of sand with minor gravel and silt, forming alluvial terraces, alluvial fans, and abandoned channel ridges along streams and in valleys. The lower member part of the Modesto Formation is present at the site and is described as unconsolidated and slightly weathered. The Turlock Lake Formation is described as a fan deposit of dominantly granitic alluvium. The Riverbank Formation lower member is described as semi consolidated gravel, sand, and silt.

The lower unit of the Modesto Formation underlies much of the proposed project area (Gutierrez 2011). The Modesto Formation is alluvial (river-deposited) sediments up to 100 feet thick, comprised of gravelly sand, silt, and clay. The Modesto Formation formed terraces, fans and channel ridges along streams and in valleys approximately 33,000 to 26,000 years ago (late Pleistocene) (California Department of Transportation [Caltrans] 2008; Gutierrez 2011; Helley and Harrwood 1985). The Modesto Formation dissects the older Turlock Lake Formation, an early Pleistocene-age alluvium. The Turlock Formation is comprised of granitic sands and silts, with volcanic and metamorphic pebbles and gravels that reach a thickness of 850 feet (Marchland and Allwardt 1981).

Soils

The 2015 U.S. Department of Agriculture (USDA) National Conservation Service Soil Survey of Placer County, California identified seven soil types in the proposed project site — each having characteristics that affect its behavior within its environment. The soils identified in the proposed project site and their characteristics relevant to the study are included in **Table 4.7-1**.

Table 4.7-1Characteristics of Soils in the Proposed Project Site

Soil No.	Soil Series Name	Plasticity Rating (%)	Drainage	Runoff Potential	T Erosion Factor ¹	рН	% Clay	Limitations
141	Cometa-Fiddyment complex, 1 to 5 percent slopes	15.5	Well drained	Low	2	6.7	23.8	Moderately corrosive to concrete and steel, dusty, slow permeability, low shrink-swell, low bearing strength
142	Cometa-Ramona sandy loam, 1 to 5 percent slopes	9.1	Well drained	Medium	3	6.7	20.1	Moderately corrosive to steel, dusty, slow permeability, low shrink- swell, low bearing strength
147	Fiddyment- Kaseberg loams, 2 to 9 percent slopes	15.5	Well drained	Low to Medium	2	6.2	23.8	Moderately corrosive to concrete, dusty
172	Live oak sandy clay loam, 0 to 2 percent slopes	6.5	Well drained	Low	5	7.1	19.5	Dusty
174	Ramona sandy Ioam, 0 to 2 percent slopes	7.6	Well drained	Low	5	6.7	17.6	Dusty, slow permeability
193	Xerofluvents, occasionally flooded	15.6	Moderately well drained	Moderate	5	8.2	8.9	Highly corrosive to steel, moderate permeability
194	Xerofluvents, frequently flooded	16.6	Somewhat poorly drained	Moderate	5	8.2	14.9	Highly corrosive to steel, moderate permeability
Source	e: NRCS 2017							

Notes: 1 T represents soil loss tolerance, which is defined as the maximum rate of soil erosion (wind and water) without reducing crop production or environmental quality. Values range from 1 to 5 tons of soil loss per acre per year, with 5 representing soils less sensitive to erosion.

Expansive Soils

Expansive soils are composed primarily of clays, which are characterized by the ability to undergo significant volume change (shrink and swell) as a result of variation in soil moisture content. This physical change in the expansive movement of the soils can create unfavorable conditions in building foundations, concrete walkways, swimming pools, roadways, and masonry walls.

Regional Faults and Seismicity

The proposed project site is situated between two faults; the Late Quaternary-age Dunnigan Hills fault located approximately 30 miles west, and the Quaternary-age Maidu East fault located approximately 18 miles east (California Department of Conservation 2010b). The potential for seismic related ground shaking, surface rupture, and liquification is low in western Placer County (Placer County General Plan, 1994).

The proposed project is in a seismically active area of California. Potential geologic and seismic hazards at the site include seismic shaking (ground motion), ground surface rupture, and seismically induced settlement. The project site does not lie within or adjacent to an Alquist-Priolo Earthquake Fault Zone. Active faulting has not been mapped as occurring across or adjacent to the project site. The closest active fault is the Foothills Fault system, which is located at about 16 miles northeast from the project site. Surface rupture due to faulting within the project site is not expected to occur unless an unknown fault were to rupture.

A seismic study was performed to develop seismic design parameters for the proposed bridge design. Following the Caltrans' Seismic Design Criteria (SDC) Version 2.0 (2019) "Memos to Designer (MTD) Section 20" and design tools outlined in the Caltrans' Methodology for Developing Design Response Spectrum for Use in Seismic Design Recommendation (2012), a seismic analysis was performed for this structure to develop seismic design parameters and to identify potential seismic hazards such as liquefaction or lateral spreading.

ii. Discussion

a) (i – iv) Less than Significant. The project site does not lie within or adjacent to an Alquist-Priolo Earthquake Fault Zone. Active faulting has not been mapped as occurring across or adjacent to the proposed project site. The closest active fault is the Foothills Fault system, which is located at about 16 miles northeast from the proposed project site. Surface rupture due to faulting within the proposed project site is not expected to occur and, therefore, is considered less than significant unless an unknown fault were to rupture.

Liquefaction of granular soils can be caused by strong vibratory motion due to earthquakes. Soils that are highly susceptible to liquefaction are medium- to fine-grained, loose, granular and saturated at depths of less than 50 feet below the ground surface. Liquefaction of soils causes surface distress, loss of bearing capacity, and settlement of structures that are founded on the soils. According to the United States Department of Agriculture (USDA) Soil Conservation Service, there are three soil types in the project area. **Table 4.7-1** summarizes the characteristics of each soil type present. These soil types are not known for their susceptibility to liquefaction and according to the CDC the project site is not located within a zone designated for having a high potential for liquefaction. Therefore, the probability of soil liquefaction taking place on the project site is considered to be low. The proposed project would remove the existing structurally deficient bridge and replace it with a new bridge designed to current structural and geometric standards, including the current Caltrans Seismic Design Criteria. Therefore, the risk of the proposed project causing loss, injury or death involving seismic-related ground failure, including liquefaction, would be similar to existing conditions. Impacts would be less than significant. No mitigation is required.

The proposed project is not near any Alquist-Priolo faults, and the potential for seismicrelated ground failure, or liquification, as a result of an earthquake is considered low based on existing soil and geologic conditions and seismic analyses in the bridge Foundation Report prepared by WRECO. Therefore, the proposed project would not expose people to seismic-related soil or geologic hazards, and the impact is considered less than significant. No mitigation is required.

According to the Department of Conservation California Geological Survey (CGS) Information Warehouse (2015), and given the flat terrain in the region, landslides do not occur in the proposed project vicinity. The probability of landslides occurring on the proposed project site is very low. The proposed project is a bridge replacement and would not expose additional people or structures to substantial adverse effects. The new bridge would be designed to comply with the Caltrans Seismic Design Criteria, which would minimize the potential effects from ground shaking. No mitigation is required.

- b) Less than Significant. The proposed project site is in an area designated as moderately hazardous for soil erosion. The proposed project involves removing the existing bridge, constructing a new bridge over Dry Creek, and creating conditions conducive for soil erosion and transport to Dry Creek. Existing Placer County and Caltrans stormwater and erosion control requirements would ensure soil erosion during construction is compliant with existing county and state requirements. No mitigation is required.
- c) Less than Significant. The proposed project involves the demolition of the existing Watt Avenue Bridge over Dry Creek and the construction of a new bridge. Construction of the proposed project would involve clearing and grubbing, demolition, and grading activities. These construction methods were determined based on the proposed project site solids and the potential for liquefiable soil to be within the construction limits. Therefore, the engineering design of the proposed project would address liquefactions and other seismically induced hazards. Implementation of the proposed project would not cause unstable solid conditions. Additionally, no habitable structures are included in the proposed project, and the hazard to life from lateral spreading, subsidence, liquefaction, or collapse would be like existing conditions along the exiting segments of the County's active

transportation network. These impacts are less than significant, and no mitigation is required.

- d) Less than Significant. The extent of shrinking and swelling is influenced by the environment, such as the extent of wet or dry cycles, and by the amount of clay in the soil. This physical change in the soils can react unfavorably with building foundations, concrete walkways, swimming pools, roadways, and masonry walls. According to Table 18-I-B of the Uniform Building Code (International Conference of Building Officials, 1994), the classification of expansive soils with an index of zero to 20 is very low, 21 to 50 is low, 51 to 90 is medium, 91 to 130 is high, and above 130 is very high potential for expansion. The proposed bridge and approach roads would be designed with consideration of the expansive soils in the final design according to existing Caltrans engineering design standards and would not represent a risk to life or property. There this impact is considered less than significant. No mitigation is required.
- e) No Impact. The proposed project consists of replacing the existing Watt Avenue bridge with a new bridge and approach roadways. No water or wastewater systems would be included as part of the proposed project. The proposed project does not involve the construction of septic tanks or alternative wastewater disposal systems. There is no impact.
- f) Less than Significant with Mitigation Incorporated. In geologically diverse California, fossils are generally found in sedimentary and metasedimentary formations. The Watt Avenue Bridge is in the alluvial fan of Dry Creek and is underlain by the Modesto and Turlock Lake formations. Younger quaternary aged Turlock Formation borders the channel area to the south, east and north. Riverbank Formation is found to the west of the bridge site. The piles for the proposed bridge project would be excavated or drilled to a depth of over 50 feet according to the recommendations from geotechnical engineers in the Preliminary Foundation Report (WRECO 2019). The following paleontological information was obtained from the Brady Vineyards Subdivision Project EIR prepared by Placer County in 2019 which is in the same general geological region as the proposed Watt Avenue bridge project (Placer County 2019). A search of the University of California Berkeley Museum of Paleontology (UCMP) database was performed to determine the project's potential impact to significant paleontological resources near the project. The search indicated 64 fossil resources have been recorded within Placer County. A locality near Rocklin yielded a Pleistocene-age mastodon from the Mehrten Formation, while a locality near Lincoln produced three Tertiary-age vertebrates, bony fish, a mammal and a reptile. A cartilaginous fish from the Cretaceous was recovered from a third locality in the Sierra. The remaining localities recorded in the UCMP database have produced plant and invertebrate specimens mainly from the Middle Eocene lacustrine (lake) deposits west of Lake Tahoe. Additionally, a small outcrop of the Chico Formation, now a residential community near Granite Bay, has produced a diverse array of Late Cretaceous fossils, including invertebrates, plants and

dinosaurs. Petrified wood specimens were also unearthed in the Ione Formation during a recent roadway widening project. The geologic formations within the depth of excavation for the bridge piers could potentially uncover fossils or other materials. There is always a possibility of inadvertent discovery of fossils and or other artifacts during grading and deep excavation construction activities. For these reasons, this impact is considered potentially significant. Implementation of Mitigation Measure **GEO-1** would reduce this impact to less than significant levels.

iii. Mitigation Measures

Mitigation Measures GEO-1: Immediately Halt Construction Activities if Any Paleontological Materials Are Discovered. Should paleontological resources be discovered during ground disturbing activities for the bridge project, work shall be halted in the area within 50 feet of the find. Placer County Public Works Department will retain a qualified paleontologist to inspect the discovery. If deemed significant under criteria established by the Society for Vertebrate Paleontology with respect to authenticity, completeness, preservation, and identification, the resource(s) shall then be salvaged and deposited in an accredited and permanent scientific institution (e.g., University of California Museum of Paleontology [UCMP] or Sierra College), where the discovery would be properly curated and preserved for the benefit of current and future generations. The language of this mitigation measure shall be included on any future grading plans, utility plans, and improvement plans approved by the Placer County Engineering and Surveying Division for the proposed project, where excavation work would be required. Construction may continue in areas outside of the buffer zone.

iv. References

- Caltrans, 2008. A Geoarchaeological Overview and Assessment of Caltrans District 3. Cultural Resources Inventory of Caltrans District 3 Rural Conventional Highways. Prepared by Jack Meyer and Jeffery S. Rosenthal. Far Western Anthropological Research Group, Inc.
- California Department of Transportation, 2019. Caltrans Seismic Design Criteria, Version 2.0, April 2019.
- California Department of Conservation, 2010a. An Explanatory Text to Accompany the Fault Activity Map of California. California Geological Society. Available at <u>http://www.conservation.ca.gov/cgs/Documents/FAM_phamplet.pdf</u>.

2010b. Fault Activity Map of California. California Geological Society. Available at

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- Helley, E.J., 1979. Preliminary Geologic Map of Cenozoic Deposits of the Davis, Knights Landing, Lincoln, and Fair Oaks Quadrangles, California, U.S. Geological Survey, Open-File Report OF-79-583, Scale 1:62,500. Available at https://ngmdb.usgs.gov/Prodesc/proddesc 11318.htm. Accessed April 17, 2019.
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- Jennings, C.W., and Bryant, W.A., 2010. Fault activity map of California: California Geological Survey Geologic Data Map No. 6, map scale 1:750,000.
- Marchland, Denis E. and Alan Allwardt, 1981. *Late Cenozoic Stratigraphic Units, Northeastern San Joaquin Valley, California*. Geological Survey Bulletin 1470.
- International Conference of Building Officials, 1994. Uniform Building Code, Volume 2. Structural Engineering Design Provisions.

Natural Resources Conservation Service 2017. Soil survey for Placer County.

- Placer County 2019. Project EIR for the Brady Vineyards Subdivision Project. Available at <u>www.placer.ca.gov/documentcenter</u>. Accessed December 10, 2020. Prepared by Raney Planning & Management, Sacramento, CA.
- WRECO. 2020. Preliminary Foundation Report Watt Avenue Bridge Project at Dry Creek, Placer County CA. Federal Air Project BRLS-5915.

4.8 Greenhouse Gas Emissions

Issues (and Supporting Information Sources):		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	
Gre	eenhouse Gas Emissions –Would the project:					
a)	Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			\boxtimes		
b)	Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?			\boxtimes		

i. Setting

GHG is used to describe atmospheric gases naturally contained within the earth's atmosphere that absorb solar radiation and subsequently emit radiation in the thermal infrared region of the energy spectrum, trapping heat in the Earth's atmosphere. These gases include carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), and water vapor, among others. A growing body of research attributes long-term changes in temperature, precipitation, and other elements of the earth's climate to large increases in GHG emissions since the mid-nineteenth century, particularly from human activity related to fossil fuel combustion. Anthropogenic GHG emissions of particular interest include CO₂, CH₄, N₂O, and fluorinated gases

CO₂, CH₄, and N₂O trap solar radiation and the earth's own radiation in the atmosphere, preventing it from passing through the earth's atmosphere and into space. GHGs are vital to life on earth; however, increasing GHG concentrations are causing an increase in average global temperatures. In general, CH₄ has 21 times the warming potential of CO₂, and N₂O has 310 times the warming potential of CO₂. CO₂e represents CO₂ plus the additional warming potential from CH₄ and N₂O. The common unit of measurement for CO₂e is metric tons (MTCO₂e).

As the average temperature of the earth increases, climate patterns may be affected, including changes in precipitation patterns, accumulation of snowpack, and intensity and duration of spring snowmelt, as well as increased intensity of low precipitation and droughts. Human-made GHG emissions occur primarily through the combustion of fuels, mainly associated with transportation, residential energy, and agriculture.

Parts of the earth's atmosphere act as an insulating "blanket" for the planet. This "blanket" of various gases traps solar energy, which keeps the global average temperature in a range suitable for life. The collection of atmospheric gases that comprise this blanket are called "greenhouse

gases," based on the idea that these gases trap heat like the glass walls of a greenhouse. These gases, mainly water vapor, CO_2 , CH_4 , N_2O , ozone (O_3) , and chlorofluorocarbons (CFCs), all act as effective global insulators, reflecting visible light and infrared radiation back to earth. Most scientists agree that human activities, such as producing electricity and driving internal combustion vehicles, have contributed to the elevated concentration of these gases in the atmosphere. As a result, the earth's overall temperature is rising.

California's primary legislation for reducing GHG emissions is the California Global Warming Solutions Act (AB 32), which set a goal for the state to reduce GHG emissions to 40 percent of 1990 emission levels by 2030. The CARB, among other state agencies, has enacted regulation in order to achieve these targets. In December 2008, CARB adopted its *Climate Change Scoping Plan*, which contains the main strategies California would implement to reduce California's projected 2020 CO₂e emission levels by approximately 21.7 percent under a business-as-usual scenario (CARB 2008). In November 2017, CARB adopted the second update; the 2017 Climate Change Scoping Plan Update (2017 Scoping Plan Update) lays the framework for achieving the 2030 reductions as established in more recent legislation (CARB 2017). The 2017 Scoping Plan Update identifies the GHG reductions needed by each emissions sector to achieve a statewide emissions level 40 percent below 1990 levels before 2030.

The transportation sector is integral to the people and economy of California. To achieve GHG emission reduction goals, it is vital that the State builds on its past successes in reducing criteria and toxic air pollutants from transportation and goods movement activities. GHG emission reductions would come from cleaner vehicle technologies, lower-carbon fuels, and reduction of VMT. One of Governor Brown's key pillars sets the ambitious goal of reducing today's petroleum use in cars and trucks by up to 50 percent by 2030.

CO₂, as part of the carbon cycle, is an important compound for plant and animal life but also accounted for 84 percent of California's total GHG emissions in 2015. Transportation, primarily on-road travel, is the single largest source of CO₂ emissions in the state. The proposed project is located in Placer County and is included in the County's Year 2036 Regional Transportation Plan (RTP).

The proposed project is also listed in the financially constrained list of projects in the 2016 Metropolitan Transportation Plan (MTP)/Sustainable Communities Strategy (SCS) Amendment #2 under RTP ID PLA25535. The 2016 MTP/SCS #2 was approved by the Sacramento Area Council of Governments (SACOG) Board on September 20, 2018.

The Community-Wide and County-Operations 2015 Greenhouse Gas Emissions Inventories with 2005 Baseline Comparison Final Report (Final GHG Inventory) published in January of 2018

(County of Placer, 2018) contains Placer County's GHG emission inventory. The County's Final GHG Inventory separates GHG emissions from residents, businesses, and visitors within the county from emissions from County operations; these two categories would be regarded as Community-Wide and County-Operations.

ii. Discussion

a,b) Less than Significant Impact. GHG emissions associated with the project would occur over the short term from construction activities, consisting primarily of emissions from equipment exhaust. Construction activities, such as site preparation, site grading, on-site heavy-duty construction vehicles, equipment hauling materials to and from the site, and motor vehicles transporting the construction crew would produce combustion emissions from various sources. During the construction of the proposed project, GHGs would be emitted through the operation of construction equipment and from worker and builder supply vendor vehicles, each of which typically uses fossil-based fuels to operate. Exhaust emissions from on-site construction activities would vary daily as construction activity levels change.

There would also be long-term greenhouse gas emissions associated with project-related changes to vehicular trips. Recognizing that the field of global climate change analysis is rapidly evolving, the approaches advocated most recently indicate that lead agencies should calculate, or estimate, emissions from vehicular traffic, energy consumption, water conveyance and treatment, waste generation, construction activities, and any other significant source of emissions within the project area. The construction period for the proposed project would span approximately 18 to 24 months. Construction emissions were estimated using the latest Sacramento Metropolitan Air Quality Management District's Road Construction Model (RoadMod, Version 8.1.0). Construction emissions were estimated for the project alternatives using detailed equipment inventories and project construction scheduling. Construction-related emissions for the proposed project are presented in **Table 4.8-1**. The results of the construction emissions calculations are included in **Appendix C: Road Construction Model**. The emissions presented are based on the best information available at the time of calculations. The emissions represent the peak daily construction emissions that would be generated by each alternative.

Project Phases	CO ₂ (tons/phase)	CH₄ (tons/phase)	N₂O (tons/phase)	CO₂e (MT/phase)
Grubbing/Land Clearing	142.82	0.03	0.00	130.71
Grading/Excavation	1,556.20	0.44	0.01	1,425.65
Drainage/Utilities/Sub-Grade	597.17	0.14	0.01	546.45
Paving	87.33	0.02	0.00	80.00
Maximum	1,556.20	0.44	0.01	1,425.65
Total (tons/construction project)	2,383.52	0.63	0.02	2,182.80

 Table 4.8-1

 Estimated Project Construction Greenhouse Gas Emissions

Source: Compiled by LSA 2019. CH_4 = methane CO_2 = carbon dioxide CO_2e = carbon dioxide equivalent N_2O = Nitrous Oxide tons/phase = tons per phase MT/phase = metric tons per phase

As shown in **Table 4.8-1**, the grading and excavation phase of construction produces the most CO₂ at 1,556 tons. The proposed project is estimated to produce a maximum of 1,426 metric tons for all phases. The proposed project operations would have low to no potential for an increase in GHG emissions. Even though impacts would be less than significant, construction activities would be subject to the implementation of best management practices (BMPs), as well as requirements from the County Code and the Placer County Air Pollution Control District (PCAPCD). Therefore, equipment efficiency would be maximized during the construction of the proposed project. The proposed project would not conflict with any identified plans adopted for the reduction of GHG emissions. Impacts are less than significant, and no mitigation measures are required. In addition, there would likely be long-term GHG benefits by improved operation and smoother traffic flow. As the GHG analysis is based on a much more regional, cumulative effect, the GHG operational emissions are based on the Fehr & Peers cumulative traffic modeling (Fehr & Peers 2018).

Table 4.8-2 shows the cumulative regional Vehicle Miles Traveled (VMT) and the associated GHG emissions for the proposed project scenarios. The No-Build/Two-Lane Alternative VMT is used as a baseline with 19,290 metric tons per year emissions from 48,488,718 vehicle miles. The VMT decrease of 19,596 that occurs with the proposed project with each

progressive alternative is reasonable as a higher capacity bridge crossing would allow more vehicles to take shorter trips, shifting these vehicles from more circuitous, longer routes.

 Table 4.8-2

 Cumulative Annual Greenhouse Gas Emissions and Vehicle Miles Traveled

Project Scenario	CO₂e Emissions (Metric Tons/Year)	Annual VMT	VMT Change (Compared to No Build & 2-Lane Bridge Scenarios)	
No-Build	19,290	48,483,718		
Proposed Project	19,282	48,464,122	-19,596	

Source: Compiled by LSA utilizing Fehr & Peers traffic data and CT-EMFAC2014 emissions factors for 2042. $CO_2e = carbon dioxide equivalent$

VMT = Vehicle Miles Traveled

iii. Mitigation Measures

No mitigation required.

iv. References

- Fehr & Peers Transportation Consultants (Fehr & Peers). 2018. *Watt Avenue Dry Creek Bridge Replacement - DRAFT,* Memorandum RS17-3593, May 11, 2018.
- LSA Associates 2019. December 5 Air Quality Technical Report. Watt Avenue Bridge Project, Caltrans District 3. County Code 5919 BRLS-5919(115). Prepared for Placer County.
- Placer County 2018. The Community-Wide and County-Operations 2015 Greenhouse Gas Emissions Inventories with 2005 Baseline Comparison Final Report (Final GHG Inventory).

4.9 Hazards and Hazardous Materials

lssı	es (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Haz	ards and Hazardous Materials –Would the project:				
a)	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			\boxtimes	
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?		\boxtimes		
c)	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one- quarter mile of an existing or proposed school?				\boxtimes
d)	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				\boxtimes
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?				\boxtimes
f)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?			\boxtimes	
g)	Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?		\boxtimes		

i. Setting

An Initial Site Assessment (ISA) was prepared for the proposed project in general conformance with the scope and limitations of ASTM International (ASTM) Practice E 1527-05 (Dewberry | Drake Haglan, 2020). The ISA identifies Recognized Environmental Conditions (RECs) for the proposed project site that may adversely affect roadway and/or bridge construction or right-of-way acquisition. RECs are defined by the ASTM Practice E 1527-05 as: "the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. A

database report was obtained from Environmental Database Resources, Inc. (EDR) consisting of information compiled from various government records — such as Geotracker, National Priorities List, and EnviroStor — for information regarding the proposed project area. Based on the results of the ISA, no potential RECs have been found in or within proximity to the proposed project site.

An ISA does not test for asbestos or lead-based paint (LBP) within the proposed project site. The Occupational Safety and Health Administration (OSHA) requires that all thermal systems insulation, surfacing materials, and resilient flooring materials installed prior to 1981 be considered Presumed Asbestos Containing Materials (ACM) and treated accordingly. Potential ACMs were not observed within or adjacent to the proposed project site. Bridges built prior to 1981 sometimes have ACMs within their rail shim sheet packing, bearing pads, support piers, and/or expansion joint materials. The existing Watt Avenue Bridge over Dry Creek was constructed prior to 1981 and is considered Presumed Asbestos Containing Material (PAC).

Structures constructed prior to 1978 are presumed to contain LBP unless proven otherwise, although structures constructed after 1978 may also contain LBPs. Additionally, pavement striping paint on roadways often contains lead. The site reconnaissance conducted for the ISA recorded the presence of painted features of the existing bridge and lane striping on Watt Avenue and Dyer Lane throughout the proposed project site (Dewberry | Drake Haglan, 2020). These features have the potential to contain LBP as the bridge and roadways were originally constructed prior to 1978.

Aerially Deposited Lead (ADL) is commonly present adjacent to heavily traveled roadways in service prior to 1987 because lead was used as a gasoline additive prior to this time. Watt Avenue and Dyer Lane have been located along their current alignment since prior to 1902 (Dewberry | Drake Haglan, 2020). Soil testing was performed along Watt Avenue, and lead concentrations were below the regulatory limits (Dewberry | Drake Haglan, 2020).

Treated wood waste (TWW) is typically generated when wooden portions of a bridge or roadway are removed, such as posts along metal beam guard railing, beam barriers, piles, or roadside signs. These wood products are typically treated with preserving chemicals that protect against insect attack and fungal decay, which may be hazardous. Wood was observed within the proposed project site, used as posts along metal guard railing, roadside signs, and utility poles. These wood features have the potential to contain hazardous chemicals.

Land use in the vicinity of the proposed project consists of and has historically been used for rural residential, open space, and agricultural uses. According to review of historical sources, including historical aerial photographs and topographic maps, the first development within the vicinity of the proposed project site occurred prior to 1902.

ii. Discussion

a) Less than Significant Impact. The proposed project does not create a significant hazard to the public or environment through the routine transport, use, or disposal of hazardous materials. Equipment and vehicles associated with the construction of the proposed project would be fueled from a maintenance vehicle located a minimum of 100 feet from Dry Creek. The proposed project would not result in the use, storage, or distribution of hazardous or toxic materials.

Hazardous materials typically used during construction include, but are not limited to, hydraulic oil, diesel fuel, grease, lubricants, solvents, and adhesives. Although the equipment used during construction activities could contain various hazardous materials, these materials would be used in accordance with the manufacturer's specifications and all applicable regulations. Minor fuel or oil spills could occur during construction activities. The release, even if accidental, of hazardous materials into the environment is regulated through existing federal, state, and local laws. These regulations require emergency response from local agencies to contain hazardous materials in the event of an accidental release. The use of handling of hazardous materials during construction activities would occur in accordance with applicable federal, state, and local laws, including the California OSHA (Cal OSHA) requirements. Implementation of construction best management practices (BMPs), compliance with vehicle manufacturer's specifications, and compliance with applicable regulations would result in impacts that are less than significant and no mitigation is required.

b) Less than Significant Impact with Mitigation Incorporated. The proposed project would remove the existing two-lane bridge along Watt Avenue over Dry Creek and construct a new bridge that would accommodate four 12-foot lanes, two eight-foot minimum shoulders, a 12-foot minimum pedestrian pathway on the east side, and a variable width roadway median. Therefore, the operation of the proposed project would not increase the potential for accidents or upset of hazardous materials resulting in the exposure of the public.

There are no known hazardous waste sites or RECs within the proposed project site. During construction, there is the potential for the release of hazardous materials related to ACMs, LBP, TWW, and historic agricultural use (Dewberry | Drake Haglan, 2020). Lead concentrations in soil were below the regulatory limit of 80 milligrams per kilogram (mg/kg); therefore, the soil in the proposed project area can be pre-classified as non-hazardous (Dewberry | Drake Haglan, 2020). Wood that was observed on the proposed project site as posts along metal guard railing, roadside signs, and utility poles has the potential to have been treated with hazardous chemicals. Painted features of the existing bridge and lane striping on Watt Avenue and Dyer Lane have the potential to contain LBP as the bridge and

roadways were originally constructed prior to 1978. There is also the potential for harmful trace elements of arsenic, cobalt, and chromium in the soil as a result of the historical use of agricultural chemicals in the area. Implementation of Mitigation Measures **HAZ-1** through **HAZ-4** would reduce potential impacts to less than significant levels.

- c) No Impact. The closest school to the proposed project is McClellan High School, approximately 0.5-mile south of the proposed bridge replacement. As stated above, implementation of construction best management practices (BMPs), compliance with vehicle manufacturers' specifications, and compliance with applicable regulations would reduce the potential for hazardous materials or emissions to be released. Upon construction completion, while Watt Avenue would have additional lanes, the use of Watt Avenue and Dryer Lane would not be changed. Therefore, given that McClellan High School is more than 0.25-mile from the proposed project, the proposed project would have no impact in this regard.
- **d)** No Impact. The proposed project is not located on a site included in the Hazardous Waste and Substances Site List pursuant to Government Code Section 65962.5. According to the ISA, two ENVIROSTOR sites do occur within approximately one mile of the proposed project; however, these sites are not anticipated to have contaminated the soils or groundwater of the proposed project site (Dewberry | Drake Haglan, 2020). Therefore, the proposed project would have no impact.
- e) No Impact. The nearest airport to the proposed project is the Rio Linda Airport, a small public airport located approximately six miles southwest of the proposed project. The proposed project is not located within an airport land use plan. Construction and operation of the proposed project would not result in a safety hazard or excessive noise for people residing or working within an airport land use plan or within two miles of an airport. No impact would occur.
- f) Less than Significant Impact. The proposed project would remove the existing two-lane bridge along Watt Avenue over Dry Creek and construct a new bridge that would accommodate four 12-foot lanes, two eight-foot minimum shoulders, a 12-foot minimum pedestrian pathway on the east side, and a variable width roadway median. Implementation of the proposed project would have no long-term impacts on an emergency response plan or emergency evacuation plan. The proposed bridge would be constructed in two stages the first allowing traffic flow along Watt Avenue over the existing bridge while the western portion of the new bridge is constructed, and the second stage would redirect traffic onto the western portion of the new structure while the existing bridge is removed and the eastern portion is constructed. It is possible that traffic may slow intermittently during bridge construction. The construction of the proposed project would be coordinated with local

emergency response entities (fire, police) in order to ensure proper implementation of adopted emergency response plans and emergency evacuation plans. Short-term impacts would be less than significant.

g) Less than Significant with Mitigation Incorporated. The proposed project would remove the existing two-lane bridge along Watt Avenue over Dry Creek and construct a new bridge that would accommodate four 12-foot lanes, two eight-foot minimum shoulders, a 12-foot minimum pedestrian pathway on the east side, and a variable width roadway median. The proposed project site is in a Local Responsibility Area (LRA) and is designated as a Non-VHFHSZ (Non-Very High Fire Hazard Severity Zone) (California Department of Forestry and Fire Protection [CAL FIRE], 2008). Therefore, the proposed project would not expose people or structures to a significant risk from wildland fires beyond what is currently present. The construction and operation of the proposed project would have no impact.

During construction, heavy equipment and passenger vehicles driving on vegetated areas prior to clearing and grading could increase the risk of fire. Heated mufflers and improper disposal of cigarettes could potentially ignite surrounding vegetation. Implementation of **Mitigation Measure FIRE-01**, would reduce the potential for construction activities to result in sever fires by requiring fire-safe construction and maintenance practices. Therefore, impacts would be less than significant with mitigation incorporated.

iii. Mitigation Measures

Mitigation Measure HAZ-1: Development of a Health and Safety Plan (HASP). A HASP shall be developed for the project. The HASP shall describe appropriate procedures to follow if any contaminated soil or groundwater is encountered during construction activities. Any unknown substances shall be tested, handled, and disposed of in accordance with appropriate federal, state, and local regulations.

Mitigation Measure HAZ-2: Asbestos and Lead-Containing Materials. A California-licensed abatement contractor will conduct a survey for lead-containing materials prior to demolition (including concrete elements) and will submit a National Emission Standard for Hazardous Air Pollutants (NESHAP) notification. Per Section 14-9.02 of the asbestos NESHAP regulation, all "demolition activity" requires written notification even if there is no asbestos present. This notification should be typewritten and postmarked or delivered no later than 10 days prior to the beginning of the asbestos demolition or removal activity.

If lead-containing materials are found, the following will be required:

- Building materials associated with paint on structures and paint on utilities should be abated by a California-licensed abatement contractor and disposed of as a hazardous waste in compliance with SSP 14-11.13 and other federal and state regulations for hazardous waste.
- A Lead Compliance Plan should be prepared by the contractor for the disposal of LBP. The grindings (which consist of the roadway material and the yellow and white color traffic stripes) shall be removed and disposed of in accordance with Standard Special Provision 36-4 (Residue Containing High Lead Concentration Paints). In addition, the Lead Compliance Plan will also contain the following provision to address aerially-deposited lead: SSP 7-1.02K (6)(j)(iii) Earth Material Containing Lead.
- A California-licensed lead contractor should be required to perform all work that will disturb any LBP as a result of planned or unplanned renovations in the project area, including the presence of yellow traffic striping and pavement markings that may contain lead-based paint. All such material must be removed and disposed of as a hazardous material in compliance with SSP 14-11.12.

Mitigation Measure HAZ-3: Treated Wood. The timber associated with the barn structure shall be removed and disposed of at a Regional Water Quality Control Board certified TWW landfill.

Mitigation Measure HAZ-4: Contaminated Soils. Due to the high Average daily Traffic (ADT) and age of Watt Avenue, the potential exists for the soils adjacent to the roadway to contain elevated levels of ADL. The following measures are recommended for the handling of contaminated soils:

- Worker Safety Training shall include exposure to Arsenic and Chromium in soil (above RWQCB ESL levels) and ADL in soil (below RWQCB ESL levels).
- Excavated soils shall be disposed of as non-hazardous waste at Class II unit or Class III landfill depending on facility acceptance standard, consistent with California Codes and Regulations (CCR) Title 22 §66363.11 waste classification.

