City of Brentwood
Engineering Department

Lone Tree Way Roadway Improvements Project

Initial Study/Mitigated Negative Declaration

August 2026

Prepared by

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TABLE OF CONTENTS

A. PROJECT SUMMARY 1
B. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED 2
C. SOURCES 2
D. DETERMINATION 4
E. BACKGROUND AND INTRODUCTION 5
F. PROJECT DESCRIPTION 5
G. ENVIRONMENTAL CHECKLIST 16

I. AESTHETICS. 17
II. AGRICULTURE AND FOREST RESOURCES. 19
III. AIR QUALITY. 20
IV. BIOLOGICAL RESOURCES. 29
V. CULTURAL RESOURCES. 39
VI. ENERGY. 43
VII. GEOLOGY AND SOILS. 45
VIII. GREENHOUSE GAS EMISSIONS. 50
IX. HAZARDS AND HAZARDOUS MATERIALS. 52
X. HYDROLOGY AND WATER QUALITY. 57
XI. LAND USE AND PLANNING. 61
XII. MINERAL RESOURCES. 62
XIII. NOISE. 63
XIV. POPULATION AND HOUSING. 80
XV. PUBLIC SERVICES. 81
XVI. RECREATION. 82
XVII. TRANSPORTATION. 83
XVIII. TRIBAL CULTURAL RESOURCES. 86
XIX. UTILITIES AND SERVICE SYSTEMS. 89
XX. WILDFIRE. 91
XXI. MANDATORY FINDINGS OF SIGNIFICANCE. 92

APPENDICES:

Appendix A: Air Quality and GHG Modeling Results
Appendix B: Environmental Noise Assessment

INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

August 2026

A. PROJECT SUMMARY

1. Project Title: Lone Tree Way Roadway Improvements Project

2. Lead Agency Name and Address: City of Brentwood
Engineering Department
150 City Park Way
Brentwood, CA 94513

3. Contact Person and Phone Number: Brant Wilson
Associate Civil Engineer
(925) 516-5163

4. Project Location: Lone Tree Way roadway segment from the O'Hara Avenue intersection to the Adams Lane intersection
Brentwood, CA

5. Project Sponsor's Name and Address: City of Brentwood
Engineering Department
150 City Park Way
Brentwood, CA 94513

6. Required Approvals from Other Public Agencies: None

7. Surrounding Land Uses and Setting:

The portion of the project site that would be improved as part of the proposed project is located along Lone Tree Way between Tilton Lane and Smith Road in the City of Brentwood. The project site also includes segments of Lone Tree Way that are proposed for future improvement, including the roadway segment located immediately east of the Tilton Lane and Lone Tree Way intersection, from Tilton Lane to Anderson Lane/Adams Lane, and the segment located immediately west of the Smith Road and Lone Tree Way intersection, from Smith Road to O'Hara Avenue. Surrounding existing uses include future single-family residential uses associated with the Lone Tree Residential Project site, undeveloped land, and existing single-family residences to the north, and Portofino Park, single-family residences, the Brentwood Muslim Community Center, Isaac R. Montañez Elementary School, undeveloped land, and the Kingdom Hall of Jehovah's Witnesses to the south.

8. Project Description Summary:

The Lone Tree Way Roadway Improvements Project (proposed project) would include various improvements to the segment of Lone Tree Way from the Smith Road intersection to the Tilton Lane intersection on the eastbound (southern) side of the roadway. Such improvements would include roadway widening, sidewalk and bicycle lane improvements, and utility improvements.

Future potential roadway improvements are also being considered along the segment of Lone Tree Way from the O'Hara Avenue intersection to the Smith Road intersection, as well as from the Tilton Lane intersection to the Adams Lane intersection. The ultimate goal of the City is to have the same roadway design along Lone Tree Way from the O'Hara Avenue intersection to the Adams Lane intersection.

9. Status of Native American Consultation Pursuant to Public Resources Code Section 21080.3.1:

   In compliance with Assembly Bill (AB) 52 (Public Resources Code [PRC] Section 21080.3.1), on May 22, 2026, the City provided formal notification letters to the Amah Mutsun Tribal Band, Buena Vista Rancheria of Me-Wuk Indians, Calaveras Band of Mi-Wuk Indians, California Valley Miwok Tribe, Chicken Ranch Rancheria of Me-Wuk Indians, Confederated Villages of Lisjan Nation, Ione Band of Miwok Indians, Jackson Rancheria Band of Miwuk Indians, Muwekma Ohlone Tribe of the SF Bay Area, Nashville Enterprise Miwok-Maidu-Nishinam Tribe, Northern Valley Yokut/Ohlone Tribe, Pakan'yani Maidu of Strawberry Valley Rancheria, Ohlone Indian Tribe, Tule River Indian Tribe, Wilton Rancheria, and Wuksachi Indian Tribe/Eshom Valley Band. Two responses were received from the Confederated Villages of Lisjan Nation and Wilton Rancheria Tribe requesting to initiate consultation. The City provided responses to the tribes, including all requested information. In addition, the Wilton Rancheria provided general guidance on mitigation measure components to be implemented as part of the proposed project. The requested components have been incorporated into the mitigation measures within this IS/MND.

B. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is "Less-than-significant with mitigation" as indicated by the checklist on the following pages.

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

C. SOURCES

The following documents are referenced information sources used for the purposes of this Initial Study:

1. Bay Area Air Quality Management District. *California Environmental Quality Act Air Quality Guidelines*. April 2023.
2. California Department of Conservation. *California Important Farmland Finder.* Available at: https://maps.conservation.ca.gov/DLRP/CIFF/. Accessed May 2026.
3. California Department of Conservation. *Williamson Act Enrollment Finder.* Available at: https://maps.conservation.ca.gov/dlrp/WilliamsonAct/App/. Accessed May 2026.

4. California Department of Forestry and Fire Protection. *FHSZ Viewer.* Available at: https://experience.arcgis.com/experience/5065c998b4b0462f9ec3c6c226c610a9. Accessed May 2026.
5. California Department of Housing and Community Development. *CalGreen Application and Scope*. Available at https://www.hcd.ca.gov/building-standards/calgreen/application. Accessed July 2026.
6. California Department of Resources Recycling and Recovery (CalRecycle). *Facility/Site Summary Details: Keller Canyon Landfill (07-AA-0032)*. Available at: https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/4407?siteID=228. Accessed June 2026.
7. California Department of Transportation. *California Scenic Highway Mapping System*. Available at: https://experience.arcgis.com/experience/47e2009986264718a5a13a2c81382774. Accessed July 2026.
8. City of Brentwood. *2014 Brentwood General Plan Draft Environmental Impact Report.* April 2014.
9. City of Brentwood. *Capital Improvement Program: 2026/27 - 2030/31.* May 2026.
10. City of Brentwood. *City of Brentwood General Plan.* Adopted July 2014.
11. City of Brentwood. *Final 2025 Urban Water Management Plan*. June 2026.
12. City of Brentwood. *Trails*. Available at: https://www.brentwoodca.gov/government/parks-recreation/parks-and-trails/trails. Accessed July 2026.
13. Contra Costa County Flood Control and Water Conservation District. *Zones and Drainage Areas.* August 25, 2015.
14. Contra Costa Transportation Authority. *East County Action Plan for Routes of Regional Significance*. September 2017.
15. Department of Toxic Substances Control. *Hazardous Waste and Substances Site List (Cortese).* Available at: https://www.envirostor.dtsc.ca.gov/public/. Accessed May 2026.
16. East Contra Costa County Habitat Conservation Plan Association. *Final East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan.* October 2006.
17. Federal Emergency Management Agency. *Flood Insurance Rate Map 06013C0354G.* Effective March 21, 2017.
18. H.T. Harvey & Associates. *East Contra Costa County Habitat Conservation Plan – Assessment of Plan Effects on CEQA Species.* February 17, 2015.
19. Natural Resources Conservation Service. *Web Soil Survey.* Available at: https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm. Accessed July 2026.
20. Saxelby Acoustics, LLC. *Environmental Noise Assessment – Lone Tree Way Improvements.* July 7, 2026.
21. State Water Resource Control Board. *GeoTracker*. Available at: https://geotracker.waterboards.ca.gov/map/?global_id=T0607302824. Accessed May 2026.
22. State Water Resources Control Board. *Active CDO and CAO.* Available at: https://calepa.ca.gov/sitecleanup/corteselist/. Accessed May 2026.
23. Tom Origer & Associates. *Cultural Resources Study for the Lone Tree Way Roadway Improvements Project- Brentwood, Contra Costa County, California.* June 16, 2026.
24. U.S. Department of Conservation. *Earthquake Zones of Required Investigation.* Available at: https://maps.conservation.ca.gov/cgs/EQZApp/app/. Accessed July 2026.

D. DETERMINATION

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 applicant. A MITIGATED NEGATIVE DECLARATION will be prepared.

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

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

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

Signature	Date
Brant Wilson, Associate Civil Engineer	City of Brentwood
Printed Name	For

E. BACKGROUND AND INTRODUCTION

This Initial Study/Mitigated Negative Declaration (IS/MND) identifies and analyzes the potential environmental impacts of the proposed project. The information and analysis presented in this document is organized in accordance with the order of the California Environmental Quality Act (CEQA) checklist in Appendix G of the CEQA Guidelines. Where the analysis provided in this document identifies potentially significant environmental effects of the project, mitigation measures are prescribed.

The mitigation measures prescribed for environmental effects described in this IS/MND would be implemented in conjunction with the project, as required by CEQA. The mitigation measures would be incorporated into the project construction documents. The City would adopt findings and a Mitigation Monitoring/Reporting Program for the project in conjunction with approval of the project.

On July 22, 2014, the City of Brentwood City Council adopted a comprehensive update to the City's General Plan[1] and certified an associated Environmental Impact Report (EIR).[2] The General Plan EIR analyzed the potential impacts associated with full buildout of the General Plan Land Use Diagram. Per Section 15152 of the CEQA Guidelines, a project that is consistent with the General Plan and zoning designations of the City may tier from the analysis contained in the General Plan EIR, incorporating by reference the general discussions from the broader EIR. Though the project site does not have a land use or zoning designation, the proposed project would include improvements to the existing roadway that would generally remain consistent with the use and intensity established for the roadway in the General Plan EIR. The proposed project would also be consistent with the circulation planning in the City of Brentwood General Plan. Figure CIR-1 of the City of Brentwood General Plan designates Lone Tree Way as a Major Arterial Roadway. In addition, the proposed roadway improvements are identified as Project #336-31701 within the City's Capital Improvement Program.[3] Furthermore, Lone Tree Way is identified in the Contra Costa Transportation Authority (CCTA) East County Action Plan as a route of regional significance.[4] As such, the project is consistent with the City's long-term vision for development and circulation in the City. Therefore, in accordance with Section 15152 of the CEQA Guidelines, the analysis within this IS/MND will rely on analysis included in the General Plan EIR, as applicable.

F. PROJECT DESCRIPTION

The following provides a description of the project site's current location and setting, as well as the proposed project components and the discretionary actions required for the project.

Project Location and Setting

The portion of the project site that would be improved as part of the proposed project is located along Lone Tree Way between Tilton Lane and Smith Road in the City of Brentwood, hereafter referred to as the Roadway Improvement Area (see Figure 1 and Figure 2). The Roadway Improvement Area consists of the eastbound lane of the existing Lone Tree Way roadway, as well as a generally vacant strip of land with gravel, limited vegetation, utility poles, and bioretention areas. Landscaping trees are present along the northern property line of a single-family residence located at 7721 Lone Tree Way.

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1 City of Brentwood. *City of Brentwood General Plan.* Adopted July 2014.
2 City of Brentwood. *2014 Brentwood General Plan Draft Environmental Impact Report.* April 2014.
3 City of Brentwood. *Capital Improvement Program: 2026/27 - 2030/31.* May 2026.
4 Contra Costa Transportation Authority. *East County Action Plan for Routes of Regional Significance*. September 2017.

Figure 1
Regional Project Location



*Figure not OCR compatible.

Figure 2
Project Site Boundaries



*Figure not OCR compatible.

Concrete barriers are located along the southeast corner of the Smith Road and Lone Tree Way intersection. The majority of the Roadway Improvement Area is located within the City's right-of-way (ROW).

The project site also includes segments of Lone Tree Way that are proposed for future improvement, hereafter referred to as the Future Potential Improvement Area. The Future Potential Improvement Area includes the roadway segment located immediately east of the Tilton Lane and Lone Tree Way intersection, from Tilton Lane to Anderson Lane/Adams Lane (Tilton Lane to Adams Lane Improvement Area), and the segment located immediately west of the Smith Road and Lone Tree Way intersection, from Smith Road to O'Hara Avenue (Smith Road to O'Hara Avenue Improvement Area).

Surrounding existing uses include future single-family residential uses associated with the Lone Tree Residential Project site, undeveloped land, and existing single-family residences to the north, and Portofino Park, single-family residences, the Brentwood Muslim Community Center, Isaac R. Montañez Elementary School, undeveloped land, and the Kingdom Hall of Jehovah's Witnesses to the south (see Figure 2).

Project Components

The City of Brentwood is currently proposing improvements to the segment of Lone Tree Way from the Smith Road intersection to the Tilton Lane intersection. Such improvements would only occur on the eastbound (southern) side of the roadway, and would include the following:

- Widening of the roadway from one eastbound through lane to two eastbound through lanes;
- Construction of a westbound turn lane to provide access south onto Smith Road to Isaac R. Montañez Elementary School;
- Construction of an eastbound Class IV bicycle lane (i.e., a buffered bicycle lane with delineators);
- Installation of a permanent sidewalk and associated curb along the southern portion of the road;
- Removal of 54 existing landscaping trees along the northern property line of 7721 Lone Tree Way;
- Removal of the existing concrete barriers along the southeastern corner of the Smith Road and Lone Tree Way intersection;
- Construction of bioretention facilities;
- Installation of a drainage structure;
- Installation of fiber optic conduit for future use;
- Installation of streetlights;
- Undergrounding of PG&E poles/lines; and
- Installation of six-foot sound walls along the northern property line of the residential uses located at 2410 Lone Tree Way and 7721 Lone Tree Way.

The Lone Tree Residential Project developer would be responsible for constructing improvements along their site frontage, which occurs along the westbound (northern) side of Lone Tree Way. Thus, the westbound (northern) side of this roadway segment would remain as is at this time.

Existing site conditions and proposed demolition plans for the Roadway Improvement Area are shown in Figure 3 and Figure 4. Specific project improvements are provided in Figure 5 and Figure 6.

Figure 3
Existing Conditions and Demolition Plan – Smith Road Intersection to Tilton Lane Intersection (1 of 2)

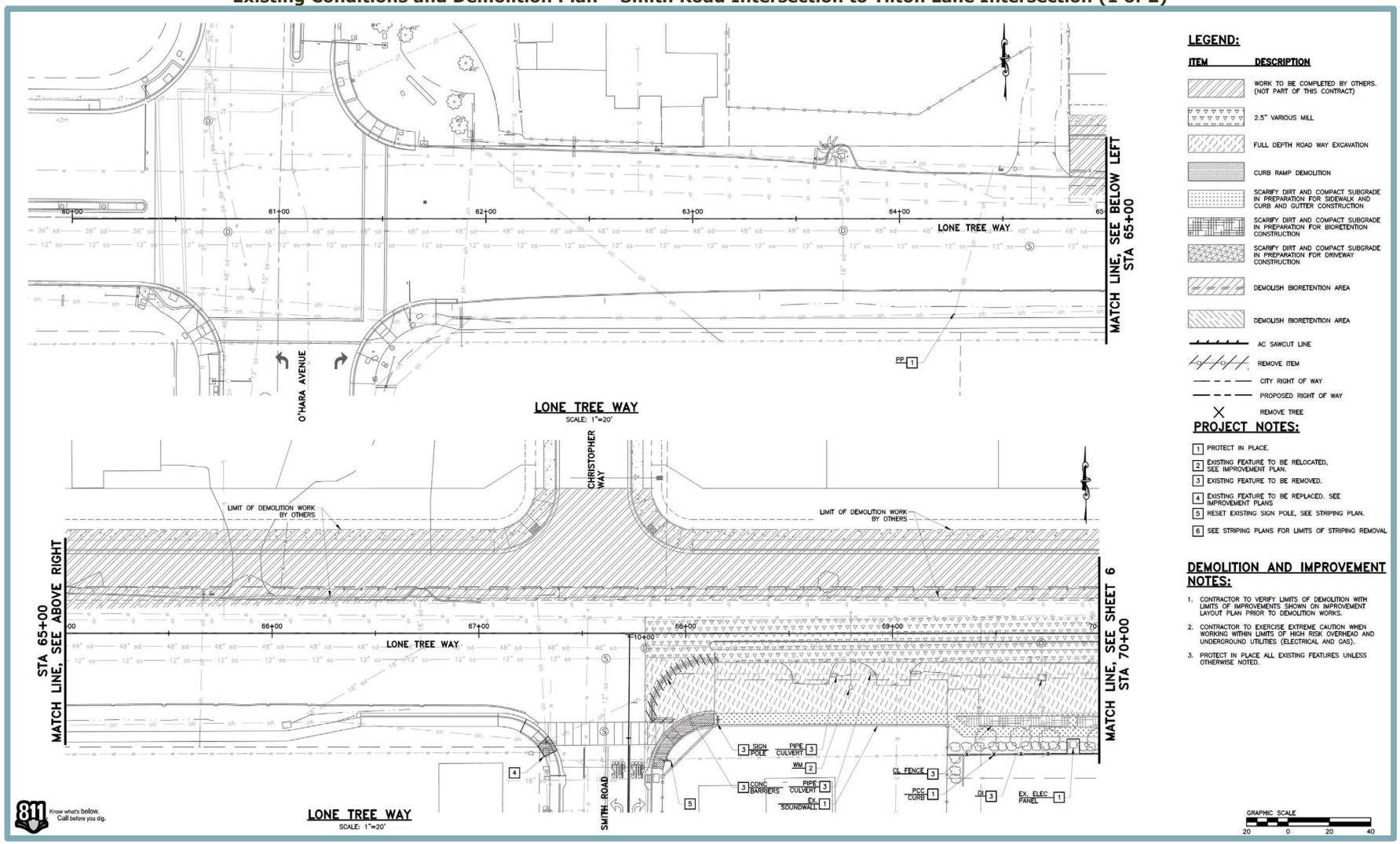


*Figure not OCR compatible.

Figure 4
Existing Conditions and Demolition Plan – Smith Road Intersection to Tilton Lane Intersection (2 of 2)

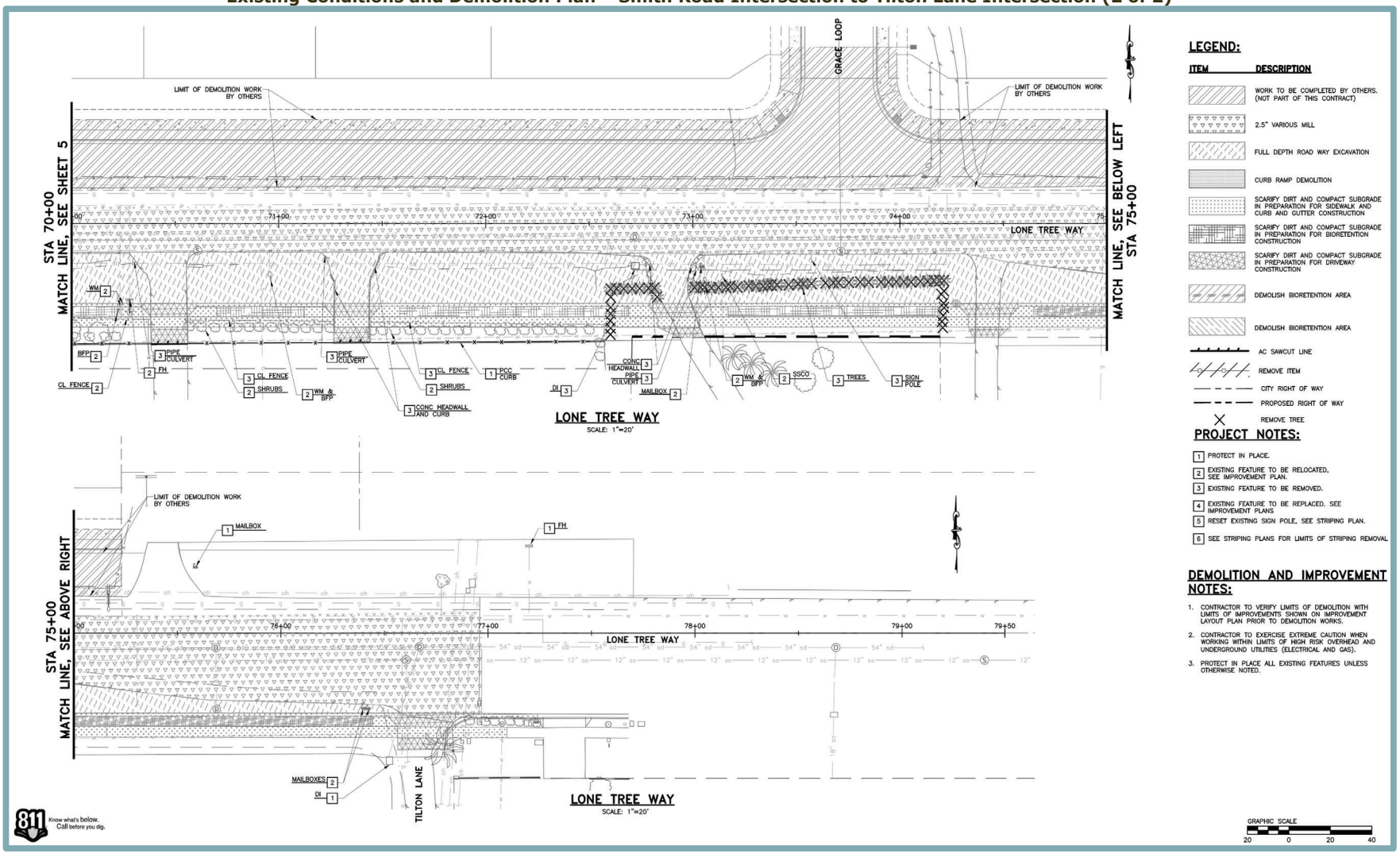


*Figure not OCR compatible.

Figure 5
Improvement Plan – Smith Road Intersection to Tilton Lane Intersection (1 of 2)

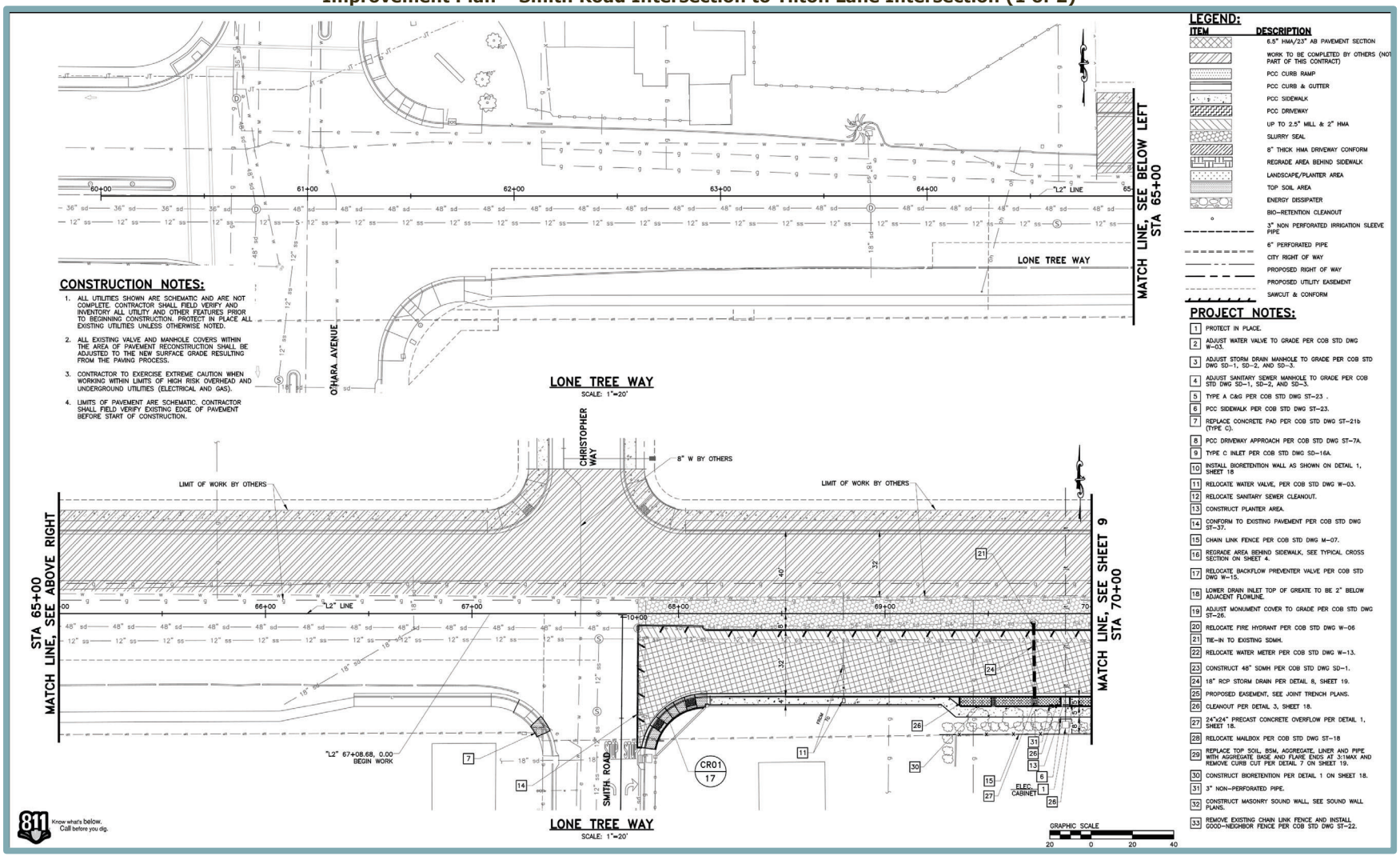


*Figure not OCR compatible.