Implement **Mitigation Measure FIRE-01**, as described in Section 20, Wildfire below.

iv. References

California Department of Forestry and Fire Protection (CAL FIRE). 2008. Very High Fire Hazard Severity Zone in an LRA Map. December 2008. Available at <u>https://frap.fire.ca.gov/mapping/maps</u>. Accessed December 11, 2020. Dewberry | Drake Haglan. 2020. Initial Site Assessment for Watt Avenue at Dry Creek Bridge Replacement Project.
4.10 Hydrology and Water Quality

Issue	es (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
Hydr	ology and Water Quality – Would the project:		•		
a)	Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?		\boxtimes		
b)	Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?			\square	
c)	Substantially alter the existing drainage pattern of 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?			\boxtimes	
ii.	Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?		\square		
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?			\boxtimes	
iv.	Impede or redirect flood flows?				\boxtimes
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?				\square	
e) Co quali mana	onflict with or obstruct implementation of a water ity control plan or sustainable groundwater agement plan?				\boxtimes

i. Setting

A water quality technical memorandum was prepared in compliance with Caltrans documentation standards by the County, which forms the basis for the following hydrology and water quality impact analysis (Dewberry Drake Haglan 2019).

ii. Hydrology

Regional Hydrology

The project area is located in the Lower American hydrologic sub-area (HSA) of the Coon-American hydrologic area (HA), within the Valley American hydrologic unit (HU) of the Sacramento River hydrologic region (HR). It is located within the Dry Creek watershed (**Figure 4.10-1**).

The Lower American HSA drains an area of approximately 214 square miles, and the Coon-American HA drains approximately 554 square miles. The Dry Creek watershed drains an area of approximately 101 square miles. The Valley American HU drains approximately 770 square miles within the 27,200 square miles Sacramento HR.

The Sacramento River HR covers approximately 27,200 square miles. The region includes all or large portions of Modoc, Siskiyou, Lassen, Shasta, Tehama, Glenn, Plumas, Butte, Colusa, Sutter, Yuba, Sierra, Nevada, Placer, Sacramento, El Dorado, Yolo, Solano, Lake, and Napa Counties. Small areas of Alpine and Amador Counties are also within the region. Geographically, the region extends south from the Modoc Plateau and Cascade Range, at the Oregon border, to the Sacramento–San Joaquin River Delta. The Sacramento Valley, which forms the core of the region, is bounded to the east by the crest of the Sierra Nevada and southern Cascades and to the west by the crest of the Coast Range and Klamath Mountains. Other significant features include Mount Shasta and Lassen Peak in the southern Cascades; the Sutter Buttes in the south-central portion of the valley; and the Sacramento River and its major tributaries, the Pit, Feather, Yuba, Bear, and American Rivers (DWR 2003).

Local Hydrology

Dry Creek is a lower elevation perennial stream that flows in a northeast to southwest direction, beginning northeast of the project site. The headwaters of Dry Creek begin in the Sierra Nevada foothills Nevada range where it flows generally in a southwest direction across the valley floor before draining into the Natomas East Main Drainage Canal (formerly known as Steelhead Creek), a tributary to the Sacramento River. It is approximately 16 miles long and is within the Gibson Lake-Dry Creek subwatershed, which drains an area of approximately 24 square miles. In addition, it is mapped as both a riverine, unknown perennial, unconsolidated bottom, semi-permanently flooded (R5UBF) feature and a palustrine forested temporary flooded (PFOA) feature on the National Wetlands Inventory Mapper and as a perennial stream on the Rio Linda California U.S. Geographical Survey (USGS) 7.5-foot Quadrangle.



Existing Water Quality Conditions

At the project site, stormwater drainage from Watt Avenue influences water quality in Dry Creek. Vehicles traveling on Watt Avenue are sources of oil, grease, gasoline, heavy metals, and combustion byproducts. Land uses surrounding Dry Creek consist primarily of agriculture in the form of row crops and grazing land. Water pollutants associated with agricultural land uses include fertilizers, herbicides, and pesticides; pollutants from vehicles; animal waste; and improperly disposed of chemicals.

Dry Creek is included in the 2014-2016 California 303(d) List of Water Quality Limited Segments for indicator bacteria (SWRCB, 2018). The Dry Creek Conservancy has monitored and reported water quality conditions in Dry Creek over the years as part of a long-term creek monitoring and restoration program. Water quality concerns include warm summer water temperatures, nutrients, fecal coliform bacteria, heavy metal toxicity, and sediment in specific sections of the stream. Pollutant sources are primarily from non-point sources in the County and City of Roseville from urban runoff, agricultural runoff, and industrial discharges.

iii. Discussion

a) Less than Significant Impact with Mitigation Incorporated. Demolition of the existing Dry Creek bridge would take several days, and new bridge construction would require vegetation removal, grubbing and minor grading to prepare new approach roads and bridge exposing slopes and soils to potential erosion and transport of sediment to Dry Creek. While construction is proposed during the summer months when streamflows in Dry Creek are generally lower, there is potential for concrete, steel and other demolition materials to fall into Dry Creek, causing incremental increases in turbidity, and suspended solids would add to existing sediment loads in Dry Creek. Dry Creek, like many streams in the Placer County region, are already impacted by sedimentation from past historical development activities (farming practices, historic gold mining, urban development, natural erosion). In addition, various construction activities require the use of diesel, gasoline, oil, and grease that could cause water quality impairment downstream if precautions are not taken. Dry Creek is presently listed as impaired under Clean Water Act (CWA) Section 3030(d) for sediment under current conditions, and these potential incremental increases in sediment loads from construction may contribute to an existing regional water quality impairment. The permitting requirements under the NPDES General Construction stormwater permit wold assist with ensuring water quality impairment from construction activities is kept to acceptable levels through the implementation of a variety of standard industry best management practices. Impacts would be reduced to less than significant levels with the implementation of **Mitigation Measure HYD-1**.

- b) Less than Significant Impact. The proposed project site is not actively used for groundwater recharge. No wells would be constructed, nor would new connections to existing water facilities be required. The bridge project would not use local groundwater supplies for bridge construction or interfere with groundwater recharge in the Dry Creek area. The small increases in impervious surfaces from additional lanes and pedestrian pathway would not substantially impair groundwater recharge in south placer County aquifers. Construction activities may require the use of water for dust control or other activities. Water used during the construction of the proposed project would not substantially decrease water supply or reduce groundwater recharge. Impacts would be considered less than significant, and no mitigation is required.
- c) The bridge project would add two additional 12-foot lanes to the width of the bridge, a 12-foot median, and an eight-foot pedestrian pathway and is not expected to substantially alter the existing drainage patterns of the area near Dry Creek.
 - i. Less than Significant Grading and other activities during site preparation have the potential to increase erosion and off-site siltation of creek slopes on Dry Creek, as discussed previously. In addition, demolition and grading activities could cause erosion and siltation of Dry Creek and impacts to aquatic life if standard precautions are not implemented. The County contractor would be required to prepare an erosion and sedimentation control plan and obtain coverage under the SWRCB General Construction Stormwater permitting process. For these reasons, this impact is considered less than significant and no mitigation is required.
 - ii. Less than Significant Impact with Mitigation Incorporated. The bridge project would add two additional lanes and a pedestrian walkway that would create an incremental increase of approximately 44,475 square feet or 1.02 acres of new impervious surfaces compared to existing conditions that would generate minor incremental increases in stormwater runoff and pollutant loads to Dry Creek. Bridge drainage and stormwater systems would be sized appropriately to accommodate additional stormwater volumes.

The Dry Creek Conservancy has monitored water quality in Dry Creek over the years and has documented existing conditions with concerns with summer water temperatures, pesticides, heavy metals toxicity, sediment, and nutrients from a

variety of non-point sources such as agricultural drainage and urban runoff. Dry Creek is formally listed as impaired under the CWA Section 303(d) for sediment. A regional total maximum daily load (TMDL) assessment for sediment has not been prepared by the Regional Board. Stormwater runoff from highways, bridges, and local roads in California often contains a variety of contaminants, including oil and grease, copper from brake dust, zinc, antifreeze, rubber compounds, and urban trash. These common roadway pollutants build up on the road surface during the summer period and are washed into local streams during the first significant rainfall event of the year. The addition of increased impervious surfaces from two additional lanes and the pedestrian walkway would cause minor incremental increases in pollutant loads coming off the new bridge. For these reasons, this impact is less than significant with mitigation. To reduce this significant impact to less than significant levels, the County shall implement **Mitigation Measures HYD-1 and HYD-2**.

- iii. Significant Impact with Mitigation Incorporated. As discussed above, there is potential for surface water quality impairment of Dry Creek with regard to sediment and stormwater runoff from construction activities and pollutant loads from runoff from new impervious surfaces. Dry Creek is currently considered impaired under the CWA with regard to sedimentation; therefore, any increase in sediment is considered a significant impact requiring mitigation. Implementation of Mitigation Measure HYD-1 would reduce this impact to less than significant levels.
- iv. **Less than Significant.** The proposed project would not alter the course of Dry Creek nor would it alter the existing drainage patterns of the site. Therefore, impacts would be considered less than significant and no mitigation is required.
- d) Less than Significant Impact. The proposed project site is not located within a tsunami or seiche zone; therefore, no impacts would occur in this regard during operations or construction. The proposed project is located in the Dry Creek 100-year floodplain (Floodway Zone AE) based on review of Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM). The new bridge would be designed to current Caltrans hydraulic design standards to be able to pass 100-year floodwaters and would not impede floodflows through the bridge planning and design process. No mitigation is required.
- e) No Impact. The proposed project would construct a new bridge designed to current structural and geometric standards. Operation of the proposed project would be similar to existing conditions. During construction, the proposed project would adhere to, and

implement, permitting requirements, building/grading standards, and site-specific BMPs. Therefore, the proposed project would not conflict with or obstruct the implementation of a water quality control plan or sustainable groundwater management plan. The proposed project would result in no impact.

iv. Mitigation Measures

Mitigation Measure HYD-1: Obtain SWRCB General Construction Stormwater Permit and Prepare Stormwater Pollution Prevention Plan and Implement Best Management Practices. Placer County Public Works shall require the selected bridge construction contractor to prepare a detailed erosion and sediment control plan, including a spill contingency plan to minimize the potential for sediment and hazardous materials from entering Dry Creek during construction. The plan will be reviewed and approved by the Placer County Public Works Project Manager prior to construction activities. The plan shall include the following elements:

- The contractor shall develop and implement a toxic materials control and spill response plan to regulate the use of hazardous materials, such as the petroleum-based products used as fuel and lubricants for equipment and other potentially toxic materials associated with the proposed project construction. This includes, but is not limited to:
 - Fueling and maintaining vehicles in a specified area that is designed to capture spills. All fueling and maintenance of vehicles and other equipment (including staging areas) will be located at least 66 feet (20 meters) from Dry Creek and any other drainages on site.
 - Properly disposing of oil or other liquids.
 - On a weekly basis, inspecting and maintaining vehicles and equipment to prevent the dripping of oil or other fluids onto areas that could result in runoff.
- Standard construction BMPs shall be implemented throughout construction to avoid and minimize adverse effects to the water quality within the project site. Appropriate erosion control measures shall be used (e.g., straw wattles, filter fences, vegetative buffer strips, or other accepted equivalents) to reduce siltation and contaminated runoff from project sites. The specific BMPs to be implemented shall be described in full in the project's Stormwater Pollution Prevention Plan (SWPPP). All erosion control materials, including straw wattles and erosion control blanket material, used on-site shall be biodegradable. Use of erosion control containing plastic monofilament shall not be allowed as wildlife

may become entrapped in this material. Wattles shall be wrapped with 100 percent biodegradable materials like burlap, jute, or coir.

- Measures including, but not limited to mulches, soil binders/erosion control blankets, silt fencing, fiber rolls, and temporary berms, will be implemented during ground-disturbing activities to reduce erosion and sedimentation. These measures will be inspected before, during, and after a rain event.
- Existing vegetation shall be protected using temporary fencing, or other protection devices, to reduce erosion and sedimentation.
- Exposed soils shall be covered by loose bulk materials or other materials such as visqueen to reduce erosion and runoff during rainfall events.
- Exposed soils shall be stabilized, through watering or other measures such as covering with visqueen, to prevent the movement of dust at the project site caused by winds and construction activities such as traffic and grading activities.
- Temporary berms shall be constructed along the tops of slopes to prevent water from running uncontrolled from slopes during construction activities. Water shall be collected in these berms and taken down the slopes in an erosion-proof drainage system. Sediment collected within these berms shall be allowed to "settle out" and then removed from the site.
- All erosion control measures and stormwater control measures shall be properly maintained until the site has returned to a pre-construction state.
- All disturbed areas will be restored to pre-construction contours and revegetated, either through hydroseeding or other means, with native or approved non-invasive exotic species.
- All construction materials will be hauled off-site after completion of construction activities.

Mitigation Measure HYD-2: Obtain RWQCB NPDES General Permit for Dewatering. All dewatering effluents shall be required to be tested for trace pollutants by an EPA certified laboratory prior to discharge into the receiving waters of Dry Creek per the General Water Discharge Requirements/NPDES Permit for Dewatering and Other Low Threat Discharges to Surface Waters. Effluent samples will be tested for total suspended solids (TSS), total nitrogen, oil and grease, total petroleum hydrocarbons, and sulfides. Discharge effluent shall be required to be visibly clear and sediment control BMPs will be implemented.

v. References

- Dewberry Drake Haglan. 2019. Water Quality Technical Memorandum for the Watt Avenue Bridge Replacement Project (Project BRLS 5919).
- State Water Resources Control Board. 2018. 2014-2016 Integrated Report (Clean Water Act Section 303(d) List / 305(b) Report. Available at <u>http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml</u>.

4.11 Land Use and Planning

Issi	ues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Lar	nd Use and Land Use Planning – Would the project:				
a)	Physically divide an established community?			\boxtimes	
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?			\boxtimes	

i. Setting

The proposed project is located in southwestern Placer County. Surrounding land use includes agricultural, low-density rural residential, and residential subdivisions. The terrain is primarily flat, with elevation at approximately 80 feet above mean sea level.

The proposed project falls within the jurisdiction of the Placer County General Plan, Placer Vineyards Specific Plan, Riolo Vineyard Specific Plan, and the Dry Creek/West Placer Community Plan. **Table 4.11-1** describes land use and zoning designations and lists the applicable specific plan for the 15 parcels within the proposed project area.

	Farter Land Ose Designations and Existing Conditions					
APN	Land Use Designation	Zoning	Specific/Community			
			Plan			
023-200-015	Agriculture-Residential Development	Low Density	Placer Vineyards			
	Reserve 4.6 - 20 Acre Minimum (Ac.	Residential				
	Min.)					
023-200-018	Greenbelt & Open Space	Open Space	Placer Vineyards			
023-200-028	Agriculture-Residential Planning	Commercial/High	Placer Vineyards			
	Reserve Development Reserve 4.6 - 20	Density				
	Ac. Min.	Residential				
023-200-062	Agriculture-Residential Planning	Residential	Placer Vineyards			
	Reserve Development Reserve 4.6 - 20					
	Ac. Min.					
023-200-063	Agriculture-Residential Planning	Residential	Placer Vineyards			
	Reserve Development Reserve 4.6 - 20	Medium Density				
	Ac. Min.					
023-200-019	Greenbelt & Open Space	Open Space	Riolo Vineyard			

Table 4.11-1 Parcel Land Use Designations and Existing Conditions

023-200-027	Low Density Residential Development Reserve 1 - 2 dwelling units per acre (DU/Ac)	RS-AG-B-20 DR PD = 2	Riolo Vineyard
023-200-056	Commercial	C1-UP-Dc	Riolo Vineyard
023-200-074	Greenbelt & Open Space	Open Space	Riolo Vineyard
023-200-035	Professional Office	OP-Dc	Dry Creek-West Placer
023-200-041	Agriculture-Residential Planning Reserve Development Reserve 4.6 - 20 Ac. Min.	Open Space	Dry Creek-West Placer
023-200-042	Greenbelt & Open Space	Open Space	Dry Creek-West Placer
023-200-048	Professional Office	OP-Dc	Dry Creek-West Placer
023-200-049	Professional Office	OP-Dc	Dry Creek-West Placer
023-200-050	Professional Office	OP-Dc	Dry Creek-West Placer

ii. Discussion

- a) Less than Significant Impact. The proposed project would remove the existing two-lane bridge along Watt Avenue over Dry Creek and construct a new bridge that would accommodate four 12-foot lanes, two eight-foot minimum shoulders, a 12-foot minimum pedestrian pathway on the east side, and a variable width roadway median. These improvements are designed to meet existing and projected traffic volumes. The proposed permanent right-of-way easements would affect up to 11 parcels along Watt Avenue at the proposed project site; however, the new structure would be built on roughly the same alignment as the existing bridge. The proposed project improvements would increase the width of Watt Avenue as identified in the Placer County General Plan, Placer Vineyards Specific Plan, Riolo Vineyard Specific Plan, and the Dry Creek/West Placer Community Plan. In addition, the proposed project would provide a safer environment for pedestrian and bicycle users, as well as safer access to the Dry Creek path network. Therefore, the proposed project would not physically divide an established community, nor would it create a new barrier between various portions of the proposed project area beyond existing conditions. Impacts would be less than significant, and no mitigation would be required.
- **b)** Less than Significant Impact. The proposed project would replace the Watt Avenue Bridge and provide roadway improvements necessary to convey existing and predicted traffic volumes from approved urban growth in Placer County. This proposed project is consistent with the goals and objectives of the Placer County General Plan, Placer

Vineyards Specific Plan, Riolo Vineyard Specific Plan, the Dry Creek/West Placer Community Plan, Placer County ordinances, and state and federal policies and regulations. Trees would be maintained along Dyer Lane in conformance to the Placer County Tree Preservation ordinance. Any work performed in the channel of Dry Creek would occur between June 15 and September 30 of each construction year (the time of year in which listed anadromous fish species are unlikely to be present in the area) or as specified in the environmental permits. Therefore, impacts would be less than significant. No mitigation is required.

iii. Mitigation Measures

The proposed project impacts will be less than significant. No mitigation measures are required.

iv. References

- Placer County. 1990. Dry Creek/West Placer Community Plan. Available at https://www.placer.ca.gov/3023/Dry-Creek-West-Placer-Community-Plan.
- Placer County. Placer County Code. Article 12 Section. Available at <u>http://qcode.us/codes/placercounty/</u>.
- Placer County. 1994. Placer County General Plan Land Use Element. Updated 2013. Available at <u>https://www.placer.ca.gov/DocumentCenter/View/8573/Land-Use-PDF</u>.
- Placer County. 2015. Placer Vineyards Specific Plan. Available at https://www.placer.ca.gov/DocumentCenter/View/9773/Chapter-1---Introduction-PDF?bidId=.
- Placer County. 2015. Riolo Vineyard Specific Plan. Chapter 3 Land Use. Available at https://www.placer.ca.gov/DocumentCenter/View/9093/Land-Use-PDF.
- Placer County. 2020. Placer County Zoning Ordinance. Available at <u>https://www.placer.ca.gov/3701/Zoning-Ordinance</u>.

4.12 Mineral Resources

Iss	ues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
Mi	neral Resources – Would the project:				
a)	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				\boxtimes
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?				\boxtimes

i. Setting

The California Surface Mining and Reclamation Act (SMARA) was enacted by the California legislature to regulate activities related to mineral resource extraction. The act requires the prevention of adverse environmental effects caused by mining, the reclamation of mined lands for alternative land uses, and the elimination of public health and safety hazards from the effects of mining activities.

A provision of SMARA requires the California Geological Survey (formerly California Division of Mines and Geology) to classify the regional significance of mineral resources and create mineral land classification reports. Four Mineral Resource Zones (MRZs) have been designated for all minerals that occur or expected to occur in Placer County (Department of Conservation, 1995) that reflect the mineral resource significance of an area. These designations are intended to preserve known mineral resources for future mining and to prevent encroachment of urban development that would compromise the resource's value. The four classifications are:

- MRZ-1 Areas of no mineral resource significance.
- MRZ-2 Areas of identified mineral resource significance.
- MRZ-3 Areas of undetermined mineral resource significance.
- MRZ-4 Areas of unknown mineral resource significance.

The top mineral resources that are extracted from Placer County include aggregate, clay, decomposed granite, shale, gold (placer and lode), and crushed stone. The proposed project is located in an area identified as MRZ-4. There are no active mining facilities within the proposed project area.

ii. Discussion

- a) No Impact. The proposed project would remove the existing two-lane bridge along Watt Avenue over Dry Creek and construct a new bridge that would accommodate four 12-foot lanes, two eight-foot minimum shoulders, a 12-foot minimum pedestrian pathway on the east side, and a variable width roadway median. There are no mining operations within the Project vicinity. The project site does not include regional or statewide significant mineral lands. The Mineral Land Classification Map of Placer County shows no sources for base or precious metals, aggregate, crushed stone, gold, or other mineral sources located in the vicinity of the Project (Loyd, 1995). The MRZ-4 designation is defined as areas of no known mineral occurrences where geologic information does not rule out either the presence or absence of significant mineral resources. Construction activities would be temporary in nature and would not conflict with or limit access to mineral resources. Operation of the project would be similar to existing conditions. The project would have **no impact** to known mineral resources. No mitigation is required.
- b) No Impact. The Project is not located near a mineral resource recovery site delineated by the General Plan or any other applicable land use plan. Construction activities would be temporary in nature and would not conflict with or limit access to mineral resources. Operation of the project would be similar to existing conditions. There would be no impact to locally important mineral resource recovery site. No mitigation is required.

iii. Mitigation Measures

No mitigation required.

iv. References

- Department of Conservation, 1995. *Mineral Land Classification of Placer County*. DMG Open-File Report 95-10. Division of Mines and Geology.
- Loyd, Ralph C., 1995. *Mineral Land Classification Map of Placer County, California Map*. Scale 1:100,000. Department of Conservation. Divisions of Mines and Geology.

4.13 Noise

	Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
No	ise – Would the project:				
a)	Result in the 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)	Result in the generation of excessive groundborne vibration or groundborne noise levels?			\boxtimes	
c)	For a project located within the vicinity of a private airstrip or airport land use plan area, 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 area to excessive				

i. Setting

noise levels?

A project would normally have a significant effect on the environment related to noise if it would substantially increase the ambient noise levels for adjoining areas or conflict with the adopted environmental plans and goals of the community in which it is located. The applicable noise standards governing the project sites are the criteria in the County's General Plan Noise Element and the Noise Ordinance. Noise impacts can be described in three categories. The first is audible impacts that increase noise levels noticeable to humans. Audible increases in noise levels generally refer to a change of 5.0 decibels (dB) or greater since this level has been found to be perceptible in exterior environments. The second category, potentially audible, is the change in the noise level between 1.0 and 3.0 dB. This range of noise levels has been found to be noticeable only in laboratory environments. The last category is changes in noise level of less than 1.0 dB, which are inaudible to the human ear. Only audible changes in existing ambient or background noise levels are considered potentially significant.

For the purpose of this analysis, the proposed project creates a significant noise impact if the project-related noise increase at an existing sensitive receptor is greater than 3.0 dB and the resulting noise level is greater than the standards cited below or if the project-related increase in noise is greater than 5.0 A-weighted decibels (dBA), yet the resulting noise levels are within the applicable land use compatibility standards for the sensitive use.

Certain land uses are considered more sensitive to noise than others. Examples of these include residential areas, educational facilities, hospitals, childcare facilities, and senior housing. Sensitivity to noise increases during the evening and at night. There are noise-sensitive land uses, single-family residences, located adjacent to Watt Avenue within the project limits and non-noise-sensitive land uses, a cemetery and agricultural land, located adjacent to Watt Avenue within the project limits. The existing noise environment in the project area is influenced by traffic noise on Watt Avenue and other roadways in the project vicinity.

Vibration standards included in the Caltrans *Transportation and Construction Vibration Guidance Manual* are used in this analysis for vibration annoyance. **Table 4.13-1, Vibration Annoyance Potential Criteria,** provides the criteria for assessing annoyance potential from vibration levels in a building. As shown in **Table 4.13-1**, the vibration annoyance potential criteria is barely perceptible at 0.01 peak particle velocity (PPV) (inches per second [in/sec]), distinctly perceptible at 0.04 PPV (in/sec), strongly perceptible at 0.10 PPV (in/sec), and severe at 0.4 PPV (in/sec) for continuous/frequent intermittent sources.

	Maximu	ım PPV (in/sec)
Human Response	Transient Sources	Continuous/Frequent Intermittent Sources
Barely perceptible	0.04	0.01
Distinctly perceptible	0.25	0.04
Strongly perceptible	0.9	0.10
Severe	2.0	0.4

Table 4.13-1Vibration Annoyance Potential Criteria

Source: Transportation and Construction Vibration Guidance Manual (Caltrans 2020).

Note: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

in/sec = inches per second

PPV = peak particle velocity

Table 4.13-2, Vibration Damage Potential Threshold Criteria, lists the vibration damage potential threshold criteria as suggested in the Caltrans 2020 *Transportation and Construction Vibration Guidance Manual*. As shown in **Table 4.13-2**, the vibration damage threshold for continuous/frequent intermittent sources are 0.08 PPV (in/sec) for extremely fragile historic buildings, ruins, and ancient monuments, 0.1 PPV (in/sec) for fragile buildings, 0.25 PPV (in/sec) for historic and old buildings, 0.3 PPV (in/sec) for older residential structures, and 0.5 PPV (in/sec) for new residential structures and modern industrial/commercial buildings.

	Maximur	Maximum PPV (in/sec)		
Structure and Condition	Transient Sources	Continuous/Frequent Intermittent Sources		
Extremely fragile historic buildings, ruins, ancient	0.12	0.08		
monuments				
Fragile buildings	0.2	0.1		
Historic and some old buildings	0.5	0.25		
Older residential structures	0.5	0.3		
New residential structures	1.0	0.5		
Modern industrial/commercial buildings	2.0	0.5		

Table 4.13-2 Vibration Damage Potential Threshold Criteria

Source: Transportation and Construction Vibration Guidance Manual (Caltrans 2020).

Note: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

Caltrans = California Department of Transportation

in/sec = inches per second

PPV = peak particle velocity

The Noise Element of the County of Placer (County) General Plan lists the policies required to meet the County's noise-related goals. The relevant goals and policies for the proposed project are listed below. In addition, the County has established maximum allowable noise exposure by land use from transportation noise sources, including roadway improvement projects as shown in **Table 4.13-3**, **Maximum Allowable Noise Exposure (Transportation Noise Sources)**, which has an exterior noise standard of 60 dBA L_{dn} (day-night average noise level in A-weighted decibels) Community Noise Equivalent Level (CNEL) for outdoor activity areas associated with residential, transient lodging, hospitals, nursing homes, churches, and meeting halls. An exterior noise level of up to 65 dBA L_{dn}/CNEL may be allowed provided that available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with **Table 4.13-3**. Also, **Table 4.13-3** shows that the County has an interior noise standard of 45 dBA L_{dn}/CNEL for residential, transient lodging, hospitals, and nursing homes.

The Placer County General Plan also includes the following applicable goals and policies:

- **Goal 9.A:** To protect County residents from the harmful and annoying effects of exposure to excessive noise.
 - Policy 9.A.3: The County shall continue to enforce the State Noise Insulation Standards (California Code of Regulations, Title 24) of the California Building Code and Placer County Code Article 9.36, Noise.

maximum morable robe Exposure (mansportation robe bources)						
Noise Consitive Land Llass	Outdoor Activity Areas ¹	Interior Spaces				
Noise-Sensitive Land Oses	dBA L _{dn} /CNEL	dBA L _{dn} /CNEL	dBA L _{eq} ²			
Residential	60 ³	45				
Transient Lodging ⁴	60 ³	45				
Hospitals, Nursing Homes	60 ³	45				
Theaters, Auditoriums, Music Halls			35			
Churches, Meeting Halls	60 ³		40			
Office Buildings			45			
School, Libraries, Museums			45			
Playgrounds, Neighborhood Parks	70					

Table 4.13-3
Maximum Allowable Noise Exposure (Transportation Noise Sources)

Source: County of Placer. General Plan Noise Element (Placer 2013).

¹ Where the location of outdoor activity areas is unknown, the exterior noise level standard shall be applied to the property line of the receiving land use.

² As determined for a typical worst-case hour during period of use.

³ Where it is not possible to reduce noise in outdoor activity areas to 60 dBA L_{dn}/CNEL or less using a practical applications of the best-available noise reduction measures, an exterior noise level of up to 65 dBA L_{dn}/CNEL may be allowed provided that available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with this table.

- Policy 9.A.9: Noise created by new transportation noise sources, including roadway improvement projects, shall be mitigated so as not to exceed the levels specified in Table 4.13-3 (Table 9-3 in the General Plan Noise Element) or the performance standards in Table 9-3 at outdoor activity areas or interior spaces of existing noise sensitive land uses.
- Policy 9.A.12: Where noise mitigation is required to achieve the standards of Table 4.13-3 (Table 9-3 in the General Plan Noise Element), the emphasis of such measures shall be placed upon site planning and project design. The use of noise barriers shall be considered as a means of achieving the noise standards only after all other practical design-related noise mitigation measure have been integrated into the project.
- **County of Placer County Code.** Section 9.36.030 of the County Code limits construction activities to between the hours of 6:00 a.m. and 8:00 p.m. Monday through Friday and

between the hours of 8:00 a.m. and 8:00 p.m. Saturday and Sunday provided all the construction equipment is fitted with factory-installed muffling devices and all the construction equipment is maintained in good working order.

ii. Discussion

a) Less than Significant Impact.

Short-Term (Construction) Noise Impacts

Two types of short-term noise impacts would occur during construction of the proposed project. The first type would be from construction crew commutes and the transport of construction equipment and materials to the project site that would incrementally raise noise levels on access roads leading to the site. The heavy equipment needed for grading and construction activities would be moved on site and would remain there for the duration of each construction phase. Therefore, it would not add to the daily traffic volumes in the project vicinity. A high single-event noise exposure potential at a maximum level of 84 dBA L_{max} (maximum instantaneous noise level) from trucks passing at 50 feet would exist at the project site. However, the projected construction traffic volume would be minimal when compared to existing traffic volumes on Watt Avenue and other adjacent roadways, and the associated long-term noise level change would not be perceptible. Therefore, noise impacts from short-term construction-related worker commutes and equipment transport would be less than significant.

The second type of short-term noise impacts would be related to noise generated during roadway construction. Construction would be performed in discrete steps, each of which would have a different mix of equipment and, consequently, noise characteristics. These various sequential phases would change the character of the noise generated and the noise levels in the project area as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase. **Table 4.13-4, Typical Construction Equipment Noise Levels,** lists typical construction equipment noise levels (L_{max}) recommended for noise impact assessments based on a distance of 50 feet between the equipment and a noise receptor, taken from the Federal Highway Administration (FHWA) *Construction Noise Handbook*.

Typical noise levels at 50 feet from an active construction area range up to 88 dBA L_{max} during the loudest construction phases. The site preparation phase, which includes grading and paving, tends to generate the highest noise levels because the noisiest construction equipment is earthmoving equipment. Earthmoving equipment includes excavating

machinery (e.g., backfillers, bulldozers, and front loaders). Earthmoving and compacting equipment includes compactors, scrapers, and graders. Typical operating cycles for these types of construction equipment may involve one or two minutes of full-power operation followed by three or four minutes at lower power settings.

Construction of the proposed project is expected to require the use of graders, bulldozers, and water trucks/pickup trucks. Noise associated with the use of construction equipment is estimated to be between 55 dBA L_{max} and 85 dBA L_{max} at a distance of 50 feet from the active construction area for the grading phase. As seen in **Table 4.13-4**, the maximum noise level generated by each grader is assumed to be approximately 85 dBA L_{max} at 50 feet from the grader in operation. Each bulldozer would generate approximately 85 dBA L_{max} at 50 feet. The maximum noise level generated by water trucks/pickup trucks is estimated to be approximately 55 dBA L_{max} at 50 feet from these vehicles. Each doubling of the sound source with equal strength increases the noise level by 3.0 dBA. Each piece of construction equipment operates as an individual point source. The worst-case composite noise level at the nearest residence during this phase of construction would be 88 dBA L_{max} at a distance of 50 feet from the active construction area. Based on a usage factor of 40 percent, the worst-case combined noise level during this phase of construction would be 84 dBA L_{eq} at a distance of 50 feet from the active construction area. The bridge would be supported on Cast-indrilled=holes (CIDH) piles. Pile driving is not proposed.

Equipment Description	Acoustical Usage Factor ¹	Maximum Noise Level (L _{max}) at 50 feet ²
Backhoe	40	80
Compactor (ground)	20	80
Compressor	40	80
Crane	16	85
Dozer	40	85
Dump Truck	40	84
Excavator	40	85
Flatbed Truck	40	84
Forklift	20	85
Front-End Loader	40	80
Grader	40	85
Impact Pile Driver	20	95
Jackhammer	20	85
Pickup Truck	40	55
Pneumatic Tools	50	85
Pump	50	77
Rock Drill	20	85
Roller	20	85
Scraper	40	85
Tractor	40	84
Welder	40	73

Table 14.3-4 **Typical Construction Equipment Noise Levels**

Source: Construction Noise Handbook, Table 9.1 (FHWA 2006).

Note: The noise levels reported in this table are rounded to the nearest whole number.

Usage factor is the percentage of time during a construction noise operation that a piece of construction equipment is operating at full power.

² Maximum noise levels were developed based on Spec 721.560 from the CA/T program to be consistent with the City of Boston, Massachusetts, Noise Code for the "Big Dig" project. CA/T = Central Artery/Tunnel L_{max} = maximum instantaneous noise level

FHWA = Federal Highway Administration

The closest residence is located within 50 feet from the project construction boundary and approximately 200 feet from the greatest noise source. Therefore, the closest residence may be subject to short-term noise reaching 85 dBA L_{max}, for the worst-case composite, or higher generated by construction activities in the project area. Although the noise generated by project construction activities would be higher than the ambient noise levels of 55.1 dBA Leg to 59.6 dBA L_{eq} at ST-1 through ST-4 and may result in a temporary increase in the ambient noise levels, construction noise would stop once project construction is completed (LSA Associates 2019). Compliance with the County's construction hours specified in Section 9.36.030 of the County Code is required and would minimize construction noise impacts on land uses adjacent to the project site. Section 9.36.30 of the County Code limits construction activities to between the hours of 6:00 a.m. and 8:00 p.m. Monday through Friday and

between the hours of 8:00 a.m. and 8:00 p.m. Saturday and Sunday provided all the construction equipment is fitted with factory-installed muffling devices and all the construction equipment is maintained in good working order (Placer County 2020). The noise impacts to sensitive receptors due to construction would be temporary. Therefore, construction noise impacts would be less than significant. No mitigation measures are required.

Long-Term (Operational) Noise Impacts. Table 4.13-5 shows the calculated 24-hour average vehicle speed on Watt Avenue under the opening year (2022) and design year (2042). The 24-hour average vehicle speed was calculated based on the a.m. and p.m. peak-hour vehicle speed and the off-peak speeds provided by Fehr & Peers. The vehicle speed during the a.m. (6:00 a.m. to 9:00 a.m.) and p.m. (4:00 p.m. to 8:00 p.m.) peak-period was assumed to be the same as the a.m. and p.m. peak-hour vehicle speed. The calculated 24-hour vehicle speeds were used to calculate traffic noise levels instead of the existing posted speed limit of 45 miles per hour (mph) and a proposed posted speed limit of 50 mph because the projected ADT traffic volume would exceed the existing and proposed capacity of Watt Avenue.

		Vehicle Speed (MPH)				
Scenario	Watt Avenue Configuration	AM Peak-Hour (Peak Period)	AM Peak-Hour (Peak Period)	Off Peak-Hour	24-Hour Average	
Open Vear (2022)	No Build & 2-Lane Bridge	32.5	30.0	43.0	40.0	
Open real (2022)	4-Lane Bridge	45.0	45.0	45.0	45.0	
Design Vear (2042)	No Build & 2-Lane Bridge	6.5	4.5	28.0	21.0	
Design real (2042)	4-Lane Bridge	14.5	10.5	33.0	27.0	

Table 4.13-5 Average Vehicle Speed

Source: Compiled by LSA Associates, Inc. (2021). MPH = Miles per hour

The vehicle mix on Watt Avenue was based on traffic counts that have a vehicle mix of 92 percent automobiles, 6.0 percent medium trucks, and 2.0 percent heavy trucks. This vehicle mix is consistent with the 2.0 percent heavy trucks from the project's traffic memorandum (Fehr & Peers 2018).

Table 4.13-6: Exterior Traffic Noise Levels, provides the opening year (2022) and design year (2042) without and with project exterior traffic noise levels at each receptor location within the project limits. Receptors representing residential land uses are located at an outdoor active area (e.g., a backyard). **Figure 4.13-1, Modeled Receptor Locations**, shows the location of the modeled receptor locations. Shielding from intervening residential buildings was estimated to be 3.0 to 5.0 dBA. **Appendix D** provides the specific assumptions used in

developing these noise levels and model printouts. As shown in **Table 4.13-6**, traffic noise levels at all residences in the project limits would not exceed the County's exterior noise standard of 60 dBA CNEL in the outdoor activity area (backyard) even though a project-related traffic noise increase would reach up to 5.9 dBA, which would be distinctly perceptible to the human ear in an outdoor environment.

In addition, **Table 4.13-7: Interior Traffic Noise Levels** provides the opening year (2022) design-year (2042) with project interior traffic noise levels at each receptor location within the project limits. Receptors represent the closest building façade to Watt Avenue.

Figure 4.13-1 shows the location of the modeled receptor locations. Interior noise levels were calculated based on the exterior noise level and standard construction for California (warm climate) residential buildings that would provide an exterior-to-interior noise reduction of 24 dBA or more with windows and doors closed (the national average is 25 dBA with windows and doors closed) (United States Environmental Protection Agency 1978). **Appendix D** provides the specific assumptions used in developing these noise levels and model printouts.



>			Watt Avenue at Dry Creek Bridge (19C-0084) Replacement Project
		Source: Google (2018), Dewberry (10/2019); Coordinate System	
400	800 Feet	NAD 83 State Plane California V FIPS 0405 Feet; DHA, 2019	Placer County, CA
		Notes: This map was created for informational and display purposes only	17

Modeled Receptor Locations

Figure 4.13-1

Decentor	Land Use	Shielding (dBA)	Opening-Year (2022) Noise Levels (dBA CNEL)			Design-Year (2042) Noise Levels (dBA CNEL)		
No.			No Project	With Project	Noise Increase (dBA)	No Project	With Project	Noise Increase (dBA)
R-1	Residential	0	53.6	57.4	3.8	52.1	58.0	5.9
R-2	Residential	3 ¹	57.3	58.8	1.5	55.5	58.9	3.4
R-3	Agricultural	0	62.8	65.9	3.1	61.0	66.0	5.0
R-4	Cemetery	0	63.1	65.8	2.7	61.4	65.9	4.5
R-5	Agricultural	0	60.7	63.4	2.7	59.8	64.2	4.4
R-6	Residential	5 ²	54	56.1	2.1	53.1	56.8	3.7
R-7	Residential	5 ²	54.2	56.3	2.1	52.8	56.6	3.8
R-8	Residential	5 ²	50.4	52.1	1.7	49.4	52.9	3.5

Table 4.13-6 Exterior Traffic Noise Levels

Source: Compiled by LSA Associates, Inc.

¹ The intervening residential structure partially shields the receptor at the outdoor active use area and would provide a minimum noise level reduction of 3 dBA.

² The intervening residential structure fully shields the receptor at the outdoor active use area and would provide a minimum noise level reduction of 5 dBA.

CNEL = Community Noise Equivalent Level

dBA = A-weighted decibels

Table 4.13-7

Interior Traffic Noise Levels

Receptor No.	Land Use	Opening Year (20 Noise Levels (dBA	22) with Project A CNEL)	Design Year (2042) with Project Noise Levels (dBA CNEL)		
		Exterior	Interior ¹	Exterior	Interior ¹	
R-1	Residential	61.6	37.6	61.7	37.7	
R-2	Residential	65.2	41.2	65.3	41.3	
R-6	Residential	65.7	41.7	66.2	42.2	
R-7	Residential	64.4	40.4	64.5	40.5	
R-8	Residential	58.5	34.5	59.2	35.2	

Source: Compiled by LSA Associates, Inc.

¹ The interior noise level was calculated based on the exterior noise level and standard construction for California (warm climate) residential buildings that would provide an exterior-to-interior noise reduction of 24 dBA or more with windows and doors closed (the national average is 25 dBA with windows and doors closed).

CNEL = Community Noise Equivalent Level

dBA = A-weighted decibels

As shown in **Table 4.13-7**, the opening year (2022) and design-year (2042) with project traffic noise levels would not exceed the County's interior noise standard of 45 dBA CNEL for residences. Therefore, traffic noise from the project would not result in a permanent increase

in ambient noise levels in excess of the standards established in the local general plan. This impact would be less than significant.

b) Less than Significant Impact.

Short-Term (Construction) Vibration Impacts

Vibration generated by construction equipment can result in varying degrees of ground vibration, depending on the equipment. The operation of construction equipment causes ground vibrations that spread through the ground and diminish in strength with distance. Buildings on soil near an active construction area respond to these vibrations, which range from imperceptible to low rumbling sounds with perceptible vibrations and then slight damage at the highest vibration levels. Typically, construction-related vibration does not reach vibration levels that would result in damage to nearby structures.

The Caltrans *Transportation and Construction Vibration Guidance Manual* shows that the vibration damage threshold for continuous/frequent intermittent sources is 0.25 PPV (in/sec) for historic and old buildings (Caltrans 2020). The manual shows the vibration annoyance potential criteria to be barely perceptible at 0.01 PPV (in/sec), distinctly perceptible at 0.04 PPV (in/sec), and strongly perceptible at 0.10 PPV (in/sec) for continuous/frequent intermittent sources. These thresholds were used to evaluate the potential for short-term, construction-related, ground-borne vibration during construction of the proposed project.

Large and small bulldozers, loaded trucks, and pile driving used for construction of the proposed project would generate the highest ground-borne vibration levels. Based on the Caltrans *Transportation and Construction Vibration Guidance Manual* and the Federal Transit Administration (FTA) *Transit Noise and Vibration Impact Assessment Manual*, a large bulldozer, small bulldozer, and loaded trucks would generate vibration levels of 0.089 PPV (in/sec), 0.003 PPV (in/sec), and 0.076 PPV (in/sec), respectively, when measured at 25 feet (FTA 2018) . Based on the worst-case condition, the closest residential structure from the project construction boundary is approximately 25 feet and would experience a vibration level of 0.089 PPV (in/sec). This vibration level would be distinctly perceptible but would not exceed the damage threshold of 0.25 PPV (in/sec) for historic or old buildings. Therefore, the project would not result in excessive ground-borne vibration during project construction. This impact would be less than significant, and no mitigation measures are required.

Long-Term (Operational) Noise Impacts

The proposed project would accommodate future traffic demand for Watt Avenue. Therefore, once operational, the proposed project would not generate any additional traffic, and regional traffic trips are expected to remain the same with or without the project. Roads are not typically major sources of ground-borne noise or vibration. Ground-borne vibration is mostly associated with passenger vehicles and trucks traveling on roads with poor conditions (e.g., potholes, bumps, expansion joints, or other discontinuities in the road surface). Vibration effects of passenger vehicles and trucks (e.g., rattling of windows) are almost always a result of airborne noise. The proposed project would include new asphalt pavement with proper maintenance. As a result, there would be no potholes, bumps, or other discontinuities in the road surface that would generate ground-borne vibration or noise impacts from vehicular traffic traveling on Watt Avenue. Therefore, the project would not result in excessive ground-borne vibration and noise impacts generated by vehicles traveling through the project corridor. This impact would be less than significant, and no mitigation measures are required.

c) No Impact. The closest airports to the project area are the McClellan Airport, Rio Linda Airport, and Sacramento International Airport, which are located approximately 2.3 miles south, 4.4 miles southwest, and 10.2 miles southwest of the project respectively. The project area is located outside of the 60 dBA CNEL impact zone for all three airports based on the Sacramento Area Council of Governments Airport Land Use Commission Noise Contours (SACOG 2020). In addition, the Mercy San Juan Medical Center helipad is located approximately 5.9 miles southeast of the project, and the proposed project is not located in the vicinity of a private airstrip. Also, the proposed project is a transportation project and would not involve the introduction of residential or employment uses in the project area. Therefore, the project would not expose people residing or working in the project vicinity to excessive noise levels from aircraft noise, and no impacts would occur.

iii. Mitigation Measures

No mitigation measures are required.

iv. References

- California Department of Transportation (Caltrans). 2020. Transportation and Construction Vibration Guidance Manual. Available at <u>https://dot.ca.gov/-/media/dot-</u> <u>media/programs/environmental-analysis/documents/env/tcvgm-apr2020-a11y.pdf</u>. Accessed January 20, 2021.
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- U.S. Environmental Protection Agency (USEPA). 1978. Protective Noise Levels, Condensed Version of EPA Levels Document, EPA 550/9-79-100. Available at <u>https://nepis.epa.gov/Exe/ZyPDF.cgi/20012HG5.PDF?Dockey=20012HG5.PDF</u>. Accessed January 20, 2021.

4.14 Population and Housing

Issues (and Supporting Information Sources):		Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact			
Ро	Population and Housing – Would the project:							
a)	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)?			\square				
b)	Displace substantial numbers of existing people or housing units, necessitating the construction of replacement housing elsewhere?			\boxtimes				

i. Setting

Placer County had an estimated population of approximately 398,329 people, with a total of 168,942 housing units as of 2019 (U.S. Census Bureau, 2020). Between 2010 and 2019, there was a 12.9 percent increase in population in Placer County (U.S. Census Bureau, 2020). Additionally, between 2010 and 2019, there was a 9.5 percent increase in housing in Placer County, with an average of 2.64 individuals per household in 2019 (U.S. Census Bureau, 2020).

The proposed project site is located in an unincorporated portion of Placer County, within Census Tracts 213.22 and 225. Census Tract 213.22 had an estimated population of approximately 17,009 people with a total of 5,659 housing units as of 2019 (U.S. Census Bureau, 2020). Census Tract 225 had an estimated population of approximately 7,835 people, with a total of 1,934 housing units as of 2019 (U.S. Census Bureau, 2020). Between 2010 and 2019, there was a 182.7 and 99.6 percent increase in the population of Census Tracts 213.22 and 225, respectively (U.S. Census Bureau, 2020). Additionally, between 2010 and 2019, there was a 177.0 and a 37.0 percent increase in housing in Census Tracts 213.22 and 225, respectively.

The growth in population and housing of Census Tracts 213.22 and 225 is consistent with the rapid growth experienced in the proposed project vicinity. The proposed project site is included in and consistent with the Placer County General Plan, Placer Vineyards Specific Plan, Riolo Vineyard Specific Plan, and the Dry Creek/West Placer Community Plan. These plans have been prepared and approved by the County. The specific plans previously assessed and planned for future growth and development within the southwestern portion of Placer County, including the proposed project area.

ii. Discussion

- a) Less than Significant Impact. The proposed bridge replacement would not result in the permanent creation of new jobs that would induce substantial population growth. The proposed project would increase travel lanes along Watt Avenue from two lanes to four lanes in the proposed project area. The roadway configuration is identified in the Placer Vineyards Specific Plan to the north and the Riolo Vineyard Specific Plan to the south. The proposed project improvements would be consistent with the Placer County General Plan, Placer Vineyards Specific Plan, Riolo Vineyard Specific Plan, and the Dry Creek/West Placer Community Plan. Induced population growth has already been assessed and planned for upon the approval of these planning documents, and the proposed project area. Therefore, the proposed project would have less-than-significant impacts and no mitigation measures would be required.
- **b)** Less than Significant Impact. The proposed project would remove the existing two-lane bridge along Watt Avenue over Dry Creek and construct a new bridge that would accommodate four 12-foot lanes, two eight-foot minimum shoulders, a 12-foot minimum pedestrian pathway on the east side, and a variable width roadway median. The proposed project would widen the existing bridge and roadway along Watt Avenue and require permanent right-of-way easements along both sides of the roadway. The proposed permanent right-of-way easements would affect up to 11 parcels along Watt Avenue at the proposed project site; however, the proposed project area. Therefore, the proposed project would have less-than-significant impacts and no mitigation measures would be required.

iii. Mitigation Measures

No mitigation measure required.

iv. References

U.S. Census Bureau. 2020. Explore Census Data. Available at <u>https://data.census.gov/cedsci/</u>. Accessed October 23, 2020.

4.15 Public Services

Issues (and Supporting Information Sources):			Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact			
Publi	Public Services —								
a)	Wo or p ord pub	uld the project result in substantial adverse physical i physically altered governmental facilities, the construc- er to maintain acceptable service ratios, response tim lic services:	mpacts associate ction of which co nes, or other per	ed with the provi ould cause signific formance object	ision of, or the n cant environme ives for any of tl	eed for, new ntal impacts, in ne following			
	i)	Fire protection?			\boxtimes				
	ii)	Police protection?			\boxtimes				
	iii)	Schools?				\boxtimes			
	iv)	Parks?				\boxtimes			
	v)	Other public facilities?				\boxtimes			

i. Setting

Emergency fire and medical service within the study area are provided by the Placer County Fire Department (PCFD). PCFD has a long-standing Cooperative Fire Protection Agreement with the California Department of Forestry and Fire Protection (CAL FIRE), first initiated in 1974. PCFD employs eight career and five volunteer fire stations and provides all fire and emergency services to a 475-square-mile territory from the rural crest of the Sierra to the dense urban floor, approximately 58,000 residents and businesses. PCFD responds to approximately 9,000 calls for service annually (PCFD, 2020).

Law enforcement within the study area is provided by the Placer County Sheriff's Office (PCSO). PCSO operates out of five substations (Auburn, South Placer, Colfax, Foresthill, and North Tahoe) and oversees more than 500 employees. In 2019, PCSO responded to over 53,284 calls for service (PCSO, 2019). The 2013 Placer County General Plan Public Facilities and Services Element states in Policy 4.H.2 that the County Sheriff shall strive to maintain an average response time for emergency service calls of five minutes in rural areas. Policy 4.I.2 of the 2013 Placer County General Plan Public Facilities and Services Element states that the County shall encourage local fire protection agencies to maintain an average response time to emergency fire and medical calls of 10 minutes in rural areas.

The study area is located within District 1 of Placer County, and the closest school district is the Dry Creek Joint Elementary School District. Schools near the proposed project include Coyote

Ridge Elementary School (K-5) and Heritage Oak Elementary School (K-5). Nearby high schools include Woodcreek High School (9-12) within the Roseville Joint Union High School District.

ii. Discussion

a) (i) Less than Significant Impact. The proposed project is a bridge replacement project. Operations would be similar to existing conditions upon construction completion. The proposed project would not increase the need for fire protection, as service needs would be similar to existing conditions. Therefore, the project would have no impact to fire protection services upon the completion of construction.

Access along Watt Avenue would be maintained during construction. Temporary lane closures and one-way traffic control may be required to complete construction. Construction traffic control is not anticipated to significantly interfere with fire response times.

Construction of the proposed project could result in accident or emergency incidents that would require emergency response, such as fire, police, medical, or hazardous waste services; however, construction activities would be short in duration. Traffic control would be present while traffic is moved onto the new alignment. Basic safety measures and best management practices (BMPs) would be implemented to reduce impacts to less than significant levels.

a) (ii) Less than Significant Impact. The proposed project is a bridge replacement project. Operations would be similar to existing conditions upon construction completion. The proposed project would not increase the need for police protection, as service needs would be similar to existing conditions. Therefore, the proposed project would have no impact to Placer County Sheriff protection services upon the completion of construction.

Access along Watt Avenue would be maintained during construction. Temporary lane closures and one-way traffic control may be required to complete construction. Construction traffic control is not anticipated to significantly interfere with Placer County Sherriff response times.

During construction, construction workers would be present on-site, which could result in the need for public services. Construction of the proposed project could result in accidents or emergency incidents that would require emergency response; however, construction activities would be short in duration. Any increase in Placer County Sheriff services due to construction activities would be temporary, ceasing upon completion of the project. Potential impacts would be mitigated through the coordination with the County Sheriff Department

would ensure that the proposed project would not increase the need for police protection services and impacts would be less than significant.

- a) (iii) No Impact. The proposed project is a bridge replacement project and would not increase population, refer to Section 14, Population and Housing, and thus, would not generate any additional demand for schools.
- a) (iv) No Impact. The proposed project is a bridge replacement project and would not increase the demand on park services. Please refer to Section 16, Recreation, for more information.
- a) (v) No Impact. The proposed project is a bridge replacement project and would not increase the need for other public services, as service needs would be similar to existing conditions. Therefore, the project would have no impact to other public services upon the completion of construction. The proposed project would not increase the population, refer to Section 14, Population and Housing, and thus, would not result in an increase in the number of people that would use other public services such as libraries, public transportation, and other County services. Construction workers are anticipated to come from the surrounding areas and thus would not relocate to the project vicinity.

iii. Mitigation Measures

No mitigation required.

iv. References

- County of Placer. 1994. Dry Creek-West Placer Community Plan. Section D Public Services. Available at <u>https://www.placer.ca.gov/3023/Dry-Creek-West-Placer-Community-Plan</u>.
- County of Placer. 2013. Placer County General Plan. Section 4 Public Facilities and Services. Available at <u>https://www.placer.ca.gov/2977/Placer-County-General-Plan</u>.
- County of Placer. 2015a. Placer Vineyards Specific Plan. Chapter 8 Public Utilities and Services. Available at <u>https://www.placer.ca.gov/3601/Plans</u>.
- County of Placer. 2015b. Riolo Vineyard Specific Plan Update. Chapter 7 Public Services and Utilities. Available at <u>https://www.placer.ca.gov/3339/Riolo-Vineyard-Specific-Plan</u>.
- County of Placer. 2019. PCSO 2019 Annual Report. Available at <u>https://www.placer.ca.gov/Archive.aspx?AMID=79</u>.
- County of Placer. 2020. Placer County Fire Department. Available at: <u>https://www.placer.ca.gov/1525/Fire-Department</u>.

4.16 Recreation

Iss	ues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Re	creation — would the project:				
a)	Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated?				\boxtimes
b)	Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?				\boxtimes

i. Setting

According to the Placer County General Plan Final Environmental Impact Report (1994), Placer County supports numerous federal, state, local, and private opportunities for recreation. Major recreational opportunities include the Tahoe National Forest, El Dorado National Forest, and Granite Chief Wilderness, managed by the U.S. Forest Service; numerous State Parks including Folsom Lake, Auburn State Recreation Area, and smaller, specialized park lands; and local parkland throughout western, central, and eastern Placer County.

The nearest recreation area to the proposed project is Gibson Ranch Regional Park, managed by Sacramento County, approximately two miles southwest of the proposed project. Gibson Ranch Regional Park is a 335-acre facility with an equestrian center, large pond, and other recreational opportunities (Sacramento County, 2020).

ii. Discussion

- a) No Impact. The proposed project would not involve the construction of new housing or other facilities beyond those already planned for and in the Placer County General Plan, Placer Vineyards Specific Plan, Riolo Vineyard Specific plan, or the Dry Creek/West Placer Community Plan; therefore, it would not increase the demand for recreational facilities. The proposed project is accommodating the growth approved in these land use plans and would not by itself increase the use of existing neighborhood and regional parks or other recreational facilities. Therefore, the proposed project would not affect the long-term continued use of existing recreational facilities. Therefore, the proposed project would result in no impact, and no mitigation would be required.
- **b)** No Impact. The proposed project does not include the creation of recreational facilities. The proposed project would replace the existing Watt Avenue Bridge over Dry Creek with

a new bridge designed to be consistent with County, AASHTO, FHWA, and Caltrans design criteria and standards. Operations would be similar to existing conditions upon construction completion. The proposed project would not contribute to an increase in population, nor would it result in an increase in demand on exiting recreational facilities. No additional recreational facilities would be required to be created as a result of the proposed project. While construction workers would be brought to the area during the construction season, based on the temporary nature of construction, they are anticipated to come from the surrounding area and would not relocate. Therefore, an increased demand on recreational facilities resulting in the need for new or improved facilities would not occur. The proposed project would have no impact, and no mitigation measures would be required.

iii. Mitigation Measures

No mitigation is required.

iv. References

- County of Placer. 1990. *Dry Creek-West Placer Community Plan.* Section E Parks and Recreation. Available at <u>https://www.placer.ca.gov/3023/Dry-Creek-West-Placer-Community-Plan</u>.
- County of Placer. 1994. *Countywide General Plan Final Environmental Impact Report Volume I.* Chapter 7 Recreational and Cultural Resources. Available at <u>https://www.placer.ca.gov/2981/General-Plan-Environmental-Impact-Report</u>.
- County of Placer. 2013. *Placer County General Plan.* Section 5 Recreation and Cultural Resources. Available at <u>https://www.placer.ca.gov/2977/Placer-County-General-Plan</u>.
- Sacramento County. 2020. Gibson Ranch Regional Park. Available at <u>https://regionalparks.saccounty.net/Parks/RegionalParksDetails/Pages/GibsonRanch.as</u> <u>px</u>.
- County of Placer. 2015. *Placer Vineyards Specific Plan.* Chapter 8 Public Utilities and Services. Available at <u>https://www.placer.ca.gov/3601/Plans</u>.
- County of Placer. 2015. *Riolo Vineyard Specific Plan Update*. Chapter 4 Public Services and Utilities. Available at <u>https://www.placer.ca.gov/3339/Riolo-Vineyard-Specific-Plan</u>.
4.17 Transportation and Traffic

Issues (and Supporting Information Sources):		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Tra	nsportation and Traffic – would the project:				
a)	Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?			\square	
b)	Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?			\boxtimes	
c)	Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)				\boxtimes
d)	Result in inadequate emergency access?				\boxtimes

i. Setting

The existing Watt Avenue Dry Creek bridge is a part of the regional local roadway network serving the unincorporated area of northern Sacramento County and southern Placer County. Watt Avenue is an important regional north-south connector in Sacramento and Placer County.

The intersection of Watt Avenue and PFE Road is unsignalized with a standard stop sign to address traffic flow. The intersection of Dyer Lane and Watt Avenue is unsignalized. Watt Avenue is currently a two-lane road in the project area but expands to a four-lane road in Sacramento County. Development of the Placer Vineyards Specific Plan and Riolo Vineyard Specific Plan and other planned urban development growth in south Placer County would add to traffic demand in this region and the need for this project and other improvements to existing road networks. The proposed project is being implemented to address structural deficiencies with the existing bridge and planned future growth. The nearest airport to the project is Sacramento McClellan Park, approximately 3.6 miles to the south. Construction activities are not expected to impact air traffic in this area.

The existing roadway network in the vicinity of the project includes arterials, collectors, and local roadways. Baseline Road is an east-west rural arterial that extends from the Sutter County line to Foothills Boulevard in the City of Roseville. Within Sutter County, this roadway becomes Riego Road, while east of Foothills Boulevard, this roadway becomes Main Street. Baseline Road and Riego Road connect Roseville, West Placer County, and South Sutter County with SR 70/99.

Watt Avenue is a north-south arterial that runs from Baseline Road south to Florin Road in Sacramento County. Watt Avenue connects West Placer County with Interstate 80 (I-80) and extends across the American River to provide access to U.S. 50. The roadway becomes South Watt Avenue at Jackson Road (SR 16) and becomes Elk Grove-Florin Road at Florin Road. Elk Grove-Florin Road continues south to Stockton Boulevard at SR 99 in the City of Elk Grove (Placer County 2008).

PFE Road is a two-lane, east-west rural arterial that borders the south side of the Specific Plan area. It extends from Watt Avenue east to the City of Roseville, where it becomes Atkinson Street. Dyer Lane is a two-lane, east-west arterial that intersects with Watt Avenue north of the project.

The Placer County Board of Supervisors adopted VMT thresholds and screening criteria for transportation impacts on December 1, 2020 based on the requirements of SB 743. The County's Transportation Study Guidelines describes the methodology, metric, and thresholds needed to analyze VMT for land development projects in a CEQA document. The guidelines do not provide a specific VMT methodology or significance threshold for roadway projects although such projects are considered under the Office of Planning and Research's (ORP) *Technical Advisory on Evaluating Transportation Impacts in CEQA* (December 2018). The county's guidelines include the following guidance.

- "For potential impacts to VMT, the analysis tools should be capable of estimating VMT using the full length of trips, without truncating at jurisdictional or other boundaries." (p. 13)
- "When applying a travel forecasting model, the transportation analyst shall review the travel demand model to ensure it provides accurate and meaningful results... the travel forecasting model should meets the following expectations:
 - A travel forecasting model should be sensitive to those policies and project alternatives that the model is expected to help evaluate.
 - A travel forecasting model should be capable of satisfying validation standards that are appropriate to the application." (p. 25)
- "Whichever model is selected should be used to: (1) establish the baseline VMT without the project, (2) establish the applicable VMT impact significance threshold value, and (3) analyze the project. The travel forecasting model should be run both without and with the project, and model outputs should be processed for comparison according to the thresholds presented in Table 2." (p. 27)

The previously conducted VMT analysis for the Watt Avenue Dry Creek Bridge project satisfied the first item above by applying the Placer County model, which includes the six-county SACOG region, so that trips are not truncated at the county line. The model is capable of evaluating

roadway widening projects and was validated for use in the study area. Finally, the same model was used to estimate VMT with and without the project so that the results are comparable. Therefore, the analysis is consistent with the County's adopted transportation study guidelines.

The VMT analysis method applied in the traffic analysis focused the measurement of VMT on traffic analysis zones in the model that would have trips that were likely to use the Watt Avenue bridge at Dry Creek (Fehr & Peers, 2021)

ii. Discussion

a) Less than Significant Impact. The proposed project is being implemented by Placer County to improve the existing traffic and circulation flow in south Placer County and would be consistent with existing local plans and policies. The new bridge is being planned accordingly to accommodate the increased traffic generated from new developments, including the Placer Vineyards Specific Plan and the Riolo Vineyard Specific Plan. The project includes a new pedestrian walkway for safe crossings over Dry Creek in this area as well as additional trails to go along Dry Creek and connect with the future trail. These are considered beneficial aspects of the proposed project when compared to existing conditions.

Temporary lane closures and one-way traffic control may be required to complete construction. A traffic control plan would be prepared by the contractor to address operations during construction. The traffic control plan would be reviewed and approved by the County prior to construction. In addition, access for through traffic, pedestrians, and bicyclists along Watt Avenue would be maintained throughout the construction period. Any potential conflicts would cease upon construction completion. Therefore, project impacts would be less than significant, and no mitigation measures are required.

b) Less than Significant Impact. Senate Bill 743 (Steinberg, 2013), which enacted Public Resources Code section 21099, required changes to the CEQA Guidelines establishing criteria for determining the significance of transportation impacts. According to CEQA Guidelines section 15065.3, subsection (b)(2), a transportation project that reduces vehicle miles traveled should be presumed to cause a less than significant impact. The proposed project will provide additional capacity on Watt Avenue that would allow more vehicles to take shorter trips, shifting these vehicles from more circuitous routes. Therefore, the proposed project would result in a decrease in VMT.

The proposed project increases the bridge width from two lanes to four lanes including a pedestrian pathway on the east side. The pedestrian pathway would be separated from the roadway by an interior barrier. The VMT analysis method applied in the traffic analysis focused the measurement of VMT on traffic analysis zones in the model that would have trips that were likely to use the Watt Avenue bridge at Dry Creek. To determine this, the model

was first run to determine what trips were assigned to the bridge under each project alternative. The zones for the trip origins and destinations were then identified. Finally, the VMT for all trips that started or ended at only those zones were summarized.

The select zone methodology properly captures the VMT of trips likely to use the bridge. However, widening of the bridge may affect trip assignment for other nearby parallel routes. To investigate this possible effect, the model wide VMT was also measured. Table 4.17-1 below compares the VMT results for the select zone and model wide methods. Both methods show similar changes in magnitude and direction. The 4-lane bridge would result in a decrease in VMT, and the 6-lane bridge would result in a slightly larger decrease in VMT.

Table 4.17-1 presents the VMT estimates for the project alternatives using the No Build and Two-Lane Bridge scenarios as a baseline. The VMT decrease that occurs with wider bridge cross-sections is reasonable given that additional capacity would allow more vehicles to take shorter trips, shifting these vehicles from more circuitous and therefore higher VMT routes.

Scenario	Select-Zone	Model Wide		
	VMT	Change	VMT	Change
		Compared to		Compared to
		No Build		No Build
No Build and 2-Lane Bridge	48,483,718	-	74,812,907	-
4-Lane Bridge	48,464,122	-19,596	74,796,107	-16,800
6-Lane Bridge	48,458,704	-25,014	74,788,552	-24,355

Table 4.17-1 Comparison of Vehicle Miles Traveled (VMT) –

Source: Fehr & Peers (2021)

The proposed project is being planned to alleviate current traffic problems in this area and to plan for future urban growth is South Placer County and would not conflict with a congestion management plan. Roadway users would continue to be similar as those currently using Watt Avenue. The proposed project will provide additional capacity on Watt Avenue that would allow more vehicles to take shorter trips, shifting these vehicles from more circuitous and therefore the proposed project would result in a decrease in VMT.

OPR's Technical Advisory also recommends analyzing a transportation project's effect on induced demand. Induced demand is the phenomenon where reduced travel time (or other trave costs) leads to additional travel demand. Induced travel demand is not captured by

traditional travel demand models, so a qualitative analysis is most appropriate for this project.

In the short term, a project could induce additional demand by allowing for new vehicle trips that would otherwise not be made, facilitating longer vehicle trips, shifting driving routes, or shifting trips from non-motorized means to a vehicle. The proposed project is not expected to result in new trips or longer vehicles trips, because the current roadway system is not significantly over capacity today. While drivers are expected to shift their routes, this has been shown to reduce the overall VMT with construction of the proposed project (see Table 4.17-1 above). Additionally, this project is not expected to shift trips from non-motorized modes or public transit. This area is automobile-dependent under existing conditions, so this project would have a negligible effect on mode split.

In the long term, a project could induce demand by encouraging changes in land development patters or changes in overall growth. The land surrounding the proposed project is fully entitled under the Placer Vineyards Specific Plan and Riolo Vineyards Specific Plan. With the project, those existing entitlements may build out faster than without the project. However, there are ample existing entitlements to satisfy land development demand in this area over the planning horizon. In fact, the project is needed because of the planned land development, not vice versa. The project is not expected to change the existing specific plans or spur on additional growth in this area. As a result, the induced demand effects of this project are negligible.

During construction, Watt Avenue would remain open in the existing alignment to vehicular traffic, pedestrian and bicyclists. Once construction of the new bridge is complete, traffic would be open on the new bridge. Therefore, pursuant to Section 15064.3(b), the proposed project would have a less than significant impacts on transportation and no mitigation measures are required.

c) No Impact. The proposed project would remove the existing two-lane bridge along Watt Avenue over Dry Creek and construct a new bridge that would accommodate four 12-foot lanes, two eight-foot minimum shoulders, a 12-foot minimum pedestrian pathway on the east side, and a variable width roadway median. The existing bridge provides two lanes with no shoulders and non-crash tested barriers. The proposed project is being planned by Placer County to address these existing bridge design and approach issues and is considered a beneficial impact when compared to existing conditions. The proposed project work would not increase hazardous conditions due to geometric design. The proposed project would have no impact and no mitigation measures are required.

d) Less than Significant with Mitigation. The proposed project would be constructed in phases with the new bridge planned 43 feet to the west of the existing bridge. One lane of the new bridge would be constructed and used to route local traffic during the demolition of the old bridge and could cause delays to emergency vehicles responding to call for assistance. The increase in potential delays to emergency vehicles. Implementation of Mitigation Measure TRAF-1, Traffic Management Plan, would reduce impacts to a less than significant level.

iii. Mitigation Measures

Mitigation Measure TRAF-1: Standard Traffic Management Plan. The construction contractor for the proposed project shall prepare and implement a standard Traffic Management Plan to minimize traffic disruption and ensure adequate access is maintained to surrounding properties.

iv. References

Fehr & Peers. 2018. Traffic Analysis Memorandum Re: Watt Avenue Dry Creek Bridge Replacement.