Figure 6
Improvement Plan – Smith Road Intersection to Tilton Lane Intersection (2 of 2)

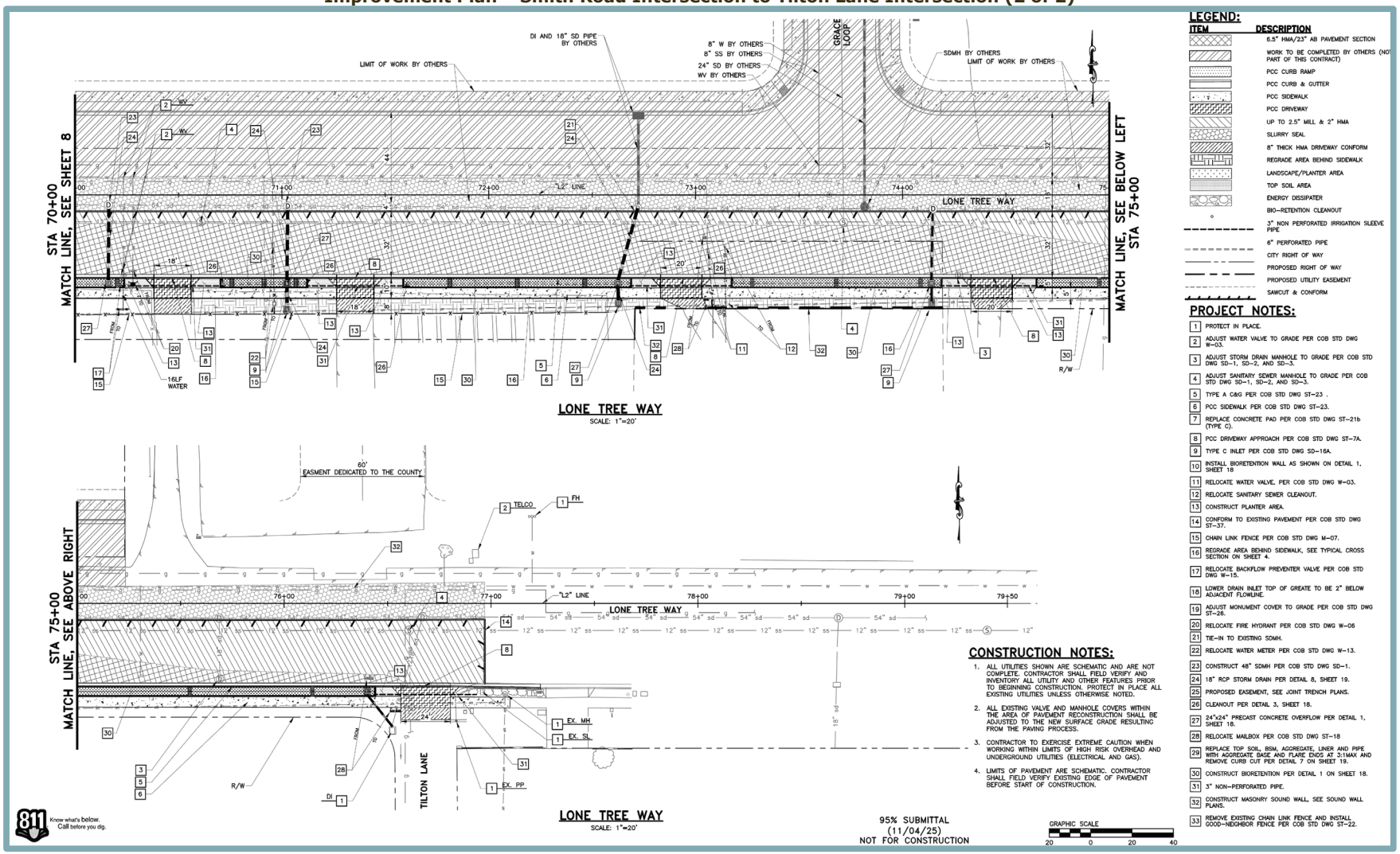


*Figure not OCR compatible.

Utility improvements included as part of the proposed project would consist of storm drainage and electrical improvements for roadway lighting. With respect to the currently proposed improvements, the proposed project would include the installation of five 18-inch concrete storm drainage pipes that would transect the Roadway Improvement Area from north to south (see Figure 7 and Figure 8). In addition, a six-inch perforated pipe would be installed along the southern boundary of the Roadway Improvement Area. A three-inch non-perforated pipe would also be installed along the southern boundary of the Roadway Improvement Area, directly south of the proposed six-inch perforated pipe. A bioretention area would be included within the southern portion of the Roadway Improvement Area.

Future potential roadway improvements are also being considered along two additional segments of Lone Tree Way, within the Tilton Lane to Adams Lane Improvement Area, as well as the Smith Road to O'Hara Avenue Improvement Area. Such improvements are anticipated to be similar to the improvements listed above; however, specific development proposals, site plans, construction activities, grading, or infrastructure improvements associated with the Future Potential Improvement Area have not been finalized at this time. Thus, with respect to all future potential roadway improvements, this IS/MND includes an analysis of the environmental impacts associated with reasonably foreseeable development of the Future Potential Improvement Area. The ultimate goal of the City is to have the same roadway design along Lone Tree Way from the O'Hara Avenue intersection to the Adams Lane intersection.

The analysis included in Sections I through XXI, below, applies to both the Roadway Improvement Area and the Future Potential Improvement Area, unless otherwise specified.

Discretionary Actions

The proposed project would require the following approvals from the City of Brentwood:

- Adoption of the IS/MND;
- Approval of a Mitigation Monitoring and Reporting Program; and
- Authorization to Construct.

Figure 7
Grading Plan - Smith Road Intersection to Tilton Lane Intersection (1 of 2)

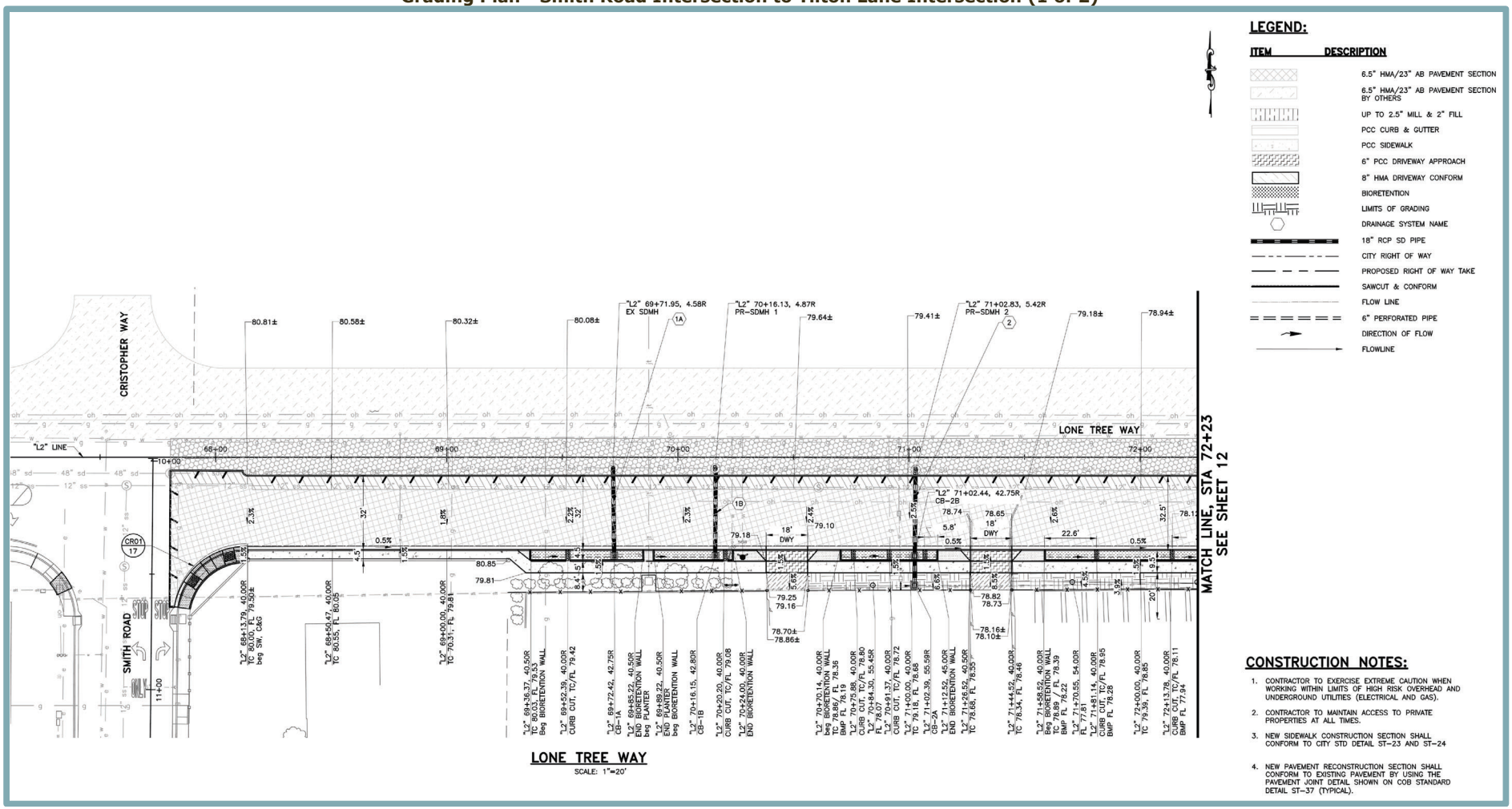


*Figure not OCR compatible.

Figure 8
Grading Plan - Smith Road Intersection to Tilton Lane Intersection (2 of 2)

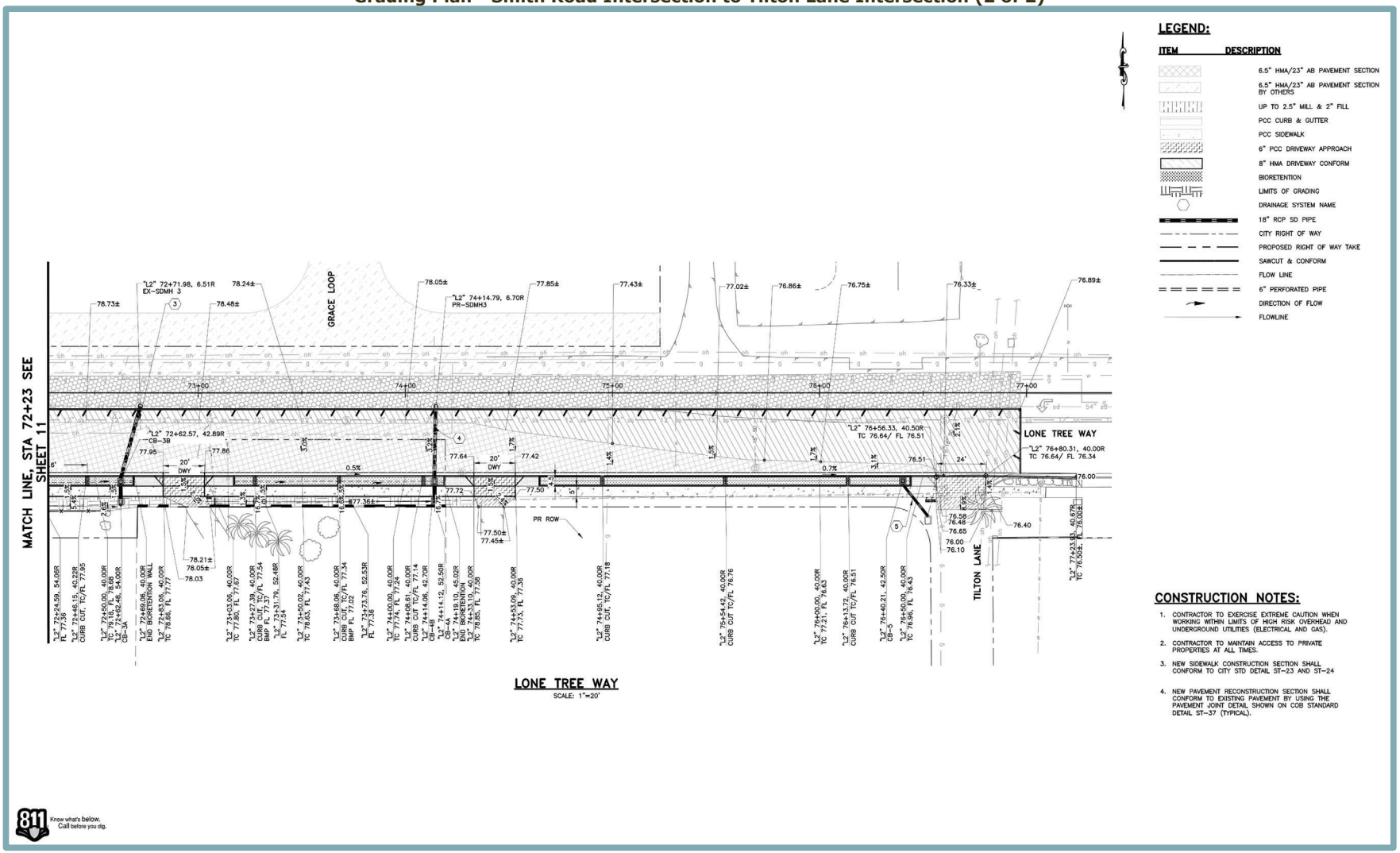


*Figure not OCR compatible.

G. ENVIRONMENTAL CHECKLIST

The following checklist contains the environmental checklist form presented in Appendix G of the CEQA Guidelines. The checklist form is used to describe the impacts of the proposed project. A discussion follows each environmental issue identified in the checklist. For this checklist, the following designations are used:

Potentially Significant Impact: An impact that could be significant, and for which no mitigation has been identified. If any potentially significant impacts are identified, an EIR must be prepared.

Less Than Significant with Mitigation Incorporated: An impact that requires mitigation to reduce the impact to a less-than-significant level.

Less-Than-Significant Impact: Any impact that would not be considered significant under CEQA relative to existing standards.

No Impact: The project would not have any impact.

I. AESTHETICS. *Would the project:*	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Have a substantial adverse effect on a scenic vista?	☐	☐	✖	☐
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?	☐	☐	✖	☐
c. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	✖	☐
d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	✖	☐

Discussion

The following discussion applies to both the Roadway Improvement Area and the Future Potential Improvement Area, unless otherwise specified.

a,b. Examples of typical scenic vistas include mountain ranges, ridgelines, or bodies of water as viewed from a highway, public space, or other area designated for the express purpose of viewing and sightseeing. The topography of the City's planning area is characterized by the relatively flat terrain of the Central Valley, with gently sloping hills in the western and southwestern portion of the area approaching the foothills of the Diablo Range.

The General Plan does not specifically identify any scenic vistas within the City. In addition, per the California Scenic Highway Mapping System, the project site is not located within the vicinity of an officially designated State Scenic Highway.[5] The project site is located approximately 1.52 miles east of SR 4. SR 4 is listed as an eligible State Scenic Highway; however, SR 4 is not officially designated. In addition, views of the project site from SR 4 are not currently available due to surrounding urban development. Furthermore, the proposed project would consist only of minor aesthetic changes to the project area, as the proposed project would include roadway widening and associated improvements, and the existing land surrounding the site would generally remain as is following implementation of the proposed project.

Based on the above, development of the proposed project would not have a substantial adverse effect on a scenic vista and would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State Scenic Highway. Thus, a ***less-than-significant*** impact would occur.

c. The project site is generally located within an urbanized area of the City. As such, the following discussion provides an analysis of the proposed project's conformance with applicable regulations governing scenic quality.

The proposed project would include the widening of the existing Lone Tree Way roadway, as well as various improvements, including sidewalk and bicycle lane improvements, and

[5] California Department of Transportation. *California Scenic Highway Mapping System*. Available at: https://experience.arcgis.com/experience/47e2009986264718a5a13a2c81382774. Accessed July 2026.

utility improvements. Future improvements to occur within the Future Potential Improvement Area are anticipated to be similar to the aforementioned improvements. All improvements associated with the proposed project would be required to be constructed in accordance with all City of Brentwood regulations governing scenic quality, such as the City of Brentwood Engineering Procedures Manual and the City of Brentwood Municipal Code, including but not limited to, Title 12, Streets, Sidewalks and Public Places. In addition, the proposed project would not include the construction of any buildings or structures that would otherwise conflict with any regulations governing scenic quality.

Furthermore, the proposed project is consistent with the circulation planning in the City of Brentwood General Plan and is identified in the CCTA East County Action Plan as a route of regional significance. The proposed project would be consistent with Action Roadways-19 of the Contra Costa East County Action Plan, which aims to implement roadway improvements along key routes of regional significance. Thus, impacts to scenic quality associated with buildout of the proposed roadway improvements have been previously analyzed in the General Plan EIR, and the proposed project would not result in any additional impacts beyond existing conditions, given the nature of the proposed improvements.

Given that the proposed project would be consistent with the generally urbanized nature of the area and comply with all applicable City guidelines, the proposed project would not conflict with applicable zoning and other regulations governing scenic quality, and a ***less-than-significant*** impact would occur.

d. The proposed project would include the implementation of electrical infrastructure for roadway lighting. However, as previously noted, the proposed improvements would occur along an existing roadway. As such, existing sources of light and glare are present within the project site. Current existing light sources include roadway lighting along the northern portion of Lone Tree Way, headlights from vehicles traveling along Lone Tree Way, and lights from the existing buildings in the project vicinity. Furthermore, improvements along Lone Tree Way have generally been anticipated by the City. Therefore, impacts associated with buildout of the proposed roadway improvements have been previously analyzed in the General Plan EIR. Given the existing sources of light and glare in the project vicinity, and the relatively minor nature of the proposed lighting improvements, the proposed project would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area. Therefore, a ***less-than-significant*** impact would occur.

II. AGRICULTURE AND FOREST RESOURCES. *Would the project:*	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
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?	☐	☐	☐	✖
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	✖
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	✖
d. Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	✖
e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	✖

Discussion

The following discussion applies to both the Roadway Improvement Area and the Future Potential Improvement Area, unless otherwise specified.

a,e. The project site is mainly developed as an existing roadway, with a portion of the Roadway Improvement Area consisting of a vacant, highly disturbed strip of land. According to the California Department of Conservation Farmland Mapping and Monitoring Program (FMMP), the project site and directly adjacent land is identified as Other Land and Urban and Built-Up Land.[6] Therefore, the proposed project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) to a non-agricultural use or otherwise result in the loss of Farmland, and ***no impact*** would occur.

b. The project site is located along an existing roadway within the City's ROW and does not have an established zoning designation. In addition, the project site is not under a Williamson Act contract.[7] Therefore, the proposed project would not conflict with existing zoning for agricultural use, or a Williamson Act contract, and ***no impact*** would occur.

c,d. The project site is not considered forest land (as defined in PRC Section 12220[g]), timberland (as defined by PRC Section 4526), and is not zoned Timberland Production (as defined by Government Code Section 51104[g]). Therefore, the proposed project would not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production, and the proposed project would not otherwise result in the loss of forest land or conversion of forest land to non-forest use. Thus, ***no impact*** would occur.

[6] California Department of Conservation. *California Important Farmland Finder.* Available at: https://maps.conservation.ca.gov/DLRP/CIFF/. Accessed May 2026.

[7] California Department of Conservation. *Williamson Act Enrollment Finder.* Available at: https://maps.conservation.ca.gov/dlrp/WilliamsonAct/App/. Accessed May 2026.

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

Discussion

The following discussion applies to both the Roadway Improvement Area and the Future Potential Improvement Area, unless otherwise specified.

a,b. The City of Brentwood is located in the San Francisco Bay Area Air Basin (SFBAAB), which is under the jurisdiction of the Bay Area Air District (BAAD). The SFBAAB area is currently designated as a nonattainment area for State and federal ozone, State and federal fine particulate matter 2.5 microns in diameter ($PM_{2.5}$), and State respirable particulate matter 10 microns in diameter (PM_{10}) ambient air quality standards (AAQS). The SFBAAB is designated attainment or unclassified for all other AAQS. It should be noted that on January 9, 2013, the U.S. Environmental Protection Agency (USEPA) issued a final rule to determine that the Bay Area has attained the 24-hour $PM_{2.5}$ federal AAQS. Nonetheless, the Bay Area must continue to be designated as nonattainment for the federal $PM_{2.5}$ AAQS until such time as the BAAD submits a redesignation request and a maintenance plan to the USEPA, and the USEPA approves the proposed redesignation. The USEPA has not yet approved a request for redesignation of the SFBAAB; therefore, the SFBAAB remains in nonattainment for 24-hour $PM_{2.5}$.

In compliance with regulations, due to the nonattainment designations of the area, the BAAD periodically prepares and updates air quality plans that provide emission reduction strategies to achieve attainment of the AAQS, including control strategies to reduce air pollutant emissions through regulations, incentive programs, public education, and partnerships with other agencies. The current air quality plans are prepared in cooperation with the Metropolitan Transportation Commission (MTC) and the Association of Bay Area Governments (ABAG).

The most recent federal ozone plan is the 2001 Ozone Attainment Plan, which was adopted on October 24, 2001 and approved by the California Air Resources Board (CARB) on November 1, 2001. The plan was submitted to the USEPA on November 30, 2001 for review and approval. The most recent State ozone plan is the 2017 Clean Air Plan, adopted on April 19, 2017. The 2017 Clean Air Plan was developed as a multi-pollutant plan that provides an integrated control strategy to reduce ozone, PM, toxic air contaminants (TACs), and greenhouse gases (GHGs). Although a plan for achieving the State PM_{10} standard is not required, the BAAD has prioritized measures to reduce PM in developing the control strategy for the 2017 Clean Air Plan. The control strategy serves as the backbone of the BAAD's current PM control program.

The aforementioned air quality plans contain mobile source controls, stationary source controls, and transportation control measures to be implemented in the region to attain the State and federal AAQS within the SFBAAB. Adopted BAAD rules and regulations, as well as the thresholds of significance, have been developed with the intent to ensure continued attainment of AAQS, or to work towards attainment of AAQS for which the area is currently designated nonattainment, consistent with applicable air quality plans. For development projects, BAAD establishes significance thresholds for emissions of the ozone precursors reactive organic gases (ROG) and oxides of nitrogen (NO_X), as well as for PM_{10}, and $PM_{2.5}$, expressed in pounds per day (lbs/day) and tons per year (tons/yr). The thresholds are listed in Table 1. Thus, by exceeding the BAAD's mass emission thresholds for construction and operational emissions of ROG, NO_X, or PM_{10}, a project would be considered to conflict with or obstruct implementation of the BAAD's air quality planning efforts.

Table 1
BAAD Thresholds of Significance

	Construction	Operational	
Pollutant	**Average Daily Emissions (lbs/day)**	**Average Daily Emissions (lbs/day)**	**Maximum Annual Emissions (tons/year)**
ROG	54	54	10
NOx	54	54	10
PM_{10} (exhaust)	82	82	15
$PM_{2.5}$ (exhaust)	54	54	10

Source: BAAD, Air Quality Guidelines, April 2023.

Particulate matter can be split into two categories: fugitive and exhaust. The BAAD thresholds of significance for exhaust are presented in Table 1. BAAD does not maintain quantitative thresholds for fugitive emissions of PM_{10} or $PM_{2.5}$, rather, BAAD requires all projects within the district's jurisdiction to implement Basic Construction Mitigation Measures (BCMMs) related to dust suppression.

As discussed above, the proposed project would involve improvements, such as widening, construction of a westbound turn lane, installation of sidewalks and bicycle lanes, installation of bioretention facilities, etc., to the segment of Lone Tree Way from the Smith Road intersection to the Tilton Lane intersection. In addition, future potential roadway improvements are also being considered along two additional segments of Lone Tree Way, within the Tilton Lane to Adams Lane Improvement Area, as well as the Smith Road to O'Hara Avenue Improvement Area. Future improvements to occur within the Future Potential Improvement Area are anticipated to be similar to the aforementioned improvements proposed within the Roadway Improvement Area, as the goal of the City would be to have the same roadway design along Lone Tree Way from the O'Hara Avenue intersection to the Adams Lane intersection. Thus, in order to provide a conservative analysis of the proposed project, emissions associated with full buildout of the Roadway Improvement Area and the Future Potential Improvement Area have been analyzed together below.