Fehr & Peers. 2021. Memorandum Watt Avenue Dry Creek Bridge Replacement VMT.

Placer County. 2008. Riolo Vineyard Specific Plan Environmental Impact Report.

State of California Governor's Office of Planning and Research. 2018. Technical Advisory on Evaluating Transportation Impact in CEQA. Available at <u>https://www.opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf</u>. Accessed January 19, 2021.

4.18 Tribal Cultural Resources

Tribal Cultural Resources – Would the project:

- a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resource Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:
 - i) 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
 ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria
 - set forth in subdivision C, of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resources to a California Native American tribe.

i. Setting

A Tribal Cultural Resource (TCR) is defined as a site, feature, place, cultural landscape, or sacred place or object that has cultural value to California Native American tribes (Public Resource Code [PRC] § 21073, 21074). In order to be considered a TCR, the resource must be included in or determined eligible for inclusion in the California Register of Historical Resources (California Register) or is included in a local register of historical resources. To be considered a historical resource, for the purposes of a TCR, the resource must meet the criteria for listing in the California Register. Pursuant to PRC Section 2107, a TCR is defined as either:

- 1. A site, feature, place, cultural landscape, sacred place, or object that has cultural value to California Native American Tribes that is included or determined to be eligible for inclusion in the California Register or a local register of historical resources.
- 2. A resource determined by the lead agency to be significant and is supported by substantial evidence.
- 3. A geographically defined cultural landscape that meets the criteria set forth in PRC §21074.

 \square

4. A historical resource described in PRC §21084.1, a unique archeological resource or "nonunique archaeological resource" described in PRC §21083.2 (g) and (h).

Cultural and historical survey reports for the proposed project were prepared in compliance with Caltrans and FHWA NEPA and the National Historic Preservation Act (National Register) and include an Historic Properties Survey Report (HPSR; LSA Associates, Inc. [LSA] 2019a), Archeological Survey Report (ASR; LSA 2019b), Historical Resources Evaluation Report (HRER; LSA 2019c), Extended Phase I Report (XPI; LSA 2020a), and Finding of No Adverse Effect (FNAE) and Environmental Sensitive Area (ESA) Action Plan (LSA 2020b). Some information from these studies is considered confidential under the California Public Resources Code (PRC) and the Code of Federal Regulations (CFRs) in compliance to the Freedom of Information Act and the California Public Records Act in order to protect the integrity of tribal cultural resources, and, thus, would not be available to the public.

Ethnography

The proposed project site is ethnographically attributed to the Nisenan (Southern Maidu) people. Nisenan is a Penutian language with many local dialects, including Valley Nisenan, Oregon House, Auburn, Clipper Gap, Nevada City, Colfax, and Placerville (LSA 2019b). The territory of the Nisenan, which included the drainage of the American River, extended from the crest of the Sierra Nevada the east to the Sacramento River in the west; as far south as the Cosumnes River; and north to the divide of the North Fork of the Yuba River and Middle Fork of the Feather River. The nearest ethnographic village to the APE was called *Pichiku*, approximately seven miles east of the APE, near present day Maidu Park (LSA 2019b).

The Nisenan lived in semi-permanent settlements, consisting of one village, or a number of smaller villages clustered around one large village, along streams and rivers. Family groups often lived away from the main village and had seasonal camps for resource procurement. The Nisenan settlement system also had quarries, ceremonial grounds, fishing stations, and cemeteries (LSA 2019b). The Nisenan lived in houses that were conical shaped with coverings of bark slabs, skins, and brush. Skins and tule mats were used for bedding, and deerskins were used as covers (LSA 2019b). Brush shelters were used in the summer and during gathering excursions. Most villages had bedrock mortar sites and acorn granaries (LSA 2019b). The Nisenan relied heavily on acorns, local game, and fish for subsistence. Acorns were gathered communally or individually. Deer, bear, salmon, birds, and rabbits were important in the Nisenan diet, along with insects such as grasshoppers, crickets, and locusts. Freshwater mussels were also consumed, along with a variety of berries wild plums, and grapes (LSA 2019b).

The lifeways of the Nisenan changed drastically in the mid-nineteenth century beginning with Spanish and American incursions into their territory. During the 1800s, infectious European disease and the influx of European settlers had devastating effects on Native Californians (LSA 2019b).

Record Searches

A record search was conducted at the California Historical Resources Information System (CHRIS) North Central Information Center (NCIC) to identify previous cultural resources studies and site records for the proposed project area. As part of the effort to identify any TCRs that may be within the proposed project area, a Sacred Lands File search was conducted by the Native American Heritage Commission (NAHC) in January 2018 and found no known TCRs in or near the proposed project site.

Assembly Bill (AB) 52 Consultation

Assembly Bill 52 (AB 52) went into effect on July 1, 2015 and established a consultation process with all California Native American Tribes on the NAHC List for federal and non-federal tribes (13.5 PRC §§ 21073, 21074, 21080.3, 21084). Once the tribe is notified of a project, the tribe has 30 days to request a consultation. The consultation process ends when either the parties agree to mitigation measures or avoid a significant effect on tribal cultural resources or a party, acting in good faith and after reasonable effect, concludes that mutual agreement cannot be reached.

The NAHC provided a list of six Native American representatives. Pursuant to PRC § 21080.3, formal notification and invitation to consult letters were sent on behalf of the County to the tribes or individuals listed in Table 4.18-1, below, in March 2018. Native American consultation efforts are documented in the ASR (LSA 2019a and 2019b).

Formal Assembly Bill 52 Notification Letter Recipients			
Name	Organization		
Gene Whitehouse	United Auburn Indian Community of Auburn Rancheria		
Pamela Cubbler	Colfax-Todds Valley Consolidated Tribe		
Nicholas Fonseca	Shingle Springs Band of Miwok Indians		
Grayson Coney	Tsi Akim Maidu		
Don Ryberg	Tsi Akim Maidu		
Darrell Cruz	Washoe Tribe of Nevada and California		

Table 4.18-1Formal Assembly Bill 52 Notification Letter Recipients

The United Auburn Indian Community (UAIC) submitted an email request for all existing cultural resource assessments, requests for and results of records searches, GIS shapefiles for the proposed project footprint, and a site visit. Information was provided and a field visit was coordinated. No other responses have been received to date.

The site visit was held on May 21, 2018 with UAIC to locate cultural resource P-39-000195/CA-PLA-000069. The recorded location for the resource was inaccessible due to dense vegetation coverage. Mr. Hutcheson recommended vegetation clearing of the area prior to conducting fieldwork. LSA coordinated with UAIC to attend fieldwork conducted on October 4 and 5, 2018; however, the UAIC cancelled on the day of the survey (LSA 2019b).

Field Survey

Archaeological field survey of the proposed project site included an intensive pedestrian survey of County right-of-way and of privately-owned parcels that granted permission to access and visual inspection from County right-of-way of those parcels which did not grant access. Two parcels (Assessor Parcel Number [APN] 023-200-049-000 and a portion of APN 023-200-019-000) were not surveyed due to limited access and visibility in which neither pedestrian nor visual survey could be conducted.

Ground visibility within the proposed project site varied greatly but was generally 75 percent. The field survey did not result in any newly identified cultural resources. The proposed project area of disturbance consists of 47.44 acres and was established to include all areas that may contain archaeological resources that may potentially be affected by the proposed project; this area determined the extent of archaeological pedestrian survey.

Known Resources

As discussed in Section 4.5, Cultural Resources, the ASR (LSA 2019b) identified two tribal cultural resources (archaeological resources) that are within the proposed project site boundaries:

• P-39-000195/CA-PLA-000069 (CA-PLA-69) is a precontact-period lithic scatter located within the proposed project site, on the west side of Watt Avenue and south of Dry Creek.

The resource consisted of groundstone, manos and pestles, projectile points, and a lithic scatter uncovered by flood action in the 1960s (LSA 2019b).

• P-31-002901 is a precontact-period isolated mano fragment. This isolate is located within the proposed project site approximately 20 meters south of Dry Creek (LSA 2019b).

The ASR identified three archaeological resources within the 0.5-mile of the study area, but outside of the proposed project site boundaries are summarized below.

- P-31-000173/CA-PLA-000047 is a precontact-period site originally recorded in 1960 as a lithic scatter, habitation debris, midden and groundstone (LSA 2019b).
- P-31-000202/CA-PLA-000076 is a precontact-period site comprised of a lithic scatter and groundstone (LSA 2019b). A survey completed in 1965 collected pestles, manos, metate fragment, and chert and obsidian projectile points from the surface (LSA 2019b). This resource is 0.4-mile east of the proposed project site, along the south bank of Dry Creek.
- P-31-002863/CA-PLA-001982 is a historic-period well/cistern that is located approximately 0.4 miles east of the proposed project site (LSA 2019b).

ii. Discussion

a) (i and ii) Less than Significant Impact with Mitigation. The field survey did not result in any newly-identified cultural resources (LSA 2019b). Furthermore, the two precontact-period archaeological resources within the proposed project site, CA-PLA-69/P-39-000195 and P-31-002901, were not relocated (LSA 2019b). The lithic and groundstone scatter (CA-PLA-69/P-39-000195) was determined not eligible for listing in the National Register by the State Historic Preservation Officer (SHPO) in 2017 and not eligible for listing in the California Register by Placer County in 2016. The isolated groundstone fragment (P-31-002901) recorded in 1991 that was not located during a 2015 survey or during the survey conducted for the ASR (LSA 2019b) is exempt from further consideration per Attachment 4 of the Section 106 Programmatic Agreement. No further consideration of these two archaeological resources is necessary for purposes of this project (LSA 2019b).

Precontact-period cultural resources previously identified within the proposed project have been isolated or are shallow deposits, which is indicative of the Middle Pleistocene-aged Riverbank Formation landform. This landform predates known human occupation of the area; therefore, this area has a very low sensitivity for containing buried archaeological deposits. If archaeological deposits are present, they should be on or near the ground surface, with the exception of the area adjacent to Dry Creek where significant alluvial translocation has likely displaced archaeological resources from their original surficial context. The inadvertent loss of these materials during construction potentially is considered a significant impact. Mitigation measure TCR-1 would be implemented to reduce impacts to unknown resources to a less than significant level.

iii. Mitigation Measures

Mitigation Measure TCR-1: Stop Construction and Retain Services of Federally Qualified Archeologist and Native American Monitor. The County's construction contractor shall procure the services of a federally qualified archaeologist and a Native American construction monitor identified by the United Auburn Indian Community (UAIC) prior to the initiation of construction. The federally qualified archaeologist and Native American monitor shall be present during ground-disturbing activities related to the installation of a water diversion system, general demolition, installation of bridge foundations, and construction of the new bridge and approaches. The federally gualified archaeologist, Native American monitor, and Caltrans District 3 archaeologist shall be notified of proposed ground-disturbing activities no less than five days prior to their start date. If tribal resources are encountered during project-related grounddisturbing activities, the County's construction contractor will cease all work within 100 feet of the find until it can be evaluated by the tribal monitor and the federally qualified archaeologist. If the tribal monitor and archaeologist determine that the resources are significant, the archaeologist will notify the County and Caltrans District 3, and the resource will be avoided, if possible. Preservation-in-place is the preferred manner of mitigating impacts on a tribal resource; however, if avoidance is not feasible, a Treatment Plan that documents the research approach and methods for data recovery will be prepared and implemented in consultation with the County, the federal lead agency, the California State Historic Preservation Office (SHPO), and with appropriate Native American representatives.

iv. References

- LSA Associates, Inc. 2019a. Historic Property Survey Report, Watt Avenue at Dry Creek Bridge (19C0084) Replacement Project. Placer County, CA BRLS 5919(115). Prepared for Drake Haglan Associates and Placer County Department of Public Works.
- LSA Associates, Inc. 2019b. Archeological Survey Report for the Watt Avenue Bridge Replacement Project. Prepared for Drake Haglan Associates and Placer County Department of Public Works.
- LSA Associates, Inc. 2019c. Historic Resources Evaluation Report, Watt Avenue at Dry Creek Bridge (19C0084) Replacement Project. Placer County, CA. BRLS 5919 (115) Prepared for Drake Haglan Associates and Placer County Department of Public Works.

- LSA Associates, Inc. 2020a. Extended Phase I Proposal Watt Avenue at Dry Creek Bridge Replacement Project.
- LSA Associates, Inc. 2020b. Finding of No Adverse Effect and ESA Action Plan, Watt Avenue at Dry Creek Replacement Project. Placer County, CA. BRLS-5919(115).

Placer County 2013. Placer County General Plan. Available at https://www.placer.ca.gov/2977/Placer-County-General-Plan. Accessed September 29, 2020.

4.19 Utilities and Service System

Issues (and Supporting Information Sources):		Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
Ut	ilities and Service Systems – 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				
b)	Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry vears?				\square
c)	, Result in a determination by the wastewater treatment provider that would 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				
e)	attainment of solid waste reduction goals? Comply with federal, state, and local statutes and regulations related to solid waste?			\boxtimes	

i. Setting

This section presents information on existing public utilities in the project area. The Watt Avenue bridge project is located in a rural area of southwestern Placer County, and existing nearby residents and businesses provide for their own water supplies from groundwater wells and wastewater treatment via septic tanks. Solid waste management is provided in the region by the Western Placer Waste Management Authority (WPMWA) that operates the sanitary landfill and Municipal Recovery Facility (MRF), which includes composting, hazardous waste management, and recycling services. The project is within the sphere of planned urban growth via the Placer Vineyards Specific Plan and the Riolo Vineyard Specific Plan that would be served via connections to existing wastewater treatment and water supply systems owned and managed by the City of Roseville.

There are several public service utilities in the immediate vicinity of the project site:

- Overhead electrical (OHE) and Telephone/Communication (OHTC) Lines: OHE and OHTC distribution lines are located on wooden poles placed parallel to Watt Avenue and Dyer Lane. OHE and OHTC lines are observed to run perpendicular to Watt Avenue along the northern bank of Dry Creek and at the intersection of Watt Avenue and Dyer Lane.
- Surface utilities are observed on the project site and include electrical facilities and irrigation facilities. A pump station facility is located adjacent to the existing bridge along northwestern bank of dry creek.
- Underground utilities observed along the proposed alignments include storm drainage and irrigation pipelines.

Existing utilities on or adjacent to the project site would be relocated prior to the beginning of construction. These utilities would remain in service throughout construction activities, and once the new bridge is complete. Utilities may need to be temporarily relocated during construction and moved to the new bridge following the completion of construction.

ii. Discussion

a) Less than Significant Impact. The proposed project is a transportation project and would not cause conflicts with local wastewater treatment plants in Roseville. Portable toilets would be required for construction workers on-site by the contractor as an industry-standard requirement in County contracts.

Operations would be similar to existing conditions upon construction completion. The proposed project would result in an increase impervious surfaces which could cause an increase in surface water runoff leaving the project site. The proposed project would not generate substantial volumes of wastewater nor increase water demand and therefore would not require the construction of additional wastewater or water treatment facilities. Operations would not increase the demand for water, electrical power, natural gas, or other telecommunication facilities; thus, the proposed project would not require the expansion or construction of new facilities. Operation impacts would be less than significant, and no mitigation measures are required.

Non-potable water use would be required for fugitive dust control during the construction of the proposed project. See the Section 3, Air Quality, for more information regarding fugitive dust control BMPs. Water supplies during construction are typically trucked to the site from outside sources that supply water for construction activities. This use of water would occur during the construction period of the proposed project and would cease upon construction completion. Potable water would be required during construction for workers. Typically,

potable water is brought to the site in bottles or other potable water vessels. Water use at the proposed project site would cease upon completion of construction. No new or expanded water facilities would be required.

During construction, portable toilets are typically used at construction sites; however, they are removed once construction is completed. These facilities are operated by private companies that provide cleaning services; thus, the Project would not increase wastewater service demand during construction. No new or expanded facilities would be required.

Existing utilities on or adjacent to the project site would be relocated prior to the beginning of construction. These utilities would remain in service throughout construction activities, and once the new bridge is complete. Utilities may need to be temporarily relocated during construction and moved to the new bridge following the completion of construction. These relocations are necessary to accommodate construction of the new bridge and associated roadway approaches. No increased demand on utilities would occur during construction or once construction is completed such that new or expanded facilities would be required.

The Project would not result in the need for new or expanded water, wastewater treatment, or other utility facilities. Impacts from the Project would be less than significant and no mitigation is required.

- **b)** No Impact. The proposed project would remove the existing two-lane bridge along Watt Avenue over Dry Creek and construct a new bridge that would accommodate four 12-foot lanes, two eight-foot minimum shoulders, a 12-foot minimum pedestrian pathway on the east side, and a variable width roadway median. The proposed project would not result in new, permanent water demand directly or indirectly. Use of non-potable water would be used for fugitive dust control measures (see Section 3, Air Quality, for more information regarding dust control). Potable water supplies during construction are used for construction workers. Water supplies during construction are typically trucked to the site from outside sources that supply water to construction activities. This use of water would occur during the construction period of the Project and would cease upon construction completion. No impact would occur to existing water supplies. No mitigation is required.
- c) Less than Significant Impact. The proposed project would comply with all federal, State, and local statutes and regulations related to solid waste, including compliance with the 1989 California Integrated Waste Management Act (AB 939) requiring specific waste diversion goals for local agencies. All recyclables and organics collected from the proposed project site would be taken to the appropriate facilities. The proposed project would comply with all

federal, State, and local statutes and regulations related to solid waste, therefore, impacts in this regard are less than significant and no mitigation measures are required.

- d) Less than Significant Impact. The proposed project would generate waste from construction activities and bridge demolition; however, the proposed project would not result in long-term demands for solid waste disposal services. The project area is served by the WPMWA. Demolition of the existing bridge would generate a substantial amount of construction debris, including broken concrete, steel rebar, wood, and steel from existing guard rails. All of these materials would be transported to the WPMRA's material recovery facility and recycled according to existing solid waste management requirements. Therefore, this impact is considered less than significant, and no mitigation measures are required.
- e) Less than Significant Impact. The proposed project would comply with all federal, State, and local statutes and regulations related to solid waste, including compliance with the 1989 California Integrated Waste Management Act (AB 939) requiring specific waste diversion goals for local agencies. All recyclables and organics collected from the proposed project site by the WPMRA would be taken to the appropriate facilities. The proposed project would comply with all federal, State, and local statutes and regulations related to solid waste, therefore, impacts in this regard are less than significant and no mitigation measures are required.

iii. Mitigation Measures

No mitigation is required.

iv. References

Western Placer Waste Management Authority. Available at <u>https://www.wpwma.ca.gov/</u> Accessed January 18, 2021.

4.20 Wildfire

Iss	ues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
Wi pro	ldfire – If located in or near state responsibility areas or la jject:	ands classified o	as very high fire h	azard severity z	ones, would the
a)	Substantially impair an adopted emergency response plan or emergency evacuation plan?			\square	
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?			\square	
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 downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?				\boxtimes

i. Setting

The proposed project is located within the bed and banks of Dry Creek and dry vegetation surrounds the bridge during summer. The immediate area near the bridge is farmland with a few rural residences. There is a moderate risk for wildfire from the proposed project, if precautions are not taken, in this area during the hot dry summers in the region. The project area has been designated within a moderate fire hazard severity zone (CalFire 2007a). The proposed project site is served by the Placer County Fire Department (PCF) services are administered by the Placer County Office of Emergency Services and is responsible for fire protection and rescue and emergency response services for approximately 475 square miles of unincorporated area in Placer County. The territory served by the PCF is consistent with the boundaries of County Service Area (CSA) 28, which is used as a means to fund the services offered by the PCF. Fire prevention and protection in areas of Placer County (the County) not served by independent fire protection districts or municipal fire departments are provided by a combination of a contract with the California Department of Forestry and Fire Protection (CAL FIRE) and eight volunteer companies, all operated by CAL FIRE under the name PCF (Placer County 2019).

ii. Discussion

a) Less than Significant with mitigation incorporated. The proposed project would remove the existing two-lane bridge along Watt Avenue over Dry Creek and construct a new bridge that would accommodate four 12-foot lanes, two eight-foot minimum shoulders, a 12-foot minimum pedestrian pathway on the east side, and a variable width roadway median. The proposed project would not impair an adopted emergency plan or emergency evacuation plan because the County would develop traffic control plan to ensure traffic flow during construction. One lane of the existing bridge would be open to maintain traffic flow in the area.

Access along Watt Avenue would be maintained during construction. Minor traffic control is expected during construction; however, this minor traffic control would result in minor traffic delays and temporary impacts to circulation. In addition, construction not anticipated to significantly interfere with an emergency response plan or emergency evacuation plan. The proposed project would be coordinated with the Placer County Sheriff Department, Placer County Fire Department, and other law enforcement or emergency service providers within the area, Project impacts would be less than significant.

b) Less than Significant with mitigation incorporated. The proposed project would remove the existing two-lane bridge along Watt Avenue over Dry Creek. The proposed project site's slope, prevailing winds, or other factors that exacerbate wildfire risks and expose the proposed project site and surrounding area to pollutant concentrations from a wildfire or the uncontrolled spread of wildfire would be similar to existing conditions upon completion of construction. Therefore, operation of the proposed project would have no impact in this regard.

Construction activities involving vehicles, heavy machinery, and personnel smoking at the proposed project site could result in the ignition of a fire. During construction, heavy equipment and passenger vehicles driving on vegetated areas prior to clearing and grading could increase the risk of fire. Heated mufflers and improper disposal of cigarettes could potentially ignite surrounding vegetation. Implementation of **Mitigation Measure FIRE-1** would reduce the potential for construction activities to result in severe fires by

requiring fire-safe construction and maintenance practices. Therefore, Project impacts would be less than significant with mitigation incorporated.

- c) Less than significant with mitigation incorporated. See discussion under subsection b, above.
- **d)** No Impact. The proposed project would remove the existing two-lane bridge along Watt Avenue over Dry Creek. The proposed project is located in Sacramento Valley with relatively flat terrain and would not exacerbate existing downstream flooding risk or landslides as a result of run-off, post -fire slope instability or drainage changes. The proposed project would not substantially increase stormwater runoff, result in drainage pattern changes, or result in a population increase that would ultimately expose people or structures to significant risks. During construction, construction workers would be present on site; however, this increase in workers would be temporary in nature. The risks associated with runoff, slope instability, and drainage changes within the proposed project site during construction would be similar to existing conditions. Therefore, the Project would have a **less than significant impact** in this regard and no mitigation measures are required.

iii. Mitigation Measures

MITIGATION MEASURE FIRE-1: Fire Safety Plan: Prior to construction, the contractor shall prepare and distribute to onsite personnel a Fire Safety Plan for use during construction. The Fire Safety Plan shall contain notification procedures and emergency fire precautions including, but not limited to, the following:

- Dry grass shall be cut low or removed from construction equipment staging areas.
- All internal combustion engines, stationary and mobile, shall be equipped with spark arresters. Spark arresters shall be in good working order.
- Light trucks and cars with factory-installed (type) mufflers shall be used only on roads where the roadway is cleared of vegetation. Said vehicle types shall maintain their factory-installed (type) muffler in good condition.
- Equipment parking areas (staging areas) shall be cleared of all extraneous flammable materials.
- Smoking shall be limited to paved areas or areas cleared of all vegetation.

iv. References

- California Department of Forestry and Fire Protection (CalFire). 2005. Statewide Map of Wildland Fire Threat Dara. Online: https://frap.fire.ca.gov/mapping/maps/. Accessed November 11, 2019.
- Dewberry | Drake Haglan. 2020. Community Impact Assessment Memorandum for the Watt Avenue at Dry Creek Bridge Replacement Project (BRLS-5919(115)).

4.21 Mandatory Findings of Significance

Issues (and Supporting Information Sources):		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact		
	 Mandatory Findings of Significance – would 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 individ cumulatively considerable? (" considerable" means that the project are considerable whe with the effects of past project current projects, and the effe projects.) 	ually limited, but 'Cumulatively incremental effects of a n viewed in connection cts, the effects of other cts of probable future					
	 c) Have environmental effects, v substantial adverse effects or directly or indirectly? 	which will cause human beings, either		\boxtimes			

i. Setting

Per the California Environmental Quality Act (CEQA) regulations and guidelines, the Lead Agency must summarize the finding of significance from earlier sections and must consider potential cumulatively considerable effects for environmental impact reports (EIRs) and in the discussion section below. Even though this environmental document is an Initial Study/Mitigated Negative Declaration (IS/MND) and not an EIR, the potential for cumulatively considerable effects are analyzed below.

ii. Discussion

a) Less than Significant Impact with Mitigation. Per the impact discussions in the Biological, Cultural Resources, and Tribal Cultural Resources sections, the potential of the proposed project to substantially degrade the environment or eliminate major periods of California history or prehistory would be less than significant with mitigation incorporated; Mitigation Measures BIO-1 through BIO-11, CUL-1a, CUL-1b, and TCR-1.

- b) Less than Significant Impact with Mitigation. The proposed project is located in Placer County. The purpose of the proposed project is to provide adequate and safe public access that is consistent with County, Federal Highway Administration (FHWA), American Association of State Highway and Transportation Officials (AASHTO), and California Department of Transportation (Caltrans) design criteria and standards. The proposed project would remove the existing Watt Avenue bridge over Dry Creek and construct a new bridge designed to current federal, state, and local structural and geometric standards. All project impacts were found to be less than significant or less than significant with mitigation incorporated.
- c) Less than Significant Impact with Mitigation. The proposed project would remove the existing Watt Avenue bridge over Dry Creek and construct a new bridge designed to current federal, state, and local structural and geometric standards. The proposed project would not cause substantial adverse effects on human beings. As discussed in the Public Services, Transportation, and Wildfire sections, the potential impacts to human beings during construction would be mitigated to a less than significant level. Effects related to biological resources, cultural resources, hazards and hazardous materials, noise, public services, transportation and traffic, and tribal cultural resources are discussed above and would be temporary in nature and would incorporate mitigation measures. Impacts would be **less than significant with mitigation incorporated**.

iii. Mitigation Measures

Implement Mitigation Measures AQ-1 and AQ-2, BIO-1 through BIO-11, CUL-1 through CUL-3, GEO-1, HAZ-1 through HAZ-4, HYD-1. and HYD-2, TCR-1, and FIRE-1, as described above.

5 LIST OF PREPARERS AND REVIEWERS

This Draft Initial Study/Mitigated Negative Declaration (IS/MND) was prepared by Dewberry | Drake Haglan and Associates in cooperation with the other members of the environmental study team. DHA was responsible for project management and Draft IS/MND preparation. The Draft IS/MND technical team and other environmental study team members provided technical expertise, as presented below.

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ACRONYMS AND ABBREVIATIONS

The following is a list of acronyms and abbreviations used within this document. Each term is defined in full once per chapter within the document before the abbreviation is used.

μg/m³	Microgram per cubic meter
AASHTO	American Association of State Highway and Transportation Officials
AB	Assembly Bill
ACM	Asbestos containing material
ADL	Aerially deposited lead
ADT	Average daily vehicular traffic trips
AFB	Air Force Base
APE	Area of Potential Effects
APN	Assessor's Parcel Number
AQMD	Air Quality Management District
ASR	Archaeological Survey Report
ASTM	American Society for Testing and Materials
ВА	Biological Assessment
ВМР	Best Management Practices
BSA	Biological Study Area
CAAQS	California Ambient Air Quality Standards
CalFire	California Department of Forestry and Fire Protection
California Register	California Register of Historical Resources
CalOSHA	California Occupational Safety and Health Administration
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CCAA	Clean Air Act Amendments
CCR	California Code of Regulations
CDC	California Department of Conservation
CDFW	California Department of Fish and Wildlife

CESA	California Endangered Species Act
CH ₄	Methane
CHRIS	California Historical Resources Information System
CIDH	Cast-in-Drilled Hole
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
СО	Carbon Monoxide
CO ₂ e	Carbon dioxide equivalent
Corps	U.S. Army Corps of Engineers
COS	Conservation and Open Space Element
County	Placer County
dB	Decibel
dBA	A-weighted decibel
DHA	Drake Haglan and Associates
EDR	Environmental Database Resources, Inc.
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FMMP	Farmland Mapping and Monitoring Program
FTA	Federal Transit Administration
FTIP	Federal Transportation Improvement Program
General Plan	Placer County General Plan
GGS	Giant Garter Snake
GHG	Greenhouse Gas
HASP	Health and Safety Plan
НВР	Highway Bridge Program
НСР	Habitat Conservation Plan
HPSR	Historic Properties Survey Report
HUC	Hydrologic Unit Code
In/sec	Inches per second

ISA	Initial Site Assessment
LBP	Lead-based paint
Leq	Equivalent A-weighted sound level
MBTA	Migratory Bird Treaty Act
mg/l	Milligrams per liter
MIA	Military Influence Area
MLD	Most Likely Descendant
mph	Miles per Hour
MRZ	Mineral Resource Zone
MTCO ₂ e	Metric tons of carbon dioxide equivalent
N ₂ O	Nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
National Register	National Register of Historic Places
NCCP	Natural Community Conservation Plan
NEIC	Northeast Information Center
NES	Natural Environment Study
NHPA	National Historic Preservation Act of 1966
NO _x	Nitrogen Oxides
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
O ₃	Ozone
OSHA	Occupational Safety and Health Administration
PAR	PAR Environmental Services, Inc.
Pb	Lead
PG&E	Pacific Gas and Electric Company
PIA	Project Impact Area
PM	Particulate Matter
PM ₁₀	Particulate Matter 10 microns in diameter or less

PM _{2.5}	Particulate Matter 2.5 microns in diameter or less
ppb	Parts per Billion
ppm	Parts per Million
PPV	Peak particle velocity
PRC	Public Resources Code
RECs	Recognized Environmental Conditions
ROG	Reactive Organic Gas
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SMARA	Surface Mining and Reclamation Act
SR	State Route
SSP	Standard Special Provisions
SVAQEEP	Sacramento Valley Air Quality Engineering and Enforcement Professionals
SVP	Society of Vertebrate Paleontology
SWPPP	Stormwater Pollution Prevention Plan
TDS	Total dissolved solids
TRC	Tribal Cultural Resource
UBC	Uniform Building Code
UCMP	University of California Museum of Paleontology
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VMT	Vehicle miles traveled

APPENDICIES

Appendix A: Mitigation Monitoring & Reporting Program

Mitigation and Monitoring Program

Mitigation	Environmental Protection Measures	Timing	Implementing	Monitoring	Frequency and	Performance
Measure			Party	Party	Duration	Criteria
Air Quality						
AQ-1.	The contractor shall implement	Prior to and	Construction	Placer County	Prior to	
Transportation	Placer County Regional	during	Contractor		Construction	
Plan	Transportation Plan as well as the	construction				
	following measures:					
	 A dust control plan shall be 					
	prepared by the contractor in					
	accordance with Air Pollution					
	Control District Rule 228 (Fugitive					
	Dust Emissions). The dust control					
	plan shall use reasonable					
	precautions to prevent dust					
	emissions, which may include					
	cessation of operations at times,					
	cleanup, sweeping, sprinkling,					
	compacting, enclosure, chemical					
	or asphalt sealing, or other					
	recommended actions by the Air					
	Pollution Control District.					
AQ-2. Air	The contractor shall implement the	During	Construction	Placer County	Periodically	
Quality BMP	following measures:	Construction	Contractor		during	
	• Project grading plans will show the				construction	
	duration of construction. Ozone					
	precursor emissions from					
	construction equipment vehicles					
	will be controlled by maintaining					
	equipment engines in good					
	condition and in proper tune per					
	manufacturers' specifications.					

Mitigation	Environmental Protection Measures	Timing	Implementing	Monitoring	Frequency and	Performance
Measure			Party	Party	Duration	Criteria
	 All trucks that are to haul excavated or graded material onsite will comply with State Vehicle Code Section 23114, with special attention to Sections 23114(b)(F), (e)(2), and (e)(4), as amended, regarding the prevention of such material spilling onto public streets and roads. The contractor will adhere to the California Department of Transportation (Caltrans) Standard Specifications for Construction, Sections 14.9-02 and 14- 9.03. Should the project geologist determine that asbestos-containing materials (ACM) are present at the project study area during final inspection prior to construction, the appropriate methods will be implemented to remove ACMs. All construction vehicles both onand off-site shall be prohibited from idling in excess of five minutes. All graders and scrapers to be used during the proposed project must operate at Tier 4 standards in order to meet thresholds set by the PCAPCD. 					

Mitigation	Environmental Protection Measures	Timing	Implementing	Monitoring	Frequency and	Performance
Measure			Party	Party	Duration	Criteria
Biological Resou	rces					
BIO-1.	The County will implement measures	Prior to and	Placer County	Placer County	Prior to work in	
Sensitive	to avoid and minimize potential	during			Dry Creek and	
Species	adverse effects on CV steelhead,	construction			monitored	
	designated critical habitat and EFH.				continuously	
	Prior to conducting work and during				during work in	
	work, the following measures will be				Dry Creek	
	implemented:					
	 Construction will occur in the 					
	period between June 15 and					
	September 30.					
	 Construction activities 					
	occurring within the creeks					
	banks and channel beds will					
	be limited to the low-flow					
	period, when the creeks are					
	less likely to support CV					
	steelhead.					
	 In-channel construction 					
	activities in the channel, such					
	as flow diversion, pile driving					
	and demolition work, will be					
	restricted to this work					
	window.					
	 Fish screens and temporary 					
	diversions will be installed to					
	exclude CV steelhead from areas					
	where in-water or near-water					
	construction activities are					
	conducted.					
	\circ The dewatering area will be					
	limited to the workspace,					

Mitigation	Environmental Protection Measures	Timing	Implementing	Monitoring	Frequency and	Performance
Measure			Party	Party	Duration	Criteria
	which will be isolated to avoid					
	construction activities in					
	flowing water.					
	\circ Creek diversions and					
	dewatering will occur only					
	during the low-flow work					
	window of June 15 to					
	September 30.					
	\circ The bed and banks of Dry					
	Creek will be re-compacted					
	and returned to their original					
	configuration immediately					
	following the completion of					
	instream construction work					
	and prior to restoring flow to					
	the original channel.					
	\circ No heavy equipment will be					
	used in flowing water.					
	 A NMFS and Placer 					
	Conservation Authority (PCA)-					
	approved fisheries biologist					
	will design and conduct a fish					
	capture and relocation plan to					
	collect fish and species from					
	the isolated work area					
	involving the capture and					
	return of those fish to suitable					
	habitat within Dry Creek. To					
	ensure compliance, a fisheries					
	biologist will provide					
	observation during initial					
	dewatering activities within					

Mitigation	Environmental Protection Measures	Timing	Implementing	Monitoring	Frequency and	Performance
Measure			Party	Party	Duration	Criteria
	the cofferdam. The fish					
	relocation plan will be					
	approved by the PCA and					
	USFWS, and the CDFW prior to					
	flow diversion installation and					
	dewatering.					
	\circ If surface water is present					
	when instream construction					
	must be conducted, stream					
	diversion will be implemented					
	such that diverted surface					
	flow is returned to Dry Creek					
	immediately downstream of					
	the work area. Prior to any					
	work within surface water, a					
	NMFS and PCA -approved					
	fisheries biologist will					
	complete a survey for					
	steelhead. If steelhead are					
	found in the work area, all					
	work affecting Dry Creek will					
	cease and NOAA Fisheries,					
	CDFW, and the PCA will be					
	notified.					
	 No RSP will be placed below the 					
	ordinary highwater mark.					
	 Wetlands, riverine and associated 					
	riparian habitats located in the					
	vicinity of the proposed project					
	area (within 200 feet of proposed					
	construction) will be protected by					

Mitigation	Environmental Protection Measures	Timing	Implementing	Monitoring	Frequency and	Performance
Measure			Party	Party	Duration	Criteria
	installing fencing to demarcate the					
	edge of construction areas.					
	\circ The construction					
	specifications will contain					
	clear language that prohibits					
	construction-related activities,					
	vehicle operation, material					
	and equipment storage,					
	trenching, grading, or other					
	surface-disturbing activities					
	outside of the designated					
	construction area.					
	\circ Signs will be erected along the					
	protective fencing to indicate					
	the area is environmentally					
	sensitive and no construction					
	or other operations may occur					
	beyond this fencing.					
	 The proposed project will conform 					
	to water pollution control					
	standards, including adherence to					
	a Stormwater Pollution Prevention					
	Plan (SWPPP) that will I be					
	implemented and monitored by					
	Caltrans. This will address					
	prevention procedures, including					
	proper management of					
	construction site materials and					
	equipment, covering and					
	stabilization of loose soils and					
	stockpiles, development of a spill					
	response plan and containment of					
Mitigation	Environmental Protection Measures	Timing	Implementing	Monitoring	Frequency and	Performance
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Measure			Party	Party	Duration	Criteria
	potentially hazardous materials,					
	and prevention of oil, grease, or					
	fuel leaks into the ground, storm					
	drains or surface waters.					
	\circ The proposed project will					
	include implementing best					
	management practices (BMPs)					
	that control for dust, erosion,					
	sedimentation, and turbidity,					
	such as soil covers, silt fences,					
	and establishing perimeters					
	around work areas.					
	\circ Non-erosive materials (e.g.,					
	gravel bags, sheet pile,					
	rubber/plastic tubes) will be					
	used to construct the					
	diversion berm. An energy					
	dissipater and sediment trap					
	(fiber rolls, or equivalent) will					
	be used at the diversion					
	pipeline outlet.					
	\circ Excavated material will be					
	stored away from the low-flow					
	channel to prevent incidental					
	discharge.					
	\circ Any streambed access points					
	will be stabilized using a pad					
	of coarse aggregate underlain					
	by filter cloth to reduce					
	erosion and tracking of					
	sediment.					

Mitigation	Environmental Protection Measures	Timing	Implementing	Monitoring	Frequency and	Performance
Measure			Party	Party	Duration	Criteria
	\circ Silty or turbid water produced					
	from dewatering or other					
	proposed project activities will					
	be filtered or allowed to settle					
	prior to discharge into Dry					
	Creek.					
	\circ Surface water will be sampled					
	during the installation and					
	removal of the diversion					
	system to ensure that					
	turbidity levels do not go					
	above lethal levels.					
	\circ A barrier will be deployed					
	beneath the bridge structure					
	preventing any debris from					
	falling to the ground or					
	entering the water below the					
	work site.					
	\circ All materials placed in stream					
	will be nontoxic.					
	\circ Good site management					
	"housekeeping" requirements					
	will be implemented for					
	construction materials, waste					
	management, vehicle storage					
	and maintenance, landscape					
	materials, and other potential					
	pollutant sources. These will					
	include proper management					
	of construction site materials					
	and equipment; covering					
	and/or stabilization of loose					

Mitigation	Environmental Protection Measures	Timing	Implementing	Monitoring	Frequency and	Performance
Measure			Party	Party	Duration	Criteria
	soils and stockpiles; tracking					
	controls; proper use,					
	containment and					
	management of portable					
	toilets and other sanitation					
	facilities; development of a					
	spill response plan and					
	containment of potentially					
	hazardous materials; and					
	prevention of oil, grease, or					
	fuel leaks in to the ground,					
	storm drains or surface					
	waters.					
	\circ Non-stormwater management					
	will be conducted, including					
	washing vehicles and cleaning					
	streets in a manner that					
	prevents non-storm water					
	discharges from reaching					
	surface water or municipal					
	drainage systems.					
	 The proposed project will 					
	minimize impacts to riparian					
	vegetation and will incorporate					
	restoration and enhancement of					
	the riparian corridor into the final					
	design plans and construction					
	specifications. A Restoration and					
	Revegetation Plan, approved by					
	the CDFW, the PCA, and the Placer					
	County Planning Services Division,					
	will include on-site replanting and					

Mitigation	Environmental Protection Measures	Timing	Implementing	Monitoring	Frequency and	Performance
Measure			Party	Party	Duration	Criteria
	purchase of mitigation credits to					
	compensate for permanent and					
	temporary loss of riparian cover.					
	\circ The revegetation plan may					
	include plant salvage, seeds,					
	and seedlings obtained from					
	local native sources and					
	irrigation, as necessary.					
	\circ The annual five-year					
	monitoring program will be					
	implemented and will employ					
	standard ecological methods					
	to estimate plant cover and to					
	document survival rates and					
	growth characteristics.					
	\circ Current riparian vegetation					
	and oaks will be retained. A					
	Tree Protection Zone (TPZ),					
	will be delineated around					
	these trees by an International					
	Society of Arborists (ISA)					
	Certified Arborist and be					
	demarcated using fencing.					
	Construction-related activities					
	within the TPZ will be limited					
	to those activities that can be					
	done by hand.					
	 Impacts to CV steelhead resulting 					
	from the proposed action will be					
	mitigated through the PCCP.					

Mitigation	Environmental Protection Measures	Timing	Implementing	Monitoring	Frequency and	Performance
Measure			Party	Party	Duration	Criteria
BIO-2. Western	The County will implement measures	Prior to and	Placer County	Placer County	Survey within 2	
Pond Turtle	to avoid and minimize potential	during	Qualified		weeks prior to	
	adverse effects on western pond	construction	Biologist		ground	
	turtle. Prior to conducting work and				disturbing	
	during work, the following measures				activities	
	will be implemented:					
	 The construction area shall be 					
	dewatered prior to construction					
	activities. CDFW shall be notified					
	prior to dewatering activities.					
	 No more than two weeks prior to 					
	the commencement of ground-					
	disturbing activities, the County					
	shall retain a qualified biologist to					
	perform surveys for western pond					
	turtle within suitable aquatic and					
	upland habitat within the					
	proposed project area. Surveys					
	will include western pond turtle					
	nests as well as individuals. The					
	biologist (with the appropriate					
	agency permits) will temporarily					
	move any identified western pond					
	turtles upstream of the					
	construction area, and temporary					
	barriers will be placed around the					
	construction area to prevent					
	ingress. Construction will not					
	proceed until the work area is					
	determined to be free of turtles.					
	The results of these surveys will be					
	documented in a technical					

Mitigation	Environmental Protection Measures	Timing	Implementing	Monitoring	Frequency and	Performance
Measure			Party	Party	Duration	Criteria
	 memorandum that will be submitted to CDFW (if turtles are documented). Standard construction BMPs shall be implemented throughout construction to avoid and minimize adverse effects to the water quality within the proposed project area. 					
BIO-3. Special	The County will implement measures	Prior to and	Qualified	Qualified	At least once.	
Status Birds	 to avoid and minimize potential adverse effects on Cooper's hawk, tricolored blackbird, ferruginous hawk, white-tailed kite, song sparrow, and purple martin. Prior to conducting work and during work, the following measures will be implemented: To avoid and minimize impacts to tree and shrub nesting species, the following measures shall be implemented: Conduct all tree and shrub removal and grading activities during the non-breeding season (generally September 1 through January 31). If grading and tree removal activities are scheduled to occur during the breeding and nesting season (February 1 	during construction	Biologist	Biologist	Preconstruction surveys for migratory bird species shall take place no less than 14 days and no more than 30 days prior to the beginning of construction within 250 feet of suitable nesting habitat	

Mitigation	Environmental Protection Measures	Timing	Implementing	Monitoring	Frequency and	Performance
Measure			Party	Party	Duration	Criteria
	through August 31), pre-					
	construction surveys shall be					
	performed prior to the start of					
	proposed project activities.					
	 If construction, grading or other 					
	proposed project-related activities					
	are schedule during the nesting					
	season (February 1 to August 31),					
	preconstruction surveys for other					
	migratory bird species shall take					
	place no less than 14 days and no					
	more than 30 days prior to the					
	beginning of construction within					
	250 feet of suitable nesting					
	habitat.					
	 If the pre-construction surveys do 					
	not identify any nesting migratory					
	bird species within areas					
	potentially affected by					
	construction activities, no further					
	mitigation shall be required.					
	If the pre-construction surveys do					
	identify nesting bird species within					
	areas that are within 250 feet of					
	construction activities, the					
	implemented:					
	Proposed project related					
	construction impacts shall be					
	avoided by establishment of					
	annronriate no-work huffers					
	to limit proposed project-					

Mitigation	Environmental Protection Measures	Timing	Implementing	Monitoring	Frequency and	Performance
Measure			Party	Party	Duration	Criteria
	related construction activities					
	near the nest site. The size of					
	the no-work buffer zone shall					
	be determined in consultation					
	with the CDFW. The no-work					
	buffer zone shall be delineated					
	by highly visible temporary					
	construction fencing. In					
	consultation with CDFW,					
	monitoring of nest activity by					
	a qualified biologist shall be					
	required if the proposed					
	project-related construction					
	activity has potential to					
	adversely affect the nest or					
	nesting behavior of the bird.					
	No proposed project-related					
	construction activity shall					
	commence within the no-work					
	buffer area until a qualified					
	biologist and CDFW confirms					
	that the nest is no longer					
	active.					
BIO-4.	The County will implement measures	Prior to and	Qualified	Qualified	At least once	
Burrowing Owl	to avoid and minimize potential	during	Biologist	Biologist	prior to ground	
	adverse effects on burrowing owl.	construction			disturbing	
	Prior to conducting work and during				activities	
	work, the following measures will be					
	implemented:					
	 During the non-breeding season 					
	(September 1 through January 31),					
	burrowing owls occupying the					

Mitigation	Environmental Protection Measures	Timing	Implementing	Monitoring	Frequency and	Performance
Measure			Party	Party	Duration	Criteria
	Project Impact Area (PIA) should					
	be evicted from the PIA by passive					
	relocation as described in the Staff					
	Report on Burrowing Owls (CDFW					
	2012).					
	 During the breeding season 					
	(February 1 through August 31),					
	occupied burrows shall not be					
	disturbed and shall be provided					
	with a 250-foot protective buffer					
	unless a qualified biologist					
	approved by CDFW and the PCA					
	verifies through non-invasive					
	means that either: 1) the birds					
	have not begun egg laying, or 2)					
	juveniles from the occupied					
	burrows are foraging					
	independently and are capable of					
	independent survival. Once the					
	fledglings are capable of					
	independent survival, the burrow					
	can be destroyed.					
BIO-5.	The County will implement measures	Prior to and	Qualified	Qualified	At least once	
Swainson's	to avoid and minimize potential	during	Biologist	Biologist	prior to	
Hawk	adverse effects on Swainson's hawk.	construction			construction	
	Prior to conducting work and during					
	work, the following measures will be					
	implemented:					
	 Prior to construction, surveys will 					
	be conducted by a qualified					

Mitigation	Environmental Protection Measures	Timing	Implementing	Monitoring	Frequency and	Performance
Measure			Party	Party	Duration	Criteria
	biologist to determine the					
	presence/absence of nesting					
	Swainson's hawk in and within					
	0.50 miles of the BSA according to					
	the Recommended Timing and					
	Methodology for Swainson's Hawk					
	Nesting Surveys in California's					
	Central Valley (Swainson's Hawk					
	Technical Advisory Committee					
	2000). If no Swainson's hawks are					
	found during any of the surveys,					
	no further mitigation will be					
	necessary. If Swainson's hawk					
	nests are found, CDFW and the					
	PCA will be consulted regarding					
	measures to reduce the likelihood					
	of forced fledging of young or nest					
	abandonment by adult birds.					
	These measures will likely include,					
	but are not limited to, the					
	establishment of a no-work zone					
	around the nest until the young					
	have fledged as determined by a					
	qualified biologist.					
		Distantia d				
BIO-6. Valley	The County will implement measures	Prior to and	ISA Certified	Placer County	Once prior to	
Oak Riparian	to avoid and minimize potential	auring	Arborist		the removal of	
Forest	adverse effects on valley oak riparian	construction			any trees	
	forest. Prior to conducting work and					
	auring work, the following measures					
	will be implemented:					

Mitigation	Environmental Protection Measures	Timing	Implementing	Monitoring	Frequency and	Performance
Measure			Party	Party	Duration	Criteria
	 Prior to the removal of any trees, 					
	an ISA Certified Arborist will					
	conduct a tree survey in areas that					
	may be impacted by construction					
	activities. This survey will					
	document tree resources that may					
	be adversely impacted by the					
	Proposed Action. The survey will					
	follow standard professional					
	practices. In addition, the County					
	will obtain a Tree Permit from the					
	Placer County Planning Services					
	Division. For areas temporarily					
	impacted by construction					
	activities, replanting will be					
	required; therefore, a planting					
	plan will be implemented as					
	detailed in a Restoration and					
	Revegetation Plan approved by					
	the CDFW and the Placer County					
	Planning Services Division. The					
	Restoration Plan will include					
	performance standards for					
	revegetation that will ensure the					
	successful restoration of the on-					
	site riparian areas. The					
	Restoration Plan will be developed					
	during the permitting phase when					
	the engineering design is near					
	completion.					
	 Current riparian vegetation and 					
	oaks will be retained as shown on					

Mitigation	Environmental Protection Measures	Timing	Implementing	Monitoring	Frequency and	Performance
Measure			Party	Party	Duration	Criteria
	the engineering plans. A Tree					
	Protection Zone (TPZ) will be					
	established around any tree or					
	group of trees to be retained. The					
	TPZ will be delineated by an ISA					
	Certified Arborist. The TPZ will be					
	defined by the radius of the					
	dripline of the tree(s) plus one					
	foot. The TPZ of any protected					
	trees will be demarcated using					
	fencing that will remain in place					
	for the duration of construction					
	activities.					
	Construction-related activities will					
	be limited within the TPZ to those					
	activities that can be done by					
	hand. No heavy equipment or					
	machinery will be operated within					
	the TPZ. Grading will be prohibited					
	within the TPZ. No construction					
	materials, equipment, or heavy					
	machinery will be stored within					
	the TPZ.					
	 Wetlands, riverine and associated 					
	riparian habitats located in the					
	vicinity of the Action Area will be					
	protected by installing protective					
	fencing. Protective fencing will be					
	installed along the edge of					
	construction areas, including					
	temporary and permanent access					
	roads where construction will					

Mitigation	Environmental Protection Measures	Timing	Implementing	Monitoring	Frequency and	Performance
Measure			Party	Party	Duration	Criteria
	occur within 200 feet of the edge					
	of wetland and riverine habitat (as					
	determined by a qualified					
	biologist). The location of fencing					
	will be marked in the field with					
	stakes and flagging and shown on					
	the construction drawings. The					
	construction specifications will					
	contain clear language that					
	prohibits construction-related					
	activities, vehicle operation,					
	material and equipment storage,					
	trenching, grading, or other					
	surface-disturbing activities					
	outside of the designated					
	construction area. Signs will be					
	erected along the protective					
	fencing at a maximum spacing of					
	one sign per 50 feet of fencing.					
	The signs will state: "This area is					
	environmentally sensitive; no					
	construction or other operations					
	may occur beyond this fencing.					
	Violators may be subject to					
	prosecution, fines, and					
	imprisonment." The signs will be					
	clearly readable at a distance of 20					
	feet and will be maintained for the					
	duration of construction activities					
	in the area.					
	 Where riparian vegetation occurs 					
	along the edge of the construction					

Mitigation	Environmental Protection Measures	Timing	Implementing	Monitoring	Frequency and	Performance
Measure			Party	Party	Duration	Criteria
	easement, the County will					
	minimize the potential for long-					
	term loss of riparian vegetation by					
	trimming vegetation rather than					
	removing the entire plant.					
	Trimming will be conducted per					
	the direction of a biologist and/or					
	Certified Arborist.					
Cultural Resourc	es					
CUL-1.	If an inadvertent discovery of	During	Qualified	Placer	Continuously	
Immediately	cultural materials (e.g., unusual	construction	Archaeologist	County;	during	
Halt	amounts of shell, animal bone,			Qualified	earthwork	
Construction	flaked stone, bottle glass, ceramics,			Archaeologist	activities	
Activities if	structure/building remains, etc.) is					
Any Cultural	encountered during project-related					
Materials are	construction activities, ground					
Discovered.	disturbances in the area of the find					
	shall be halted immediately, and a					
	qualified professional archaeologist					
	shall be notified regarding the					
	discovery. The archaeologist shall					
	determine whether the resource is					
	potentially significant as per the					
	California Register of Historical					
	Resources (California Register) and					
	shall develop appropriate mitigation.					
	Appropriate mitigation may include					
	no action, avoidance of the resource,					
	and potential additional data					
	recovery.					

Mitigation	Environmental Protection Measures	Timing	Implementing	Monitoring	Frequency and	Performance
Measure			Party	Party	Duration	Criteria
CUL-2. Follow	If buried cultural materials, including	During	Qualified	Placer	Continuously	
Protocol for	human remains, are encountered	construction	Archaeologist	County,	during	
the	during construction, stop work in			Qualified	earthwork	
Unanticipated	that area until a qualified			Archaeologist	activities	
Discovery of	archaeologist can evaluate the find's					
Cultural	nature and significance. In the event					
Resources or	that human remains or associated					
Human	funerary objects are encountered					
Remains.	during construction, cease all work					
	within the vicinity of the discovery.					
	In accordance with CEQA and the					
	California Health and Human Safety					
	Code (14 CCR § 15064; 7 HSC §					
	7050.5), the County coroner will be					
	contacted immediately. If the human					
	remains are determined to be Native					
	American, the coroner will notify the					
	Native American Heritage					
	Commission, who will notify and					
	appoint a Most Likely Descendent					
	(MLD). The MLD will work with a					
	qualified archaeologist to decide the					
	proper treatment of the human					
	remains and any associated funerary					
	objects.					
CUL-3.	Placer County shall implement the	Prior to	Placer County	Placer County	Prior to	
Implement	Environmentally Sensitive Area (ESA)	construction			earthwork	
Environmental	mitigation actions and measures to				activities and	
Sensitive Area	protect potential resources at the				monitored	
Action Plan	Union Cemetery. The Project				every 2 weeks	
	Manager and Project Engineer will				during	
	clearly describe and illustrate the				construction	

Mitigation	Environmental Protection Measures	Timing	Implementing	Monitoring	Frequency and	Performance
Measure			Party	Party	Duration	Criteria
	ESA fencing in the plans,					
	specifications, and estimates					
	prepared to guide construction of					
	the undertaking. The Project					
	Manager will attach the ESA Action					
	Plan to the contract in place with					
	each contractor conducting					
	excavation. The Resident Engineer,					
	the Project Manager, and the Project					
	Archaeologist will review the PS&E					
	package and ensure that Standard					
	Special Provisions (SSP) for the ESA is					
	included and will ensure the ESA					
	Action Plan is included in the					
	Environmental Commitment Record.					
	The ESA will be delineated and					
	protected by four-foot-high orange					
	polyethylene construction fencing as					
	depicted in the ESA Action Plan					
	(Figure 4.5-1). The purpose of the					
	fencing is to restrict access by					
	construction personnel and					
	equipment within portions of the					
	Union Cemetery that contain or may					
	be likely to contain contributing					
	features. The fencing will be installed					
	at the ESA prior to any ground-					
	disturbing construction activities and					
	maintained for the duration of the					
	project. Conspicuous signage					
	attached to the fence will indicate					

Mitigation	Environmental Protection Measures	Timing	Implementing	Monitoring	Frequency and	Performance
Measure			Party	Party	Duration	Criteria
	that no construction activity within					
	the fenced area is allowed. The					
	responsibility lies with the Resident					
	Engineer to confirm that the					
	County's Project Archaeologist is					
	present when ESA fencing is installed					
	and removed. Three weeks prior to					
	installation or removal of the ESA					
	fencing, the Project Manager and/or					
	Resident Engineer will notify the					
	Project Archaeologist. The County's					
	Resident Engineer will contact the					
	Project Archaeologist at least one					
	week prior to the day construction					
	begins and provide the Project					
	Archaeologist with Contractor					
	contact information. The Project					
	Archaeologist will coordinate with					
	the Contractor and attend the pre-					
	construction meeting. During the					
	pre-construction meeting, the					
	Project Archaeologist will discuss the					
	importance of the ESA fencing to the					
	Contractor and all construction staff.					
	If a sub-consultant is scheduled to					
	begin construction on the proposed					
	project and has not attended the					
	pre-construction meeting, the					
	Project Manager and/or Resident					
	Engineer will make arrangements for					
	the Project Archaeologist to meet					

Mitigation	Environmental Protection Measures	Timing	Implementing	Monitoring	Frequency and	Performance
Measure			Party	Party	Duration	Criteria
	with the sub-consultant to inform					
	them about ESA procedures.					
	The ESAs will remain in place during					
	the proposed project. The Project					
	Archaeologist will monitor the ESA					
	fencing periodically (at least once					
	every two weeks) during project					
	construction to ensure the integrity					
	of the ESA fencing. When					
	the Decident Engineer and Project					
	Archaeologist will seerdinate to					
	Archaeologist will coordinate to					
	no longer personal and the ESA					
	foncing can be removed by the					
	Contractor					
	The procedures described in this ESA					
	Action Plan must be followed.					
	Breaches of the ESA Action Plan					
	procedures must be reported to the					
	Project Manager and/or Resident					
	Engineer, who will notify the Caltrans					
	Archaeologist and Project					
	Archaeologist. The Caltrans					
	Archaeologist will then inform the					
	SHPO of the breach within 48 hours					
	and begin consultation to determine					
	how the situation will be addressed.					

Mitigation	Environmental Protection Measures	Timing	Implementing	Monitoring	Frequency and	Performance
Measure			Party	Party	Duration	Criteria
Geology, Soils, a	nd Seismicity					
GEO-1.	Should paleontological resources be	During	Placer County	Placer County	Continuously	
Immediately	discovered during ground disturbing	construction	Public Works		during	
Halt	activities for the bridge project, work		Department;		earthwork	
Construction	shall be halted in the area within 50		Qualified		activities	
Activities if	feet of the find. Placer County Public		Paleontologist			
Any	Works Department will retain a					
Paleontological	qualified paleontologist to inspect					
Materials Are	the discovery. If deemed significant					
Discovered	under criteria established by the					
	Society for Vertebrate Paleontology					
	with respect to authenticity,					
	completeness, preservation, and					
	identification, the resource(s) shall					
	then be salvaged and deposited in an					
	accredited and permanent scientific					
	institution (e.g., University of					
	California Museum of Paleontology					
	[UCMP] or Sierra College), where the					
	discovery would be properly curated					
	and preserved for the benefit of					
	current and future generations. The					
	language of this mitigation measure					
	shall be included on any future					
	grading plans, utility plans, and					
	improvement plans approved by the					
	Placer County Engineering and					
	Surveying Division for the proposed					
	project, where excavation work					
	would be required. Construction may					
	continue in areas outside of the					
	buffer zone.					

Mitigation	Environmental Protection Measures	Timing	Implementing	Monitoring	Frequency and	Performance
Measure			Party	Party	Duration	Criteria
Hazards and Haz	ardous Materials					
HAZ-1.	A HASP shall be developed for the	Prior to	Placer County	Placer County	Prior to	
Development	project. The HASP shall describe	construction	Public Works		construction	
of a Health and	appropriate procedures to follow if		Department?		and	
Safety Plan	any contaminated soil or				continuously	
(HASP)	groundwater is encountered during				during	
	construction activities. Any unknown				earthwork	
	substances shall be tested, handled,				activities	
	and disposed of in accordance with					
	appropriate federal, state, and local					
	regulations.					
HAZ-2.	A California-licensed abatement	Prior to	California-	Placer County	10 day prior to	
Asbestos and	contractor will conduct a survey for	construction	licensed		ground	
Lead-	lead-containing materials prior to		abatement		disturbing	
Containing	demolition (including concrete		contractor		activities	
Materials.	elements) and will submit a National					
	Emission Standard for Hazardous Air					
	Pollutants (NESHAP) notification. Per					
	Section 14-9.02 of the asbestos					
	NESHAP regulation, all "demolition					
	activity" requires written notification					
	even if there is no asbestos present.					
	This notification should be					
	typewritten and postmarked or					
	delivered no later than 10 days prior					
	to the beginning of the asbestos					
	demolition or removal activity.					
	It lead-containing materials are					
	found, the following will be required:					

Mitigation	Environmental Protection Measures	Timing	Implementing	Monitoring	Frequency and	Performance
Measure			Party	Party	Duration	Criteria
	 Building materials associated with 					
	paint on structures and paint on					
	utilities should be abated by a					
	California-licensed abatement					
	contractor and disposed of as a					
	hazardous waste in compliance					
	with SSP 14-11.13 and other					
	federal and state regulations for					
	hazardous waste.					
	A Lead Compliance Plan should be					
	prepared by the contractor for the					
	disposal of LBP. The grindings					
	(which consist of the roadway					
	material and the yellow and white					
	color traffic stripes) shall be					
	removed and disposed of in					
	accordance with Standard Special					
	Provision 36-4 (Residue Containing					
	High Lead Concentration Paints).					
	In addition, the Lead Compliance					
	Plan will also contain the following					
	provision to address aerially-					
	deposited lead: SSP 7-1.02K					
	(6)(j)(iii) – Earth Material					
	Containing Lead.					
	 A California-licensed lead 					
	contractor should be required to					
	perform all work that will disturb					
	any LBP as a result of planned or					
	unplanned renovations in the					

Mitigation	Environmental Protection Measures	Timing	Implementing	Monitoring	Frequency and	Performance
Measure			Party	Party	Duration	Criteria
	project area, including the					
	presence of yellow traffic striping					
	and pavement markings that may					
	contain lead-based paint. All such					
	material must be removed and					
	disposed of as a hazardous					
	material in compliance with SSP					
	14-11.12.					
HAZ-3. Treated	The timber associated with the barn	During	Construction	County of	Continually	
Wood	structure shall be removed and	demolition?	contractor	Placer	during removal	
	disposed of at a Regional Water				of the barn	
	Quality Control Board certified TWW				structure	
	landfill.					
HAZ-4.	Due to the high Average daily Traffic	Prior to and	Construction	County of	Once prior to	
Contaminated	(ADT) and age of Watt Avenue, the	during	contractor	Placer	ground	
Soils.	potential exists for the soils adjacent	construction			disturbing	
	to the roadway to contain elevated				activities and	
	levels of ADL. The following				continually	
	measures are recommended for the				during	
	handling of contaminated soils:				construction	
	 Worker Safety Training shall 				activities	
	include exposure to Arsenic and					
	Chromium in soil (above RWQCB					
	ESL levels) and ADL in soil (below					
	RWQCB ESL levels).					
	 Excavated soils shall be disposed 					
	of as non-hazardous waste at Class					
	II unit or Class III landfill depending					
	on facility acceptance standard,					
	consistent with California Codes					

Mitigation	Environmental Protection Measures	Timing	Implementing	Monitoring	Frequency and	Performance
Measure			Party	Party	Duration	Criteria
	and Regulations (CCR) Title 22					
	§66363.11 waste classification.					
Hydrology and W	Vater Quality					
HYD-1. Obtain	Placer County Public Works shall	Prior to and	Construction	Placer County	Once prior to	
SWRCB	require the selected bridge	during	contractor		construction	
General	construction contractor to prepare a	construction			and continually	
Construction	detailed erosion and sediment				during	
Stormwater	control plan, including a spill				construction	
Permit and	contingency plan to minimize the				activities	
Prepare	potential for sediment and					
Stormwater	hazardous materials from entering					
Pollution	Dry Creek during construction. The					
Prevention	plan will be reviewed and approved					
Plan and	by the Placer County Public Works					
Implement	Project Manager prior to					
best	construction activities. The plan shall					
Management	include the following elements:					
Practices	 The contractor shall develop and 					
	implement a toxic materials					
	control and spill response plan to					
	regulate the use of hazardous					
	materials, such as the petroleum-					
	based products used as fuel and					
	lubricants for equipment and					
	other potentially toxic materials					
	associated with the proposed					
	project construction. This					
	includes, but is not limited to:					
	\circ Eucling and maintaining					
	vehicles in a specified area					
	that is designed to canture					

Mitigation	Environmental Protection Measures	Timing	Implementing	Monitoring	Frequency and	Performance
Measure			Party	Party	Duration	Criteria
	spills. All fueling and					
	maintenance of vehicles and					
	other equipment (including					
	staging areas) will be located					
	at least 66 feet (20 meters)					
	from Dry Creek and any other					
	drainages on site.					
	\circ Properly disposing of oil or					
	other liquids.					
	\circ On a weekly basis, inspecting					
	and maintaining vehicles and					
	equipment to prevent the					
	dripping of oil or other fluids					
	onto areas that could result in					
	runoff.					
	 Standard construction BMPs shall 					
	be implemented throughout					
	construction to avoid and					
	minimize adverse effects to the					
	water quality within the project					
	site. Appropriate erosion control					
	measures shall be used (e.g., straw					
	wattles, filter fences, vegetative					
	buffer strips, or other accepted					
	equivalents) to reduce siltation					
	and contaminated runoff from					
	project sites. The specific BMPs to					
	be implemented shall be					
	described in full in the project's					
	Stormwater Pollution Prevention					

Mitigation	Environmental Protection Measures	Timing	Implementing	Monitoring	Frequency and	Performance
Measure			Party	Party	Duration	Criteria
	Plan (SWPPP). All erosion control					
	materials, including straw wattles					
	and erosion control blanket					
	material, used on-site shall be					
	biodegradable. Use of erosion					
	control containing plastic					
	monofilament shall not be allowed					
	as wildlife may become entrapped					
	in this material. Wattles shall be					
	wrapped with 100 percent					
	biodegradable materials like					
	burlap, jute, or coir.					
	 Measures including, but not 					
	limited to mulches, soil					
	binders/erosion control blankets,					
	silt fencing, fiber rolls, and					
	temporary berms, will be					
	implemented during ground-					
	disturbing activities to reduce					
	erosion and sedimentation. These					
	measures will be inspected before,					
	during, and after a rain event.					
	 Existing vegetation shall be 					
	protected using temporary					
	fencing, or other protection					
	devices, to reduce erosion and					
	sedimentation.					
	 Exposed soils shall be covered by 					
	loose bulk materials or other					
	materials such as visqueen to					

Mitigation	Environmental Protection Measures	Timing	Implementing	Monitoring	Frequency and	Performance
Measure			Party	Party	Duration	Criteria
	reduce erosion and runoff during					
	rainfall events.					
	 Exposed soils shall be stabilized, 					
	through watering or other					
	measures such as covering with					
	visqueen, to prevent the					
	movement of dust at the project					
	site caused by winds and					
	construction activities such as					
	traffic and grading activities.					
	 Temporary berms shall be 					
	constructed along the tops of					
	slopes to prevent water from					
	running uncontrolled from slopes					
	during construction activities.					
	Water shall be collected in these					
	berms and taken down the slopes					
	in an erosion-proof drainage					
	system. Sediment collected within					
	these berms shall be allowed to					
	"settle out" and then removed					
	from the site.					
	 All erosion control measures and 					
	stormwater control measures shall					
	be properly maintained until the					
	site has returned to a pre-					
	construction state.					
	All disturbed areas will be restored					
	to pre-construction contours and					
	revegetated, either through					

Mitigation	Environmental Protection Measures	Timing	Implementing	Monitoring	Frequency and	Performance
Measure			Party	Party	Duration	Criteria
	hydroseeding or other means,					
	with native or approved non-					
	invasive exotic species.					
	 All construction materials will be 					
	hauled off-site after completion of					
	construction activities.					
HYD-2. Obtain	All dewatering effluents shall be	Prior to	EPA certified	Placer County	Once prior to	
RWQCB NPDES	required to be tested for trace	construction	laboratory		discharge into	
General Permit	pollutants by an EPA certified				the receiving	
for	laboratory prior to discharge into the				waters of Dry	
Dewatering.	receiving waters of Dry Creek per the				Creek and	
	General Water Discharge				periodic testing	
	Requirements/NPDES Permit for				during	
	Dewatering and Other Low Threat				construction	
	Discharges to Surface Waters.				activities	
	Effluent samples will be tested for					
	total suspended solids (TSS), total					
	nitrogen, oil and grease, total					
	petroleum hydrocarbons, and					
	sulfides. Discharge effluent shall be					
	required to be visibly clear and					
	sediment control BMPs will be					
	implemented.					
Transportation a	nd Traffic		1	1	Γ	[
TRAF-1.	The construction contractor for the	Prior to and	Construction	Placer County	Once prior to	
Standard	proposed project shall prepare and	during	Contractor		construction	
Traffic	implement a standard Traffic	construction			activities	
Management	Management Plan to minimize traffic					
Plan	disruption and ensure adequate					
	access is maintained to surrounding					
	properties.					