The proposed project's construction and operational emissions were quantified using the California Emissions Estimator Model (CalEEMod) software version 2022.1.1.44 web-based software, which is a statewide model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify air

quality emissions from land use projects. The model applies inherent default values for various land uses, including linear land uses such as the proposed road widening project. Where project-specific information is available, such information should be applied in the model. Accordingly, the proposed project's modeling assumes the following project and/or site-specific information:

- Construction would begin in April 2027 and occur over an approximately three-month period;
- Approximately 2,090 cubic yards (CY) of soil would be exported during grading; and
- Future improvements to occur within the Future Potential Improvement Area may require demolition of two structures located along the roadway; thus, removal of approximately 3,316 sf of building materials from the site has been assumed to occur during first phase of construction associated with the future improvements within the Future Potential Improvement Area.

The proposed project's estimated emissions associated with construction and operations and the project's contribution to cumulative air quality conditions are provided below. All CalEEMod results are included as Appendix A to this IS/MND.

Construction Emissions

According to the CalEEMod results, the proposed project would result in maximum unmitigated construction criteria air pollutant emissions as shown in Table 2. As shown in the table, the proposed project's maximum unmitigated construction emissions would be below the applicable thresholds of significance.

Table 2
Maximum Unmitigated Construction Emissions (lbs/day)

Pollutant	Proposed Project Emissions	Threshold of Significance	Exceeds Threshold?
ROG	3.55	54	**NO**
NO_X	32.45	54	**NO**
PM_{10}*	1.23	82	**NO**
$PM_{2.5}$*	1.13	54	**NO**

Note:
* Denotes emissions from exhaust only. BAAD has not adopted PM thresholds for fugitive emissions.

Source: CalEEmod, July 2026 (see Appendix A).

All projects within the jurisdiction of the BAAD are required to implement all of the BAAD's BCMMs, which would be required by the City as conditions of approval:

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
4. All vehicle speeds on unpaved roads shall be limited to 15 mph.

5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
6. All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph.
7. All trucks and equipment, including their tires, shall be washed off prior to leaving the site.
8. Unpaved roads providing access to sites located 100 feet or further from a paved road shall be treated with a six- to 12-inch layer of compacted layer of wood chips, mulch, or gravel.
9. Publicly visible signs shall be posted with the telephone number and name of the person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's General Air Pollution Complaints number shall also be visible to ensure compliance with applicable regulations.

Given the project's compliance with all BAAD's BCMM's and rules for construction, as listed above, construction-related emissions of criteria pollutants would likely be lower than the levels presented within Table 2.

Because the proposed project's estimated unmitigated construction emissions would be below the applicable BAAD thresholds of significance, construction of the proposed project would not violate any AAQS or contribute substantially to an existing or projected air quality violation, and a less-than-significant impact would occur associated with construction.

Operational Emissions

Considering the nature of the proposed roadway improvements project, new substantial criteria pollutant emissions would not be generated during project operations. Construction of the proposed project would not inherently increase traffic within the project vicinity because the proposed project does not include any development that would generate population growth in the area. Rather, the proposed project would allow for higher performance of the circulation system in the City of Brentwood, which would result in better circulation in the project area. Furthermore, the proposed project is consistent with the circulation planning in the City of Brentwood General Plan and City of Antioch General Plan, and the project route is identified in the CCTA East County Action Plan as a route of regional significance. Based on the proposed project's consistency with the regional plans outlined above, vehicular circulation associated with the proposed project have already been analyzed. Therefore, operation of the proposed project would not increase emissions, as the operational phase would not generate any new vehicle trips within the project area. The only sources of operational emissions for the proposed project would be off-gassing of asphalt. Such off-gassing would emit a negligible volume of criteria pollutants. Thus, operational emissions of NO_X, ROG, PM_{10}, and $PM_{2.5}$ would be well below the BAAD's applicable thresholds of significance.

Cumulative Emissions

Past, present, and future development projects contribute to the region's adverse air quality impacts on a cumulative basis. By nature, air pollution is largely a cumulative impact. A single project is not sufficient in size to, by itself, result in nonattainment of AAQS. Instead, a project's individual emissions contribute to existing cumulatively

significant adverse air quality impacts. If a project's contribution to the cumulative impact is considerable, then the project's impact on air quality would be considered significant. In developing thresholds of significance for air pollutants, BAAD considered the emission levels for which a project's individual emissions would be cumulatively considerable. The thresholds of significance presented in Table 1 represent the levels at which a project's individual emissions of criteria air pollutants or precursors would result in a cumulatively considerable contribution to the SFBAAB's existing air quality conditions. If a project exceeds the significance thresholds presented in Table 1, the proposed project's emissions would be cumulatively considerable, resulting in a significant adverse cumulative air quality impact to the region's existing air quality conditions.

Because the proposed project would result in emissions below the applicable thresholds of significance, construction and operations of the project would not be expected to result in a cumulatively considerable contribution to the region's existing air quality conditions.

Conclusion

As stated previously, the applicable regional air quality plans include the 2001 Ozone Attainment Plan and the 2017 Clean Air Plan. According to BAAD, if a project would not result in significant and unavoidable air quality impacts, after the application of all feasible mitigation, the project may be considered consistent with the air quality plans.

As discussed above, the proposed project would result in construction and operational emissions below the applicable thresholds of significance. Therefore, the proposed project would not conflict with or obstruct implementation of the applicable air quality plans, violate any air quality standards or contribute substantially to an existing or projected air quality violation, or result in a cumulatively considerable net increase in any criteria air pollutant, and impacts would be considered ***less than significant***.

c. Some land uses are considered more sensitive to air pollution than others, due to the types of population groups or activities involved. Heightened sensitivity may be caused by health problems, proximity to the emissions source, and/or duration of exposure to air pollutants. Children, pregnant women, the elderly, and those with existing health problems are especially vulnerable to the effects of air pollution. Accordingly, land uses that are typically considered to be sensitive receptors include residences, schools, childcare centers, playgrounds, retirement homes, convalescent homes, hospitals, and medical clinics. The nearest sensitive receptors to the Roadway Improvement Area are the two single-family residences and the Brentwood Muslim Community Center located south of the project site. With respect to the Future Potential Improvement Area, the nearest sensitive receptors include the single-family residence located south of the Smith Road to O'Hara Avenue Improvement Area and the two single-family residences located immediately south of the Tilton Lane to Adams Lane Improvement Area.

The major pollutant concentrations of concern are localized carbon monoxide (CO) emissions and TACs, which are addressed in further detail below.

Localized CO Emissions

Localized concentrations of CO are related to the levels of traffic and congestion along streets and at intersections. High levels of localized CO concentrations are only expected where background levels are high, and traffic volumes and congestion levels are high. Emissions of CO are of potential concern, as the pollutant is a toxic gas that results from

the incomplete combustion of carbon-containing fuels such as gasoline or wood. CO emissions are particularly related to traffic levels.

In order to provide a conservative indication of whether a project would result in localized CO emissions that would exceed the applicable threshold of significance, the BAAD has established screening criteria for localized CO emissions. According to BAAD, a proposed project would result in a less-than-significant impact related to localized CO emission concentrations if all of the following conditions are true for the project:

- The project is consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, regional transportation plan, and local congestion management agency plans;
- The project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour; and
- The project traffic would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, underpass, etc.).

New criteria pollutant emissions would not be generated during project operations because, as discussed above, construction of the proposed roadway extension would not inherently increase traffic within the project vicinity. The proposed project does not include any development that would generate population growth in the area; rather, the proposed project would improve circulation within the City. Therefore, the proposed project would not be expected to increase traffic beyond what is currently generated by the existing roadways in the project vicinity, and operation of the proposed project would not increase CO emissions, as the operational phase would not generate any new vehicle trips within the project area. Therefore, the proposed project would not conflict with an applicable congestion management program established by the county congestion management agency for designated roads or highways, regional transportation plan, and local congestion management agency plans. In addition, traffic associated with the proposed project would not increase traffic volumes at any affected intersection to more than 44,000 vehicles per hour. Furthermore, areas where vertical and/or horizontal mixing is limited due to tunnels, underpasses, or similar features do not exist in the project area.

Therefore, based on the BAAD's screening criteria for localized CO emissions, the proposed project would not be expected to result in substantial levels of localized CO at surrounding intersections or generate localized concentrations of CO that would exceed standards or cause health hazards.

TAC Emissions

Another category of environmental concern is TACs. The CARB's *Air Quality and Land Use Handbook: A Community Health Perspective* (Handbook) provides recommended setback distances for sensitive land uses from major sources of TACs, including, but not limited to, freeways and high traffic roads, distribution centers, and rail yards. The CARB has identified diesel particulate matter (DPM) from diesel-fueled engines as a TAC; thus, high volume freeways, stationary diesel engines, and facilities attracting heavy and constant diesel vehicle traffic are identified as having the highest associated health risks from DPM. Health risks associated with TACs are a function of both the concentration of emissions and the duration of exposure, where the higher the concentration and/or the

longer the period of time that a sensitive receptor is exposed to pollutant concentrations would correlate to a higher health risk.

The proposed project does not include any operations that would be considered a substantial source of TACs. Accordingly, operations of the proposed project would not expose sensitive receptors to excess concentrations of TACs.

Short-term, construction-related activities could result in the generation of TACs, specifically DPM, from on-road haul trucks and off-road equipment exhaust emissions. Construction is temporary and occurs over a relatively short duration in comparison to the operational lifetime of the proposed project. Health risks are typically associated with exposure to high concentrations of TACs over extended periods of time (e.g., 30 years or greater), whereas the construction period associated with the proposed project would likely be limited to approximately three months. Additionally, DPM is known to be highly dispersive, and only portions of the site would be disturbed at a time throughout the construction period. Operation of construction equipment would occur intermittently throughout the course of a day, rather than continuously at any one location on the project site. Operation of construction equipment within portions of the overall development area would allow for the dispersal of emissions, and would ensure that construction activity is not continuously occurring in the portions of the project site closest to existing receptors.

In addition, all construction equipment and operation thereof would be regulated per the CARB's In-Use Off-Road Diesel Vehicle Regulation. The In-Use Off-Road Diesel Vehicle Regulation includes emissions reducing requirements such as limitations on vehicle idling, disclosure, reporting, and labeling requirements for existing vehicles, as well as standards relating to fleet average emissions and the use of Best Available Control Technologies. Thus, on-site emissions of PM would be reduced, which would result in a proportional reduction in DPM emissions and exposure of nearby residences to DPM. Project construction would also be required to comply with all applicable BAAD rules and regulations, particularly associated with permitting of air pollutant sources.

Because construction equipment on-site would not operate for long periods of time and would be used at varying locations within the sites, associated emissions of DPM would not occur at the same location (or be evenly spread throughout the entire project site) for long periods of time. Due to the temporary nature of construction and the relatively short duration of potential exposure to associated emissions, the potential for any one sensitive receptor in the area to be exposed to concentrations of pollutants for a substantially extended period of time would be low. Therefore, construction associated with the proposed project would not be expected to expose any sensitive receptors to substantial pollutant concentrations.

Conclusion

Based on the above analysis, the proposed project would not be anticipated to result in the production of substantial concentrations of localized CO or TACs. Consequently, the proposed project would result in a ***less-than-significant*** impact related to the exposure of sensitive receptors to substantial pollutant concentrations.

d. Emissions such as those leading to odor have the potential to adversely affect people. Emissions of principal concern include emissions leading to odors, emission that have the potential to cause dust, or emissions considered to constitute air pollutants. Air pollutants

have been discussed in sections "a" through "d" above. Therefore, the following discussion focuses on emissions of odors and dust.

According to the BAAD's CEQA Air Quality Guidelines, the ability to detect odors varies considerably among the population and can be subjective.[8] Manifestations of a person's reaction to odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache). The presence of an odor impact is dependent on a number of variables including: the nature of the odor source; the frequency of odor generation; the intensity of odor; the distance of odor source to sensitive receptors; wind direction; and sensitivity of the receptor.

Due to the subjective nature of odor impacts, the number of variables that can influence the potential for an odor impact, and the variety of odor sources, determining the presence of a significant odor impact is difficult. Certain land uses such as wastewater treatment facilities, landfills, confined animal facilities, composting operations, food manufacturing plants, refineries, and chemical plants have the potential to generate considerable odors. The proposed project would not introduce any such land uses and is not located in the vicinity of any such existing or planned land uses.

Construction activities often include diesel-fueled equipment and heavy-duty trucks, which could create odors associated with diesel fumes that may be considered objectionable. However, construction activities would be temporary, and hours of operation for construction equipment would be restricted to daytime hours Monday through Friday per Section 9.32.050 of the City of Brentwood Municipal Code. Project construction would also be required to comply with all applicable BAAD rules and regulations, particularly associated with permitting of air pollutant sources. The aforementioned regulations would help to minimize emissions, including emissions leading to odors. Accordingly, substantial objectionable odors would not be expected to occur during construction activities.

It should be noted that BAAD regulates objectionable odors through Regulation 7, Odorous Substances, which does not become applicable until the Air Pollution Control Officer (APCO) receives odor complaints from ten or more complainants within a 90-day period. Once effective, Regulation 7 places general limitation on odorous substances and specific emission limitations on certain odorous compounds, which remain effective until such time that citizen complaints have been received by the APCO for one year. The limits of Regulation 7 become applicable again when the APCO receives odor complaints from five or more complainants within a 90-day period. Thus, although not anticipated, if odor complaints are made after the proposed project is developed, the BAAD would ensure that such odors are addressed and any potential odor effects are minimized or eliminated.

With respect to dust, as noted previously, all projects under the jurisdiction of BAAD are required to implement the BAAD's BCMMs. Such measures would act to reduce construction-related dust by ensuring that haul trucks with loose material are covered, reducing vehicle dirt track-out, and limiting vehicle speeds within project site, among other methods, which would ensure that construction of the proposed project does not result in substantial emissions of dust. Following project construction, vehicles operating within the

[8] Bay Area Air Quality Management District. *California Environmental Quality Act Air Quality Guidelines* [pg. 5-16]. April 2023.

project site would be limited to paved areas of the site. Thus, project operations would not include sources of dust that could adversely affect a substantial number of people.

For the aforementioned reasons, construction and operation of the proposed project would not result in emissions (such as those leading to odors) adversely affecting a substantial number of people, and a ***less-than-significant*** impact would result.

IV. BIOLOGICAL RESOURCES. *Would the project:*	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	✖	☐	☐
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or US 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 resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors, or impede the use of wildlife nursery sites?	☐	☐	✖	☐
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	✖	☐
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plan?	☐	✖	☐	☐

Discussion

The following discussion applies to both the Roadway Improvement Area and the Future Potential Improvement Area, unless otherwise specified.

a,f. Special-status species include those plant and wildlife species that have been formally listed, are proposed as endangered or threatened, or are candidates for such listing under the federal and State Endangered Species Acts. Both acts afford protection for listed and proposed species. In addition, CDFW Species of Special Concern, which are species that face extirpation in California if current population and habitat trends continue, U.S. Fish and Wildlife Service (USFWS) Birds of Conservation Concern, sensitive species included in USFWS Recovery Plans, and CDFW special-status invertebrates are all considered special-status species. Although CDFW Species of Special Concern generally do not have special legal status, they are given special consideration under CEQA. In addition to regulations for special-status species, most birds in the U.S., including non-status species, are protected by the Migratory Bird Treaty Act (MBTA) of 1918. Under the MBTA, destroying active nests, eggs, and young is illegal. In addition, plant species on California Native Plant Society (CNPS) Lists 1 and 2 are considered special-status plant species and are protected under CEQA.

The project site is located within the boundaries of the *East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan* (ECCCHCP/NCCP), which is intended to provide an effective framework to protect natural resources in the County, including special-status species. In February 2015, the East Contra Costa County Habitat Conservancy prepared an ECCCHCP/NCCP Assessment of Plan Effects on CEQA

Species.[9] The purpose of the assessment was to provide a programmatic, cumulative CEQA effects analysis for CEQA species not covered by the HCP/NCCP. The 2015 ECCCHCP/NCCP Assessment of Plan Effects on CEQA Species concluded that mitigation measures required in the ECCCHCP/NCCP also provide mitigation for non-covered species; therefore, projects consistent with the ECCCHCP/NCCP would have a less-than-significant impact on other potential special-status species.

According to the 2015 ECCCHCP/NCCP Assessment of Plan Effects on CEQA Species, for all but two of the potential special-status species addressed (Lime Ridge navarretia [*Navarretia gowenii*] and the Lime Ridge eriastrum [*Eriastrum ertterae]*), impacts would be less than significant under CEQA. Because of uncertainty regarding the distribution of the Lime Ridge navarretia and the Lime Ridge eriastrum, the 2015 ECCCHCP/NCCP Assessment of Plan Effects on CEQA Species concluded that a potentially significant impact could occur related to the two aforementioned species. Known occurrences of Lime Ridge navarretia or Lime Ridge eriastrum do not exists within the project site or immediate vicinity. Therefore, implementation of the proposed project would not impact the species. Based on the conclusions of the 2015 ECCCHCP/NCCP Assessment of Plan Effects on CEQA Species and the absence of the Lime Ridge navarretia and Lime Ridge eriatrum in the vicinity of the project site, the proposed project would have a less-than-significant impact on any potential special-status wildlife species and potential special-status plant species not covered by the ECCCHCP/NCCP that could occur within the vicinity of the project site because the proposed project would be required to comply with the ECCCHCP/NCCP.

In order to ascertain the potential for any special-status species to occur on the project site, a search for records of special-status species in the Brentwood U.S. Geological Survey (USGS) quadrangle and surrounding quadrangles was conducted through the California Natural Diversity Database (CNDDB). The intent of the database review was to identify documented occurrences of special-status species in the vicinity of the project area, to determine their locations relative to the project site, and to evaluate whether the site meets the habitat requirements of such species. Based on the results of the CNDDB search, several special-status plant and wildlife species are known to occur within the project region. However, the majority of species are not expected to occur on-site due to lack of suitable habitat(s). The potential for special-status species to occur within the Roadway Improvement Area and Future Potential Improvement Area is discussed in further detail below.

Roadway Improvement Area

The Roadway Improvement Area consists of the eastbound lane of the existing Lone Tree Way roadway, as well as a generally vacant strip of land with gravel, limited vegetation, utility poles, and bioretention areas. Landscaping trees are present along the northern property line of a single-family residence located at 7721 Lone Tree Way. The potential for special-status species to occur within the Roadway Improvement Area is discussed in further detail below.

[9] H.T. Harvey & Associates. *East Contra Costa County Habitat Conservation Plan – Assessment of Plan Effects on CEQA Species.* February 17, 2015.

Special-Status Plants

Based on the CNDDB search conducted for the project area, a total of 51 special-status plant species are known to occur within the Brentwood quadrangle and surrounding quadrangles.

Special-status plants generally occur in relatively undisturbed areas within vegetation communities such as vernal pools, marshes and swamps, chenopod scrub, seasonal wetlands, riparian scrub, chaparral, alkali playa, dunes, and areas with unusual soil characteristics. The Roadway Improvement Area does not contain any of the aforementioned key habitat requirements, and therefore the Roadway Improvement Area is not considered to be habitat for the species requiring such habitat. Nearby undeveloped land in the vicinity of the Roadway Improvement Area may meet some of the habitat requirements for 28 remaining species, which include the large-flowered fiddleneck, alkali milk-vetch, heartscale, brittlescale, lesser saltscale, big tarplant, Mount Diablo fairy-lantern, bristly sedge, Congdon's tarplant, Hoover's cryptantha, recurved larkspur, dwarf downingia, Mount Diablo buckwheat, Jepson's coyote-thistle, spiny-sepaled button-celery, diamond-petaled California poppy, San Joaquin spearscale, fragrant fritillary, Diablo helianthella, Brewer's westernflax, Contra Costa goldfields, showy golden madia, woodland woollythreads, shining navarretia, bearded popcorn flower, California alkaligrass, Keck's checkerbloom, and caper-fruited tropidocarpum. Of the aforementioned species, the big tarplant, Brewer's western flax, brittlescale, Diablo helianthella, recurved larkspur, San Joaquin spearscale, and showy golden madia are covered under the ECCCHCP/NCCP, and are listed as no-take species. However, none of the 28 above-listed plant species have been documented within the Roadway Improvement Area or immediate vicinity. Considering that none of the 28 above-listed plant species have been documented within the Roadway Improvement Area or immediate vicinity, and the area surrounding the Roadway Improvement Area is primarily developed land, the potential for the species to occur at the project site is unlikely.

In addition, the majority of the Roadway Improvement Area is currently developed with an existing roadway and the remaining portion of the Roadway Improvement Area consists of a highly disturbed strip of land directly south of the existing roadway. Considering the disturbed nature of the Roadway Improvement Area, special-status plant species are not anticipated to occur within the Roadway Improvement Area. Because special-status plants are not anticipated to occur within the Roadway Improvement Area, implementation of the proposed improvements within the Roadway Improvement Area would not result in adverse effects to special-status plants.

Special-Status Wildlife

Based on the CNDDB search conducted for the project area, a total of 42 special-status wildlife species are known to occur within the Brentwood quadrangle and surrounding quadrangles. However, as discussed above, the majority of the Roadway Improvement Area is currently developed with an existing roadway and the remaining portion of the Roadway Improvement Area consists of a highly disturbed strip of land directly south of the existing roadway. Thus, existing habitat within the project site is limited to scattered trees located along the existing roadway. Due to a lack of suitable habitat within the Roadway Improvement Area, 36 special-status species were eliminated from consideration of being present within the Roadway Improvement Area. The remaining six species that may occur within the trees on-site include the grasshopper sparrow (*Ammodramus savannarum*), loggerhead shrike (*Lanius ludovicianus*), northern harrier

(*Circus hudsonius*), Swainson's hawk (*Buteo swainsonii*), white-tailed kite (*Elanus caeruleus*), and golden eagle (*Aquila chrysaetos*), as well other nesting birds and raptors protected by the MBTA.

Of the aforementioned special-status species identified as having potential to occur within the Roadway Improvement Area, Swainson's hawk and golden eagle are protected under the ECCCHCP/NCCP. Given the highly disturbed nature of the Roadway Improvement Area, coverage under the ECCCHCP/NCCP would not be warranted. However, construction activities that adversely affect the nesting success of raptors and migratory birds (i.e., lead to the abandonment of active nests) or result in mortality of individual birds constitute a violation of State and federal laws. The existing trees located on-site and in the vicinity of the Roadway Improvement Area could provide nesting bird habitat. Given that the proposed project would include the removal of 54 existing landscaping trees along the northern property line of 7721 Lone Tree Way, if nesting birds were to be located within the trees proposed for removal, the proposed project could result in impacts to such species.

Future Potential Improvement Area

The Future Potential Improvement Area consists of two segments of the existing Lone Tree Way Roadway. The potential for special-status species to occur within the Future Potential Improvement Area is discussed in further detail below.

Special-Status Plants

As previously discussed, based on the CNDDB search conducted for the project area, a total of 51 special-status plant species are known to occur within the Brentwood quadrangle and surrounding quadrangles.

Similar to the Roadway Improvement Area, the Future Potential Improvement Area does not include any vernal pools, marshes and swamps, chenopod scrub, seasonal wetlands, riparian scrub, chaparral, alkali playa, dunes, and areas with unusual soil characteristics. Therefore, the Future Potential Improvement Area is not considered to be habitat for the species requiring such habitat.

Undeveloped lands to the north and south of the Future Potential Improvement Area may meet some of the habitat requirements for 28 remaining species, which include the large-flowered fiddleneck, alkali milk-vetch, heartscale, brittlescale, lesser saltscale, big tarplant, Mount Diablo fairy-lantern, bristly sedge, Congdon's tarplant, Hoover's cryptantha, recurved larkspur, dwarf downingia, Mount Diablo buckwheat, Jepson's coyote-thistle, spiny-sepaled button-celery, diamond-petaled California poppy, San Joaquin spearscale, fragrant fritillary, Diablo helianthella, Brewer's westernflax, Contra Costa goldfields, showy golden madia, woodland woollythreads, shining navarretia, bearded popcorn flower, California alkaligrass, Keck's checkerbloom, and caper-fruited tropidocarpum. Of the aforementioned species, the big tarplant, Brewer's western flax, brittlescale, Diablo helianthella, recurved larkspur, San Joaquin spearscale, and showy golden madia are covered under the ECCCHCP/NCCP, and are listed as no-take species. However, none of the 28 above-listed plant species have been documented within the Future Potential Improvement Area or immediate vicinity. In addition, the majority of the Future Potential Improvement Area is currently developed with an existing roadway, and based on aerial imagery of the project area, the undeveloped lands to the north and south of the Future Potential Improvement Area appear to be regularly mowed/disked for weed abatement.

Considering that none of the 28 above-listed plant species have been documented within the Future Potential Improvement Area or immediate vicinity, and the Future Potential Improvement Area and surrounding area are primarily either developed or regularly disturbed land, special-status plant species are not anticipated to occur within the Future Potential Improvement Area. Because special-status plants are not anticipated to occur within the Future Potential Improvement Area, implementation of the proposed project would not result in adverse effects to special-status plants.

Special-Status Wildlife

As noted above, based on the CNDDB search conducted for the project area, a total of 42 special-status wildlife species are known to occur within the Brentwood quadrangle and surrounding quadrangles. However, due to a lack of suitable habitat within the Future Potential Improvement Area, 35 special-status species were eliminated from consideration of being present within the Future Potential Improvement Area. For example, due to the lack of on-site aquatic resources, potential impacts as a result of the proposed project would not occur to special-status fish species, northwestern pond turtle, vernal pool fairy shrimp, vernal pool tadpole shrimp, or giant garter snake, as the project site does not contain requisite flowing waters or vernal pools. In addition, the Future Potential Improvement Area is primarily developed as an existing roadway. The nature of the disturbance limits the site's ability to contain habitat necessary for accommodating special-status wildlife species that depend on preserved foraging habitat, such as Crotch's bumble bee and western bumble bee. Furthermore, the Future Potential Improvement Area also lacks the necessary riparian habitat to support species such as song sparrow and tricolored blackbird. Therefore, although identified in the CNDDB query, the majority of the special-status species previously recorded in the area are not anticipated to be significantly impacted by the proposed project. Furthermore, the existing surrounding urban development further reduces the likelihood of wildlife species, including those with special status, to occur on-site, such as American badger. Nearby undeveloped parcels in the vicinity of the Future Potential Improvement Area could serve as potential habitat for special-status species. However, with the exception of the western burrowing owl, the CNDDB search results did not identify any previous occurrences of special-status species within such parcels. As such, the remaining seven species that may occur on-site include the western burrowing owl (*Athene cunicularia ssp. Hypugaea*), grasshopper sparrow (*Ammodramus savannarum*), loggerhead shrike (*Lanius ludovicianus*), northern harrier (*Circus hudsonius*), Swainson's hawk (*Buteo swainsonii*), white-tailed kite (*Elanus caeruleus*), and golden eagle (*Aquila chrysaetos*), as well other nesting birds and raptors protected by the MBTA. Of the aforementioned special-status species identified as having potential to occur within the Future Potential Improvement Area, the western burrowing owl, Swainson's Hawk, and golden eagle are covered species in the ECCCHCP/NCCP. Each species is discussed in further detail below.

Western Burrowing Owl

The western burrowing owl is a California Species of Special Concern and a candidate for listing under the California Endangered Species Act (CESA). Burrowing owl habitat is usually found in annual and perennial grasslands, characterized by low- growing vegetation. The primary habitat requirement for western burrowing owls is small mammal burrows that the species uses for nesting. Typically, the species uses abandoned ground squirrel burrows, but western burrowing owls have been known to dig burrows in softer soils. In urban areas, western burrowing owls may use pipes, culverts, and piles of material

as artificial burrows. Western burrowing owls breed semi-colonially from March through August.

The Future Potential Improvement Area is located within the identified range of western burrowing owl. The closest known CNDDB western burrowing owls record is approximately 0.03-mile south of the Future Potential Improvement Area. The Future Potential Improvement Area consists of an existing roadway; however, surrounding land immediately north and/or south of the Future Potential Improvement Area may provide potentially suitable habitat for western burrowing owl. Specific development proposals, site plans, construction activities, grading, or infrastructure improvements associated with the Future Potential Improvement Area have not been finalized at this time and, thus, such habitat could be disturbed as part of future improvements. Because suitable habitat for western burrowing owl exists in close proximity to the Future Potential Improvement Area, pre-construction surveys for burrowing owls would be required by the ECCCHCP/NCCP to confirm presence or absence of the species. If burrowing owls are present on or near the Future Potential Improvement Area, the proposed project could result in an adverse impact to the species.

Swainson's Hawk

The Swainson's hawk is a state-listed threatened species under the CESA. The Swainson's hawk is generally a summer visitor to California; however, a small population of Swainson's hawks remain residents in California year-round. The Swainson's hawk inhabits open to semi-open areas at low to middle elevations in valleys, dry meadows, foothills, and level uplands. The species nests almost exclusively in trees and will nest in almost any tree species that is at least 10 feet tall. Swainson's hawks also occasionally nest in shrubs, on telephone poles, and on the ground. Foraging habitats include alfalfa fields, fallow fields, beet, tomato, and other low-growing row or field crops, dry-land and irrigated pasture, and rice land when not flooded. In addition, agricultural practices allow for access to prey, and very likely increases foraging success of Swainson's hawks when farm equipment flushes prey during harvesting.

The closest CNDDB nesting record for the species is 0.54-mile southeast of the Future Potential Improvement Area. Swainson's hawks have not been detected nesting within the Future Potential Improvement Area. However, nearby trees in the project area could provide suitable nesting habitat. Pre-construction surveys for Swainson's hawk are required by the ECCCHCP/NCCP to confirm the presence or absence of the species. If the species were to occur on or near the Future Potential Improvement Area, implementation of the proposed project could result in direct take or nest abandonment, which would be considered an adverse impact.

White-Tailed Kite

The white-tailed kite is a State fully-protected species. The white-tailed kite is typically found foraging in grassland, marsh, or cultivated fields where dense-topped trees or shrubs are available for nesting and perching. The species nests in a wide variety of trees of moderate height and sometimes in tall bushes. Although the surrounding terrain may be semi-arid, kites often reside near water sources, where prey is more abundant. The particular characteristics of the nesting site for the species do not appear to be as important as the species proximity to a suitable food source.

The nearest CNDDB record for white-tailed kite is located 1.7 miles north of the Future Potential Improvement Area. However, trees on-site and in the vicinity of the Future Potential Improvement Area could provide suitable nesting habitat. Therefore, the proposed project has the potential to adversely impact white-tailed kite habitat.

Golden Eagle

The golden eagle is a State fully-protected species and is additionally protected under the Bald and Golden Eagle Protection Act. Golden eagles are found breeding throughout western North America in remote open habitats. Typical habitats in North America include savannah woodland habitats, grasslands, aspen parkland, high and low deserts, and in taiga and zone habitats. Golden eagles build nests in large trees, often eucalyptus, oaks, or conifers, or on large vertical cliffs. On rare occasions nests are found on the ground, especially in expansive prairie habitats where cliffs and/or trees are scarce. Golden eagle nest from January until September with peak nesting occurring in March through July.

Nearby trees in the vicinity of the Future Potential Improvement Area could provide suitable nesting habitat. Therefore, if golden eagle is present within or near the Future Potential Improvement Area, the proposed project could result in an adverse impact to the species. However, pre-construction surveys for golden eagle are required by the ECCCHCP/NCCP to confirm presence or absence of the species.

Nesting Raptors, Grasshopper Sparrow, Loggerhead Shrike, Northern Harrier, and Other Migratory Birds

Existing trees and shrubs located on-site and in the vicinity of the Future Potential Improvement Area could provide potential nesting habitat for raptors and nesting migratory birds, such as grasshopper sparrow, loggerhead shrike, and northern harrier, which are protected by the MBTA. Construction activities that adversely affect the nesting success of raptors and migratory birds (i.e., lead to the abandonment of active nests) or result in mortality of individual birds constitute a violation of State and federal laws. Thus, in the event that such species occur on-site during the breeding season, project construction activities could result in an adverse effect to species protected under the MBTA.

ECCCHCP/NCCP Requirements

Procedures for pre-construction surveys, best management practices, and construction monitoring, as well as Applicable Avoidance and Minimization Measures for species covered by the ECCCHCP/NCCP are outlined in Section 6.3.3 Surveys for Construction Monitoring and Section 6.4.3 Species-Level Measures of the ECCCHCP/NCCP.[10] Any future improvement activities within the Future Potential Improvement Area would be required to comply with all ECCCHCP/NCCP requirements, including conducting pre-construction surveys prior to ground disturbance activities to establish whether nests or burrows of western burrowing owl, Swainson's hawk, and golden eagle are occupied. If nests or burrows are occupied, the project would be required to comply with the minimization requirements and construction monitoring in the ECCCHCP/NCCP. In compliance with the ECCCHCP/NCCP, future improvement activities would also be required to follow Applicable Avoidance and Minimization Measures if nests are located within 1,000 feet of the Future Potential Improvement Area.

[10] East Contra Costa County Habitat Conservation Plan Association. *Final East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan.* October 2006.

All birds covered by the ECCCHCP/NCCP are also considered migratory birds and subject to the prohibitions of the MBTA. Therefore, actions conducted under the ECCCHCP/NCCP comply with the provisions of the MBTA. Conservation Measure 1.12 Implement Best Management Practices for Rural Road Maintenance and Conservation Measure 1.14 Design Requirements for Covered Roads Outside of the UDA of the ECCCHCP/NCCP incorporate avoidance guidelines for compliance with the MBTA. Because the future improvement activities would comply with all ECCCHCP/NCCP requirements, such activities would also comply with the provisions of the MBTA.

Furthermore, the future improvement activities would be subject to pay all applicable fees according to the Fee Zone Map of the ECCCHCP/NCCP prior to construction. The contractor would be required to pay the appropriate fees based on the applicable fee calculator at the time of development.

Conclusion

Based on the above, the potential exists for special-status species to occur on-site. Thus, the proposed project could have an adverse effect, either directly or through habitat modifications, on species identified as special-status species in local or regional plans, policies, or regulations, or by the CDFW or the USFWS, and a ***potentially significant*** impact would result.

Mitigation Measure(s)

Mitigation Measures IV-1 and IV-2 shall be implemented for all applicable project-related activities occurring within the Future Potential Improvement Area during the time of future improvements. Mitigation Measure IV-2 shall be implemented for all applicable project-related activities occurring within the Roadway Improvement Area. Implementation of the following mitigation measures would reduce the above potential impact to a *less-than-significant* level.

Future Potential Improvement Area

IV-1. *Prior to the issuance of grading or construction permits for future potential improvements along Lone Tree Way from the O'Hara Lane intersection to the Smith Road intersection and from the Tilton Lane intersection to the Adams Lane intersection, the City shall submit an application and obtain coverage under the ECCCHCP/NCCP. The application shall include payment of the applicable ECCCHCP/NCCP per- acre fee in effect for Zone I in compliance with Section 16.168.070 of the Brentwood Municipal Code. The City shall submit a construction monitoring report to the ECCC Habitat Conservancy for review and approval. The Certificate of Coverage shall confirm the fee has been received and that other ECCCHCP/NCCP requirements have been met or shall be performed, and shall authorize take of covered species.*

Roadway Improvement Area and Future Potential Improvement Area

IV-2. *If project activities commence during the avian breeding season (February 1 through August 31), a qualified biologist shall conduct a pre-construction nesting bird survey within seven days prior to initiation of project activities. The survey area shall include suitable nesting habitat for raptors and migratory birds, including grasshopper sparrow, loggerhead shrike, and northern harrier, within 500 feet of the project boundary (inaccessible areas*

outside of the project area can be surveyed from the site or from public roads using binoculars or spotting scopes). Pre-construction surveys are not required in areas where project activities have been continuous since prior to February 1, as determined by a qualified biologist. Areas that have been inactive for more than 14 days during the avian breeding season must be re-surveyed prior to resumption of project activities. Results of the preconstruction survey shall be submitted to the City of Brentwood Community Development Department for review. If active nests are not identified, further mitigation is not required. If active nests are identified, the following measure shall be implemented:

- *A species-specific buffer shall be established by a qualified biologist around active nests, and construction activities shall not occur within the buffer until a qualified biologist has determined that the nest is no longer active (i.e., the nestlings have fledged and are no longer reliant on the nest, or the nest has failed). Encroachment into the buffer may occur at the discretion of a qualified biologist. Any encroachment into the buffer shall be monitored by a qualified biologist to determine whether nesting birds are being impacted.*

b,c. Riparian habitats are described as the land and vegetation that is situated along the bank of a stream or river. Wetlands are areas where water covers the soil, or is present either at or near the surface of the soil all year or for varying periods of time during the year. Vernal pools are seasonal depressional wetlands that are covered by shallow water for variable periods from winter to spring, but may be completely dry for most of the summer and fall. Vernal pools range in size from small puddles to shallow lakes, and are usually found in gently sloping plains of grasslands.

The project site does not contain riparian habitat or other sensitive natural communities, including wetlands. Therefore, the proposed project would not have a substantial adverse effect on riparian habitat, sensitive natural communities, or federally protected wetlands, and a ***less-than-significant impact*** would occur.

d. Habitat loss, fragmentation, and degradation have the potential to alter the use and viability of wildlife movement corridors (i.e., linear habitats that naturally connect and provide passage between two or more otherwise distinct larger habitats or habitat fragments). The suitability of a habitat as a wildlife movement corridor is related to, among other factors, the habitat corridor's dimensions (length and width), topography, vegetation, exposure to human influence, and the species in question.

The proposed project would include improvements to the existing Lone Tree Way roadway. Final buildout of the Roadway Improvement Area would consist of two eastbound through lanes, a westbound turn-lane to provide access onto Smith Road to Isaac R. Montañez Elementary School, a Class IV bicycle lane, a permanent sidewalk along the southern portion of the road, six-foot sound walls along the northern property line of the residential uses located at 2410 Lone Tree Way and 7721 Lone Tree Way, and associated utilities, including the construction of bioretention facilities, a drainage structure, fiber optic conduit, and streetlights. Future potential improvements to occur within the Future Potential Improvement Area are anticipated to be similar to the aforementioned improvements. Given the developed nature of the site with an existing roadway, the site does not currently serve as a migration corridor for wildlife. In addition,

the urbanized nature of the area, with development located to the north and south of the project site, currently restricts wildlife movement. As such, the proposed project would not further restrict wildlife movement within the project site.

In addition, the ECCCHCP/NCCP shows movement corridors for San Joaquin kit fox west of the City of Brentwood. The nearest San Joaquin kit fox movement corridor is approximately four miles southwest of the project site. The project site is located in close proximity to SR 4 to the west and is generally surrounded by existing urban development; such features already restrict wildlife movement through the site. Given the distance to the known movement corridor, and the developed nature of the site, impacts related to the movement of any resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors, or impeding the use of wildlife nursery sites would be ***less than significant***.

e. Currently, various trees associated with surrounding development to the north and south are located within the vicinity of the project site. In addition, landscaping trees are located along the northern property line of the single-family residence at 7721 Lone Tree Way within the Roadway Improvement Area. The proposed project would include the removal of 54 landscaping trees within the Roadway Improvement Area. However, the City of Brentwood has not adopted a tree preservation ordinance that would govern the project site. Therefore, the proposed project would not conflict with local policies or ordinances protecting biological resources, and a ***less-than-significant*** impact would occur.

V. CULTURAL RESOURCES. *Would the project:*	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	☐	☐	✖	☐
b. Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to Section 15064.5?	☐	✖	☐	☐
c. Disturb any human remains, including those interred outside of dedicated cemeteries.	☐	✖	☐	☐

Discussion

The following discussion is primarily based on a Cultural Resources Study prepared for the proposed project by Tom Origer & Associates (Origer). [11] The discussion applies to both the Roadway Improvement Area and the Future Potential Improvement Area, unless otherwise specified.

a. Historical resources are features that are associated with the lives of historically important persons and/or significant events, that embody the distinctive characteristics of a type, period, region or method of construction, or that have yielded, or may be likely to yield, information important to the pre-history or history of the local area, California, or the nation. Examples of typical historical resources include, but are not limited to, buildings, farmsteads, rail lines, bridges, and trash scatters containing objects such as colored glass and ceramics.

The Cultural Resources Study prepared for the proposed project included a review of previous studies and archival research, as well as a records search of the California Historical Resources Information System (CHRIS), which was completed by the Northwest Information Center (NWIC) on May 20, 2026, to identify any previously recorded cultural resources on-site and within a 0.25-mile radius of the project site. In addition, a field survey was conducted on June 5, 2026. The results of the Cultural Resources Study for the Roadway Improvement Area and the Future Potential Improvement Area are discussed in further detail below.

Roadway Improvement Area

According to the CHRIS records search results, the Roadway Improvement Area has been subject to one previous cultural study, and nine additional studies have been conducted within 0.25-mile of the Roadway Improvement Area. Based on the previous studies conducted for the project area, resources have not been recorded within the Roadway Improvement Area. Two resources have been recorded within 0.25-mile of the Roadway Improvement Area, a barn and 1930s ranch house complexes. However, none of the recorded buildings are extant.

Based on a review of historical maps and aerial photos, the Cultural Resources Study determined that buildings or structures are not present on-site. The NWIC confirmed that the Roadway Improvement Area does not contain any recorded historic buildings or structures on any list of historic resources. In addition, areas in the immediate vicinity of the Roadway Improvement Area have been subject to ground disturbance associated with

[11] Tom Origer & Associates. *Cultural Resources Study for the Lone Tree Way Roadway Improvements Project-Brentwood, Contra Costa County, California.* June 16, 2026.

previous development of Lone Tree Way. Thus, Cultural Resources Study concluded that the Roadway Improvement Area has a low sensitivity for buried historic-period archaeological deposits.

Future Potential Improvement Area

According to the CHRIS records search results, the Future Potential Improvement Area has been subject to one previous cultural study, and nine additional studies have been conducted within 0.25-mile of the Future Potential Improvement Area. Based on the previous studies conducted for the project area, resources have not been recorded within the Future Potential Improvement Area. Two resources have been recorded within 0.25-mile of the Future Potential Improvement Area, a barn and 1930s ranch house complexes. However, none of the recorded buildings are extant.

Based on a review of historical maps and aerial photos, the Cultural Resources Study determined that buildings or structures are not present on-site. However, the Cultural Resources Study noted that two residences, located at 7960 Lone Tree Way and 7510 Lone Tree Way, are very near to the Future Potential Improvement Area. Such residences could be disturbed as part of the future roadway improvements. The Cultural Resources Study noted that the nearby residences would meet the age threshold (50 years) for consideration as historic resources. In order to determine whether the structures are historically significant, the Cultural Resources Study included an evaluation using the National Register of Historic Places (NRHP) and the California Register of Historic Resources (CRHR) eligibility criteria.

The NRHP and CRHR eligibility criteria include the following:

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

In addition, the resources must retain integrity. Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association. The resource must be at least 50 years old, except in exceptional circumstances.

The eligibility of the two residences located at 7960 Lone Tree Way and 7510 Lone Tree Way to be considered a significant historical resource, pursuant to NRHP/CRHR criteria, is discussed in further detail below.

The residence at 7960 Lone Tree Way is located on the northwest corner of the Anderson Lane intersection. Origer noted that the house and garage associated with the property were present by 1939. A review of aerial photos suggested the property was used for agricultural purposes, as an orchard was present. While agriculture is an important theme to the Brentwood area, the orchard does not currently exist. The buildings alone cannot convey their association with agriculture and, therefore, would not meet Criterion 1/A of

the NRHP/CRHR. In addition, Origer determined that it is unlikely that the property would meet Criterion 2/B of the NRHP/CRHR, as the property is not likely to be associated with historically important people. The buildings on the property are not architecturally distinctive, and the house appears to have undergone multiple modifications. Thus, the two buildings would not meet Criterion 3/C. Lastly, buildings generally do not meet Criterion 4/D, as Criterion 4/D pertains to the potential for a resource to provide important data. The residence and associated garage at 7960 Lone Tree Way do not appear to contain important data.

The residence at 7510 Lone Tree Way is located near the northeast corner of the intersection with O'Hara Avenue. Origer noted that the house and garage appear to have been constructed by 1949. A review of aerial photos did not provide any evidence that the property was used for agricultural purposes. Rather, the property was only used as a single-family residence. Origer determined that it is unlikely that property would meet Criteria 1/A or 2/B of the NRHP/CRHR, as the property does not appear to be associated with an important historical theme and is unlikely to be associated with historically important people. The house is not architecturally distinctive and appears to have undergone multiple modifications. As such, the house would not meet Criterion 3/C. Lastly, buildings generally do not meet Criterion 4/D, as Criterion 4/D pertains to the potential for a resource to provide important data. The residence does not appear to contain important data.

Based on the above, the buildings would not meet the criteria to be eligible for inclusion on the CRHR and, thus, would not be considered historically significant. The NWIC confirmed that the Future Potential Improvement Area does not contain any recorded historic buildings or structures on any list of historic resources. Thus, Cultural Resources Study concluded that the existing nearby structures are not considered historic. Furthermore, the report concluded that the Future Potential Improvement Area has a low sensitivity for buried historic-period archaeological deposits.

Conclusion

Based on the above, the proposed project would not cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5, and a ***less-than-significant*** impact would occur.

b,c. As noted above, a record search of the CHRIS was conducted as part of the Cultural Resources Study and, based on the previous studies conducted for the project area, resources have not been previously recorded within the project site. In addition, the field survey conducted on June 5, 2026, did not identify any previously unrecorded archeological resources on-site. Furthermore, a records search of the Sacred Lands File by the Native American Heritage Commission (NAHC) on May 6, 2026, produced negative results.

The Cultural Resources Study noted that the project site is located on alluvial deposits that were formed during the Holocene Epoch. On-site soil is comprised of the Dehli and Rincon series, which consist of excessively draining sandy soils and well-draining clay loams, respectively. Historically, Dehli and Rincon soils were primarily used for agricultural purposes. Based on a review of historical literature and maps, the NWIC determined that the potential for unrecorded archaeological resources to occur on the project site is low. In addition, areas in the immediate vicinity of the project site have been subject to ground disturbance associated with previous development of Lone Tree Way and, thus, the

possibility for cultural resources to be present on-site is low. Nonetheless, unknown archaeological resources, including human remains, have the potential to exist on-site. Thus, ground-disturbing activity related to project construction could encounter such resources and the proposed project could cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5 and/or disturb human remains, including those interred outside of dedicated cemeteries during construction. Consequently, impacts could be considered ***potentially significant***.

Mitigation Measure(s)

The following mitigation measure shall be implemented for all applicable project-related activities occurring within the Roadway Improvement Area, as well as within the Future Potential Improvement Area during the time of future improvements. Implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level.

Roadway Improvement Area and Future Potential Improvement Area

V-1. *Prior to the issuance of a grading permit, the grading plan shall include a requirement (via notation) indicating that if cultural resources or human remains are encountered during site grading or other site work, all such work shall be halted immediately within 100 feet of the area of discovery and the contractor shall immediately notify the City of the discovery. In such case, the City shall retain the services of a qualified archaeologist for the purpose of recording, protecting, or curating the discovery as appropriate. The archaeologist shall be required to submit to the City for review and approval a report of the findings and method of curation or protection of the resources. Further grading or site work within the vicinity of the discovery, as identified by the qualified archaeologist, shall not be allowed until the preceding steps have been taken. Please see also Mitigation Measures XVIII-1 and XVIII-2.*

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

Discussion

The following discussion applies to both the Roadway Improvement Area and the Future Potential Improvement Area.

a,b. Relevant regulations pertaining to energy use in the State include the 2025 CALGreen Code and the Building Energy Efficiency Standards. CALGreen applies to the planning, design, operation, construction, use, and occupancy of every newly constructed building or structure on a statewide basis,[12] which includes additions and alterations of nonresidential structures, and all occupancies. Additionally, the 2025 Building Energy Efficiency Standards are applicable to all residential and nonresidential buildings. However, as discussed above, the proposed project would not include construction or development of buildings or structures, as the proposed project would involve the widening of Lone Tree Way and associated improvements. Therefore, because the proposed project would not involve the construction or operation of any buildings or structures, the CALGreen Code and the Building Energy Efficiency Standards would not be applicable to the proposed project.

The following provides a discussion regarding the proposed project's potential effects related to energy demand during construction and operation.

Construction Energy Use

Construction of the proposed project would involve on-site energy demand and consumption related to the use of oil in the form of gasoline and diesel fuel for construction worker vehicle trips, hauling and material delivery truck trips, and operation of off-road construction equipment. In addition, diesel-fueled portable generators may be necessary to provide additional electricity demands for temporary on-site lighting, welding, and for supplying energy to areas of the site where energy supply cannot be met via a hookup to the existing electricity grid. Project construction would not involve the use of natural gas appliances or equipment.

All construction equipment and operation thereof would be regulated per the CARB In-Use Off-Road Diesel Vehicle Regulation, which is intended to reduce emissions from in-use, off-road, heavy-duty diesel vehicles in California by imposing limits on idling, requiring all vehicles to be reported to CARB, restricting the addition of older vehicles into fleets, and requiring fleets to reduce emissions by retiring, replacing, or repowering older engines, or installing exhaust retrofits. The In-Use Off-Road Diesel Vehicle Regulation would subsequently help to improve fuel efficiency and reduce GHG emissions by requiring construction vehicles to become cleaner through the use of renewable energy

[12] California Department of Housing and Community Development. *CalGreen Application and Scope*. Available at https://www.hcd.ca.gov/building-standards/calgreen/application. Accessed July 2026.

resources. Technological innovations and more stringent standards are being researched, such as multi-function equipment, hybrid equipment, or other design changes, which could help to reduce demand on oil and emissions associated with construction.

Based on the above, the temporary increase in energy use occurring during construction of the proposed project would not result in a significant increase in peak or base demands or require additional capacity from local or regional energy supplies. In addition, the proposed project would be required to comply with all applicable regulations related to energy conservation and fuel efficiency, which would help to reduce the temporary increase in demand.