Mitigation	Environmental Protection Measures	Timing	Implementing	Monitoring	Frequency and	Performance
Measure			Party	Party	Duration	Criteria
Tribal Cultural R	esources					
TCR-1. Stop	The County's construction contractor	Prior to and	Construction	Qualified	Once prior to	
Construction	shall procure the services of a	during	Contractor;	Archaeologist;	ground	
and Retain	federally qualified archaeologist and	construction	Qualified	Native	disturbing	
Services of	a Native American construction		Archaeologist;	American	activities	
Federally	monitor identified by the United		Native	monitor		
Qualified	Auburn Indian Community (UAIC)		American			
Archeologist	prior to the initiation of construction.		monitor			
and Native	The federally qualified archaeologist					
American	and Native American monitor shall					
Monitor.	be present during ground-disturbing					
	activities related to the installation					
	of a water diversion system, general					
	demolition, installation of bridge					
	foundations, and construction of the					
	new bridge and approaches. The					
	federally qualified archaeologist,					
	Native American monitor, and					
	Caltrans District 3 archaeologist shall					
	be notified of proposed ground-					
	disturbing activities no less than five					
	days prior to their start date. If tribal					
	resources are encountered during					
	project-related ground-disturbing					
	activities, the County's construction					
	contractor will cease all work within					
	100 feet of the find until it can be					
	evaluated by the tribal monitor and					
	the federally qualified archaeologist.					
	If the tribal monitor and					
	archaeologist determine that the					
	resources are significant, the					

Mitigation	Environmental Protection Measures	Timing	Implementing	Monitoring	Frequency and	Performance
Measure			Party	Party	Duration	Criteria
	archaeologist will notify the County					
	and Caltrans District 3, and the					
	resource will be avoided, if possible.					
	Preservation-in-place is the					
	preferred manner of mitigating					
	impacts on a tribal resource;					
	however, if avoidance is not feasible,					
	a Treatment Plan that documents					
	the research approach and methods					
	for data recovery will be prepared					
	and implemented in consultation					
	with the County, the federal lead					
	agency, the California State Historic					
	Preservation Office (SHPO), and with					
	appropriate Native American					
	representatives.					
FIRE-1: Fire	Prior to construction, the contractor	Prior to and	Construction	Placer County	Once prior to	
Safety Plan	shall prepare a Fire Safety Plan for	during	Contractor		construction	
	use during construction. The Fire	construction				
	Safety Plan shall contain notification					
	procedures and emergency fire					
	precautions including, but not					
	limited to, the following:					
	 Dry grass shall be cut low or 					
	removed from construction					
	equipment staging areas.					
	 All internal combustion engines, 					
	stationary and mobile, shall be					
	equipped with spark arresters.					
	Spark arresters shall be in good					
	working order.					

Mitigation	Environmental Protection Measures	Timing	Implementing	Monitoring	Frequency and	Performance
Measure			Party	Party	Duration	Criteria
	 Light trucks and cars with factory- installed (type) mufflers shall be used only on roads where the roadway is cleared of vegetation. Said vehicle types shall maintain their factory-installed (type) muffler in good condition. Equipment parking areas (staging areas) shall be cleared of all extraneous flammable materials. Smoking shall be limited to paved areas or areas cleared of all vegetation. 					

Appendix B: SACOG Conformity Document

FYI.

Sent from my iPhone

Begin forwarded message:

From: Jean Hanson <<u>JHanson@placer.ca.gov</u>> Date: April 3, 2019 at 1:04:40 PM PDT To: 'Leslie Haglan' <<u>lhaglan@drakehaglan.com</u>> Cc: "Jose Silva (<u>JSilva@drakehaglan.com</u>)" <<u>JSilva@drakehaglan.com</u>> Subject: FW: POAQC: PLA25535 Watt Ave Bridge over Dry Creek Project, due on 4/12

Hi Leslie, this is just fyi. Read below.

Jean

From: Shengyi Gao [mailto:SGao@sacog.org]

Sent: Wednesday, April 03, 2019 1:01 PM
To: Vaughn, Joseph (FHWA) <<u>Joseph.Vaughn@dot.gov</u>>; Alexander Fong
<alexander.fong@dot.ca.gov>; Dave Johnston <<u>dave.johnston@edcgov.us</u>>; David Yang
<DYang@airquality.org>; Douglas Coleman <<u>douglas.coleman@dot.ca.gov</u>>; Heather
Phillips <<u>Heather.Phillips@arb.ca.gov</u>>; Janice Lam Snyder <<u>JLam@airquality.org</u>>;
Jason Lee <<u>jason.lee@dot.ca.gov</u>>; Jerry Barton <<u>jbarton@edctc.org</u>>; John Ungvarsky
<<u>Ungvarsky.John@epa.gov</u>>; Jose Luis Caceres <<u>JCaceres@sacog.org</u>>; Karina O'Connor
<<u>oconnor.karina@epa.gov</u>>; Ken Born <<u>kenneth.born@dot.gov</u>>; Lucas Sanchez
<<u>lucas.sanchez@dot.ca.gov</u>>; Mark Loutzenhiser <<u>mloutzenhiser@airquality.org</u>>; Matt
Jones <<u>mjones@ysaqmd.org</u>>; Mcneel-Caird <<u>Imcneel-caird@pctpa.net</u>>; Paul Philley
<<u>pphilley@airquality.org</u>>; Renee DeVere-Oki <<u>RDeVere-Oki@sacog.org</u>>; Kodney
Tavitas <<u>rodney.tavitas@dot.ca.gov</u>>; Shalanda Christian
<<u>shalanda_christian@dot.ca.gov</u>>; Wright Molly <<u>mwright@airquality.org</u>>; Yu-Shuo

Chang <<u>YChang@placer.ca.gov</u>>

Cc: Jean Hanson <<u>JHanson@placer.ca.gov</u>>

Subject: RE: POAQC: PLA25535 Watt Ave Bridge over Dry Creek Project, due on 4/12

Hi all,

The Project Level Conformity Group has determined that the County of Placer **Watt Ave Bridge over Dry Creek Project (PLA25535)** is Not a Project of Air Quality Concern (POAQC).

EPA concurred on 04/01/2019 and FHWA on 04/01/2019.

Thanks to you all!

Shengyi Gao

Sacramento Area Council of Governments

916.340.6239

From: Vaughn, Joseph (FHWA) <<u>Joseph.Vaughn@dot.gov</u>> Sent: Monday, April 01, 2019 3:30 PM **To:** Shengyi Gao <<u>SGao@sacog.org</u>>; Alexander Fong <<u>alexander.fong@dot.ca.gov</u>>; Dave Johnston <<u>dave.johnston@edcgov.us</u>>; David Yang <<u>DYang@airquality.org</u>>; Douglas Coleman <<u>douglas.coleman@dot.ca.gov</u>>; Heather Phillips <<u>Heather.Phillips@arb.ca.gov</u>>; Janice Lam Snyder <<u>JLam@airquality.org</u>>; Jason Lee <jason.lee@dot.ca.gov>; Jerry Barton <jbarton@edctc.org>; John Ungvarsky <<u>Ungvarsky.John@epa.gov</u>>; Jose Luis Caceres <<u>JCaceres@sacog.org</u>>; Karina O'Connor <<u>oconnor.karina@epa.gov>;</u> Ken Born <<u>kenneth.born@dot.gov>;</u> Lucas Sanchez <<u>lucas.sanchez@dot.ca.gov>;</u> Mark Loutzenhiser <<u>mloutzenhiser@airquality.org</u>>; Matt Jones <<u>mjones@ysaqmd.org</u>>; Mcneel-Caird <<u>lmcneel-caird@pctpa.net</u>>; Paul Philley <pphilley@airquality.org>; Renee DeVere-Oki <<u>RDeVere-Oki@sacog.org</u>>; Rodney Tavitas <<u>rodney.tavitas@dot.ca.gov</u>>; Shalanda Christian <<u>shalanda_christian@dot.ca.gov>;</u> Sharon Tang <<u>sharon.tang@dot.ca.gov>;</u> Sondra Spaethe <<u>sspaethe@fraqmd.org</u>>; Wright Molly <<u>mwright@airquality.org</u>>; Yu-Shuo Chang <<u>YChang@placer.ca.gov</u>>

Cc: <u>JHanson@placer.ca.gov</u>

Subject: RE: POAQC: PLA25535 Watt Ave Bridge over Dry Creek Project, due on 4/12

FHWA concurs that this is not a project of air quality concern. Thank you.

Joseph Vaughn Environmental Specialist FHWA, CA Division (916) 498-5346

From: Shengyi Gao [mailto:SGao@sacog.org]

Sent: Friday, March 29, 2019 2:33 PM

To: Alexander Fong <alexander.fong@dot.ca.gov>; Dave Johnston <dave.johnston@edcgov.us>; David Yang <DYang@airquality.org>; Douglas Coleman <douglas.coleman@dot.ca.gov>; Heather Phillips <Heather.Phillips@arb.ca.gov>; Janice Lam Snyder <JLam@airquality.org>; Jason Lee <jason.lee@dot.ca.gov>; Jerry Barton <jbarton@edctc.org>; John Ungvarsky <Ungvarsky.John@epa.gov>; Jose Luis Caceres <JCaceres@sacog.org>; Vaughn, Joseph (FHWA) <Joseph.Vaughn@dot.gov>; Karina O'Connor <oconnor.karina@epa.gov>; Ken Born <kenneth.born@dot.gov>; Lucas Sanchez <lucas.sanchez@dot.ca.gov>; Mark Loutzenhiser <mloutzenhiser@airquality.org>; Matt Jones <mjones@ysaqmd.org>; Mcneel-Caird <lmcneel-caird@pctpa.net>; Paul Philley <pphilley@airquality.org>; Renee DeVere-Oki <RDeVere-Oki@sacog.org>; Rodney Tavitas <rodney.tavitas@dot.ca.gov>; Shalanda Christian <<u>shalanda_christian@dot.ca.gov</u>>; Sharon Tang <<u>sharon.tang@dot.ca.gov</u>>; Sondra Spaethe <<u>sspaethe@fraqmd.org</u>>; Wright Molly <<u>mwright@airquality.org</u>>; Yu-Shuo Chang <<u>YChang@placer.ca.gov</u>>

Cc: <u>JHanson@placer.ca.gov</u>

Subject: POAQC: PLA25535 Watt Ave Bridge over Dry Creek Project, due on 4/12

Project Level Conformity Group,

Attached for interagency review is the County of Placer **Watt Ave Bridge over Dry Creek Project (PLA25535).** As part of project level conformity under NEPA, it requires a determination of whether it is a project of air quality concern.

Please confirm that you concur that this is NOT a Project of Air Quality Concern (POAQC). **Please email questions and comments by 5 p.m., Friday, April 12.**

This project falls under the 23 USC 327 (formerly 6005) federal process. As such, it requires written concurrence by EPA (Karina O'Conner) and FHWA (Joseph Vaughn). Please remember to use "reply all," to make comments to the group. Otherwise, you may also contact the sponsor directly:

Jean Hansom

Placer County Department of Public Works

Tel: (530) 745-7553

Email: <u>JHanson@placer.ca.gov</u>

Appendix C: Construction Emission Calculations

Road Construction Emissions Model, Version 8.1.0

Daily Emission Estimates for ->	Watt Avenue Bridge R	eplacement		Total	Exhaust	Fugitive Dust	Total	Exhaust	Fugitive Dust					
Project Phases (Pounds)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	PM10 (lbs/day)	PM10 (lbs/day)	PM10 (lbs/day)	PM2.5 (lbs/day)	PM2.5 (lbs/day)	PM2.5 (lbs/day)	SOx (lbs/day)	CO2 (lbs/day)	CH4 (lbs/day)	N2O (lbs/day)	CO2e (lbs/day)
Grubbing/Land Clearing	3.44	21.82	35.67	11.53	1.53	10.00	3.51	1.43	2.08	0.06	5,409.89	1.30	0.05	5,457.68
Grading/Excavation	8.88	64.94	94.63	14.39	4.39	10.00	6.08	4.00	2.08	0.13	13,099.32	3.66	0.12	13,228.02
Drainage/Utilities/Sub-Grade	5.37	43.45	53.95	12.70	2.70	10.00	4.57	2.49	2.08	0.08	7,539.99	1.76	0.07	7,605.44
Paving	1.27	13.34	12.38	0.71	0.71	0.00	0.64	0.64	0.00	0.02	2,205.33	0.57	0.02	2,226.83
Maximum (pounds/day)	8.88	64.94	94.63	14.39	4.39	10.00	6.08	4.00	2.08	0.13	13,099.32	3.66	0.12	13,228.02
Total (tons/construction project)	1.62	12.26	16.95	3.05	0.80	2.24	1.20	0.74	0.47	0.02	2,383.52	0.63	0.02	2,406.10
Notes: Project Start Year ->	2019													
Project Length (months) ->	24													
Total Project Area (acres) ->	11													
Maximum Area Disturbed/Day (acres) ->	1													
Water Truck Used? ->	Yes						_							
Total Material Imported/Exported		Doily VMT	(miloc/day)											
	Volume (yd ³ /day)			Daily VIVIT (Tilles/day)										
Phase	Soil	Asphalt	Soil Hauling	Asphalt Hauling	Worker Commute	Water Truck								
Grubbing/Land Clearing	0	0	0	0	200	40								
Grading/Excavation	0	0	0	0	1,120	40								
Drainage/Utilities/Sub-Grade	0	0	0	0	720	40								
Paving	0	0	0	0	320	40								
PM10 and PM2.5 estimates assume 50% control of fugitive dust from wate	ring and associated	dust control measur	es if a minimum nun	nber of water trucks	are specified.									
Total PM10 emissions shown in column F are the sum of exhaust and fugit	ive dust emissions sl	hown in columns G	and H. Total PM2.5	emissions shown in	Column I are the sur	n of exhaust and fu	gitive dust emissions	shown in columns J	and K.					
CO2e emissions are estimated by multiplying mass emissions for each GH	G by its global warm	ning potential (GWP)	, 1 , 25 and 298 for	CO2, CH4 and N2O,	respectively. Total C	CO2e is then estimation	ited by summing CO2	2e estimates over all	GHGs.					
Total Endedon Estimates ha Dhana (an														
I otal Emission Estimates by Phase for ->	Watt Avenue Bridge K	epiacement		Total	Exhaust	Fugitive Dust	Total	Exhaust	Fugitive Dust					
(Tons for all except CO2e. Metric tonnes for CO2e)	ROG (tons/phase)	CO (tons/phase)	NOx (tons/phase)	PM10 (tons/phase)	PM10 (tons/phase)	PM10 (tons/phase)	PM2.5 (tons/phase)	PM2.5 (tons/phase)	PM2.5 (tons/phase)	SOx (tons/phase)	CO2 (tons/phase)	CH4 (tons/phase)	N2O (tons/phase)	CO2e (MT/phase)
Grubbing/Land Clearing	0.09	0.58	0.94	0.30	0.04	0.26	0.09	0.04	0.05	0.00	142.82	0.03	0.00	130.71
Grading/Excavation	1.06	7.72	11.24	1.71	0.52	1.19	0.72	0.48	0.25	0.02	1,556.20	0.44	0.01	1,425.65
Drainage/Utilities/Sub-Grade	0.43	3.44	4.27	1.01	0.21	0.79	0.36	0.20	0.16	0.01	597.17	0.14	0.01	546.45
Paving	0.05	0.53	0.49	0.03	0.03	0.00	0.03	0.03	0.00	0.00	87.33	0.02	0.00	80.00
Maximum (tons/phase)	1.06	7.72	11.24	1.71	0.52	1.19	0.72	0.48	0.25	0.02	1556.20	0.44	0.01	1,425.65
Total (tons/construction project)	1.62	12.26	16.95	3.05	0.80	2.24	1.20	0.74	0.47	0.02	2383.52	0.63	0.02	2,182.80
PM10 and PM2.5 estimates assume 50% control of fugitive dust from wate	10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.													

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1, 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

The CO2e emissions are reported as metric tons per phase.
Appendix D: Operational Emission Calculations

TABLE 3: DAILY ROADWAY SEGMENT OPERATIONS – EXISTING (2017) CONDITION

Roadway	Segment	Lanes	Daily Roadway Volume	Daily Volume- to-Capacity Ratio	Daily Roadway LOS	Average speed (MPH)
Watt Avenue	Dyer Lane to PFE Road	2	8,269	0.33	С	45

Notes: ¹ This volume-to-capacity ratio is based on roadway segment daily volume thresholds from the Placer County General Plan (1994) for rural 2-lane highways on level terrain.

Source: Fehr & Peers, 2018

TABLE 8: DAILY ROADWAY SEGMENT OPERATIONS – OPENING DAY (2022) CONDITIONS

Roadway	Segment	Scenario	Lanes	Daily Roadway Volume	Daily Volume- to-Capacity Ratio	Daily Roadway LOS	
Watt Avenue		No Build & 2- Lane Bridge	2	13,700	0.55	D	35
	Bridge at Dry Creek	4-Lane Bridge	4	17,400	0.35	С	45
		6-Lane Bridge	6	19,400	0.26	С	45

Notes: ¹ This volume-to-capacity ratio is based on roadway segment daily volume thresholds from the Placer County General Plan (1994) for rural 2-lane highways on level terrain.

Source: Fehr & Peers, 2018

TABLE 5: DAILY ROADWAY SEGMENT OPERATIONS - DESIGN YEAR (2042) CONDITIONS

Roadway	Segment	Scenario	Lanes	Daily Roadway Volume	Daily Volume- to-Capacity Ratio	Daily Roadway LOS	
Watt Avenue		No Build & 2- Lane Bridge	2	35,500	1.78	F	20
	Bridge at Dry Creek	4-Lane Bridge	4	53,900	1.35	F	20
		6-Lane Bridge	6	63,800	1.06	F	20

Notes: ¹ This volume-to-capacity ratio is based on roadway segment daily volume thresholds from the Placer County General Plan (1994) for rural 2-lane highways on level terrain.

Source: Fehr & Peers, 2018

calendar_year	2017
season_month	Annual
sub_area	Placer (SV)
process	RUNEX

Max of emission_rate	Column Labels														
Row Labels	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75
NonTruck	821.0259596	667.32575	545.89631	453.82972	388.07619	344.44582	319.26655	308.88125	309.69606	318.51945	331.44597	344.88889	355.67126	359.15984	359.15984
CH4	0.052171007	0.037131	0.0267076	0.0200447	0.0156654	0.0127178	0.0107192	0.0093908	0.0085632	0.0081395	0.0080762	0.0084285	0.0092256	0.0097893	0.0097893
CO	2.713185073	2.3241484	2.027022	1.7993435	1.6222508	1.4797368	1.363625	1.269397	1.1945829	1.1384287	1.1019874	1.088718	1.1056181	1.1290785	1.1290856
CO2	821.0259596	667.32575	545.89631	453.82972	388.07619	344.44582	319.26655	308.88125	309.69606	318.51945	331.44597	344.88889	355.67126	359.15984	359.15984
HC	0.31545271	0.2075101	0.1420436	0.1022681	0.0776862	0.0620127	0.0519479	0.0456721	0.042157	0.0408709	0.0416366	0.0446405	0.0503325	0.0544318	0.0544324
NOx	0.29052324	0.2489197	0.2112739	0.1857071	0.1697804	0.158498	0.1504951	0.1452773	0.1425424	0.1421393	0.1440522	0.1483359	0.1551733	0.1596559	0.1596559
PM	0.012442779	0.0081164	0.0054735	0.0038706	0.0029158	0.0023206	0.0019437	0.0017151	0.0015954	0.0015646	0.0016154	0.0017395	0.0019468	0.0021053	0.0021053
PM10	0.01127026	0.007372	0.0049757	0.0035197	0.002655	0.0021161	0.0017749	0.0015682	0.0014608	0.0014346	0.0014832	0.0015978	0.001787	0.0019322	0.0019322
PM2_5	0.010418488	0.0068224	0.0046063	0.0032589	0.0024595	0.0019615	0.0016461	0.0014552	0.0013563	0.0013326	0.0013785	0.0014853	0.0016608	0.0017956	0.0017956
ROG	0.249245795	0.1634207	0.1115932	0.0801556	0.0609521	0.0487891	0.0410343	0.0362595	0.0336645	0.0328435	0.0336738	0.0362859	0.0410763	0.0445235	0.0445242
SOx	0.008224177	0.0066837	0.0054681	0.0045466	0.0038883	0.0034511	0.0031984	0.0030937	0.003101	0.0031884	0.0033171	0.0034511	0.003559	0.0035943	0.0035943
TOG	0.342446621	0.2254147	0.1540626	0.1107276	0.0840713	0.0670917	0.0561846	0.049381	0.0455681	0.0441701	0.0449946	0.0482411	0.0543904	0.058821	0.0588218
Truck1	1576.325128	1311.1377	965.61541	811.85972	706.21652	632.92461	608.42239	589.63348	582.55428	604.16793	629.39617	645.05476	658.565	658.16532	658.16532
CH4	0.040954555	0.0288686	0.0192575	0.0133325	0.0103122	0.0084898	0.0073162	0.0065916	0.0062057	0.0061042	0.006274	0.0067532	0.0076062	0.0082046	0.0082046
CO	3.063681927	2.2916263	1.6442428	1.2399414	1.0355694	0.9121332	0.8343904	0.7918253	0.7803089	0.8006531	0.8587763	0.9683996	1.1525884	1.2842151	1.2842151
CO2	1576.325128	1311.1377	965.61541	811.85972	706.21652	632.92461	608.42239	589.63348	582.55428	604.16793	629.39617	645.05476	658.565	658.16532	658.16532
HC	0.502824524	0.3527886	0.225075	0.147752	0.1119755	0.0914018	0.0783214	0.0703257	0.066119	0.0650817	0.0670851	0.0726745	0.0826335	0.0896223	0.0896223
NOx	2.038906653	2.0649475	2.0798118	2.1170656	2.1788151	2.2529336	2.3338676	2.4198331	2.5097716	2.6029343	2.6988199	2.7978266	2.8995347	2.9510423	2.9510423
PM	0.063803116	0.0455262	0.0337672	0.0260624	0.0209601	0.0176248	0.0154558	0.0141145	0.0134134	0.0132651	0.0136613	0.0147213	0.0165975	0.0179075	0.0179075
PM10	0.063043536	0.0450139	0.0334045	0.0257929	0.0207501	0.0174529	0.0153082	0.013982	0.0132888	0.0131427	0.0135356	0.0145859	0.0164444	0.0177419	0.0177419
PM2_5	0.060192301	0.042988	0.0319069	0.02464	0.0198249	0.0166762	0.0146281	0.0133615	0.0126996	0.0125602	0.0129358	0.0139395	0.0157156	0.0169554	0.0169554
ROG	0.568268052	0.4020015	0.2541982	0.1647375	0.1247092	0.1020024	0.0875536	0.0787095	0.0740494	0.0728973	0.0751171	0.0813523	0.0924628	0.1002427	0.1002427
SOx	0.015417903	0.0128153	0.0094622	0.0079532	0.0069152	0.006196	0.0059507	0.0057665	0.0056992	0.0059093	0.006156	0.0063119	0.0064466	0.0064451	0.0064451
TOG	0.673831851	0.4750495	0.301255	0.1960758	0.1484385	0.1212827	0.1040098	0.0934408	0.0878702	0.0864844	0.0891164	0.0965143	0.1097048	0.1189504	0.1189504
Truck2	3212.735413	2737.8004	2200.5019	1866.3756	1647.1483	1478.4607	1348.4645	1254.9568	1196.2558	1171.0154	1181.6283	1225.0183	1297.282	1297.8227	1297.8227
CH4	0.110537486	0.0833563	0.0451979	0.0232925	0.01714	0.0138388	0.0113187	0.0094972	0.008315	0.0077278	0.0077014	0.0079921	0.0082196	0.0083586	0.0084237
CO	4.442311697	3.4831975	2.361097	1.686948	1.3728308	1.1673685	1.0049312	0.8817518	0.7954363	0.7446899	0.7292119	0.7407526	0.7658272	0.7865744	0.8004186
CO2	3212.735413	2737.8004	2200.5019	1866.3756	1647.1483	1478.4607	1348.4645	1254.9568	1196.2558	1171.0154	1181.6283	1225.0183	1297.282	1297.8227	1297.8227
HC	1.828328828	1.3806716	0.7413517	0.3751561	0.2747115	0.2213762	0.1803817	0.1505876	0.1311419	0.1213746	0.1207321	0.1250485	0.1277844	0.1293479	0.1304546
NOx	15.35112504	12.512406	9.0525561	7.1888691	6.2725227	5.5819816	5.0426241	4.6503234	4.402704	4.2983697	4.3365362	4.491459	4.7381873	4.7391408	4.7391408
PM	0.349868069	0.2947272	0.2060248	0.1444606	0.1194601	0.1061467	0.0982544	0.0957658	0.0986986	0.1071005	0.121046	0.1312754	0.13421	0.1342145	0.1342145
PM10	0.34773667	0.2929383	0.2047749	0.1435841	0.1187361	0.1055041	0.0976601	0.095187	0.0981026	0.1064542	0.120316	0.1304837	0.1334001	0.1334042	0.1334042
PM2_5	0.332683296	0.2802593	0.195912	0.1373696	0.1135973	0.1009382	0.0934339	0.091068	0.0938575	0.1018479	0.11511	0.1248377	0.1276278	0.1276316	0.1276316
ROG	2.291900562	1.7334229	0.9286655	0.4678374	0.342437	0.2760268	0.2248257	0.1875298	0.1631382	0.150842	0.149952	0.1551809	0.1582088	0.1598737	0.1612752
SOx	0.030718311	0.0261743	0.0210383	0.0178432	0.0157464	0.0141335	0.0128911	0.0119981	0.011438	0.0111978	0.0113	0.011715	0.0124055	0.012411	0.012411
TOG	2.618586734	1.979348	1.061212	0.5354165	0.3919358	0.315881	0.2573084	0.214676	0.1868126	0.1727809	0.1717908	0.1778269	0.1814313	0.1834411	0.1850366

EMFAC2017 Population

calendar_year	2017
sub_area	Placer (SV)

Max of population	Column Labels					From		
Row Labels	Dsl	Elec	Gas	NG	Grand Total	CT-EMFAC	Fleet Percentages	
All Other Buses	33				33	Non-Truck	Non-Truck	94.58%
LDA	841	808	80,528		80,528	Non-Truck	Truck1	3.31%
LDT1	16	18	10,742		10,742	Non-Truck	Truck2	2.11%
LDT2	127	51	37,756		37,756	Non-Truck		
LHD1	4,565		3,639		4,565	Truck1		
LHD2	1,305		469		1,305	Truck1		
MCY			6,032		6,032	Non-Truck		
MDV	576	7	31,084		31,084	Non-Truck		
MH	430		1,023		1,023	Non-Truck		
Motor Coach	10				10	Non-Truck		
OBUS			85		85	Non-Truck		
РТО	0				0	Truck2		
SBUS	254		9		254	Non-Truck		
T6 CAIRP Heavy	17				17	Truck2		
T6 CAIRP Small	9				9	Truck2		
T6 Instate Construction Heavy	34				34	Truck2		
T6 Instate Construction Small	243				243	Truck2		
T6 Instate Heavy	247				247	Truck2		
T6 Instate Small	1,239				1,239	Truck2		
T6 OOS Heavy	9				9	Truck2		
T6 OOS Small	5				5	Truck2		
T6 Public	292				292	Truck2		
T6 Utility	29				29	Truck2		
T6TS			213		213	Truck2		
T7 CAIRP	164				164	Truck2		
T7 CAIRP Construction	8				8	Truck2		
T7 NNOOS	193				193	Truck2		
T7 NOOS	64				64	Truck2		
T7 Other Port	2				2	Truck2		
Τ7 ΡΟΑΚ	9				9	Truck2		
T7 Public	282				282	Truck2		
T7 Single	242				242	Truck2		
T7 Single Construction	60				60	Truck2		
T7 SWCV	147				147	Truck2		
T7 Tractor	174				174	Truck2		
T7 Tractor Construction	47				47	Truck2		
T7 Utility	6				6	Truck2		
T7IS			2		2	Truck2		
UBUS	34		27	32	34	Non-Truck		
Grand Total	4,565	808	80,528	32	80,528			

calendar_year	2022
season_month	Annual
sub_area	Placer (SV)
process	RUNEX

Max of emission_rate	Column Labels														
Row Labels	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75
NonTruck	709.3969999	576.56309	471.63185	392.11405	335.29594	297.56333	275.77469	266.76536	267.43632	275.04313	286.22613	297.88656	307.30017	310.35302	310.35302
CH4	0.027821866	0.019353	0.0141109	0.0107903	0.0086422	0.0072194	0.0062725	0.0056568	0.0052889	0.0051244	0.0051479	0.0053692	0.0058252	0.0061426	0.0061427
CO	1.666620415	1.4443577	1.2659873	1.1279044	1.0208421	0.9334171	0.8607314	0.8003161	0.7507535	0.711487	0.6828517	0.6663894	0.665302	0.6721866	0.672202
CO2	709.3969999	576.56309	471.63185	392.11405	335.29594	297.56333	275.77469	266.76536	267.43632	275.04313	286.22613	297.88656	307.30017	310.35302	310.35302
HC	0.183106426	0.1191848	0.0811854	0.0582708	0.0442756	0.0354342	0.0298044	0.0263256	0.0244054	0.0237425	0.0242414	0.0259879	0.0292655	0.031624	0.0316253
NOx	0.158152507	0.1347504	0.1127129	0.0981187	0.0891729	0.0827486	0.0781073	0.0749925	0.0732464	0.0727864	0.0735958	0.0756647	0.0790528	0.081166	0.081166
PM	0.011406306	0.007324	0.0049116	0.0034642	0.0025903	0.0020459	0.0017035	0.0014956	0.0013848	0.0013518	0.0013894	0.0014967	0.0016859	0.0018268	0.0018268
PM10	0.010267514	0.0066047	0.0044327	0.0031279	0.0023412	0.0018513	0.0015431	0.0013563	0.0012573	0.0012286	0.001264	0.0013621	0.0015337	0.0016617	0.0016617
PM2_5	0.009466923	0.0060941	0.0040912	0.0028875	0.0021621	0.0017105	0.0014264	0.0012543	0.0011632	0.0011371	0.0011704	0.0012614	0.0014201	0.0015385	0.0015385
ROG	0.147649845	0.096076	0.0650414	0.0463381	0.0350412	0.0279366	0.0234284	0.0206621	0.019161	0.0186837	0.0191561	0.0206513	0.0234027	0.0253873	0.0253888
SOx	0.007095855	0.0057671	0.0047179	0.0039229	0.0033547	0.0029772	0.002759	0.0026684	0.0026745	0.00275	0.0028612	0.0029774	0.0030713	0.0031019	0.0031019
TOG	0.198794467	0.1294783	0.0880034	0.0630065	0.0478325	0.0382617	0.0321675	0.0284017	0.0263233	0.0256059	0.0261463	0.0280366	0.0315811	0.0341334	0.0341351
Truck1	1526.672848	1270.0995	936.41684	787.22937	684.70328	613.55672	589.61172	571.35667	564.5139	585.36967	609.76592	624.99563	638.09497	637.76435	637.76435
CH4	0.033792619	0.024046	0.0151498	0.0097528	0.0073681	0.0060165	0.0051485	0.0046074	0.004308	0.0042081	0.0042954	0.0046024	0.0051682	0.0055658	0.0055658
CO	2.601582101	1.9497584	1.2782611	0.8699361	0.7036553	0.6125999	0.5549105	0.5216874	0.5091998	0.5172748	0.5491093	0.6137989	0.7248698	0.8043779	0.8043779
CO2	1526.672848	1270.0995	936.41684	787.22937	684.70328	613.55672	589.61172	571.35667	564.5139	585.36967	609.76592	624.99563	638.09497	637.76435	637.76435
HC	0.448788019	0.3200687	0.1923956	0.1159781	0.0855691	0.0693325	0.0590152	0.0526111	0.049061	0.0478486	0.0488323	0.0525024	0.0593318	0.0641226	0.0641226
NOx	1.548224074	1.5528851	1.5399712	1.550468	1.587493	1.6369831	1.6926575	1.7526678	1.8159677	1.8818595	1.949886	2.0206343	2.0936683	2.1306322	2.1306322
PM	0.052937566	0.038752	0.0292704	0.022877	0.018555	0.0157172	0.0138428	0.012646	0.0119681	0.0117327	0.0119268	0.0126778	0.0140889	0.0150746	0.0150746
PM10	0.052270163	0.0382982	0.0289471	0.0226358	0.0183664	0.0155625	0.0137098	0.0125266	0.0118563	0.0116236	0.0118157	0.0125592	0.0139561	0.0149317	0.0149317
PM2_5	0.049892412	0.0365677	0.0276456	0.0216219	0.0175462	0.0148691	0.0131001	0.0119702	0.0113301	0.0111079	0.0112914	0.0120017	0.0133363	0.0142683	0.0142683
ROG	0.52673702	0.3782596	0.2250756	0.1334474	0.0981406	0.079606	0.0678209	0.0604875	0.0563991	0.0549687	0.0560346	0.0601906	0.067958	0.0733952	0.0733952
SOx	0.014923537	0.0124079	0.009171	0.0077078	0.0067011	0.0060034	0.005764	0.0055853	0.0055202	0.005723	0.0059613	0.0061125	0.0062424	0.0062409	0.0062409
TOG	0.618537699	0.4429106	0.264663	0.1580148	0.1163666	0.0943461	0.0803483	0.0716471	0.0668079	0.0651318	0.0664269	0.0713815	0.0806241	0.0870998	0.0870998
Truck2	2861.379137	2384.1922	1890.631	1612.6535	1411.6744	1246.955	1121.1208	1033.0237	981.71193	966.38387	988.06468	1045.1743	1136.5505	1136.9714	1136.9714
CH4	0.018662196	0.0136302	0.0078104	0.004639	0.0035029	0.0028035	0.0022783	0.0018991	0.0016467	0.0015076	0.0014728	0.0015445	0.0016832	0.0018064	0.0019315
CO	1.749210286	1.1922193	0.7188572	0.498586	0.3939087	0.3195882	0.2605508	0.2156498	0.1840545	0.1651725	0.1585968	0.1633327	0.1774945	0.1966141	0.2230555
CO2	2861.379137	2384.1922	1890.631	1612.6535	1411.6744	1246.955	1121.1208	1033.0237	981.71193	966.38387	988.06468	1045.1743	1136.5505	1136.9714	1136.9714
HC	0.300710594	0.2200809	0.1242869	0.0724196	0.0544601	0.0434714	0.0351378	0.0290706	0.0249935	0.0227078	0.0220699	0.0231103	0.0251365	0.0269941	0.0291205
NOx	9.852633009	7.6616973	5.4989047	4.3932023	3.5571078	2.8329989	2.2590589	1.8339153	1.5568229	1.427378	1.4453819	1.6096812	1.9154075	1.9157079	1.9157079
PM	0.037093406	0.0323123	0.0247941	0.0195939	0.0174163	0.0167287	0.0170818	0.0184657	0.0208758	0.0243113	0.0287741	0.0331193	0.036973	0.0369755	0.0369755
PM10	0.036848439	0.0321043	0.024636	0.0194698	0.017307	0.0166245	0.0169762	0.0183522	0.0207481	0.024163	0.028599	0.0329179	0.0367481	0.0367504	0.0367504
PM2_5	0.035246924	0.0307108	0.0235671	0.0186253	0.0165567	0.0159041	0.0162408	0.0175574	0.0198497	0.0231169	0.027361	0.031493	0.0351574	0.0351595	0.0351595
ROG	0.374189843	0.2745143	0.1545952	0.0897388	0.0675022	0.0539033	0.0435491	0.0359877	0.0308917	0.0280208	0.0271974	0.0284574	0.0309144	0.0331873	0.0358803
SOx	0.027346852	0.0227853	0.0180694	0.015412	0.0134908	0.0119167	0.0107147	0.0098736	0.0093841	0.0092383	0.0094459	0.0099915	0.0108638	0.010868	0.010868
TOG	0.428995883	0.3144182	0.1772665	0.1030565	0.0775115	0.0618862	0.0500083	0.0413448	0.0355128	0.0322337	0.0313035	0.032764	0.0356106	0.0382342	0.0412999