Operational Energy Use

Following implementation of the proposed project, PG&E would provide electricity to the project site. Energy use associated with operation of the roadway would consist solely of electricity required for roadway lighting and transportation energy use associated with vehicle trips along the roadway. Electricity supplied to the project by PG&E would comply with the State's Renewable Portfolio Standard (RPS), which requires investor-owned utilities, electric service providers, and community choice aggregators to increase procurement from eligible renewable energy resources to 60 percent by 2030. Thus, a portion of the electricity used to power the roadway lighting would originate from renewable sources.

The proposed project would result in transportation energy use associated with vehicles travelling along the roadway. However, as discussed in Section XVII, Transportation, of this IS/MND, the proposed project would not induce additional vehicle travel in the project area. Rather, the proposed project would allow for a higher performance of the circulation system and would facilitate better circulation in the project area. As such, energy consumption associated with vehicles travelling along the proposed roadway would not be considered wasteful, inefficient or unnecessary.

Conclusion

Based on the above, construction and operation of the proposed project would not result in wasteful, inefficient, or unnecessary consumption of energy resources or conflict with or obstruct a State or local plan for renewable energy or energy efficiency. Thus, a ***less-than-significant*** impact would occur.

VII. GEOLOGY AND SOILS. *Would the project:*	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Directly or indirectly cause 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 based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	✖	☐
ii. Strong seismic ground shaking?	☐	☐	✖	☐
iii. Seismic-related ground failure, including liquefaction?	☐	✖	☐	☐
iv. Landslides?	☐	✖	☐	☐
b. Result in substantial soil erosion or the loss of topsoil?	☐	☐	✖	☐
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	✖	☐	☐
d. Be located on expansive soil, as defined in Table 18-1B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	✖	☐	☐
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	✖
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	✖	☐	☐

Discussion

The following discussion applies to both the Roadway Improvement Area and the Future Potential Improvement Area, unless otherwise specified.

ai-aii. According to the City of Brentwood General Plan EIR, the City's planning area does not contain any active or potentially active faults. The nearest active faults to the project site are the Greenville Fault and the Concord-Green Valley Fault located approximately 10 miles and 15.6 miles from the project site, respectively. Known active or potentially active faults do not exist on the project site. In addition, the project site is not located within a State-designated Alquist-Priolo Fault Zone.[13] Thus, the potential for fault rupture risk at the project site is relatively low.

An earthquake of moderate to high magnitude generated by the above faults could cause considerable ground shaking at the project site. However, the proposed project would not include the construction of any buildings. The proposed project would be limited to roadway widening and associated improvements, all of which would be properly engineered in accordance with State and local standards. Proper engineering of the proposed improvements would ensure that seismically-related effects would not cause adverse impacts to the project site. Therefore, a ***less-than-significant*** impact would occur related to seismic surface rupture and strong seismic ground shaking.

[13] U.S. Department of Conservation. *Earthquake Zones of Required Investigation.* Available at: https://maps.conservation.ca.gov/cgs/EQZApp/app/. Accessed July 2026.

aiii,aiv,
c,d.

Liquefaction

Liquefaction is a phenomenon in which saturated, cohesionless soils are subject to a temporary total loss of shear strength due to pore pressure build-up associated with seismic events. According to the California Geological Survey (CGS), the Roadway Improvement Area is not located within a liquefaction zone.[14] Thus, the risk of liquefaction at the Roadway Improvement Area would be low. However, the eastern portion of the Tilton Lane to Adams Lane Improvement Area is located within a liquefaction zone. As such, potential hazards relating to liquefaction could occur within the Future Potential Improvement Area, and preparation of a site-specific geotechnical evaluation analyzing liquefaction potential would be necessary prior to development of the Future Potential Improvement Area. Without completion of a design-level geotechnical evaluation and implementation of relevant recommendations therein, the proposed project could expose people to potential risk of loss, injury, or death by the project's location on an unstable geologic or soil unit.

Landslides

Seismically-induced landslides are triggered by earthquake ground shaking. The risk of landslides is greatest in the late winter when groundwater levels are highest and hillside colluvium is saturated. The Seismic Hazards Mapping Act (SHMA) of 1990 (PRC, Chapter 7.8, Section 2690-2699.6) directs the CGS to identify and map areas prone to earthquake-induced landslides. According to the CGS, the project site is not located within a Seismic Hazard Zone associated with earthquake-induced landslides.[15] Additionally, the project site does not feature varying degrees of slope commonly associated with areas at risk for earthquake-induced landslides. Therefore, landslides would not pose a risk to the proposed project.

Lateral Spreading

Lateral spreading is a phenomenon in which a soil mass moves towards a free face, such as an excavation or road cut, or down a gentle slope. The project site does not contain any open faces that would be considered susceptible to lateral spreading. As previously discussed, the Future Potential Improvement Area has the potential for liquefaction. However, because the project site is relatively level and free faces do not exist in the project vicinity, the potential for lateral spread within both the Roadway Improvement Area and Future Potential Improvement Area is low.

Subsidence/Settlement

Subsidence is the settlement of soils of very low density generally from either oxidation of organic material, or desiccation and shrinkage, or both, following drainage. Subsidence takes place gradually, usually over a period of several years, and is a common consequence of liquefaction. A discussion of impacts related to subsidence/settlement for the Roadway Improvement Area and Future Potential Improvement Area is provided below.

Roadway Improvement Area

As discussed above, on-site soils within the Roadway Improvement Area are not anticipated to be subject to substantial liquefaction risks. Because the Roadway

[14] U.S. Department of Conservation. *Earthquake Zones of Required Investigation.* Available at: https://maps.conservation.ca.gov/cgs/EQZApp/app/. Accessed July 2026.
[15] *Ibid.*

Improvement Area presents a low potential for liquefaction, the potential for seismically-induced settlement to occur at the Roadway Improvement Area is also considered to be low. In addition, the proposed project would not include the construction of any buildings or structures. Therefore, impacts related to subsidence/settlement would not represent a substantial concern for the Roadway Improvement Area.

Future Potential Improvement Area

As discussed above, the eastern portion of the Tilton Lane to Adams Lane Improvement Area is located within a liquefaction zone. As such, potential hazards relating to liquefaction could occur within the Future Potential Improvement Area. However, at the time of future construction, the project contractor would be required to implement all preliminary recommendations as enforced by Mitigation Measure VII-1 below, including the preparation of a site-specific geotechnical evaluation.

Expansive Soils

Expansive soils shrink/swell when subjected to moisture fluctuations, which can cause heaving and cracking of slabs-on-grade, pavements, and structures founded on shallow foundations. Damage due to volume changes associated with expansive soils can be reduced by performing proper moisture conditioning and compaction of fill materials within selected ranges to reduce their swell potential, and using structurally reinforced "rigid" mats or post-tensioned mats designed to resist the deflections associated with soil expansion. According to the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey program, mapped soils within the project site consist of Delhi sand and Rincon clay loam.[16] While Delhi sand has a does not have a significant shrink-swell rating, Rincon clay loam has a shrink-swell rating of 1.0, which is considered severe. Therefore, the proposed project could be located on expansive soil, as defined in Table 18-1B of the Uniform Building Code.

Conclusion

Based on the above, the proposed project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving liquefaction, landslides, or lateral spreading. However, in the absence of proper mitigation, the proposed project could result in impacts related to expansive soils. In addition, with respect to the Future Potential Improvement Area, in the absence of proper mitigation, the proposed project could result in impacts related to liquefaction and subsidence/settlement. Thus, a ***potentially significant*** impact could occur.

Mitigation Measure(s)

The following mitigation measures shall be implemented for all applicable activities occurring within the Future Potential Improvement Area during the time of future improvements. Implementation of the following mitigation measures would ensure the above impact is reduced to a *less-than-significant* level.

Future Potential Improvement Area

VII-1. Prior to issuance of a grading permit, the City shall submit a final geotechnical evaluation of the site that analyzes soil stability including soil expansion, and the potential for lateral spreading, subsidence, expansive soils, liquefaction or collapse. The report shall identify any on-site soil and seismic hazards and provide design recommendations for on-site soil and

[16] Natural Resources Conservation Service. *Web Soil Survey.* Available at: https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm. Accessed July 2026.

seismic conditions. The geotechnical evaluation shall be reviewed and approved by the Director of Public Works/City Engineer, Chief Building Official, and a qualified Geotechnical Engineer to ensure that all geotechnical recommendations specified in the geotechnical report are properly incorporated and utilized in the project design in order to adhere to all geotechnical requirements contained in the California Building Code.

VII-2. *All roadway construction plans for the proposed project shall be designed by a Civil and Structural Engineer and reviewed and approved by the Director of Public Works/City Engineer, Chief Building Official, and a qualified Geotechnical Engineer prior to issuance of grading and building permits to ensure that all geotechnical recommendations specified in the geotechnical report required by Mitigation Measure VII-1 are properly incorporated and utilized in the project design.*

b. Issues related to erosion and degradation of water quality during construction are discussed in Section X, Hydrology and Water Quality, of this IS/MND, under question 'a'. As noted therein, following completion of the proposed roadway extension, the site would be largely covered with impervious surfaces and topsoil would no longer be exposed. In addition, the proposed project would include the development of storm drainage utilities in order to capture runoff from the roadway. Thus, the proposed project would not result in substantial soil erosion or the loss of topsoil, and a ***less-than-significant*** impact would occur.

e. The proposed project would not require the use of septic systems. Therefore, ***no impact*** would occur related to having soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.

f. The City's General Plan indicates that known paleontological resources do not exist within the City planning area. However, development allowed under the General Plan could result in the discovery and disturbance of previously unknown or undiscovered paleontological resources. Geologic formations, including the Upper Cretaceous marine sedimentary rocks and various Quaternary subunits, that have a moderate to high potential for paleontological resources, are present throughout many areas of the City. The City's General Plan EIR concluded that with implementation of Action COS 6e, which requires all new development projects to comply with procedures upon discovery of unique paleontological resources, impacts related to disturbance of paleontological resources would be less than significant.

As noted in the City's General Plan EIR, the majority of the City is underlain by Quaternary Marine/Alluvium, which contains mostly nonmarine unconsolidated alluvium, lake, playa, and terrace deposits. Such soil types are not considered unique geologic features and are common within the geographic area of the City. Furthermore, the City's General Plan does not note the existence of any unique geologic features within the City. Consequently, implementation of the proposed project would not be anticipated to have the potential to result in direct or indirect destruction of unique geologic features.

Although the proposed project would not have the potential to result in the destruction of unique geologic features, previously unknown paleontological resources could exist within the project site. Thus, ground-disturbing activity, such as grading, trenching, or excavating associated with implementation of the proposed project, could have the potential to disturb

or destroy such resources. Therefore, the proposed project could result in the direct or indirect destruction of a unique paleontological resource, and a ***potentially significant*** impact could occur.

Mitigation Measure(s)

The following mitigation measure shall be implemented for all applicable activities occurring within the Roadway Improvement Area, as well as within the Future Potential Improvement Area during the time of future improvements. Implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level.

Roadway Improvement Area and Future Potential Improvement Area

VII-3. *Should construction or grading activities result in the discovery of unique paleontological resources, all work within 100 feet of the discovery shall cease. The Community Development Department shall be notified, and the resources shall be examined by a qualified archaeologist, paleontologist, or historian, at the contractor's expense, for the purpose of recording, protecting, or curating the discovery as appropriate. The archaeologist, paleontologist, or historian shall submit to the Community Development Department for review and approval a report of the findings and method of curation or protection of the resources. Work may only resume in the area of discovery when the preceding work has occurred. The language of this mitigation shall be included via notation on the project improvement plans.*

VIII. GREENHOUSE GAS EMISSIONS. *Would the project:*	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	✖	☐
b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gasses?	☐	☐	✖	☐

Discussion

The following discussion applies to both the Roadway Improvement Area and the Future Potential Improvement Area, unless otherwise specified.

a,b. Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. Therefore, the cumulative global emissions of GHGs contributing to global climate change can be attributed to every nation, region, and city, and virtually every individual on Earth. An individual project's GHG emissions are at a micro-scale level relative to global emissions and effects to global climate change; however, an individual project could result in a cumulatively considerable incremental contribution to a significant cumulative macro-scale impact. As such, impacts related to emissions of GHG are inherently considered cumulative impacts.

Estimated GHG emissions attributable to development projects are primarily associated with increases of carbon dioxide (CO_2) and, to a lesser extent, other GHG pollutants, such as methane (CH_4) and nitrous oxide (N_2O) associated with area sources, mobile sources or vehicles, utilities (electricity and natural gas), water usage, wastewater generation, and the generation of solid waste. The common unit of measurement for GHGs is expressed in terms of annual metric tons of CO_2 equivalents ($MTCO_2e$/yr).

In recognition of the global scale of climate change, California has enacted several pieces of legislation in an attempt to address GHG emissions. Specifically, AB 32, Senate Bill (SB) 32, and more recently Executive Order (EO) B-55-18/AB 1279 have established statewide GHG emissions reduction targets. Accordingly, the CARB has prepared the Climate Change Scoping Plan for California (Scoping Plan), which was approved in 2008, and updated in 2014, 2017, and 2022 which provides the outline for actions to reduce California's GHG emissions and achieve the emissions reduction targets required by State legislation. In concert with statewide efforts to reduce GHG emissions, air districts, counties, and local jurisdictions throughout the State have implemented their own policies and plans to achieve emissions reductions in line with the Scoping Plan and emissions reduction targets, including AB 32, SB 32, and EO B-55-18/AB 1279.

The proposed project is located within the jurisdictional boundaries of BAAD. The most recent BAAD Air Quality Guidelines were released in April 2023.[17] The BAAD's adopted thresholds of significance for GHG emissions are qualitative, and address recent climate change legislation, including SB 32. According to the new thresholds of significance, a project must either include specific project design elements (e.g., exclude use of natural gas, achieve a specific reduction in project-generated VMT below the regional average) or

[17] Bay Area Air Quality Management District. *California Environmental Quality Act Air Quality Guidelines*. April 2023.

be consistent with a local GHG reduction strategy that meets the criteria under State CEQA Guidelines Section 15183.5(b). Neither the City nor BAAD has an adopted threshold of significance for construction-related GHG emissions, as construction GHG emissions are a one-time release and are, therefore, not typically expected to generate a significant contribution to global climate change. Consequently, construction-related GHG emissions associated with the proposed project do not require quantification.

Nonetheless, the proposed project's construction GHG emissions have been estimated using CalEEMod under the same assumptions discussed in Section III, Air Quality, of this document (see Appendix A). Based on the modeling results, construction of the proposed project would result in total GHG emissions of 122.24 $MTCO_2e$ over the entire construction period.

Additionally, considering the nature of the proposed project, new substantial GHG emissions would not be generated during project operations. Construction of the proposed project would not inherently increase traffic within the project vicinity because the proposed project does not include any development that would generate population growth in the area. Rather, the proposed project would allow for higher performance of the circulation system in the City of Brentwood, which would result in better circulation in the project area. Furthermore, the proposed project is consistent with the circulation planning in the City of Brentwood General Plan and the project route is identified in the CCTA East County Action Plan as a route of regional significance. Based on the proposed project's consistency with the regional plans outlined above, vehicular circulation associated with the proposed project have already been analyzed. Furthermore, the proposed project would not include the construction of any development that would require the use of natural gas, result in any wasteful, inefficient, or unnecessary energy usage, or require the provision of any off-street vehicle parking. Therefore, the proposed project would not conflict with the BAAD's adopted thresholds of significance.

Based on the above, the proposed project would not be considered to generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, or conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. Thus, a ***less-than-significant*** impact would occur.

IX. HAZARDS AND HAZARDOUS MATERIALS. *Would the project:*	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	✖	☐
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment?	☐	✖	☐	☐
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	✖	☐
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?	☐	☐	✖	☐
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?	☐	☐	☐	✖
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	✖	☐
g. Expose people or structures, either directly or indirectly, to the risk of loss, injury or death involving wildland fires?	☐	☐	✖	☐

Discussion

The following discussion applies to both the Roadway Improvement Area and the Future Potential Improvement Area, unless otherwise specified.

a. The proposed project would include improvements to an existing roadway segment, and, therefore, would not result in new land uses that would involve the routine use, transport, or disposal of hazardous materials. Although transportation of hazardous materials could occur along the roadway, the number of vehicles transporting hazardous materials within the City of Brentwood would not increase as a result of the proposed project. In addition, the majority of vehicles expected to travel along the roadway are anticipated to be passenger vehicles, which typically do not transport hazardous materials. Therefore, the proposed project would not involve the routine use, transport, or disposal of hazardous materials, and a ***less-than-significant*** impact would occur.

b. The following discussion provides an analysis of potential hazards and hazardous materials associated with upset or accident conditions related to the proposed construction activities and existing on-site conditions.

Construction Activities

Construction activities associated with the proposed project would involve the use of heavy equipment, which would contain fuels and oils, and various other products such as concrete, paints, and adhesives. Small quantities of potentially toxic substances (e.g., petroleum and other chemicals used to operate and maintain construction equipment) would be used at the project site and transported to and from the site during construction.

However, the project contractor would be required to comply with all California Health and Safety Codes and local City ordinances regulating the handling, storage, and transportation of hazardous and toxic materials. Thus, construction of the proposed project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment.

Existing On-Site Hazardous Conditions

The following sections provide a summary of various conditions that may reasonably be present on-site.

Pesticides

A review of Google Earth aerial photographs of the project site shows that land in the immediate vicinity of the project site was used for agricultural purposes from as early as 1939. As a result, the potential exists for organochlorine and arsenic pesticide residues to be present within surficial soils. If such materials are present in on-site soils, a potential health hazard could occur during project construction.

Asbestos-Containing Materials and Lead-Based Paint

Asbestos is the name for a group of naturally occurring silicate minerals that are considered to be “fibrous” and, through processing, can be separated into smaller and smaller fibers. The fibers are strong, durable, chemical resistant, and resistant to heat and fire. They are also long, thin, and flexible, such that they can be woven into cloth. Because of the above qualities, asbestos was considered an ideal product and has been used in thousands of consumer, industrial, maritime, automotive, scientific, and building products. However, later discoveries found that, when inhaled, the material caused serious illness.

For buildings constructed prior to 1980, the Code of Federal Regulations (29 CFR 1926.1101) states that all thermal system insulation (boiler insulation, pipe lagging, and related materials) and surface materials must be designated as “presumed asbestos-containing material” unless proven otherwise through sampling in accordance with the standards of the Asbestos Hazard Emergency Response Act.

Lead-based paint (LBP) is defined by federal guidelines as any paint, varnish, stain, or other applied coating that has one milligram of lead per square centimeter or greater. Lead is a highly toxic material that may cause a range of serious illnesses, and in some cases death. In buildings constructed after 1978, the presence of LBP is unlikely. Structures built prior to 1978, and especially prior to the 1960s, are expected to contain LBP.

As discussed in Section V, Cultural Resources, above, two residences, located at 7960 Lone Tree Way and 7510 Lone Tree Way, are very near to the Future Potential Improvement Area. The house and garage located at 7960 Lone Tree Way were present on the property by 1939, and the house and garage located at 7510 Lone Tree Way appear to have been constructed by 1949. Such structures could be disturbed as part of the future roadway improvements. Because the existing structures in the immediate vicinity of the Future Potential Improvement Area were built prior to 1980, the potential exists that asbestos-containing materials and LBP were used in the construction of such structures. The proposed project would not include the demolition of any buildings as part of the proposed development of the Roadway Improvement Area. However, should improvements within the Future Potential Improvement Area include the demolition of any

existing buildings, without implementation of the appropriate safety measures, the proposed project could potentially expose construction workers during structure demolition to LBP and asbestos-containing materials.

Conclusion

Based on the above, the proposed project could create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment during construction activities. Thus, a ***potentially significant*** impact could occur.

Mitigation Measure(s)

Mitigation Measure IX-1 shall be implemented for all applicable activities occurring within the Roadway Improvement Area, as well as within the Future Potential Improvement Area during the time of future improvements. In addition, Mitigation Measures IX-2 and IX-3 shall be implemented for all applicable activities occurring within the Future Potential Improvement Area during the time of future improvements. Implementation of the following mitigation measures would reduce the above potential impact to a *less-than-significant* level.

Roadway Improvement Area and Future Potential Improvement Area

IX-1. *In conjunction with the approval of any improvement plans associated with the proposed roadway improvements, the project contractor shall prepare a soil assessment with surficial soil samples to determine the presence of pesticides. If pesticide concentrations higher than the allowable threshold, as defined by the Department of Toxic Substances Control, are detected, the assessment shall include appropriate measures to address the contaminated soil, including, but not limited to, removal and disposal of the contaminated soil in accordance with federal, State, and local regulations or soil remediation to an acceptable total threshold limit concentration (TTLC) level pursuant to applicable State and federal regulations. The soil assessment and recommended measures shall be reviewed and approved by the City's Community Development Department.*

Future Potential Improvement Area

IX-2. *Prior to demolition of any structures associated with future roadway improvements, the City shall conduct a detailed assessment pertaining to the potential presence of asbestos-containing materials in existing structures that may be scheduled for demolition. If asbestos-containing materials are not detected, further mitigation shall not be required. If asbestos-containing materials are detected, the City shall prepare and implement an asbestos abatement plan consistent with federal, State, and local standards, subject to the review and approval by the Bay Area Air District (BAAD), prior to demolition.*

IX-3. *Prior to demolition of any structures associated with future roadway improvements, the City shall conduct a detailed assessment pertaining to the potential presence of lead-based paint in existing structures scheduled for demolition. If lead-based paint is not detected in the assessment, further mitigation shall not be required. If such paint is found, all loose and peeling paint shall be removed and disposed of by a licensed and certified lead*

paint removal contractor, in accordance with federal, State, and local regulations. The demolition contractor shall be informed that all paint on the buildings shall be considered as containing lead. The contractor shall take appropriate precautions to protect his/her workers, the surrounding community, and to dispose of construction waste containing lead paint in accordance with federal, State, and local regulations subject to the review and approval by the Bay Area Air District (BAAD) and the Community Development Department, prior to demolition.

c. The nearest school to the project site is Hikmah School, which operates out of the Brentwood Muslim Community Center and is located approximately 0.02-mile south and 0.06-mile southwest of the Roadway Improvement Area and Future Potential Improvement Area, respectively. In addition, Isaac R. Montañez Elementary School is located approximately 0.05-mile and 0.07-mile south and southeast of the Roadway Improvement Area and Future Potential Improvement Area, respectively. Thus, the project site is located within a quarter mile of an existing or proposed school. However, the proposed project would not result in new land uses that would involve the routine transport, use, disposal, or generation of substantial amounts of hazardous materials. As such, future operations on the project site would not emit any hazardous emissions, substances, or waste. In addition, Mitigation Measures IX-1, IX-2, and IX-3 would be required to ensure that construction workers and the surrounding community, including the nearby school, would not be exposed to residual pesticides, asbestos-containing materials, or LBPs during construction activities. As a result, the proposed project would not emit hazardous emissions, substances, or waste within one-quarter mile of an existing or proposed school, and a ***less-than-significant*** impact would occur.

d. Government Code Section 65962.5 requires the California Environmental Protection Agency to annually develop an updated Cortese List. The components of the Cortese List include the DTSC Hazardous Waste and Substances Site List.[18] The Cortese List also includes the list of LUST sites from the State Water Resources Control Board (SWRCB) GeoTracker database,[19] the list of solid waste disposal sites identified by the SWRCB, and the list of active Cease and Desist Orders (CDO) and Cleanup and Abatement Orders (CAO) from the SWRCB.[20] The project site is not included on any of the foregoing databases or any databases that comprise the components of the Cortese List. Thus, the proposed project would not create a significant hazard to the public or the environment, and a ***less-than-significant impact*** would occur.

e. The nearest public airport to the site is Byron Airport, which is located approximately 9.65 miles southeast of the site. In addition, a private airfield (Funny Farm Airfield) is located approximately 3.5 miles southeast of the project site. As such, the project site is not located within two miles of any public airports, and does not fall within an airport land use plan area. Therefore, ***no impact*** would occur related to the project being located within an airport land use plan or within two miles of a public airport or public use airport, thereby resulting in a safety hazard or excessive noise for people residing or working in the project area.

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[18] Department of Toxic Substances Control. *Hazardous Waste and Substances Site List (Cortese).* Available at: https://www.envirostor.dtsc.ca.gov/public/. Accessed May 2026.

[19] State Water Resource Control Board. *GeoTracker*. Available at: https://geotracker.waterboards.ca.gov/map/?global_id=T0607302824. Accessed May 2026.

[20] State Water Resources Control Board. *Active CDO and CAO.* Available at: https://calepa.ca.gov/sitecleanup/corteselist/. Accessed May 2026.

f. During construction of the proposed project, all construction equipment would be staged on-site so as to prevent obstruction of local and regional travel routes in the City that could be used as evacuation routes during emergency events (e.g., SR 4). The project would not substantially alter existing circulation systems in the surrounding area. Rather, the proposed roadway widening would have the potential to provide additional evacuation capacity in the event of an emergency. As a result, the project would have a ***less-than-significant*** impact with respect to impairing the implementation of or physically interfering with an adopted emergency response plan or emergency evacuation plan.

g. Issues related to wildfire hazards are discussed in Section XX, Wildfire, of this IS/MND. As noted therein, the project site is surrounded by existing development to the north and south, and is not located within an area where wildland fires typically occur. In addition, the proposed project would not include the construction of structures or infrastructure that would result in an increased hazard due to wildfires. According to the Cal Fire Resource Assessment Program, the project site is not located within a Very High Fire Hazard Severity Zone.[21] Therefore, the proposed project would not expose people or structures to the risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands, and a ***less-than-significant*** impact would occur.

[21] California Department of Forestry and Fire Protection. *FHSZ Viewer.* Available at: https://experience.arcgis.com/experience/5065c998b4b0462f9ec3c6c226c610a9. Accessed May 2026.

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

Discussion

The following discussion applies to both the Roadway Improvement Area and the Future Potential Improvement Area, unless otherwise specified.

a, ci-ciii. The following discussion provides a summary of the proposed project's potential to violate water quality standards/waste discharge requirements, alter the drainage pattern of the site resulting in erosion or siltation, increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site, contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems, or otherwise degrade water quality during construction and operation.

Construction

During the early stages of construction activities, topsoil would be exposed due to grading and excavation of the site. After grading and prior to overlaying the ground surface with impervious surfaces and structures, the potential exists for wind and water erosion to discharge sediment and/or urban pollutants into stormwater runoff, which could adversely affect water quality.

The SWRCB regulates stormwater discharges associated with construction activities where clearing, grading, or excavation results in a land disturbance of one or more acres. The proposed project would not disturb more than one acre of land at a time, and therefore, the proposed construction activities would not be subject to applicable SWRCB regulations, including the preparation of a site-specific SWPPP.

However, impacts from construction-related activities would generally be short-term and of limited duration. Furthermore, Chapter 15.52 of the City's Municipal Code provides grading, erosion, and sediment control regulations for all aspects of grading operations within the city limits. As per Section 15.52.010 of the City's Municipal Code, any grading within the city limits shall conform to the provisions of Chapter 15.52, and other applicable provisions of the City's Municipal Code, as well as the latest edition of the city standard specifications and details.

Specifically, Section 15.52.030 requires that a permit be obtained for any grading, fill, excavation, storage, or disposal of soil and earth materials or performance of any other land-disturbing or land-filling activity within the City. As part of the permit application, preparation of an Erosion and Sediment Control Plan would be required to demonstrate how the proposed project would control surface runoff and erosion and retain sediment on the project site during project construction. The proposed project would also be required to comply with all grading regulations included in Section 15.52.060 of the City's Municipal Code.

Based on the above, through conformance with the applicable requirements set forth by Chapter 15.52 of the City's Municipal Code, the proposed project would not substantially degrade water quality or violate SWRCB water quality objectives during project construction.

Operation

The proposed project would not involve operations typically associated with the generation or discharge of polluted water. The majority of the project site is currently developed with impervious surfaces associated with the existing roadway. However, the proposed project would introduce new impervious surfaces within the project site associated with the roadway widening improvements. Following completion of the roadway improvements, disturbed areas of the site would be largely covered with impervious surfaces and topsoil would no longer be exposed. However, the addition of impervious surfaces on the site would result in the generation of urban runoff during project operations, which could contain pollutants if the runoff comes into contact with vehicle fluids on the roadway.

All municipalities within Contra Costa County are required to develop more restrictive surface water control standards for new development projects as part of the renewal of the Countywide NPDES permit. Known as the "C.3 Standards", new development and redevelopment projects that create or replace 10,000 or more square feet (sf) of impervious surface area must contain and treat stormwater runoff from the site. The proposed project would result in a total disturbance area of approximately 0.4 acres (17,614 sf) within the Roadway Improvement Area and 0.68 acres (29,621 sf) within the Future Potential Improvement Area. Because the proposed project would create more than 10,000 sf of impervious surface area, the proposed project would be considered a C.3 regulated project and is required to include appropriate site design measures, source controls, and hydraulically-sized stormwater treatment measures. In addition, the project site is within Drainage Area 30c and would be required to pay the applicable Contra Costa County Flood Control and Water Conservation District (CCCFCWCD) drainage fees.[22]

The proposed project would include the installation of five 18-inch concrete storm drainage pipes that would transect the Roadway Improvement Area from north to south. In addition,

[22] Contra Costa County Flood Control and Water Conservation District. *Zones and Drainage Areas.* August 25, 2015.

a six-inch perforated pipe would be installed along the southern boundary of the Roadway Improvement Area. A three-inch non-perforated pipe would also be installed along the southern boundary of the Roadway Improvement Area, directly south of the proposed six-inch perforated pipe. A bioretention area would be included within the southern portion of the Roadway Improvement Area. The proposed bioretention area would be sized to adequately handle all runoff from the proposed impervious surfaces within the project site. Utilities developed as part of the future potential roadway improvements are anticipated to be similar to the aforementioned improvements. Thus, the proposed project would comply with the requirements of the C.3 Standards related to stormwater treatment.

Based on the above, the proposed project would comply with all relevant water quality standards and waste discharge requirements, and would not degrade water quality during operation.

Conclusion

Based on the above, the proposed project would not result in the violation of water quality standards or waste discharge requirements, alter the drainage pattern of the site resulting in erosion or siltation, increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site, contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems, or otherwise degrade water quality during construction or operation. Thus, a ***less-than-significant*** impact would occur.

b,e. Water supplies for the project site are supplied by the City of Brentwood. Per the City's 2025 Urban Water Management Plan (UWMP),[23] approximately 10.6 percent of the City's water was supplied by groundwater in 2025. The City pumps groundwater from the East Contra Costa (ECC) Subbasin within the larger San Joaquin Valley Groundwater Basin. While the proposed project would create new impervious surfaces within the site, the ECC Subbasin is 168 square miles in size; therefore, the groundwater basin within which the project site is located would be recharged from many sources over a large area. Except for seasonal variations resulting from recharge and pumping, the General Plan EIR anticipates the City will pump a relatively stable amount of groundwater through the year 2035. Therefore, any new impervious surfaces associated with the project would not interfere substantially with groundwater recharge within the ECC Subbasin.

The proposed project would relocate the existing water valve and fire hydrant within the southern portion of the Roadway Improvement Area to accommodate the proposed through lane. Additionally, the existing water valve would be adjusted to grade. The proposed project would not include the installation of any additional water lines. Moreover, given that the proposed project primarily consists of a roadway widening, the proposed project would not require regular water usage during operation. Rather, water usage would be limited to emergency situations. In addition, the proposed project is consistent with the circulation planning in the City of Brentwood General Plan and the CCTA East County Action Plan. As previously discussed, Lone Tree Way is identified in the CCTA East County Action Plan as a route of regional significance, and improvements to Lone Tree Way have generally been anticipated by the City. As such, the project would not result in increased use of groundwater supplies beyond what has been anticipated by the City and accounted for in the UWMP. Additionally, the UWMP imposes specific regulations on water use, which the proposed project would adhere to.

[23] City of Brentwood. *Final 2025 Urban Water Management Plan*. June 2026.

Therefore, the proposed project would result in a ***less-than-significant*** impact with respect to substantially decreasing groundwater supplies or interfering substantially with groundwater recharge such that the project would impede sustainable groundwater management of the basin. In addition, the project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

civ,d. According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map for the project site, the project site is located within Zone X.[24] FEMA defines Zone X as an area located outside of the 100-year year floodplain. As such, the proposed project would not include any development within a Special Flood Hazard Area, and would not impede or redirect flood flows.

Tsunamis are defined as sea waves created by undersea fault movement. A tsunami poses little danger away from shorelines; however, when it reaches the shoreline, a high swell of water breaks and washes inland with great force. Waves may reach 50 feet in height on unprotected coasts. Historic records of the Bay Area used by one study indicate that nineteen tsunamis were recorded in San Francisco Bay during the period of 1868-1968. Maximum wave height recorded at the Golden Gate tide gauge (where wave heights peak) was 7.4 feet. The available data indicates a standard decrease of original wave height from the Golden Gate to about half original wave height on the shoreline near Richmond, and to nil at the head of the Carquinez Strait. As Brentwood is several miles inland from the Carquinez Strait, the project site is not exposed to flooding risks from tsunamis and adverse impacts would not result.

A seiche is a long-wavelength, large-scale wave action set up in a closed body of water such as a lake or reservoir, whose destructive capacity is not as great as that of tsunamis. Seiches are known to have occurred during earthquakes, but none have been recorded in the Bay Area. In addition, the project is not located near a closed body of water. Therefore, the proposed project is not anticipated to be impacted by seiches in the future.

Based on the above, the proposed project would not pose a risk related to the release of pollutants due to project inundation due to flooding, tsunami, or seiche, and a ***less-than-significant*** impact would occur.

[24] Federal Emergency Management Agency. *Flood Insurance Rate Map 06013C0354G.* Effective March 21, 2017.

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

Discussion

The following discussion applies to both the Roadway Improvement Area and the Future Potential Improvement Area, unless otherwise specified.

a. A project risks dividing an established community if the project would introduce infrastructure or alter land use so as to change the land use conditions in the surrounding community, or isolate an existing land use. Surrounding existing uses in the vicinity of the Roadway Improvement Area include future single-family residential uses associated with the Lone Tree Residential Project site, undeveloped land, and existing single-family residences to the north, and Portofino Park, single-family residences, the Brentwood Muslim Community Center, Isaac R. Montañez Elementary School, undeveloped land, and the Kingdom Hall of Jehovah's Witnesses to the south. The proposed project would include the construction of an additional eastbound through lane along Lone Tree Way and associated roadway improvements. All proposed improvements within the Roadway Improvement Area would occur along the existing roadway or within the vacant strip of land immediately south of Lone Tree Way. Future improvements to occur within the Future Potential Improvement Area are anticipated to be similar to the improvements proposed within the Roadway Improvement Area.

   The proposed project would not physically divide an established community, as Lone Tree Way is an established roadway within the existing community. In addition, the proposed project is consistent with the circulation planning in the City of Brentwood General Plan and the CCTA East County Action Plan. As such, improvements along Lone Tree Way have been generally anticipated by the City. Therefore, the proposed project would have a ***less-than-significant*** impact related to physically dividing an established community.

b. As discussed throughout this IS/MND, the proposed project would not conflict with any land use plan, policy or regulations adopted for the purpose of avoiding or mitigating an environmental effect because development of the project site would comply with all applicable standards set in the City of Brentwood General Plan and General Plan EIR, as well as the City's municipal code, noise standards, and ECCCHCP/NCCP standards. In addition, as discussed throughout this IS/MND, the proposed project would not result in any significant environmental effects that cannot be mitigated to a less-than-significant level by the mitigation measures provided herein. The proposed roadway widening would not change the land uses surrounding the project site, nor would the proposed project conflict with the purposes of the land use and zoning designations of the project area. Therefore, the proposed project would not conflict with any with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigation an environmental effect, and a ***less-than-significant*** impact would occur.

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

Discussion

The following discussion applies to both the Roadway Improvement Area and the Future Potential Improvement Area.

a,b. Per the City's General Plan EIR, within the City limits, documented mineral resources include sand, gravel, coal, oil, and gas.[25] Sediments throughout most of the City consist of young alluvial deposits. Historically, large amounts of sand were mined from the dune sands of the northern portion of the City; however, competition from sand and gravel pits in the Tracy and Livermore areas caused a gradual decline in production. As of January 1, 2013, three aggregate mines exist within Contra Costa County: the Byron Plant, Clayton Quarry, and Clayton Mine. None of the three mines are located within the City of Brentwood planning area, and, thus, would not be adversely affected by the proposed project. Therefore, ***no impact*** to mineral resources would occur as a result of development of the project.

[25] City of Brentwood. *2014 Brentwood General Plan Draft Environmental Impact Report.* April 2014.

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

Discussion

The following discussion is based primarily on an Environmental Noise Assessment prepared for the proposed project by Saxelby Acoustics, LLC (Saxelby) (see Appendix B).[26] The discussion applies to both the Roadway Improvement Area and the Future Potential Improvement Area, unless otherwise specified.

a. The following sections present information regarding sensitive noise receptors in proximity to the project site, the existing noise environment, and the potential for the proposed project to result in impacts during project construction and operation. The following terms are referenced in the sections below:

- Decibel (dB): A unit of sound energy intensity. An A-weighted decibel (dBA) is a decibel corrected for the variation in frequency response to the typical human ear at commonly encountered noise levels. All references to decibels (dB) in this report will be A-weighted unless noted otherwise.
- Average, or equivalent, sound level (L_{eq}): The L_{eq} corresponds to a steady-state A-weighted sound level containing the same total energy as a time varying signal over a given time period (usually one hour).
- Day-Night Average Level (L_{dn}): The average sound level over a 24-hour day, with a +10 decibel weighing applied to noise occurring during nighttime (10:00 PM to 7:00 AM) hours.
- Maximum Sound Level (L_{max}): The maximum sound level over a given time-period.
- Median Sound Level (L_{50}): The sound level exceeded 50 percent of the time over a given time-period.

Sensitive Noise Receptors

Some land uses are considered more sensitive to noise than others, and, thus, are referred to as sensitive noise receptors. Land uses often associated with sensitive noise receptors generally include residences, schools, libraries, hospitals, and passive recreational areas. Noise sensitive land uses are typically given special attention in order to achieve protection from excessive noise. With respect to the Roadway Improvement Area, noise sensitive receptors include the two single-family residences and the Brentwood Muslim Community Center located to the south, with the nearest sensitive

[26] Saxelby Acoustics, LLC. *Environmental Noise Assessment – Lone Tree Way Improvements.* July 7, 2026.

receptor located approximately 26 feet from the Roadway Improvement Area. With respect to the Future Potential Improvement Area, noise sensitive receptors include the single-family residence located immediately south of the Smith Road to O'Hara Avenue Improvement Area and two single-family residences located immediately south of the Tilton Lane to Adams Lane Improvement Area.

Existing Noise Environment

The existing noise environment in the immediate project vicinity is primarily defined by traffic along Lone Tree Way.

To quantify the existing ambient noise environment in the project site vicinity, Saxelby conducted a continuous (24 hour) noise level measurement survey at two locations along the roadway on June 10, 2026, and June 11, 2026 (see Figure 9). A summary of the existing background noise measurement survey results is presented in Table 3.

Table 3
Summary of Existing Background Noise Measurement Data

Site	Date	L_{dn}	Day L_{eq}	Day L_{50}	Day L_{max}	Night L_{eq}	Night L_{50}	Night L_{max}
LT-1: 60 feet to centerline (CL) of Lone Tree Road	6/10/26	70	68	64	82	62	52	79
	6/11/26	71	68	65	81	63	52	82
	Average:	**71**	**68**	**65**	**82**	**63**	**52**	**81**
LT-2: 165 feet to CL of Lone Tree Road	6/10/26	60	55	53	70	54	50	69
	6/11/26	62	54	52	68	56	51	72
	Average:	**61**	**55**	**53**	**69**	**55**	**51**	**71**

- All values shown in dBA
- Daytime Hours: 7:00 AM to 10:00 PM
- Nighttime Hours: 10:00 PM to 7:00 AM

Source: Saxelby Acoustics, 2026.

Saxelby Acoustics used the SoundPLAN noise prediction model to map existing noise levels at the sensitive receptors along the Roadway Improvement Area. Inputs to the model included sound levels for Lone Tree Way as determined in the ambient noise level survey, buildings, terrain type, and locations of sensitive receptors. Saxelby's predictions were made in accordance with International Organization for Standardization (ISO) standard 9613-2:2024 (Acoustics – Attenuation of sound during propagation outdoors). ISO 9613 is the most commonly used method for calculating exterior noise propagation. The existing noise level contours in terms of the day/night average (L_{dn}) are shown in Figure 10.

While Saxelby did not map existing noise levels at the sensitive receptors along the Future Potential Improvement Area, the existing ambient noise environment at such receptors is anticipated to be similar to that of the existing ambient noise environment at the Roadway Improvement Area.

Standards of Significance

Both the City's Municipal Code and General Plan include regulations related to the generation of noise.

Figure 9
Existing Noise Level Measurement Locations



*Figure not OCR compatible.

Figure 10
Existing Noise Levels

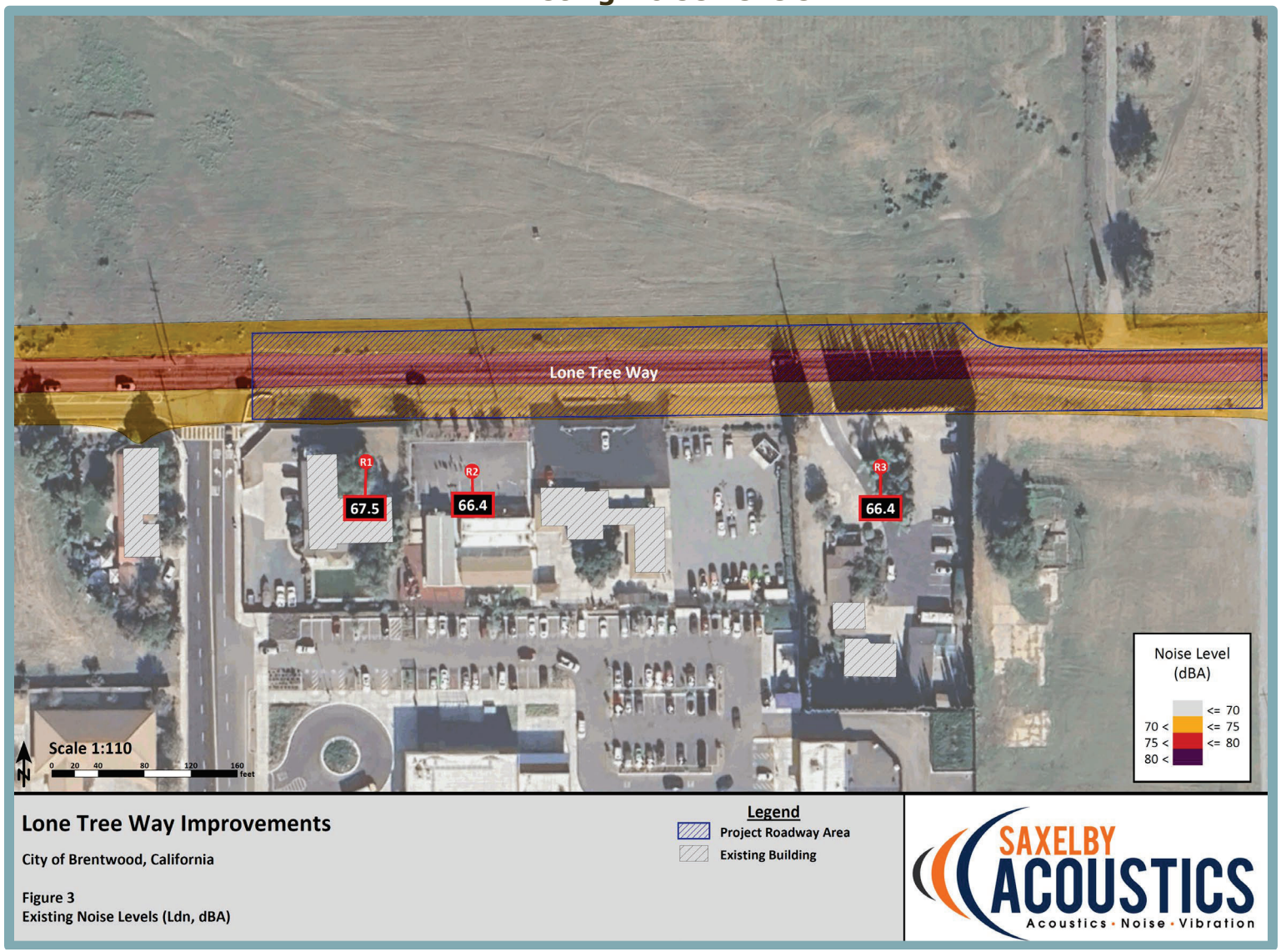


*Figure not OCR compatible.

With regard to temporary construction noise, per General Plan Action N-1e, noise generating construction activities are limited to the hours of 7:00 AM and 6:00 PM on weekdays, and between 8:00 AM and 5:00 PM on Saturdays. Construction is prohibited on Sundays and City holidays.

The Noise Element of the City's General Plan establishes a land use compatibility criterion of 60 dB L_{dn} or less within outdoor activity areas of residential land uses impacted by transportation noise sources (e.g. traffic noise). General Plan Policy N I-2 requires that new development and infrastructure projects be consistent with the Land Use Compatibility for Community Noise Environments standards (reproduced in Table 4 below) to ensure acceptable noise levels for existing and future development.

Table 4
Land Use Compatibility for Exterior Noise Environment (L_{dn})

Land Use	Normally Acceptable	Conditionally Acceptable	Clearly Unacceptable
Single-Family Residential	≤60	60-75	>75
Multi-Family Residential, Hotels, and Motels	≤65	65-75	>75
Outdoor Sports and Recreation, Neighborhood Parks and Playgrounds	≤65	65-80	>80
Schools, Libraries, Museums, Hospitals, Personal Care, Meeting Halls, Churches	≤65	65-75	>75
Office Buildings, Business Commercial, and Professional	≤67	70-80	>77
Industrial	≤70	70-80	>80

Source: City of Brentwood General Plan (Table N-1), July 2014.

In addition to the noise level standards described above, the City also provides the following criteria to determine the significance of transportation noise impacts:

- Where existing traffic noise levels are less than 60 dB L_{dn} at the outdoor activity areas of noise-sensitive uses, a 5.0 dB L_{dn} increase in roadway noise levels would be considered significant;
- Where existing traffic noise levels range between 60 and 65 dB L_{dn} at the outdoor activity areas of noise-sensitive uses, a 3.0 dB L_{dn} increase in roadway noise levels would be considered significant; and
- Where existing traffic noise levels are greater than 65 dB L_{dn} at the outdoor activity areas of noise-sensitive uses, a 1.5 dB L_{dn} increase in roadway noise levels would be considered significant.

Impact Analysis

The following sections provide an analysis of potential noise impacts associated with construction and operation of the Roadway Improvement Area and the Future Potential Improvement Area.

Roadway Improvement Area

The following discussion provides an analysis of potential noise impacts associated with the construction and operation of the Roadway Improvement Area.

Construction Noise

During construction of the proposed project, heavy-duty equipment would be used for grading, excavation, paving, and roadway construction, which would result in temporary noise level increases while in operation. Noise levels would vary depending on the type of equipment used, how the equipment is operated, and how well the equipment is maintained. In addition, noise exposure at any single point outside the project site would vary depending on the proximity of construction activities to that point. Standard construction equipment, such as graders, backhoes, and loaders would be used on-site. Construction noise is anticipated to primarily consist of construction equipment operation, as well as increased truck traffic on area roadways, associated with the transport of heavy materials and equipment to and from the construction site. Noise increases associated with construction truck traffic would be of short duration and would occur during daytime hours. All construction activities would be temporary in nature and are anticipated to occur during normal daytime working hours.

Table 5 below shows maximum noise levels associated with typical construction equipment. Based on the table, the loudest phase of construction within the Roadway Improvement Area would be the linear, grading, and excavation phase, with an average noise exposure of 91 dBA L_{eq} at a distance of 50 feet from the center of activity.

According to the Environmental Noise Assessment prepared for the proposed project, the City has not adopted any formal standard for evaluating temporary increases in existing noise levels due to construction which occurs within allowable hours. For short-term noise associated with project construction, Saxelby recommended use of the Caltrans increase criteria of 12 dBA (Caltrans Traffic Noise Protocol, 2020), applied to existing residential receptors in the project vicinity. The 12 dBA increase is approximately equivalent to a doubling of sound energy and has been the standard of significance for Caltrans projects at the state level for many years. Application of the aforementioned standard to construction activities is considered reasonable considering the temporary nature of construction activities.

As noted above, Caltrans defines a significant increase due to noise as an increase of 12 dBA over existing ambient noise levels. Saxelby used the Caltrans criterion to evaluate increases due to construction noise associated with the project. Construction noise levels were modeled using the input data shown in Table 5 and evaluated for significance in Table 6 below. Figure 11 shows modeled construction noise level contours as well as the locations of the analyzed receptors.

As shown in Table 6, the proposed project would result in an approximately 2.3 to 9.7 dBA increase during construction activities. Thus, construction of the proposed project is not anticipated to generate a significant temporary increase in noise levels at the existing sensitive receptors near the Roadway Improvement Area.

Although construction activities are temporary in nature and would occur during normal daytime working hours, construction-related noise could result in sleep interference at existing noise-sensitive land uses in the vicinity of the construction if construction activities were to occur outside the normal daytime hours. Pursuant to Action N 1E of the General Plan, construction activities are limited to 7:00 AM to 6:00 PM Monday-Friday and 8:00 AM to 5:00 PM on Saturday; construction is prohibited on Sundays and City holidays. Without compliance with the aforementioned regulations, a potentially significant impact could occur.