EMFAC2017 Population

calendar_year	2022
sub_area	Placer (SV)

Sum of population	population Column Labels					From	From				
Row Labels	Dsl	Elec	Gas	NG	Grand Total	CT-EMFAC	Fleet Perce	entages			
All Other Buses	32				32	Non-Truck	Non-Truck	93.00%			
LDA	1,064	1,851	89,726		92,642	Non-Truck	Truck1	4.54%			
LDT1	10	76	12,445		12,531	Non-Truck	Truck2	2.46%			
LDT2	259	338	43,231		43,828	Non-Truck					
LHD1	4,214		3,294		7,508	Truck1					
LHD2	1,337		463		1,800	Truck1					
MCY			6,511		6,511	Non-Truck					
MDV	817	170	32,374		33,361	Non-Truck					
MH	421		843		1,264	Non-Truck					
Motor Coach	10				10	Non-Truck					
OBUS			81		81	Non-Truck					
РТО	0				0	Truck2					
SBUS	254		18		272	Non-Truck					
T6 CAIRP Heavy	19				19	Truck2					
T6 CAIRP Small	12				12	Truck2					
T6 Instate Construction Heavy	46				46	Truck2					
T6 Instate Construction Small	307				307	Truck2					
T6 Instate Heavy	477				477	Truck2					
T6 Instate Small	1,945				1,945	Truck2					
T6 OOS Heavy	11				11	Truck2					
T6 OOS Small	6				6	Truck2					
T6 Public	323				323	Truck2					
T6 Utility	30				30	Truck2					
тбтѕ			235		235	Truck2					
T7 CAIRP	207				207	Truck2					
T7 CAIRP Construction	12				12	Truck2					
T7 NNOOS	224				224	Truck2					
T7 NOOS	82				82	Truck2					
T7 Other Port	3				3	Truck2					
Τ7 ΡΟΑΚ	11				11	Truck2					
T7 Public	280				280	Truck2					
T7 Single	299				299	Truck2					
T7 Single Construction	79				79	Truck2					
T7 SWCV	157				157	Truck2					
T7 Tractor	206				206	Truck2					
T7 Tractor Construction	66				66	Truck2					
T7 Utility	6				6	Truck2					
T7IS			1		1	Truck2					
UBUS	56		33	23	112	Non-Truck					
Grand Total	13,282	2,435	189,257	23	204,996						

calendar_year	2042
season_month	Annual
sub_area	Placer (SV)
process	RUNEX

Max of emission_rate	Column Labels														
Row Labels	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75
NonTruck	482.8919661	392.41296	320.96209	266.93059	228.28242	202.57005	187.69931	181.51918	181.92939	187.07411	194.68146	202.65119	209.14927	211.23891	211.23891
CH4	0.015312074	0.0109008	0.0081781	0.0064465	0.005312	0.0045468	0.0040241	0.0036706	0.003444	0.0033218	0.0032957	0.0033706	0.0035647	0.0036918	0.0036919
CO	0.968707717	0.8420616	0.737445	0.6570435	0.595852	0.545806	0.5038798	0.4687107	0.4395232	0.4160134	0.3983623	0.3874325	0.3849692	0.3877565	0.3877862
CO2	482.8919661	392.41296	320.96209	266.93059	228.28242	202.57005	187.69931	181.51918	181.92939	187.07411	194.68146	202.65119	209.14927	211.23891	211.23891
HC	0.096161618	0.0627644	0.042996	0.0310873	0.0237997	0.0191936	0.0162577	0.0144396	0.0134323	0.013081	0.0133393	0.0142581	0.0159942	0.0172316	0.0172341
NOx	0.061386214	0.0518792	0.0435298	0.0380236	0.0340147	0.0309329	0.0286334	0.0270139	0.0260098	0.0255824	0.0257144	0.0264235	0.0277248	0.0283278	0.0283278
PM	0.004095474	0.002603	0.0017431	0.0012312	0.0009181	0.0007235	0.0006024	0.0005298	0.0004917	0.000481	0.0004951	0.0005357	0.0006082	0.000656	0.000656
PM10	0.003671836	0.0023362	0.0015659	0.001107	0.0008263	0.0006519	0.0005434	0.0004786	0.0004448	0.0004357	0.0004489	0.0004861	0.0005519	0.0005949	0.0005949
PM2_5	0.003380223	0.0021515	0.0014427	0.0010202	0.0007618	0.0006013	0.0005015	0.0004419	0.0004109	0.0004027	0.0004151	0.0004496	0.0005105	0.0005502	0.0005502
ROG	0.078432516	0.0508253	0.0343364	0.0244274	0.0184396	0.0146885	0.0123208	0.0108782	0.0101065	0.0098782	0.0101561	0.0109853	0.0124981	0.0135855	0.0135886
SOx	0.004821103	0.0039176	0.0032042	0.0026647	0.0022788	0.0020219	0.0018733	0.0018115	0.0018154	0.0018666	0.0019423	0.0020218	0.0020866	0.0021075	0.0021075
TOG	0.104010897	0.0678916	0.0463882	0.0334419	0.0255646	0.0205958	0.017431	0.0154729	0.0143899	0.0140147	0.0142971	0.0152928	0.0171704	0.01851	0.0185136
Truck1	1242.645702	1032.6401	768.42866	645.35453	560.48127	501.75456	480.68476	465.68776	460.61079	477.24132	497.02987	510.05731	521.08955	521.2594	521.2594
CH4	0.022920409	0.0168758	0.0088022	0.0040611	0.0026731	0.0020781	0.0016991	0.0014483	0.0012814	0.0011747	0.0011162	0.0011288	0.0012071	0.001263	0.001263
CO	2.079212192	1.5693114	0.8147059	0.3717904	0.2522152	0.2040696	0.1724821	0.1504639	0.1346436	0.1232951	0.1155869	0.1140177	0.1181796	0.1216695	0.1216695
CO2	1242.645702	1032.6401	768.42866	645.35453	560.48127	501.75456	480.68476	465.68776	460.61079	477.24132	497.02987	510.05731	521.08955	521.2594	521.2594
HC	0.349408217	0.2593952	0.1300288	0.054437	0.0340852	0.0260962	0.0210417	0.0176554	0.0153144	0.0136882	0.0125986	0.0124196	0.0130048	0.01342	0.01342
NOx	0.269010671	0.2436893	0.204142	0.1779049	0.1673872	0.163573	0.162546	0.1632733	0.1652146	0.1680582	0.1716173	0.1763806	0.1821371	0.1851446	0.1851446
PM	0.016526617	0.0136278	0.0110898	0.0090836	0.0075872	0.0065882	0.0058812	0.0053669	0.0049893	0.0047171	0.0045343	0.0045271	0.0046852	0.0047974	0.0047974
PM10	0.016049107	0.013308	0.0108652	0.0089185	0.0074599	0.006485	0.0057936	0.0052892	0.0049178	0.0046487	0.0044663	0.004456	0.0046073	0.0047146	0.0047146
PM2_5	0.015228741	0.012653	0.0103426	0.0084958	0.0071099	0.0061832	0.0055255	0.0050453	0.0046912	0.0044342	0.0042594	0.0042486	0.0043914	0.0044926	0.0044926
ROG	0.435607357	0.3241668	0.1617939	0.0669265	0.0416788	0.0318895	0.0256946	0.0215326	0.0186382	0.016605	0.0152118	0.0149298	0.0155645	0.0160123	0.0160123
SOx	0.012161558	0.0101005	0.0075344	0.006326	0.0054918	0.0049153	0.0047049	0.004558	0.0045099	0.0046719	0.0048655	0.0049947	0.0051038	0.0051066	0.0051066
TOG	0.499032418	0.371007	0.1854957	0.0771045	0.0481231	0.0368299	0.0296839	0.0248883	0.0215614	0.0192348	0.0176548	0.0173589	0.0181298	0.0186749	0.0186749
Truck2	2122.201208	1754.1123	1382.5277	1179.4103	1028.6344	904.23806	809.42637	743.81215	707.19046	699.11929	719.2679	767.30106	843.01413	843.31242	843.31242
CH4	0.003957857	0.0025125	0.0014444	0.0009908	0.0007747	0.0006259	0.0005172	0.0004459	0.0004101	0.0004092	0.0004426	0.0005105	0.0006134	0.0007432	0.0008975
CO	1.20061743	0.7443763	0.4101522	0.2779704	0.2147382	0.1668504	0.1279235	0.097937	0.0768742	0.0647209	0.0614654	0.0670989	0.0816041	0.104946	0.1372394
CO2	2122.201208	1754.1123	1382.5277	1179.4103	1028.6344	904.23806	809.42637	743.81215	707.19046	699.11929	719.2679	767.30106	843.01413	843.31242	843.31242
HC	0.061682499	0.0388574	0.0217893	0.0147751	0.0115556	0.009324	0.0076722	0.0065827	0.0060458	0.0060557	0.0066103	0.0077096	0.0093534	0.0114854	0.0141074
NOx	9.045960379	6.8154811	4.7690649	3.7698474	2.938916	2.1934229	1.5965751	1.1485453	0.8495237	0.6997126	0.6993232	0.8482799	1.1464432	1.146514	1.146514
PM	0.006920801	0.0060292	0.00475	0.0040112	0.0038087	0.004128	0.0049643	0.0063162	0.0081829	0.0105641	0.0134595	0.0168645	0.0207776	0.0207799	0.0207799
PM10	0.006858309	0.0059799	0.0047127	0.003981	0.0037813	0.0040997	0.0049316	0.0062758	0.0081315	0.0104984	0.0133765	0.0167609	0.0206501	0.0206523	0.0206523
PM2_5	0.006554634	0.0057168	0.004506	0.0038067	0.0036162	0.0039212	0.0047173	0.0060035	0.007779	0.0100435	0.0127971	0.016035	0.0197559	0.0197579	0.0197579
ROG	0.076799414	0.0483814	0.0270447	0.0183265	0.0143498	0.0115865	0.009534	0.0081785	0.0075118	0.0075295	0.0082293	0.0096109	0.0116722	0.0143572	0.0176778
SOx	0.020279991	0.016762	0.013212	0.0112705	0.0098294	0.0086408	0.0077352	0.0071088	0.0067595	0.0066828	0.0068755	0.0073343	0.0080571	0.0080601	0.0080601
TOG	0.088027273	0.0554541	0.0310376	0.021038	0.0164652	0.0132908	0.0109363	0.0093822	0.0086173	0.0086351	0.0094329	0.0110105	0.0133664	0.0164299	0.02021

EMFAC2017 Population

_/	
sub_area Placer (SV)	

Sum of population	Column Labels					From		
Row Labels	Dsl	Elec	Gas	NG	Grand Total	CT-EMFAC	Fleet Percentages	
All Other Buses	36				36	Non-Truck	Non-Truck	93.84%
LDA	1,597	8,272	128,919		138,788	Non-Truck	Truck1	2.84%
LDT1	3	715	19,312		20,029	Non-Truck	Truck2	3.32%
LDT2	625	2,688	61,981		65,294	Non-Truck		
LHD1	3,356		3,123		6,479	Truck1		
LHD2	1,397		487		1,884	Truck1		
MCY			8,619		8,619	Non-Truck		
MDV	1,382	1,905	39,082		42,368	Non-Truck		
MH	321		537		858	Non-Truck		
Motor Coach	14				14	Non-Truck		
OBUS			92		92	Non-Truck		
РТО	0				0	Truck2		
SBUS	206		61		267	Non-Truck		
T6 CAIRP Heavy	29				29	Truck2		
T6 CAIRP Small	22				22	Truck2		
T6 Instate Construction Heavy	84				84	Truck2		
T6 Instate Construction Small	592				592	Truck2		
T6 Instate Heavy	1,458				1,458	Truck2		
T6 Instate Small	4,570				4,570	Truck2		
T6 OOS Heavy	16				16	Truck2		
T6 OOS Small	9				9	Truck2		
T6 Public	419				419	Truck2		
T6 Utility	35				35	Truck2		
төтѕ			392		392	Truck2		
T7 CAIRP	225				225	Truck2		
T7 CAIRP Construction	23				23	Truck2		
T7 NNOOS	350				350	Truck2		
T7 NOOS	89				89	Truck2		
T7 Other Port	3				3	Truck2		
Τ7 ΡΟΑΚ	15				15	Truck2		
T7 Public	309				309	Truck2		
T7 Single	456				456	Truck2		
T7 Single Construction	130				130	Truck2		
T7 SWCV	171				171	Truck2		
T7 Tractor	282				282	Truck2		
T7 Tractor Construction	109				109	Truck2		
T7 Utility	7				7	Truck2		
T7IS			2		2	Truck2		
UBUS	131		69	36	235	Non-Truck		
Grand Total	18,471	13,579	262,673	36	294,759			

Appendix D: Exterior and Interior Noise Level Assumptions

TABLE 2022 No Project-01 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/04/2021 ROADWAY SEGMENT: R-1_Watt Avenue - PFE Rd to Dyer Lane NOTES: Watt Avenue - 2022 No Project

* * ASSUMPTIONS * * AVERAGE DAILY TRAFFIC: 13900 SPEED (MPH): 40 GRADE: .5 TRAFFIC DISTRIBUTION PERCENTAGES DAY EVENING NIGHT ___ _____ ____ AUTOS 71.31 11.87 8.82 M-TRUCKS 5.09 0.29 0.62 H-TRUCKS 1.73 0.05 0.22 ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT ELEVATION AT ROAD SURFACE: 86 ELEVATION AT BARRIER BASE: 90 BARRIER HEIGHT (FT): 0 BARRIER TYPE: WALL ELEVATION AT RECEPTOR BASE: 90 RECEPTOR HEIGHT (FT): 5 ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 320 BARRIER TO RECEPTOR DISTANCE (FT): 120 * * CALCULATED NOISE LEVELS * * CNEL WITHOUT BARRIER (dB) = 57.63BARRIER ATTENUATION (dB): Autos: - 4.85 Med. Trucks: - 4.55

CNEL WITH BARRIER (dB) = 53.59

TABLE 2022 No Project-02 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/04/2021 ROADWAY SEGMENT: R-2_Watt Avenue - PFE Rd to Dyer Lane NOTES: Watt Avenue - 2022 No Project

* * ASSUMPTIONS * * AVERAGE DAILY TRAFFIC: 13900 SPEED (MPH): 40 GRADE: .5 TRAFFIC DISTRIBUTION PERCENTAGES DAY EVENING NIGHT ___ _____ ____ AUTOS 71.31 11.87 8.82 M-TRUCKS 5.09 0.29 0.62 H-TRUCKS 1.73 0.05 0.22 ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT ELEVATION AT ROAD SURFACE: 81.3 ELEVATION AT BARRIER BASE: 80.5 BARRIER HEIGHT (FT): 0 BARRIER TYPE: WALL ELEVATION AT RECEPTOR BASE: 80.5 RECEPTOR HEIGHT (FT): 5 ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 217 BARRIER TO RECEPTOR DISTANCE (FT): 130 * * CALCULATED NOISE LEVELS * * CNEL WITHOUT BARRIER (dB) = 60.25BARRIER ATTENUATION (dB): Autos: + 0.00 Med. Trucks: + 0.00Hvy. Trucks: + 0.00

CNEL WITH BARRIER (dB) = 60.25

TABLE 2022 No Project-03 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/04/2021 ROADWAY SEGMENT: R-3_Watt Avenue - PFE Rd to Dyer Lane NOTES: Watt Avenue - 2022 No Project

* * ASSUMPTIONS * * AVERAGE DAILY TRAFFIC: 13900 SPEED (MPH): 40 GRADE: .5 TRAFFIC DISTRIBUTION PERCENTAGES DAY EVENING NIGHT ___ _____ ____ AUTOS 71.31 11.87 8.82 M-TRUCKS 5.09 0.29 0.62 H-TRUCKS 1.73 0.05 0.22 ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT ELEVATION AT ROAD SURFACE: 80.8 ELEVATION AT BARRIER BASE: 81.2 BARRIER HEIGHT (FT): 0 BARRIER TYPE: WALL ELEVATION AT RECEPTOR BASE: 81.4 RECEPTOR HEIGHT (FT): 5 ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 148 BARRIER TO RECEPTOR DISTANCE (FT): 50 * * CALCULATED NOISE LEVELS * * CNEL WITHOUT BARRIER (dB) = 62.81BARRIER ATTENUATION (dB): Autos: + 0.00 Med. Trucks: + 0.00

CNEL WITH BARRIER (dB) = 62.81

TABLE 2022 No Project-04 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/04/2021 ROADWAY SEGMENT: R-4_Watt Avenue - PFE Rd to Dyer Lane NOTES: Watt Avenue - 2022 No Project

* * ASSUMPTIONS * * AVERAGE DAILY TRAFFIC: 13900 SPEED (MPH): 40 GRADE: .5 TRAFFIC DISTRIBUTION PERCENTAGES DAY EVENING NIGHT ___ _____ ____ AUTOS 71.31 11.87 8.82 M-TRUCKS 5.09 0.29 0.62 H-TRUCKS 1.73 0.05 0.22 ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT ELEVATION AT ROAD SURFACE: 81.7 ELEVATION AT BARRIER BASE: 87.6 BARRIER HEIGHT (FT): 0 BARRIER TYPE: WALL ELEVATION AT RECEPTOR BASE: 95 RECEPTOR HEIGHT (FT): 5 ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 141 BARRIER TO RECEPTOR DISTANCE (FT): 65 * * CALCULATED NOISE LEVELS * * CNEL WITHOUT BARRIER (dB) = 63.13BARRIER ATTENUATION (dB): Autos: - 0.00 Med. Trucks: - 0.00

CNEL WITH BARRIER (dB) = 63.13

TABLE 2022 No Project-05 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/04/2021 ROADWAY SEGMENT: R-5_Watt Avenue - PFE Rd to Dyer Lane NOTES: Watt Avenue - 2022 No Project

* * ASSUMPTIONS * * AVERAGE DAILY TRAFFIC: 13900 SPEED (MPH): 40 GRADE: .5 TRAFFIC DISTRIBUTION PERCENTAGES DAY EVENING NIGHT ___ _____ ____ AUTOS 71.31 11.87 8.82 M-TRUCKS 5.09 0.29 0.62 H-TRUCKS 1.73 0.05 0.22 ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT ELEVATION AT ROAD SURFACE: 84.7 ELEVATION AT BARRIER BASE: 91.5 BARRIER HEIGHT (FT): 0 BARRIER TYPE: WALL ELEVATION AT RECEPTOR BASE: 94.1 RECEPTOR HEIGHT (FT): 5 ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 139 BARRIER TO RECEPTOR DISTANCE (FT): 65 * * CALCULATED NOISE LEVELS * * CNEL WITHOUT BARRIER (dB) = 63.22BARRIER ATTENUATION (dB): Autos: - 4.93 Med. Trucks: - 4.39

CNEL WITH BARRIER (dB) = 60.73

TABLE 2022 No Project-06 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/04/2021 ROADWAY SEGMENT: R-6_Watt Avenue - PFE Rd to Dyer Lane NOTES: Watt Avenue - 2022 No Project

* * ASSUMPTIONS * * AVERAGE DAILY TRAFFIC: 13900 SPEED (MPH): 40 GRADE: .5 TRAFFIC DISTRIBUTION PERCENTAGES DAY EVENING NIGHT ___ _____ ____ AUTOS 71.31 11.87 8.82 M-TRUCKS 5.09 0.29 0.62 H-TRUCKS 1.73 0.05 0.22 ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT ELEVATION AT ROAD SURFACE: 81.9 ELEVATION AT BARRIER BASE: 81.9 BARRIER HEIGHT (FT): 0 BARRIER TYPE: WALL ELEVATION AT RECEPTOR BASE: 78.5 RECEPTOR HEIGHT (FT): 5 ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 178 BARRIER TO RECEPTOR DISTANCE (FT): 95 * * CALCULATED NOISE LEVELS * * CNEL WITHOUT BARRIER (dB) = 61.58BARRIER ATTENUATION (dB): Autos: - 5.00 Med. Trucks: - 4.52

CNEL WITH BARRIER (dB) = 59.04

TABLE 2022 No Project-07 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/04/2021 ROADWAY SEGMENT: R-7_Watt Avenue - PFE Rd to Dyer Lane NOTES: Watt Avenue - 2022 No Project

* * ASSUMPTIONS * * AVERAGE DAILY TRAFFIC: 13900 SPEED (MPH): 40 GRADE: .5 TRAFFIC DISTRIBUTION PERCENTAGES DAY EVENING NIGHT ___ _____ ____ AUTOS 71.31 11.87 8.82 M-TRUCKS 5.09 0.29 0.62 H-TRUCKS 1.73 0.05 0.22 ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT ELEVATION AT ROAD SURFACE: 83.1 ELEVATION AT BARRIER BASE: 80.6 BARRIER HEIGHT (FT): 0 BARRIER TYPE: WALL ELEVATION AT RECEPTOR BASE: 80 RECEPTOR HEIGHT (FT): 5 ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 218 BARRIER TO RECEPTOR DISTANCE (FT): 125 * * CALCULATED NOISE LEVELS * * CNEL WITHOUT BARRIER (dB) = 60.22BARRIER ATTENUATION (dB): Autos: - 3.66 Med. Trucks: - 0.00

CNEL WITH BARRIER (dB) = 59.21

TABLE 2022 No Project-08 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/04/2021 ROADWAY SEGMENT: R-8_Watt Avenue - PFE Rd to Dyer Lane NOTES: Watt Avenue - 2022 No Project

* * ASSUMPTIONS * * AVERAGE DAILY TRAFFIC: 13900 SPEED (MPH): 40 GRADE: .5 TRAFFIC DISTRIBUTION PERCENTAGES DAY EVENING NIGHT ___ _____ ____ AUTOS 71.31 11.87 8.82 M-TRUCKS 5.09 0.29 0.62 H-TRUCKS 1.73 0.05 0.22 ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT ELEVATION AT ROAD SURFACE: 85.8 ELEVATION AT BARRIER BASE: 84.3 BARRIER HEIGHT (FT): 0 BARRIER TYPE: WALL ELEVATION AT RECEPTOR BASE: 81 RECEPTOR HEIGHT (FT): 5 ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 316 BARRIER TO RECEPTOR DISTANCE (FT): 250 * * CALCULATED NOISE LEVELS * * CNEL WITHOUT BARRIER (dB) = 57.72BARRIER ATTENUATION (dB): Autos: - 4.78 Med. Trucks: - 3.58 Hvy. Trucks: - 0.00

CNEL WITH BARRIER (dB) = 55.42

TABLE 2022 Project-01 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/04/2021 ROADWAY SEGMENT: R-1_Watt Avenue - PFE Rd to Dyer Lane NOTES: Watt Avenue - 2022 Project

* * ASSUMPTIONS * * AVERAGE DAILY TRAFFIC: 17500 SPEED (MPH): 45 GRADE: .5 TRAFFIC DISTRIBUTION PERCENTAGES DAY EVENING NIGHT ___ _____ ____ AUTOS 71.31 11.87 8.82 M-TRUCKS 5.09 0.29 0.62 H-TRUCKS 1.73 0.05 0.22 ACTIVE HALF-WIDTH (FT): 25 SITE CHARACTERISTICS: SOFT ELEVATION AT ROAD SURFACE: 93 ELEVATION AT BARRIER BASE: 90 BARRIER HEIGHT (FT): 0 BARRIER TYPE: WALL ELEVATION AT RECEPTOR BASE: 90 RECEPTOR HEIGHT (FT): 5 ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 347 BARRIER TO RECEPTOR DISTANCE (FT): 120 * * CALCULATED NOISE LEVELS * * CNEL WITHOUT BARRIER (dB) = 59.25BARRIER ATTENUATION (dB): Autos: - 3.41 Med. Trucks: - 2.50 Hvy. Trucks: - 0.00

CNEL WITH BARRIER (dB) = 57.41

TABLE 2022 Project-02 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/04/2021 ROADWAY SEGMENT: R-2_Watt Avenue - PFE Rd to Dyer Lane NOTES: Watt Avenue - 2022 Project

* * ASSUMPTIONS * * AVERAGE DAILY TRAFFIC: 17500 SPEED (MPH): 45 GRADE: .5 TRAFFIC DISTRIBUTION PERCENTAGES DAY EVENING NIGHT ___ _____ ____ AUTOS 71.31 11.87 8.82 M-TRUCKS 5.09 0.29 0.62 H-TRUCKS 1.73 0.05 0.22 ACTIVE HALF-WIDTH (FT): 25 SITE CHARACTERISTICS: SOFT ELEVATION AT ROAD SURFACE: 85.6 ELEVATION AT BARRIER BASE: 80.5 BARRIER HEIGHT (FT): 0 BARRIER TYPE: WALL ELEVATION AT RECEPTOR BASE: 80.5 RECEPTOR HEIGHT (FT): 5 ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 240 BARRIER TO RECEPTOR DISTANCE (FT): 130 * * CALCULATED NOISE LEVELS * * CNEL WITHOUT BARRIER (dB) = 61.76BARRIER ATTENUATION (dB): Autos: - 0.00 Med. Trucks: - 0.00 Hvy. Trucks: - 0.00

CNEL WITH BARRIER (dB) = 61.76

TABLE 2022 Project-03 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/04/2021 ROADWAY SEGMENT: R-3_Watt Avenue - PFE Rd to Dyer Lane NOTES: Watt Avenue - 2022 Project

* * ASSUMPTIONS * * AVERAGE DAILY TRAFFIC: 17500 SPEED (MPH): 45 GRADE: .5 TRAFFIC DISTRIBUTION PERCENTAGES DAY EVENING NIGHT ___ _____ ____ AUTOS 71.31 11.87 8.82 M-TRUCKS 5.09 0.29 0.62 H-TRUCKS 1.73 0.05 0.22 ACTIVE HALF-WIDTH (FT): 25 SITE CHARACTERISTICS: SOFT ELEVATION AT ROAD SURFACE: 84.9 ELEVATION AT BARRIER BASE: 81.2 BARRIER HEIGHT (FT): 0 BARRIER TYPE: WALL ELEVATION AT RECEPTOR BASE: 81.4 RECEPTOR HEIGHT (FT): 5 ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 130 BARRIER TO RECEPTOR DISTANCE (FT): 50 * * CALCULATED NOISE LEVELS * * CNEL WITHOUT BARRIER (dB) = 65.94BARRIER ATTENUATION (dB): Autos: - 0.00 Med. Trucks: - 0.00 Hvy. Trucks: - 0.00

CNEL WITH BARRIER (dB) = 65.94

TABLE 2022 Project-04 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/04/2021 ROADWAY SEGMENT: R-4_Watt Avenue - PFE Rd to Dyer Lane NOTES: Watt Avenue - 2022 Project

* * ASSUMPTIONS * * AVERAGE DAILY TRAFFIC: 17500 SPEED (MPH): 45 GRADE: .5 TRAFFIC DISTRIBUTION PERCENTAGES DAY EVENING NIGHT ___ _____ ____ AUTOS 71.31 11.87 8.82 M-TRUCKS 5.09 0.29 0.62 H-TRUCKS 1.73 0.05 0.22 ACTIVE HALF-WIDTH (FT): 25 SITE CHARACTERISTICS: SOFT ELEVATION AT ROAD SURFACE: 84.7 ELEVATION AT BARRIER BASE: 87.6 BARRIER HEIGHT (FT): 0 BARRIER TYPE: WALL ELEVATION AT RECEPTOR BASE: 95 RECEPTOR HEIGHT (FT): 5 ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 133 BARRIER TO RECEPTOR DISTANCE (FT): 65 * * CALCULATED NOISE LEVELS * * CNEL WITHOUT BARRIER (dB) = 65.78BARRIER ATTENUATION (dB): Autos: - 0.00 Med. Trucks: - 0.00 Hvy. Trucks: - 0.00

CNEL WITH BARRIER (dB) = 65.78

TABLE 2022 Project-05 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/04/2021 ROADWAY SEGMENT: R-5_Watt Avenue - PFE Rd to Dyer Lane NOTES: Watt Avenue - 2022 Project

* * ASSUMPTIONS * * AVERAGE DAILY TRAFFIC: 17500 SPEED (MPH): 45 GRADE: .5 TRAFFIC DISTRIBUTION PERCENTAGES DAY EVENING NIGHT ___ _____ ____ AUTOS 71.31 11.87 8.82 M-TRUCKS 5.09 0.29 0.62 H-TRUCKS 1.73 0.05 0.22 ACTIVE HALF-WIDTH (FT): 25 SITE CHARACTERISTICS: SOFT ELEVATION AT ROAD SURFACE: 85.6 ELEVATION AT BARRIER BASE: 91.5 BARRIER HEIGHT (FT): 0 BARRIER TYPE: WALL ELEVATION AT RECEPTOR BASE: 94.1 RECEPTOR HEIGHT (FT): 5 ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 127 BARRIER TO RECEPTOR DISTANCE (FT): 65 * * CALCULATED NOISE LEVELS * * CNEL WITHOUT BARRIER (dB) = 66.10BARRIER ATTENUATION (dB): Autos: - 5.00 Med. Trucks: - 4.45 Hvy. Trucks: - 0.00

CNEL WITH BARRIER (dB) = 63.41

TABLE 2022 Project-06 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/04/2021 ROADWAY SEGMENT: R-6_Watt Avenue - PFE Rd to Dyer Lane NOTES: Watt Avenue - 2022 Project

* * ASSUMPTIONS * * AVERAGE DAILY TRAFFIC: 17500 SPEED (MPH): 45 GRADE: .5 TRAFFIC DISTRIBUTION PERCENTAGES DAY EVENING NIGHT ___ _____ ____ AUTOS 71.31 11.87 8.82 M-TRUCKS 5.09 0.29 0.62 H-TRUCKS 1.73 0.05 0.22 ACTIVE HALF-WIDTH (FT): 25 SITE CHARACTERISTICS: SOFT ELEVATION AT ROAD SURFACE: 84.5 ELEVATION AT BARRIER BASE: 81.9 BARRIER HEIGHT (FT): 0 BARRIER TYPE: WALL ELEVATION AT RECEPTOR BASE: 78.5 RECEPTOR HEIGHT (FT): 5 ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 187 BARRIER TO RECEPTOR DISTANCE (FT): 95 * * CALCULATED NOISE LEVELS * * CNEL WITHOUT BARRIER (dB) = 63.46BARRIER ATTENUATION (dB): Autos: - 4.46 Med. Trucks: - 3.43 Hvy. Trucks: - 0.00

CNEL WITH BARRIER (dB) = 61.12

TABLE 2022 Project-07 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/04/2021 ROADWAY SEGMENT: R-7_Watt Avenue - PFE Rd to Dyer Lane NOTES: Watt Avenue - 2022 Project

* * ASSUMPTIONS * * AVERAGE DAILY TRAFFIC: 17500 SPEED (MPH): 45 GRADE: .5 TRAFFIC DISTRIBUTION PERCENTAGES DAY EVENING NIGHT ___ _____ ____ AUTOS 71.31 11.87 8.82 M-TRUCKS 5.09 0.29 0.62 H-TRUCKS 1.73 0.05 0.22 ACTIVE HALF-WIDTH (FT): 25 SITE CHARACTERISTICS: SOFT ELEVATION AT ROAD SURFACE: 85.1 ELEVATION AT BARRIER BASE: 80.6 BARRIER HEIGHT (FT): 0 BARRIER TYPE: WALL ELEVATION AT RECEPTOR BASE: 80 RECEPTOR HEIGHT (FT): 5 ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 229 BARRIER TO RECEPTOR DISTANCE (FT): 125 * * CALCULATED NOISE LEVELS * * CNEL WITHOUT BARRIER (dB) = 62.08BARRIER ATTENUATION (dB): Autos: - 2.29 Med. Trucks: - 0.00 Hvy. Trucks: - 0.00

CNEL WITH BARRIER (dB) = 61.32

TABLE 2022 Project-08 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/04/2021 ROADWAY SEGMENT: R-8_Watt Avenue - PFE Rd to Dyer Lane NOTES: Watt Avenue - 2022 Project

* * ASSUMPTIONS * * AVERAGE DAILY TRAFFIC: 17500 SPEED (MPH): 45 GRADE: .5 TRAFFIC DISTRIBUTION PERCENTAGES DAY EVENING NIGHT ___ _____ ____ AUTOS 71.31 11.87 8.82 M-TRUCKS 5.09 0.29 0.62 H-TRUCKS 1.73 0.05 0.22 ACTIVE HALF-WIDTH (FT): 25 SITE CHARACTERISTICS: SOFT ELEVATION AT ROAD SURFACE: 85.8 ELEVATION AT BARRIER BASE: 84.3 BARRIER HEIGHT (FT): 0 BARRIER TYPE: WALL ELEVATION AT RECEPTOR BASE: 81 RECEPTOR HEIGHT (FT): 5 ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 328 BARRIER TO RECEPTOR DISTANCE (FT): 250 * * CALCULATED NOISE LEVELS * * CNEL WITHOUT BARRIER (dB) = 59.63BARRIER ATTENUATION (dB): Autos: - 4.81 Med. Trucks: - 3.83 Hvy. Trucks: - 0.00

CNEL WITH BARRIER (dB) = 57.13

TABLE 2042 No Project-01 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/04/2021 ROADWAY SEGMENT: R-1_Watt Avenue - PFE Rd to Dyer Lane NOTES: Watt Avenue - 2042 No Project

* * ASSUMPTIONS * * AVERAGE DAILY TRAFFIC: 36200 SPEED (MPH): 21 GRADE: .5 TRAFFIC DISTRIBUTION PERCENTAGES DAY EVENING NIGHT ___ _____ ____ AUTOS 71.31 11.87 8.82 M-TRUCKS 5.09 0.29 0.62 H-TRUCKS 1.73 0.05 0.22 ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT ELEVATION AT ROAD SURFACE: 86 ELEVATION AT BARRIER BASE: 90 BARRIER HEIGHT (FT): 0 BARRIER TYPE: WALL ELEVATION AT RECEPTOR BASE: 90 RECEPTOR HEIGHT (FT): 5 ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 320 BARRIER TO RECEPTOR DISTANCE (FT): 120 * * CALCULATED NOISE LEVELS * * CNEL WITHOUT BARRIER (dB) = 55.86BARRIER ATTENUATION (dB): Autos: - 4.85 Med. Trucks: - 4.55 Hvy. Trucks: - 2.97

CNEL WITH BARRIER (dB) = 52.14

TABLE 2042 No Project-02 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/04/2021 ROADWAY SEGMENT: R-2_Watt Avenue - PFE Rd to Dyer Lane NOTES: Watt Avenue - 2042 No Project

* * ASSUMPTIONS * * AVERAGE DAILY TRAFFIC: 36200 SPEED (MPH): 21 GRADE: .5 TRAFFIC DISTRIBUTION PERCENTAGES DAY EVENING NIGHT ___ _____ ____ AUTOS 71.31 11.87 8.82 M-TRUCKS 5.09 0.29 0.62 H-TRUCKS 1.73 0.05 0.22 ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT ELEVATION AT ROAD SURFACE: 81.3 ELEVATION AT BARRIER BASE: 80.5 BARRIER HEIGHT (FT): 0 BARRIER TYPE: WALL ELEVATION AT RECEPTOR BASE: 80.5 RECEPTOR HEIGHT (FT): 5 ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 217 BARRIER TO RECEPTOR DISTANCE (FT): 130 * * CALCULATED NOISE LEVELS * * CNEL WITHOUT BARRIER (dB) = 58.48BARRIER ATTENUATION (dB): Autos: + 0.00 Med. Trucks: + 0.00Hvy. Trucks: + 0.00

CNEL WITH BARRIER (dB) = 58.48

TABLE 2042 No Project-03 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/04/2021 ROADWAY SEGMENT: R-3_Watt Avenue - PFE Rd to Dyer Lane NOTES: Watt Avenue - 2042 No Project

* * ASSUMPTIONS * * AVERAGE DAILY TRAFFIC: 36200 SPEED (MPH): 21 GRADE: .5 TRAFFIC DISTRIBUTION PERCENTAGES DAY EVENING NIGHT ___ _____ ____ AUTOS 71.31 11.87 8.82 M-TRUCKS 5.09 0.29 0.62 H-TRUCKS 1.73 0.05 0.22 ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT ELEVATION AT ROAD SURFACE: 80.8 ELEVATION AT BARRIER BASE: 81.2 BARRIER HEIGHT (FT): 0 BARRIER TYPE: WALL ELEVATION AT RECEPTOR BASE: 81.4 RECEPTOR HEIGHT (FT): 5 ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 148 BARRIER TO RECEPTOR DISTANCE (FT): 50 * * CALCULATED NOISE LEVELS * * CNEL WITHOUT BARRIER (dB) = 61.03BARRIER ATTENUATION (dB): Autos: + 0.00 Med. Trucks: + 0.00

CNEL WITH BARRIER (dB) = 61.03

TABLE 2042 No Project-04 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/04/2021 ROADWAY SEGMENT: R-4_Watt Avenue - PFE Rd to Dyer Lane NOTES: Watt Avenue - 2042 No Project

* * ASSUMPTIONS * * AVERAGE DAILY TRAFFIC: 36200 SPEED (MPH): 21 GRADE: .5 TRAFFIC DISTRIBUTION PERCENTAGES DAY EVENING NIGHT ___ _____ ____ AUTOS 71.31 11.87 8.82 M-TRUCKS 5.09 0.29 0.62 H-TRUCKS 1.73 0.05 0.22 ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT ELEVATION AT ROAD SURFACE: 81.7 ELEVATION AT BARRIER BASE: 87.6 BARRIER HEIGHT (FT): 0 BARRIER TYPE: WALL ELEVATION AT RECEPTOR BASE: 95 RECEPTOR HEIGHT (FT): 5 ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 141 BARRIER TO RECEPTOR DISTANCE (FT): 65 * * CALCULATED NOISE LEVELS * * CNEL WITHOUT BARRIER (dB) = 61.35BARRIER ATTENUATION (dB): Autos: - 0.00 Med. Trucks: - 0.00

CNEL WITH BARRIER (dB) = 61.35

TABLE 2042 No Project-05 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/04/2021 ROADWAY SEGMENT: R-5_Watt Avenue - PFE Rd to Dyer Lane NOTES: Watt Avenue - 2042 No Project

* * ASSUMPTIONS * * AVERAGE DAILY TRAFFIC: 36200 SPEED (MPH): 21 GRADE: .5 TRAFFIC DISTRIBUTION PERCENTAGES DAY EVENING NIGHT ___ _____ ____ AUTOS 71.31 11.87 8.82 M-TRUCKS 5.09 0.29 0.62 H-TRUCKS 1.73 0.05 0.22 ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT ELEVATION AT ROAD SURFACE: 84.7 ELEVATION AT BARRIER BASE: 91.5 BARRIER HEIGHT (FT): 0 BARRIER TYPE: WALL ELEVATION AT RECEPTOR BASE: 94.1 RECEPTOR HEIGHT (FT): 5 ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 139 BARRIER TO RECEPTOR DISTANCE (FT): 65 * * CALCULATED NOISE LEVELS * * CNEL WITHOUT BARRIER (dB) = 61.45BARRIER ATTENUATION (dB): Autos: - 4.93 Med. Trucks: - 4.39

CNEL WITH BARRIER (dB) = 59.78

TABLE 2042 No Project-06 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/04/2021 ROADWAY SEGMENT: R-6_Watt Avenue - PFE Rd to Dyer Lane NOTES: Watt Avenue - 2042 No Project

* * ASSUMPTIONS * * AVERAGE DAILY TRAFFIC: 36200 SPEED (MPH): 21 GRADE: .5 TRAFFIC DISTRIBUTION PERCENTAGES DAY EVENING NIGHT ___ _____ ____ AUTOS 71.31 11.87 8.82 M-TRUCKS 5.09 0.29 0.62 H-TRUCKS 1.73 0.05 0.22 ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT ELEVATION AT ROAD SURFACE: 81.9 ELEVATION AT BARRIER BASE: 81.9 BARRIER HEIGHT (FT): 0 BARRIER TYPE: WALL ELEVATION AT RECEPTOR BASE: 78.5 RECEPTOR HEIGHT (FT): 5 ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 178 BARRIER TO RECEPTOR DISTANCE (FT): 95 * * CALCULATED NOISE LEVELS * * CNEL WITHOUT BARRIER (dB) = 59.80BARRIER ATTENUATION (dB): Autos: - 5.00 Med. Trucks: - 4.52

CNEL WITH BARRIER (dB) = 58.11

TABLE 2042 No Project-07 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/04/2021 ROADWAY SEGMENT: R-7_Watt Avenue - PFE Rd to Dyer Lane NOTES: Watt Avenue - 2042 No Project

* * ASSUMPTIONS * * AVERAGE DAILY TRAFFIC: 36200 SPEED (MPH): 21 GRADE: .5 TRAFFIC DISTRIBUTION PERCENTAGES DAY EVENING NIGHT ___ _____ ____ AUTOS 71.31 11.87 8.82 M-TRUCKS 5.09 0.29 0.62 H-TRUCKS 1.73 0.05 0.22 ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT ELEVATION AT ROAD SURFACE: 83.1 ELEVATION AT BARRIER BASE: 80.6 BARRIER HEIGHT (FT): 0 BARRIER TYPE: WALL ELEVATION AT RECEPTOR BASE: 80 RECEPTOR HEIGHT (FT): 5 ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 218 BARRIER TO RECEPTOR DISTANCE (FT): 125 * * CALCULATED NOISE LEVELS * * CNEL WITHOUT BARRIER (dB) = 58.45BARRIER ATTENUATION (dB): Autos: - 3.66 Med. Trucks: - 0.00 Hvy. Trucks: - 0.00

CNEL WITH BARRIER (dB) = 57.82

TABLE 2042 No Project-08 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/04/2021 ROADWAY SEGMENT: R-8_Watt Avenue - PFE Rd to Dyer Lane NOTES: Watt Avenue - 2042 No Project

* * ASSUMPTIONS * * AVERAGE DAILY TRAFFIC: 36200 SPEED (MPH): 21 GRADE: .5 TRAFFIC DISTRIBUTION PERCENTAGES DAY EVENING NIGHT ___ _____ ____ AUTOS 71.31 11.87 8.82 M-TRUCKS 5.09 0.29 0.62 H-TRUCKS 1.73 0.05 0.22 ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT ELEVATION AT ROAD SURFACE: 85.8 ELEVATION AT BARRIER BASE: 84.3 BARRIER HEIGHT (FT): 0 BARRIER TYPE: WALL ELEVATION AT RECEPTOR BASE: 81 RECEPTOR HEIGHT (FT): 5 ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 316 BARRIER TO RECEPTOR DISTANCE (FT): 250 * * CALCULATED NOISE LEVELS * * CNEL WITHOUT BARRIER (dB) = 55.94BARRIER ATTENUATION (dB): Autos: - 4.78 Med. Trucks: - 3.58 Hvy. Trucks: - 0.00

CNEL WITH BARRIER (dB) = 54.41

TABLE 2042 Project-01 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/04/2021 ROADWAY SEGMENT: R-1_Watt Avenue - PFE Rd to Dyer Lane NOTES: Watt Avenue - 2042 Project

* * ASSUMPTIONS * * AVERAGE DAILY TRAFFIC: 54500 SPEED (MPH): 27 GRADE: .5 TRAFFIC DISTRIBUTION PERCENTAGES DAY EVENING NIGHT ___ _____ ____ AUTOS 71.31 11.87 8.82 M-TRUCKS 5.09 0.29 0.62 H-TRUCKS 1.73 0.05 0.22 ACTIVE HALF-WIDTH (FT): 25 SITE CHARACTERISTICS: SOFT ELEVATION AT ROAD SURFACE: 93 ELEVATION AT BARRIER BASE: 90 BARRIER HEIGHT (FT): 0 BARRIER TYPE: WALL ELEVATION AT RECEPTOR BASE: 90 RECEPTOR HEIGHT (FT): 5 ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 347 BARRIER TO RECEPTOR DISTANCE (FT): 120 * * CALCULATED NOISE LEVELS * * CNEL WITHOUT BARRIER (dB) = 59.34BARRIER ATTENUATION (dB): Autos: - 3.41 Med. Trucks: - 2.50 Hvy. Trucks: - 0.00

CNEL WITH BARRIER (dB) = 57.95

TABLE 2042 Project-02 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/04/2021 ROADWAY SEGMENT: R-2_Watt Avenue - PFE Rd to Dyer Lane NOTES: Watt Avenue - 2042 Project

* * ASSUMPTIONS * * AVERAGE DAILY TRAFFIC: 54500 SPEED (MPH): 27 GRADE: .5 TRAFFIC DISTRIBUTION PERCENTAGES DAY EVENING NIGHT ___ _____ ____ AUTOS 71.31 11.87 8.82 M-TRUCKS 5.09 0.29 0.62 H-TRUCKS 1.73 0.05 0.22 ACTIVE HALF-WIDTH (FT): 25 SITE CHARACTERISTICS: SOFT ELEVATION AT ROAD SURFACE: 85.6 ELEVATION AT BARRIER BASE: 80.5 BARRIER HEIGHT (FT): 0 BARRIER TYPE: WALL ELEVATION AT RECEPTOR BASE: 80.5 RECEPTOR HEIGHT (FT): 5 ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 240 BARRIER TO RECEPTOR DISTANCE (FT): 130 * * CALCULATED NOISE LEVELS * * CNEL WITHOUT BARRIER (dB) = 61.85BARRIER ATTENUATION (dB): Autos: - 0.00 Med. Trucks: - 0.00 Hvy. Trucks: - 0.00

CNEL WITH BARRIER (dB) = 61.85

TABLE 2042 Project-03 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/04/2021 ROADWAY SEGMENT: R-3_Watt Avenue - PFE Rd to Dyer Lane NOTES: Watt Avenue - 2042 Project

* * ASSUMPTIONS * * AVERAGE DAILY TRAFFIC: 54500 SPEED (MPH): 27 GRADE: .5 TRAFFIC DISTRIBUTION PERCENTAGES DAY EVENING NIGHT ___ _____ ____ AUTOS 71.31 11.87 8.82 M-TRUCKS 5.09 0.29 0.62 H-TRUCKS 1.73 0.05 0.22 ACTIVE HALF-WIDTH (FT): 25 SITE CHARACTERISTICS: SOFT ELEVATION AT ROAD SURFACE: 84.9 ELEVATION AT BARRIER BASE: 81.2 BARRIER HEIGHT (FT): 0 BARRIER TYPE: WALL ELEVATION AT RECEPTOR BASE: 81.4 RECEPTOR HEIGHT (FT): 5 ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 130 BARRIER TO RECEPTOR DISTANCE (FT): 50 * * CALCULATED NOISE LEVELS * * CNEL WITHOUT BARRIER (dB) = 66.03BARRIER ATTENUATION (dB): Autos: - 0.00 Med. Trucks: - 0.00 Hvy. Trucks: - 0.00

CNEL WITH BARRIER (dB) = 66.03
TABLE 2042 Project-04 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/04/2021 ROADWAY SEGMENT: R-4_Watt Avenue - PFE Rd to Dyer Lane NOTES: Watt Avenue - 2042 Project

* * ASSUMPTIONS * * AVERAGE DAILY TRAFFIC: 54500 SPEED (MPH): 27 GRADE: .5 TRAFFIC DISTRIBUTION PERCENTAGES DAY EVENING NIGHT ___ _____ ____ AUTOS 71.31 11.87 8.82 M-TRUCKS 5.09 0.29 0.62 H-TRUCKS 1.73 0.05 0.22 ACTIVE HALF-WIDTH (FT): 25 SITE CHARACTERISTICS: SOFT ELEVATION AT ROAD SURFACE: 84.7 ELEVATION AT BARRIER BASE: 87.6 BARRIER HEIGHT (FT): 0 BARRIER TYPE: WALL ELEVATION AT RECEPTOR BASE: 95 RECEPTOR HEIGHT (FT): 5 ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 133 BARRIER TO RECEPTOR DISTANCE (FT): 65 * * CALCULATED NOISE LEVELS * * CNEL WITHOUT BARRIER (dB) = 65.87BARRIER ATTENUATION (dB): Autos: - 0.00 Med. Trucks: - 0.00 Hvy. Trucks: - 0.00

TABLE 2042 Project-05 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/04/2021 ROADWAY SEGMENT: R-5_Watt Avenue - PFE Rd to Dyer Lane NOTES: Watt Avenue - 2042 Project

* * ASSUMPTIONS * * AVERAGE DAILY TRAFFIC: 54500 SPEED (MPH): 27 GRADE: .5 TRAFFIC DISTRIBUTION PERCENTAGES DAY EVENING NIGHT ___ _____ ____ AUTOS 71.31 11.87 8.82 M-TRUCKS 5.09 0.29 0.62 H-TRUCKS 1.73 0.05 0.22 ACTIVE HALF-WIDTH (FT): 25 SITE CHARACTERISTICS: SOFT ELEVATION AT ROAD SURFACE: 85.6 ELEVATION AT BARRIER BASE: 91.5 BARRIER HEIGHT (FT): 0 BARRIER TYPE: WALL ELEVATION AT RECEPTOR BASE: 94.1 RECEPTOR HEIGHT (FT): 5 ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 127 BARRIER TO RECEPTOR DISTANCE (FT): 65 * * CALCULATED NOISE LEVELS * * CNEL WITHOUT BARRIER (dB) = 66.19BARRIER ATTENUATION (dB): Autos: - 5.00 Med. Trucks: - 4.45 Hvy. Trucks: - 0.00

TABLE 2042 Project-06 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/04/2021 ROADWAY SEGMENT: R-6_Watt Avenue - PFE Rd to Dyer Lane NOTES: Watt Avenue - 2042 Project

* * ASSUMPTIONS * * AVERAGE DAILY TRAFFIC: 54500 SPEED (MPH): 27 GRADE: .5 TRAFFIC DISTRIBUTION PERCENTAGES DAY EVENING NIGHT ___ _____ ____ AUTOS 71.31 11.87 8.82 M-TRUCKS 5.09 0.29 0.62 H-TRUCKS 1.73 0.05 0.22 ACTIVE HALF-WIDTH (FT): 25 SITE CHARACTERISTICS: SOFT ELEVATION AT ROAD SURFACE: 84.5 ELEVATION AT BARRIER BASE: 81.9 BARRIER HEIGHT (FT): 0 BARRIER TYPE: WALL ELEVATION AT RECEPTOR BASE: 78.5 RECEPTOR HEIGHT (FT): 5 ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 187 BARRIER TO RECEPTOR DISTANCE (FT): 95 * * CALCULATED NOISE LEVELS * * CNEL WITHOUT BARRIER (dB) = 63.55BARRIER ATTENUATION (dB): Autos: - 4.46 Med. Trucks: - 3.43 Hvy. Trucks: - 0.00

TABLE 2042 Project-07 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/04/2021 ROADWAY SEGMENT: R-7_Watt Avenue - PFE Rd to Dyer Lane NOTES: Watt Avenue - 2042 Project

* * ASSUMPTIONS * * AVERAGE DAILY TRAFFIC: 54500 SPEED (MPH): 27 GRADE: .5 TRAFFIC DISTRIBUTION PERCENTAGES DAY EVENING NIGHT ___ _____ ____ AUTOS 71.31 11.87 8.82 M-TRUCKS 5.09 0.29 0.62 H-TRUCKS 1.73 0.05 0.22 ACTIVE HALF-WIDTH (FT): 25 SITE CHARACTERISTICS: SOFT ELEVATION AT ROAD SURFACE: 85.1 ELEVATION AT BARRIER BASE: 80.6 BARRIER HEIGHT (FT): 0 BARRIER TYPE: WALL ELEVATION AT RECEPTOR BASE: 80 RECEPTOR HEIGHT (FT): 5 ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 229 BARRIER TO RECEPTOR DISTANCE (FT): 125 * * CALCULATED NOISE LEVELS * * CNEL WITHOUT BARRIER (dB) = 62.17BARRIER ATTENUATION (dB): Autos: - 2.29 Med. Trucks: - 0.00 Hvy. Trucks: - 0.00

TABLE 2042 Project-08 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/04/2021 ROADWAY SEGMENT: R-8_Watt Avenue - PFE Rd to Dyer Lane NOTES: Watt Avenue - 2042 Project

* * ASSUMPTIONS * * AVERAGE DAILY TRAFFIC: 54500 SPEED (MPH): 27 GRADE: .5 TRAFFIC DISTRIBUTION PERCENTAGES DAY EVENING NIGHT ___ _____ ____ AUTOS 71.31 11.87 8.82 M-TRUCKS 5.09 0.29 0.62 H-TRUCKS 1.73 0.05 0.22 ACTIVE HALF-WIDTH (FT): 25 SITE CHARACTERISTICS: SOFT ELEVATION AT ROAD SURFACE: 85.8 ELEVATION AT BARRIER BASE: 84.3 BARRIER HEIGHT (FT): 0 BARRIER TYPE: WALL ELEVATION AT RECEPTOR BASE: 81 RECEPTOR HEIGHT (FT): 5 ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 328 BARRIER TO RECEPTOR DISTANCE (FT): 250 * * CALCULATED NOISE LEVELS * * CNEL WITHOUT BARRIER (dB) = 59.72BARRIER ATTENUATION (dB): Autos: - 4.81 Med. Trucks: - 3.83 Hvy. Trucks: - 0.00

TABLE 2022 Project-01 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/04/2021 ROADWAY SEGMENT: R-1_Watt Avenue - PFE Rd to Dyer Lane NOTES: Watt Avenue (Interior) - 2022 Project

* * ASSUMPTIONS * * AVERAGE DAILY TRAFFIC: 17500 SPEED (MPH): 45 GRADE: .5 TRAFFIC DISTRIBUTION PERCENTAGES DAY EVENING NIGHT ___ _____ ____ AUTOS 71.31 11.87 8.82 M-TRUCKS 5.09 0.29 0.62 H-TRUCKS 1.73 0.05 0.22 ACTIVE HALF-WIDTH (FT): 25 SITE CHARACTERISTICS: SOFT ELEVATION AT ROAD SURFACE: 93 ELEVATION AT BARRIER BASE: 90 BARRIER HEIGHT (FT): 0 BARRIER TYPE: WALL ELEVATION AT RECEPTOR BASE: 90 RECEPTOR HEIGHT (FT): 5 ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 245 BARRIER TO RECEPTOR DISTANCE (FT): 30 * * CALCULATED NOISE LEVELS * * CNEL WITHOUT BARRIER (dB) = 61.62BARRIER ATTENUATION (dB): Autos: - 0.00 Med. Trucks: - 0.00 Hvy. Trucks: - 0.00

TABLE 2022 Project-02 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/04/2021 ROADWAY SEGMENT: R-2_Watt Avenue - PFE Rd to Dyer Lane NOTES: Watt Avenue (Interior) - 2022 Project

* * ASSUMPTIONS * * AVERAGE DAILY TRAFFIC: 17500 SPEED (MPH): 45 GRADE: .5 TRAFFIC DISTRIBUTION PERCENTAGES DAY EVENING NIGHT ___ _____ ____ AUTOS 71.31 11.87 8.82 M-TRUCKS 5.09 0.29 0.62 H-TRUCKS 1.73 0.05 0.22 ACTIVE HALF-WIDTH (FT): 25 SITE CHARACTERISTICS: SOFT ELEVATION AT ROAD SURFACE: 85.6 ELEVATION AT BARRIER BASE: 80.5 BARRIER HEIGHT (FT): 0 BARRIER TYPE: WALL ELEVATION AT RECEPTOR BASE: 80.5 RECEPTOR HEIGHT (FT): 5 ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 144 BARRIER TO RECEPTOR DISTANCE (FT): 33 * * CALCULATED NOISE LEVELS * * CNEL WITHOUT BARRIER (dB) = 65.24BARRIER ATTENUATION (dB): Autos: - 0.00 Med. Trucks: - 0.00 Hvy. Trucks: - 0.00

TABLE 2022 Project-03 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/04/2021 ROADWAY SEGMENT: R-6_Watt Avenue - PFE Rd to Dyer Lane NOTES: Watt Avenue (Interior) - 2022 Project

* * ASSUMPTIONS * * AVERAGE DAILY TRAFFIC: 17500 SPEED (MPH): 45 GRADE: .5 TRAFFIC DISTRIBUTION PERCENTAGES DAY EVENING NIGHT ___ _____ ____ AUTOS 71.31 11.87 8.82 M-TRUCKS 5.09 0.29 0.62 H-TRUCKS 1.73 0.05 0.22 ACTIVE HALF-WIDTH (FT): 25 SITE CHARACTERISTICS: SOFT ELEVATION AT ROAD SURFACE: 84.5 ELEVATION AT BARRIER BASE: 81.9 BARRIER HEIGHT (FT): 0 BARRIER TYPE: WALL ELEVATION AT RECEPTOR BASE: 78.5 RECEPTOR HEIGHT (FT): 5 ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 106 BARRIER TO RECEPTOR DISTANCE (FT): 12 * * CALCULATED NOISE LEVELS * * CNEL WITHOUT BARRIER (dB) = 67.35BARRIER ATTENUATION (dB): Autos: - 3.05 Med. Trucks: - 2.08 Hvy. Trucks: - 0.00

TABLE 2022 Project-04 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/04/2021 ROADWAY SEGMENT: R-7_Watt Avenue - PFE Rd to Dyer Lane NOTES: Watt Avenue (Interior) - 2022 Project

* * ASSUMPTIONS * * AVERAGE DAILY TRAFFIC: 17500 SPEED (MPH): 45 GRADE: .5 TRAFFIC DISTRIBUTION PERCENTAGES DAY EVENING NIGHT ___ _____ ____ AUTOS 71.31 11.87 8.82 M-TRUCKS 5.09 0.29 0.62 H-TRUCKS 1.73 0.05 0.22 ACTIVE HALF-WIDTH (FT): 25 SITE CHARACTERISTICS: SOFT ELEVATION AT ROAD SURFACE: 85.1 ELEVATION AT BARRIER BASE: 80.6 BARRIER HEIGHT (FT): 0 BARRIER TYPE: WALL ELEVATION AT RECEPTOR BASE: 80 RECEPTOR HEIGHT (FT): 5 ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 162 BARRIER TO RECEPTOR DISTANCE (FT): 58 * * CALCULATED NOISE LEVELS * * CNEL WITHOUT BARRIER (dB) = 64.43BARRIER ATTENUATION (dB): Autos: - 0.00 Med. Trucks: - 0.00 Hvy. Trucks: - 0.00

TABLE 2022 Project-05 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/04/2021 ROADWAY SEGMENT: R-8_Watt Avenue - PFE Rd to Dyer Lane NOTES: Watt Avenue (Interior) - 2022 Project

* * ASSUMPTIONS * * AVERAGE DAILY TRAFFIC: 17500 SPEED (MPH): 45 GRADE: .5 TRAFFIC DISTRIBUTION PERCENTAGES DAY EVENING NIGHT ___ _____ ____ AUTOS 71.31 11.87 8.82 M-TRUCKS 5.09 0.29 0.62 H-TRUCKS 1.73 0.05 0.22 ACTIVE HALF-WIDTH (FT): 25 SITE CHARACTERISTICS: SOFT ELEVATION AT ROAD SURFACE: 85.8 ELEVATION AT BARRIER BASE: 84.3 BARRIER HEIGHT (FT): 0 BARRIER TYPE: WALL ELEVATION AT RECEPTOR BASE: 81 RECEPTOR HEIGHT (FT): 5 ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 270 BARRIER TO RECEPTOR DISTANCE (FT): 195 * * CALCULATED NOISE LEVELS * * CNEL WITHOUT BARRIER (dB) = 60.96BARRIER ATTENUATION (dB): Autos: - 4.79 Med. Trucks: - 3.76 Hvy. Trucks: - 0.00

TABLE 2042 Project-01 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/04/2021 ROADWAY SEGMENT: R-1_Watt Avenue - PFE Rd to Dyer Lane NOTES: Watt Avenue (Interior) - 2042 Project

* * ASSUMPTIONS * * AVERAGE DAILY TRAFFIC: 54500 SPEED (MPH): 27 GRADE: .5 TRAFFIC DISTRIBUTION PERCENTAGES DAY EVENING NIGHT ___ _____ ____ AUTOS 71.31 11.87 8.82 M-TRUCKS 5.09 0.29 0.62 H-TRUCKS 1.73 0.05 0.22 ACTIVE HALF-WIDTH (FT): 25 SITE CHARACTERISTICS: SOFT ELEVATION AT ROAD SURFACE: 93 ELEVATION AT BARRIER BASE: 90 BARRIER HEIGHT (FT): 0 BARRIER TYPE: WALL ELEVATION AT RECEPTOR BASE: 90 RECEPTOR HEIGHT (FT): 5 ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 245 BARRIER TO RECEPTOR DISTANCE (FT): 30 * * CALCULATED NOISE LEVELS * * CNEL WITHOUT BARRIER (dB) = 61.71BARRIER ATTENUATION (dB): Autos: - 0.00 Med. Trucks: - 0.00 Hvy. Trucks: - 0.00

TABLE 2042 Project-02 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/04/2021 ROADWAY SEGMENT: R-2_Watt Avenue - PFE Rd to Dyer Lane NOTES: Watt Avenue (Interior) - 2042 Project

* * ASSUMPTIONS * * AVERAGE DAILY TRAFFIC: 54500 SPEED (MPH): 27 GRADE: .5 TRAFFIC DISTRIBUTION PERCENTAGES DAY EVENING NIGHT ___ _____ ____ AUTOS 71.31 11.87 8.82 M-TRUCKS 5.09 0.29 0.62 H-TRUCKS 1.73 0.05 0.22 ACTIVE HALF-WIDTH (FT): 25 SITE CHARACTERISTICS: SOFT ELEVATION AT ROAD SURFACE: 85.6 ELEVATION AT BARRIER BASE: 80.5 BARRIER HEIGHT (FT): 0 BARRIER TYPE: WALL ELEVATION AT RECEPTOR BASE: 80.5 RECEPTOR HEIGHT (FT): 5 ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 144 BARRIER TO RECEPTOR DISTANCE (FT): 33 * * CALCULATED NOISE LEVELS * * CNEL WITHOUT BARRIER (dB) = 65.33BARRIER ATTENUATION (dB): Autos: - 0.00 Med. Trucks: - 0.00 Hvy. Trucks: - 0.00

TABLE 2042 Project-03 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/04/2021 ROADWAY SEGMENT: R-6_Watt Avenue - PFE Rd to Dyer Lane NOTES: Watt Avenue (Interior) - 2042 Project

* * ASSUMPTIONS * * AVERAGE DAILY TRAFFIC: 54500 SPEED (MPH): 27 GRADE: .5 TRAFFIC DISTRIBUTION PERCENTAGES DAY EVENING NIGHT ___ _____ ____ AUTOS 71.31 11.87 8.82 M-TRUCKS 5.09 0.29 0.62 H-TRUCKS 1.73 0.05 0.22 ACTIVE HALF-WIDTH (FT): 25 SITE CHARACTERISTICS: SOFT ELEVATION AT ROAD SURFACE: 84.5 ELEVATION AT BARRIER BASE: 81.9 BARRIER HEIGHT (FT): 0 BARRIER TYPE: WALL ELEVATION AT RECEPTOR BASE: 78.5 RECEPTOR HEIGHT (FT): 5 ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 106 BARRIER TO RECEPTOR DISTANCE (FT): 12 * * CALCULATED NOISE LEVELS * * CNEL WITHOUT BARRIER (dB) = 67.44BARRIER ATTENUATION (dB): Autos: - 3.05 Med. Trucks: - 2.08 Hvy. Trucks: - 0.00

TABLE 2042 Project-04 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/04/2021 ROADWAY SEGMENT: R-7_Watt Avenue - PFE Rd to Dyer Lane NOTES: Watt Avenue (Interior) - 2042 Project

* * ASSUMPTIONS * * AVERAGE DAILY TRAFFIC: 54500 SPEED (MPH): 27 GRADE: .5 TRAFFIC DISTRIBUTION PERCENTAGES DAY EVENING NIGHT ___ _____ ____ AUTOS 71.31 11.87 8.82 M-TRUCKS 5.09 0.29 0.62 H-TRUCKS 1.73 0.05 0.22 ACTIVE HALF-WIDTH (FT): 25 SITE CHARACTERISTICS: SOFT ELEVATION AT ROAD SURFACE: 85.1 ELEVATION AT BARRIER BASE: 80.6 BARRIER HEIGHT (FT): 0 BARRIER TYPE: WALL ELEVATION AT RECEPTOR BASE: 80 RECEPTOR HEIGHT (FT): 5 ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 162 BARRIER TO RECEPTOR DISTANCE (FT): 58 * * CALCULATED NOISE LEVELS * * CNEL WITHOUT BARRIER (dB) = 64.52BARRIER ATTENUATION (dB): Autos: - 0.00 Med. Trucks: - 0.00 Hvy. Trucks: - 0.00

TABLE 2042 Project-05 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 01/04/2021 ROADWAY SEGMENT: R-8_Watt Avenue - PFE Rd to Dyer Lane NOTES: Watt Avenue (Interior) - 2042 Project

* * ASSUMPTIONS * * AVERAGE DAILY TRAFFIC: 54500 SPEED (MPH): 27 GRADE: .5 TRAFFIC DISTRIBUTION PERCENTAGES DAY EVENING NIGHT ___ _____ ____ AUTOS 71.31 11.87 8.82 M-TRUCKS 5.09 0.29 0.62 H-TRUCKS 1.73 0.05 0.22 ACTIVE HALF-WIDTH (FT): 25 SITE CHARACTERISTICS: SOFT ELEVATION AT ROAD SURFACE: 85.8 ELEVATION AT BARRIER BASE: 84.3 BARRIER HEIGHT (FT): 0 BARRIER TYPE: WALL ELEVATION AT RECEPTOR BASE: 81 RECEPTOR HEIGHT (FT): 5 ROADWAY CENTERLINE TO RECEPTOR DISTANCE (FT): 270 BARRIER TO RECEPTOR DISTANCE (FT): 195 * * CALCULATED NOISE LEVELS * * CNEL WITHOUT BARRIER (dB) = 61.05BARRIER ATTENUATION (dB): Autos: - 4.79 Med. Trucks: - 3.76 Hvy. Trucks: - 0.00