Table 5
Construction Equipment Noise Levels

Equipment	Quantity	Usage (%)	Maximum, L_{max} (dBA at 50 feet)	Hourly Average, L_{eq} (dBA at 50 feet)
Linear, Grubbing, and Land Clearing				
Tractor/Loader/Backhoe	1	40	84	80
Excavator	2	40	81	80
			Total:	**83**
Linear, Grading, and Excavation				
Tractor/Loader/Backhoe	1	40	84	80
Excavator	3	40	81	82
Grader	2	40	85	84
Roller	2	40	80	79
Front End Roller	1	40	79	75
Scraper	2	40	84	83
Tractor/Loader/Backhoe	4	40	84	86
			Total:	**91**
Linear, Drainage, Utilities, & Sub-Grade				
Air Compressor	1	40	79	75
Generator	1	50	81	78
Grader	1	40	85	81
Compactor (ground)	1	40	83	79
Pumps	1	40	81	77
Fork Lift	1	40	83	79
Scraper	1	40	84	80
Tractor/Loader/Backhoe	3	40	84	85
			Total:	**89**
Linear, Paving				
Paver	1	40	77	73
Paving Equipment	1	40	77	73
Roller	2	40	80	79
Tractor/Loader/Backhoe	3	40	84	85
			Total:	**86**

Source: FHWA, Roadway Construction Noise Model (RCNM), January 2006.

Table 6
Construction Noise Levels Increases

Construction Noise Receptor	Representative Noise Measurement Location	Existing Ambient (dBA L_{eq})	Construction Noise (dBA L_{eq})	Ambient + Construction (dBA L_{eq})	Difference (dBA L_{eq})	Complies with Standards?
C1	LT-1	67.5	69.3	71.5	4.0	Yes
C2	LT-1	67.5	76.7	77.2	9.7	Yes
C3	LT-1	67.5	75.4	76.1	8.6	Yes
C4	LT-1	67.5	76.5	77.0	9.5	Yes
C5	LT-1	67.5	65.8	69.8	2.3	Yes
C6	LT-2	54.8	63.1	63.7	8.9	Yes

Source: Saxelby Acoustics, 2026.

Figure 11
Construction Noise Levels

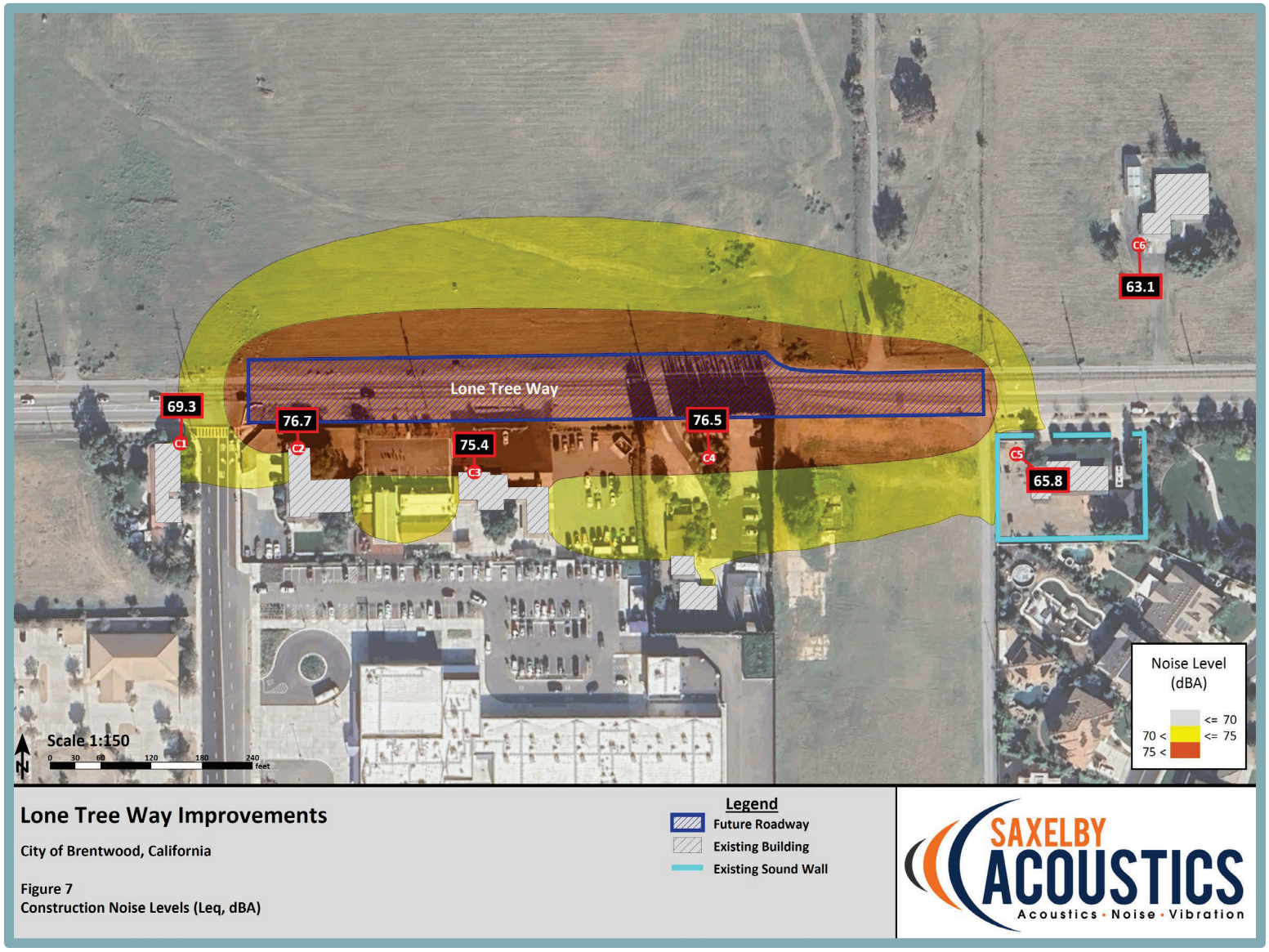


*Figure not OCR compatible.

Project Operational Noise

As described above, based upon the City of Brentwood criteria, where existing traffic noise levels are greater than 65 dBA L_{dn} at the outdoor activity areas of noise-sensitive uses, a +1.5 dBA increase in roadway noise levels is considered significant. Where traffic noise levels are between 60 dBA L_{dn} and 65 dBA L_{dn}, a +3.0 dBA increase in roadway noise levels is considered significant. Where traffic noise levels are less than 60 dBA L_{dn}, a +5.0 dBA increase in roadway noise levels is considered significant. Additionally, if existing noise levels are below the City's normally acceptable 60 dBA L_{dn} standard, increases causing traffic noise to exceed this threshold are also considered significant.

Figure 12 presents the traffic noise levels that would occur under the Existing Plus Project scenario. In addition, Table 7 presents the significance of project-related traffic noise increases at the sensitive receptors along the project area roadway. As shown in Table 7, with installation of the proposed six-foot sound walls, the proposed project would result in a decrease in noise levels at all measured receptors under the Existing Plus Project scenario, assuming that roadway volumes would remain constant.

Table 7
Existing Plus Project Traffic Noise Level Increase Significance

Receptor	Existing (dBA L_{dn})	Significance Threshold	Existing + Project (dBA L_{dn})	Change (dBA)[1]	Significant?
R1	67.5	+1.5 dBA	64.3	-3.2	No
R2	66.4	+1.5 dBA	66.3	-0.1	No
R3	66.4	+1.5 dBA	61.7	-4.7	No

[1] A negative value indicates a decrease in noise levels due to installation of project sound walls.

Source: Saxelby Acoustics, 2026.

In addition, noise levels that would occur under General Plan Buildout and General Plan Buildout Plus Project conditions were modeled by Saxelby. Roadway volumes for the General Plan Buildout scenario were obtained from the General Plan EIR. Figure 13 and Figure 14 show the projected roadway noise levels under the General Plan Buildout and General Plan Buildout Plus Project scenarios, respectively. Table 8 presents the traffic noise levels that would occur under the General Plan Buildout Plus Project scenario. In addition, Table 8 presents the significance of project-related traffic noise increases at the sensitive receptors along the project area roadway.

Table 8
General Plan Buildout Plus Project Traffic Noise Level Increase Significance

Receptor	Existing (dBA L_{dn})	Significance Threshold	Existing + Project (dBA L_{dn})	Change (dBA)[1]	Significant?
R1	71.0	+1.5 dBA	67.8	-3.2	No
R2	69.9	+1.5 dBA	69.9	0.0	No
R3	69.9	+1.5 dBA	65.2	-4.7	No

[1] A negative value indicates a decrease in noise levels due to installation of project sound walls.

Source: Saxelby Acoustics, 2026.

Figure 12
Existing Plus Project Noise Levels

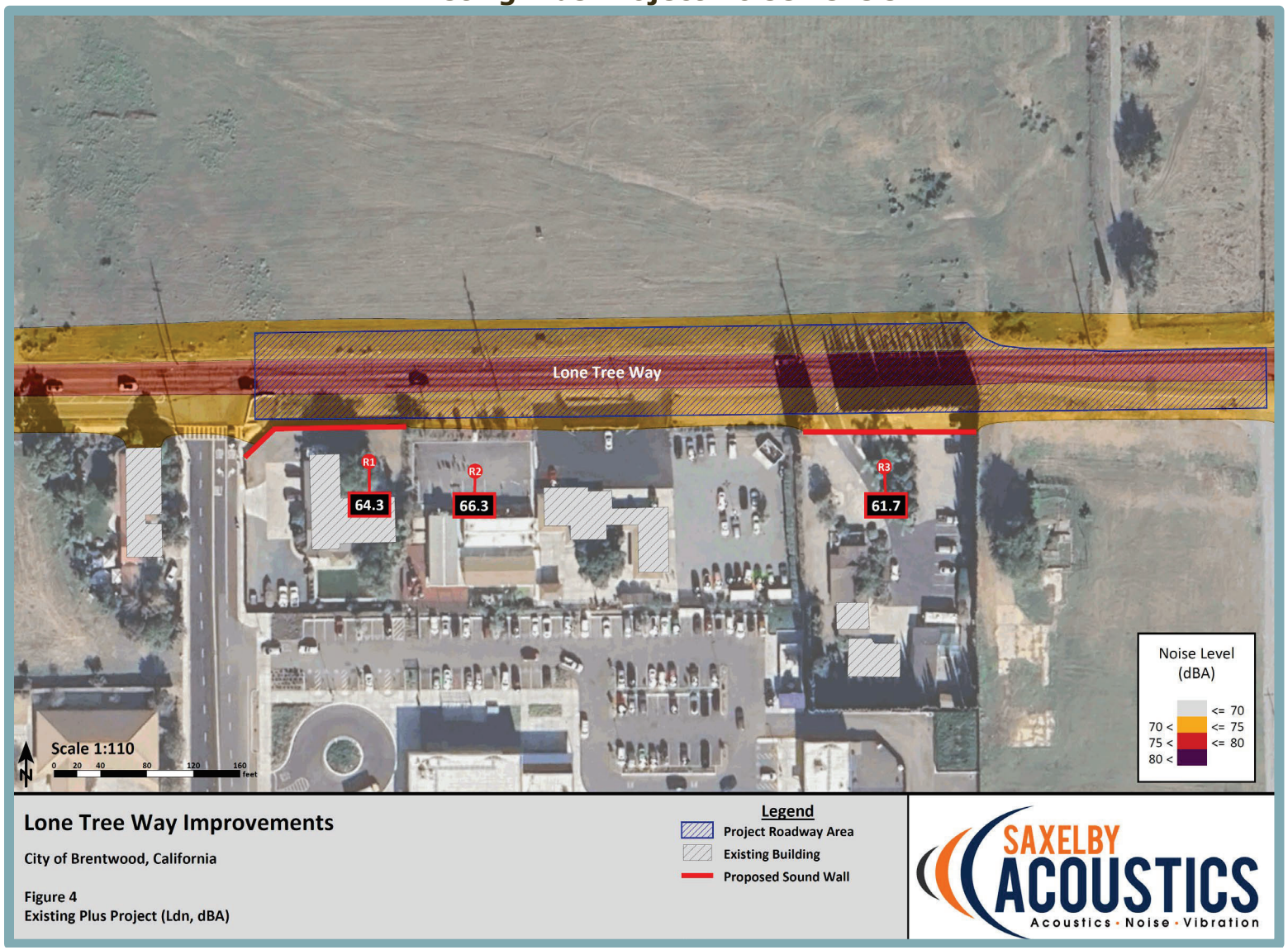


*Figure not OCR compatible.

Figure 13
General Plan Buildout Noise Levels

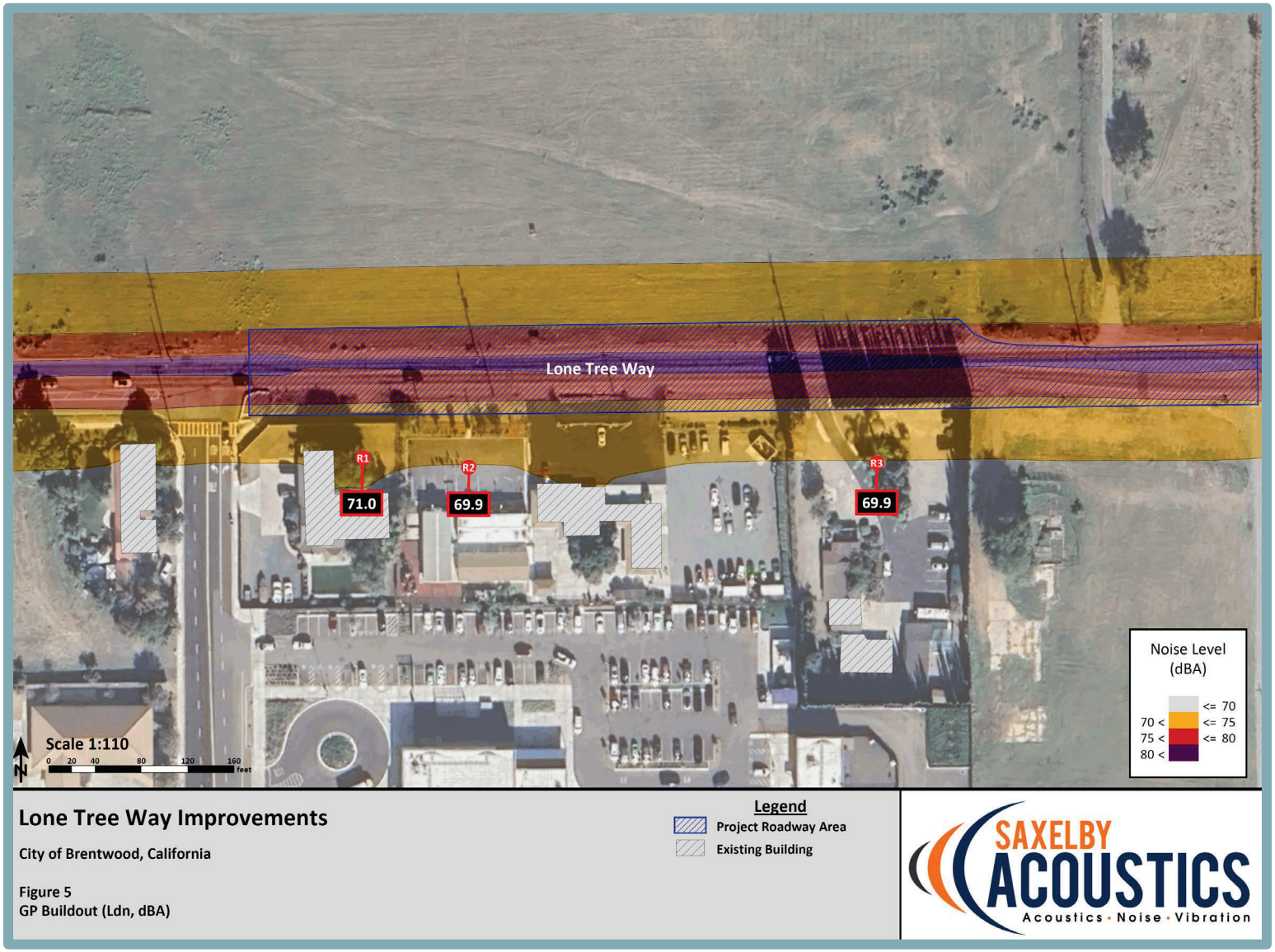


*Figure not OCR compatible.

Figure 14
General Plan Buildout Plus Project Noise Levels

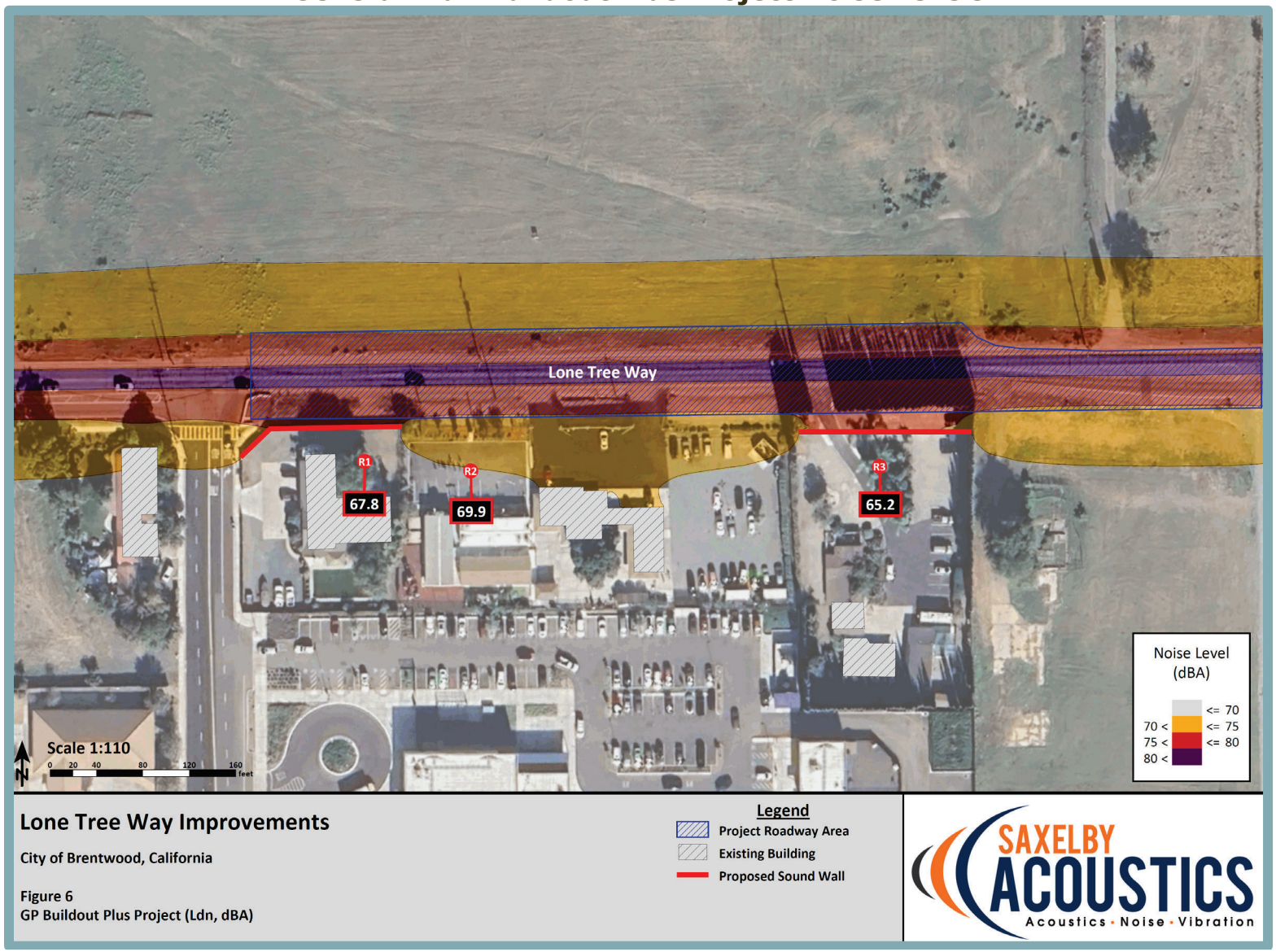


*Figure not OCR compatible.

As shown in Table 8, with installation of the proposed six-foot sound walls, under the General Plan Buildout Plus Project scenario, Receptors 1 and 3 would experience a decrease in noise levels, and Receptor 2 would experience no change in noise levels.

In addition, as described above and presented in Table 4, according to the City's General Plan Land Use Compatibility guidelines, single-family residential uses are considered "Normally Acceptable" in noise environments of 60 dBA L_{dn} or less and "Conditionally Acceptable" in noise environments of 60 dBA L_{dn} to 75 dBA L_{dn}. Churches are considered "Normally Acceptable" in noise environments of 65 dBA L_{dn} or less and "Conditionally Acceptable" in noise environments of 65 dBA L_{dn} to 75 dBA L_{dn}. As shown in Figure 10 and Figure 12 through Figure 14, above, the three sensitive receptors would fall into the "Conditionally Acceptable" land use category with and without buildout of the proposed project under both the existing and General Plan buildout conditions.

Based on the above analysis, the proposed project would not generate a substantial permanent increase in ambient noise levels at the existing sensitive receptors in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies, and a less-than-significant impact would occur.

Future Potential Improvement Area

Future potential roadway improvements within the Future Potential Improvement Area are anticipated to be similar to the improvements proposed within the Roadway Improvement Area. As such, noise impacts associated with the Future Potential Improvement Area are anticipated to be similar to the noise impacts for the Roadway Improvement Area described above. However, should future roadway improvements include any noise-generating activities during construction or operations that would exceed the acceptable noise level standards, a potentially significant impact could occur. Thus, preparation of a project-specific noise assessment would be required to ensure that future roadway improvements would not generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of the City's established noise standards.

Conclusion

As described above, the proposed project could result in potential noise level increases during construction activities within the Roadway Improvement Area, as well as potential noise level increases during construction and operations within the Future Potential Improvement Area. As such, the proposed project could 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. Therefore, the proposed project could result in a ***potentially significant*** impact.

Mitigation Measure(s)

Mitigation Measures XIII-1 and XIII-2 shall be implemented for all applicable project-related activities occurring within the Roadway Improvement Area, as well as within the Future Potential Improvement Area during the time of future improvements. In addition, Mitigation Measure XIII-3 shall be implemented for all applicable project-related activities occurring within the Future Potential Improvement Area during the time of future improvements. Implementation of the following mitigation measures would reduce the above potential impact to a *less-than-significant* level.

Roadway Improvement Area and Future Potential Improvement Area

XIII-1. *Construction activities shall be limited to 7:00 AM to 6:00 PM Monday-Friday and 8:00 AM to 5:00 PM on Saturday. Construction shall be prohibited on Sundays and City holidays. These criteria shall be included in the grading plan. Exceptions to allow expanded construction activities shall be reviewed on a case-by-case basis as determined by the Chief Building Official and/or City Engineer, and shall not be allowed on any date or time that would violate the City's applicable noise standards.*

XIII-2. *Prior to the approval of Improvement Plans or initiation of any grading or construction activity, the City shall establish the following conditions of approval for any permit that results in the use of construction equipment:*

- *Equip all equipment driven by internal combustion engines with intake and exhaust mufflers that are in good condition and appropriate to the equipment. Unnecessary idling of internal combustion engines should be strictly prohibited;*
- *Stationary noise-generating equipment, such as air compressors or portable power generators, must be located the greatest distance applicable from sensitive receptors. Construct temporary noise barriers to screen stationary noise-generating equipment when located near adjoining sensitive land uses;*
- *Utilize "quiet" air compressors and other stationary noise sources where technology exists;*
- *Designate a "disturbance coordinator" who would be responsible for responding to any local complaints regarding construction noise. The disturbance coordinator will determine the cause of the noise complaints (e.g., starting too early, bad muffler, etc.) and will require that reasonable measures warranted to correct the problem be implemented; and*
- *Notify residents within adjacent subdivisions or residential areas that the development of the site would generate noise levels during construction that may be considered excessive or annoying.*

Proof of compliance with the above measures shall be submitted to the City for review.

Future Potential Improvement Area

XIII-3. *In conjunction with submittal of any future roadway improvement plans within the Future Potential Improvement Area, a project-level noise and vibration assessment shall be prepared by a qualified acoustic engineer demonstrating that construction and operational noise levels (including traffic noise levels) associated with future on-site development would meet the applicable City of Brentwood exterior noise standards, and, if necessary, provide recommended mitigation measures, that may include, but shall not be limited to, the use of sound walls or other noise reducing measures at the project site, and installation of quiet pavement. The noise and vibration assessment shall be submitted to the Community Development Department for review and approval, and the recommendations shall be shown on all project plans, subject to review and approval by the City Engineer.*

b. Similar to noise, vibration involves a source, a transmission path, and a receiver. However, noise is generally considered to be pressure waves transmitted through air, whereas vibration usually consists of the excitation of a structure or surface. As with noise, vibration consists of an amplitude and frequency. A person's perception to the vibration depends on their individual sensitivity to vibration, as well as the amplitude and frequency of the source and the response of the system which is vibrating.

Vibration is measured in terms of acceleration, velocity, or displacement. A common practice is to monitor vibration in terms of peak particle velocities (PPV) in inches per second (in/sec). Standards pertaining to perception as well as damage to structures have been developed for vibration levels defined in terms of PPV. Human and structural response to different vibration levels is influenced by a number of factors, including ground type, distance between source and receptor, duration, and the number of perceived vibration events. Table 9, which was developed by the California Department of Transportation (Caltrans), shows the vibration levels that would normally be required to result in damage to structures.

Table 9
Effects of Vibration on People and Buildings

PPV		Human Reaction	Effect on Buildings
mm/sec	in/sec		
0.15 to 0.30	0.006 to 0.019	Threshold of perception; possibility of intrusion	Vibrations unlikely to cause damage of any type
2.0	0.08	Vibrations readily perceptible	Recommended upper level of the vibration to which ruins and ancient monuments should be subjected
2.5	0.10	Level at which continuous vibrations begin to annoy people	Virtually no risk of "architectural" damage to normal buildings
5.0	0.20	Vibrations annoying to people in buildings (this agrees with the levels established for people standing on bridges and subjected to relative short periods of vibrations)	Threshold at which there is a risk of "architectural" damage to normal dwelling - houses with plastered walls and ceilings. Special types of finish such as lining of walls, flexible ceiling treatment, etc., would minimize "architectural" damage
10 to 15	0.4 to 0.6	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges	Vibrations at a greater level than normally expected from traffic, but would cause "architectural" damage and possibly minor structural damage

Source: Caltrans. Transportation Related Earthborne Vibrations. TAV-02-01-R9601. February 20, 2002.

As shown in the table, the threshold for architectural damage to structures is 0.20 in/sec PPV and continuous vibrations of 0.10 in/sec PPV, or greater, would likely cause annoyance to sensitive receptors.

The primary vibration-generating activities associated with the proposed project would occur during grading and construction of the proposed roadway improvements. Table 10 shows the typical vibration levels produced by construction equipment at various distances. The most substantial source of groundborne vibrations associated with project

construction would be the use of vibratory compactors. Use of vibratory compactors/rollers could be required during construction of the proposed roadway.

Table 10
Vibration Levels for Various Construction Equipment

Type of Equipment	Peak Particle Velocity at 25 feet (inches/second)	Peak Particle Velocity at 50 feet (inches/second)	Peak Particle Velocity at 100 feet (inches/second)
Large Bulldozer	0.089	0.031	0.011
Loaded Trucks	0.076	0.027	0.010
Small Bulldozer	0.003	0.001	0.000
Auger/drill Rigs	0.089	0.031	0.011
Jackhammer	0.035	0.012	0.004
Vibratory Hammer	0.070	0.025	0.009
Vibratory Compactor/roller	0.210 (Less than 0.20 at 26 feet)	0.074	0.026

Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment Guidelines, May 2006.

The proposed project would only cause elevated vibration levels during construction, as the proposed project would not involve any uses or operations that would generate substantial groundborne vibration. Although noise and vibration associated with the construction phases of the project would add to the noise and vibration environment in the immediate project vicinity, construction activities would be temporary in nature and are anticipated to occur during normal daytime working hours. The following includes a discussion of impacts related to vibration for Roadway Improvement Area and Future Potential Improvement Area.

Roadway Improvement Area

The nearest sensitive receptor to the Roadway Improvement Area is an existing single-family residence located approximately 26 feet south of the site. Per the vibration levels shown in Table 10, vibratory compactors/rollers are anticipated to be the most substantial source of groundborne vibrations, and would have a PPV of less than 0.20 in/sec at 26 feet. Thus, project construction would not result in vibration levels above the 0.20 in/sec PPV threshold established by Caltrans for architectural damage to buildings.

Future Potential Improvement Area

Future potential improvements are anticipated to be similar to the improvements proposed within the Roadway Improvement Area. As such, future potential improvements are anticipated to generate vibration levels similar to those anticipated for the Roadway Improvement Area. However, should future roadway improvements include any vibration-generating activities within 26 feet from an existing building or structure, a potentially significant impact could occur. Thus, implementation of mitigation would be required to ensure that the proposed project would not expose people to or generate excessive groundborne vibration or groundborne noise levels as a result of future roadway improvements within the Future Potential Improvement Area.

Conclusion

Based on the above, with respect to the Future Potential Improvement Area, the proposed project could expose people to or generate excessive groundborne vibration or groundborne noise levels, and a ***potentially significant*** impact would occur.

Mitigation Measure(s)

The following mitigation measures shall be implemented for all applicable project-related activities occurring within the Future Potential Improvement Area during the time of future improvements. Implementation of the following mitigation measures would reduce the above potential impact to a *less-than-significant* level.

Future Potential Improvement Area

XIII-4. *Implement Mitigation Measure XIII-3.*

XIII-5. *Throughout the duration of construction, any compaction required within 26 feet of an existing building or structure shall be accomplished by using static drum rollers, which use weight instead of vibrations to achieve soil compaction. As an alternative to this requirement, preconstruction crack documentation and construction vibration monitoring could be conducted to ensure that construction vibrations do not cause damage to any adjacent structures. Proof of compliance with this measure shall be submitted to the Community Development Department for review and approval.*

c. The nearest public airport to the site is Byron Airport, which is located approximately 9.65 miles southeast of the site. In addition, a private airfield (Funny Farm Airfield) is located approximately 3.5 miles southeast of the project site. The project site is not covered by an existing airport land use plan. Given that the project site is not located within two miles of a public or private airport, the proposed project would not expose people residing or working in the project area to excessive noise levels associated with airports. Thus, ***no impact*** would occur.

XIV. POPULATION AND HOUSING. *Would the project:*	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (e.g., through projects in an undeveloped area or extension of major infrastructure)?	☐	☐	✖	☐
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	✖

Discussion

The following discussion applies to both the Roadway Improvement Area and the Future Potential Improvement Area, unless otherwise specified.

a. The proposed project would include the widening of an existing roadway, Lone Tree Way. Residential uses or other land uses typically associated with directly inducing population growth are not included as part of the proposed project. Accordingly, the proposed project would not directly induce substantial unplanned population growth.

While the proposed project would include the widening of Lone Tree Way and associated improvements, the proposed project would not include any improvements that would significantly extend any major infrastructure. Furthermore, existing residential and commercial development exists in the project site vicinity. Therefore, the proposed project would not indirectly induce unplanned population growth in the area.

Based on the above, the proposed project would not induce substantial unplanned population growth either directly or indirectly, and a ***less-than-significant*** impact would occur.

b. The proposed project would not result in the destruction of any permanent or temporary residences as part of the proposed improvements within the Roadway Improvement Area. As such, with respect to the Roadway Improvement Area, the proposed project would not displace a substantial number of existing housing or people and would not necessitate the construction of replacement housing elsewhere.

Existing single-family residences currently exist in the vicinity of the Future Potential Improvement Area. Future potential improvements could include the demolition of such residences. However, the single-family residences represent a very small fraction of the existing housing market in the City and surrounding area, and new housing could be found within the existing supply.

Based on the above, the proposed project would not displace a substantial amount of existing housing or people and would not necessitate the construction of replacement housing elsewhere. Therefore, ***a less-than-significant*** impact would occur.

XV. PUBLIC SERVICES. *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:*	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Fire protection?	☐	☐	✖	☐
b. Police protection?	☐	☐	✖	☐
c. Schools?	☐	☐	✖	☐
d. Parks?	☐	☐	✖	☐
e. Other Public Facilities?	☐	☐	✖	☐

Discussion

The following discussion applies to both the Roadway Improvement Area and the Future Potential Improvement Area, unless otherwise specified.

a-e. The proposed project is located within the jurisdiction of the East Contra Costa Fire Protection District and the City of Brentwood Police Department. Due to the nature of the proposed project, an increased demand for fire protection or police protection would not be anticipated. The proposed project would not include construction of new residences or other structures and would not result in increased population growth in the project vicinity. Therefore, an increased demand for schools, parks, or other public facilities would not occur as a result of the proposed project. In addition, the proposed roadway widening would provide an additional eastbound through lane along Lone Tree Way, which could help to improve emergency response times.

Based on the above, the project would not result in substantial adverse physical impacts associated with the provision of new or altered governmental facilities and, thus, a ***less-than-significant*** impact would occur.

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

Discussion

The following discussion applies to both the Roadway Improvement Area and the Future Potential Improvement Area.

a,b. Given that the proposed project would not include construction of residences or other structures and would not result in increased population growth in the project vicinity, an increased demand for parks and recreational facilities would not occur as a result of the proposed project. As such, the project would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur, nor would the project include recreation facilities or require the construction or expansion of recreational facilities that may have an adverse physical effect on the environment. Thus, ***no impact*** would occur.

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

Discussion

The following discussion applies to both the Roadway Improvement Area and the Future Potential Improvement Area, unless otherwise specified.

a. The law has changed with respect to how transportation-related impacts may be addressed under CEQA. Traditionally, lead agencies used level of service (LOS) to assess the significance of such impacts, with greater levels of congestion considered to be more significant than lesser levels. Enacted as part of Senate Bill 743 (2013), PRC Section 21099, subdivision (b)(1), directed the Governor's Office of Planning and Research (OPR) to prepare, develop, and transmit to the Secretary of the Natural Resources Agency for certification and adoption proposed CEQA Guidelines addressing "criteria for determining the significance of transportation impacts of projects within transit priority areas. Those criteria shall promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses."

Pursuant to SB 743, the Natural Resources Agency promulgated CEQA Guidelines Section 15064.3 in late 2018. It became effective in early 2019. Subdivision (a) of that section provides that "[g]enerally, vehicle miles traveled is the most appropriate measure of transportation impacts. For the purposes of this section, 'vehicle miles traveled' refers to the amount and distance of automobile travel attributable to a project. Other relevant considerations may include the effects of the project on transit and non-motorized travel. Except as provided in subdivision (b)(2) below (regarding roadway capacity), a project's effect on automobile delay shall not constitute a significant environmental impact."[27]

Please refer to Question 'b' for a discussion of VMT.

Pedestrian, Bicycle, and Transit Facilities

The proposed project's potential impacts related to pedestrian, bicycle, and transit facilities are discussed below.

[27] Subdivision (b)(2) of Section 15064.3 ("transportation projects") provides that "[t]ransportation projects that reduce, or have no impact on, vehicle miles traveled should be presumed to cause a less than significant transportation impact. For roadway capacity projects, agencies have discretion to determine the appropriate measure of transportation impact consistent with CEQA and other applicable requirements. To the extent that such impacts have already been adequately addressed at a programmatic level, such as in a regional transportation plan EIR, a lead agency may tier from that analysis as provided in Section 15152.

Pedestrian and Bicycle Facilities

Pedestrian facilities generally include sidewalks, crosswalks, and pedestrian signals. Roadways in the City of Brentwood that have been developed to their ultimate width generally provide sidewalks on both sides of the street. In addition, the City of Brentwood currently includes 19 miles of Class I bicycle trails and 63 miles of bike lanes.[28]

In the project vicinity, striped (Class II) bike lane and sidewalk facilities are generally provided along Lone Tree Way, Smith Road, Adams Lane, and O'Hara Avenue. Pedestrians and bicyclists are prohibited on SR 4. Sidewalk facilities are present within the Future Potential Improvement Area; however, the Roadway Improvement Area currently lacks sidewalks on both sides of the street from the Smith Road intersection to the Tilton Lane intersection.

The proposed project would include the construction of an eastbound Class IV bicycle lane, as well as a permanent sidewalk and associated curb along the southern portion of the Roadway Improvement Area. The proposed sidewalk would connect to the existing sidewalk along Smith Road. Future improvements to bicycle and pedestrian facilities within the Future Potential Improvement Area are anticipated to be similar. As such, implementation of the proposed project would improve pedestrian connectivity in the project vicinity. The proposed on-site bicycle lane and sidewalk would be integrated into the overall pedestrian circulation such that no hazardous conditions would occur. In addition, the roadway widening would not adversely impact existing facilities within the project area. Therefore, the proposed project would not conflict with a program, plan, ordinance, or policy addressing bicycle and pedestrian facilities.

Transit Facilities

Eastern Contra Costa Transit Authority (Tri Delta Transit) provides transit service in eastern Contra Costa County, serving the communities of Brentwood, Antioch, Oakley, Concord, Discovery Bay, Bay Point, and Pittsburg. Thirteen routes operate on weekdays, with seven routes operating on weekends. Tri Delta Transit operates two routes (362 and 373) on weekdays and one route on weekends (373) that serve the project area. Route 362 runs from Adams Lane at Blue Goose Park, located south of the project site, north to the City of Oakley, and back south along O'Hara Avenue to the Grant Street and O'Hara Avenue stop. Route 373 runs from the Antioch Bay Area Rapid Transit (BART) stop, through the City of Oakley, and south to American Avenue in the City of Brentwood. In addition to the regular transit service to the project area, Tri Delta Transit provides dial-a-ride door-to-door service within Eastern Contra Costa County for people with disabilities and senior citizens.

Given that the proposed project would consist of roadway widening and other associated improvements, the project would not increase demand on the City's existing transit facilities and services. Therefore, a less-than-significant impact to transit services would occur.

Conclusion

Based on the above, the proposed project would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities, and a ***less-than-significant*** impact could occur.

[28] City of Brentwood. *Trails*. Available at: https://www.brentwoodca.gov/government/parks-recreation/parks-and-trails/trails. Accessed July 2026.

b. An increase in traffic volumes along Lone Tree Way is not anticipated as a result of the proposed project. Rather, the proposed project would allow for a higher performance of the circulation system and would facilitate better circulation in the project area. Furthermore, the proposed project is consistent with the circulation planning in the City of Brentwood General Plan, and the project route is identified in the CCTA East County Action Plan as a route of regional significance. Based on the proposed project's consistency with the regional plans outlined above, vehicular circulation associated with the proposed project has already been analyzed. As such, the proposed project is presumed to have no impact on VMT, and, consistent with CEQA Guidelines Section 15064.3(b)(2), a ***less-than-significant*** impact would occur.

c,d. The proposed project has been designed in a manner consistent with all applicable design standards for roadway projects within the City of Brentwood including the City of Brentwood Engineering Procedures Manual; the City of Brentwood Municipal Code, including but not limited to, Title 12, Streets, Sidewalks and Public Places; Caltrans' Highway Design Manual; and the American Association of State Highway and Transportation Officials' A Policy on Geometric Design of Highways and Streets. Additionally, the proposed roadway widening improvements would provide for additional emergency access along Lone Tree Way. The project plans would be reviewed by the appropriate City departments to ensure conformance with all applicable fire-safety code and ordinance requirements for emergency access. Therefore, the proposed project would not substantially increase hazards due to a geometric design feature or incompatible uses, or result in inadequate emergency access, and a ***less-than-significant*** impact would occur.

XVIII. TRIBAL CULTURAL RESOURCES. *Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources 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:*	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k).	☐	✖	☐	☐
b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	✖	☐	☐

Discussion

The following discussion applies to both the Roadway Improvement Area and the Future Potential Improvement Area, unless otherwise specified.

a,b. As discussed in Section V, Cultural Resources, of this IS/MND, the Cultural Resources Study prepared for the proposed project included a record search of the NWIC. In addition, a Sacred Lands File records search was conducted by the NAHC on May 6, 2026, and returned negative results. A field survey was also conducted by Origer and indications of archaeological resources were not identified on-site.

In compliance with AB 52 (PRC Section 21080.3.1), on May 22, 2026, the City provided formal notification letters to the Amah Mutsun Tribal Band, Buena Vista Rancheria of Me-Wuk Indians, Calaveras Band of Mi-Wuk Indians, California Valley Miwok Tribe, Chicken Ranch Rancheria of Me-Wuk Indians, Confederated Villages of Lisjan Nation, Ione Band of Miwok Indians, Jackson Rancheria Band of Miwuk Indians, Muwekma Ohlone Tribe of the SF Bay Area, Nashville Enterprise Miwok-Maidu-Nishinam Tribe, Northern Valley Yokut/Ohlone Tribe, Pakan'yani Maidu of Strawberry Valley Rancheria, Ohlone Indian Tribe, Tule River Indian Tribe, Wilton Rancheria, and Wuksachi Indian Tribe/Eshom Valley Band. Two responses were received from the Confederated Villages of Lisjan Nation and Wilton Rancheria Tribe requesting to initiate consultation. The City provided responses to the tribes, including all requested information. In addition, the Wilton Rancheria provided general guidance on mitigation measure components to be implemented as part of the proposed project. The requested components have been incorporated into the mitigation measures below.

Based on a lack of identified on-site tribal cultural resources and the extensive disturbance that has occurred within the immediate project vicinity, known tribal cultural resources do not exist and are not expected to occur within the site. Nevertheless, the possibility exists that development of the proposed project could result in a substantial adverse change in the significance of a tribal cultural resource if previously unknown tribal cultural resources

are uncovered during grading or other ground-disturbing activities. Thus, a ***potentially significant*** impact to tribal cultural resources could occur.

Mitigation Measure(s)

The following mitigation measures shall be implemented for all applicable activities occurring within the Roadway Improvement Area, as well as within the Future Potential Improvement Area during the time of future improvements. Implementation of the following mitigation measures would reduce the above potential impact to a *less-than-significant* level.

Roadway Improvement Area and Future Potential Improvement Area

XVIII-1. *If cultural resources of Native American origin are identified during grading or excavation of the proposed project, all ground disturbing activities within 100 feet shall cease until a representative from the Wilton Rancheria and Confederated Villages of Lisjan Nation is consulted by the lead agency. If the lead agency in consultation with the consulting Tribe(s), determines that the resource is a tribal cultural resource and thus significant under CEQA and/or the Tribe, the lead agency shall retain a Tribal monitor and, if applicable, a qualified archeologist, to prepare a mitigation plan, which shall be implemented by the lead agency in accordance with state guidelines and in consultation with the consulting Tribe(s). The mitigation plan shall include avoidance of the resource if at all feasible. If avoidance of the resource is not feasible, the plan shall outline appropriate treatment of the resource in coordination with the consulting Tribe. Examples of appropriate mitigation for tribal cultural resources include, but are not limited to: protecting the cultural character and integrity of the resources, protecting traditional use of the resources, protecting the confidentiality of the resources, permanent conservation easements with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places, and/or protecting the resource.*

XVIII-2. *If human remains are encountered during construction and/or other ground disturbing activities, all work within 100 feet of the remains shall be redirected and the County Coroner shall be notified immediately. At the same time, an archeologist shall be contacted to assess the situation. If the human remains are of Native American origin, the Coroner must notify the Native American Heritage Commission (NAHC) within 24 hours of this identification. The NAHC shall identify a Native American Most Likely Descendent (MLD) to inspect the site and provide recommendations for the proper treatment of the remains and any associated funerary objects. There shall be no pictures taken or testing done on the Native American human remains. All bone, until identified as non-human remains, shall be treated as potential human remains and the appropriate protocols followed. The archeologist shall record information, as appropriate and in accordance with the recommendations of the MLD and/or Tribal representative. Upon completion of the archeologist's assessment, a report shall be prepared documenting methods and results, as well as recommendations made in consultation with the MLD, regarding the treatment of the human remains and any associated archeological materials. The report shall be submitted to the lead agency, the NWIC and the consulting Tribe. Tribal representatives will rebury the Native American*

human remains and associated funerary objects with the appropriate dignity, either; in accordance with the recommendations of the MLD if available or in the project vicinity at a location agreed upon between the Tribe and the project proponent, which would be accessible to Tribal members in perpetuity and would not be subject to further disturbance. The discovery and reburial is to be kept confidential and secure to prevent any further disturbance. The location of the reburial shall be documented with GPS coordinates and a Department of Parks and Recreation 523a Primary Record form, and that information shall be submitted to the NWIC.

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

Discussion

The following discussion applies to both the Roadway Improvement Area and the Future Potential Improvement Area, unless otherwise specified.

a-c. Utilities installed as part of the proposed project would include a storm drainage system and electrical lines for roadway lighting within the Roadway Improvement Area. Relocation of an existing water valve, sanitary sewer cleanout, and fire hydrant within the Roadway Improvement Area would also be included as part of the proposed project in order to accommodate the widened roadway. Utilities developed as part of the future potential roadway improvements are anticipated to be similar to the aforementioned improvements.

Given that the proposed project would include roadway widening and other associated improvements, the project would not require regular water usage during operation. Rather, water usage would be limited to emergency situations. Therefore, the proposed project would not increase water demand within the City such that the City would not have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years.

In addition, the proposed roadway widening would not create increased demand for wastewater treatment facilities. During construction, it is anticipated that portable toilet facilities would be used and workers would rely on water transported to the project site for potable water supply. Electrical for roadway lighting would be installed as part of the proposed project; however, adequate electric power supplies exist to serve the project, and the installation of new roadway lighting would not require or result in the relocation or construction of new or expanded electric power facilities. Natural gas or telecommunications facilities would not be required due to the nature of the proposed project.

The proposed roadway improvements would not involve operations typically associated with the generation or discharge of polluted water. Additionally, the proposed areas of disturbance would be paved following construction, thereby preventing any erosion from occurring during project operations, and the proposed project would include the installation of storm drain pipes to capture stormwater runoff from impervious surfaces. Typical operations on the project site would not require the construction or expansion of additional storm water drainage facilities because the implementation of construction BMPs and compliance with the California Building Standards Code (CBSC) would ensure adequate stormwater drainage capacity.

Based on the above, impacts would be ***less-than-significant***.

d,e. The proposed project would not result in the generation of solid waste during operations and, therefore, the project site would not need to be served by a solid waste disposal facility. However, project construction would require the disposal of solid waste in the form of construction materials.

The solid waste from Brentwood is disposed of at Keller Canyon County landfill. Keller Canyon Landfill covers 1,399 acres of land; 244 acres are permitted for disposal. The permit for the site allows up to 3,500 tons of waste per day to be managed at the facility. According to the California Department of Resources Recycling and Recovery (CalRecycle), the Keller Canyon Landfill has a remaining capacity of 63,408,410 CY out of a total permitted capacity of 75,018,280 or 85 percent remaining capacity.[29] Furthermore, pursuant to the CALGreen Code, at least 65 percent diversion of construction waste is required for projects permitted after January 1, 2017. Because the project would only create a temporary increase in the amount of waste during construction activities, the proposed project would not result in a significant impact related to solid waste generation during construction.

Based on the above, the proposed project would not generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals and would comply with federal, State, and local management and reduction statutes and regulations related to solid waste. Therefore, a ***less-than-significant*** impact would occur.

[29] California Department of Resources Recycling and Recovery (CalRecycle). *Facility/Site Summary Details: Keller Canyon Landfill (07-AA-0032)*. Available at: https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/4407?siteID=228. Accessed June 2026.

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

Discussion

The following discussion applies to both the Roadway Improvement Area and the Future Potential Improvement Area.

a-d. According to the Cal Fire Resource Assessment Program, the project site is not located within a Very High Fire Hazard Severity Zone.[30] The nearest Very High Fire Hazard Severity Zone to the project site is located approximately 4.05 miles southeast of the site. The project site is generally surrounded by existing development to the north and south, and the developed nature of the area surrounding the project site would help to prevent the spread of wildfire to the site. In addition, the proposed project would not include the construction of structures or infrastructure that would result in an increased hazard due to wildfires. Thus, the proposed project would result in a ***less-than-significant*** impact related to substantial risk or hazards related to wildfires.

[30] California Department of Forestry and Fire Protection. *FHSZ Viewer.* Available at: https://experience.arcgis.com/experience/5065c998b4b0462f9ec3c6c226c610a9. Accessed May 2026.

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

Discussion

The following discussion applies to both the Roadway Improvement Area and the Future Potential Improvement Area.

a. As discussed in Section IV, Biological Resources, of this IS/MND, while a limited potential exists for special-status species to occur on-site, compliance with Mitigation Measures IV-1 and IV-2 would ensure that any impacts related to special-status species would be reduced to a less-than-significant level. The project site does not contain any known historic or prehistoric resources. Thus, implementation of the proposed project is not anticipated to have the potential to result in impacts related to historic or prehistoric resources. Nevertheless, Mitigation Measures V-1, XVIII-1, and XVIII-2 would ensure that in the event that prehistoric resources are discovered within the project site, such resources would be protected in compliance with the requirements of CEQA and other State standards.

Considering the above, the proposed project would not degrade the quality of the environment, substantially reduce or impact the habitat of fish or wildlife species, cause fish or wildlife populations to drop below self-sustaining levels, threaten to eliminate a plant or animal community, 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. Therefore, a ***less-than-significant*** impact would occur.

b. In conjunction with other development within the City of Brentwood, the proposed project could incrementally contribute to cumulative impacts in the area. However, as demonstrated in this IS/MND, all potential environmental impacts that could occur as a result of project implementation would be reduced to a less-than-significant level through compliance with the mitigation measures included in this IS/MND, as well as applicable General Plan policies, Municipal Code standards, and other applicable local and State regulations.

Therefore, when viewed in conjunction with other closely related past, present, or reasonably foreseeable future projects, development of the proposed project would not result in a cumulatively considerable contribution to cumulative impacts in the City of Brentwood, and the project's incremental contribution to cumulative impacts would be ***less than significant***.

c. As described in this IS/MND, the proposed project would comply with all applicable General Plan policies, Municipal Code standards, other applicable local and State regulations, in addition to the mitigation measures included herein. In addition, as discussed in Section III, Air Quality, Section IX, Hazards and Hazardous Materials, and Section XIII, Noise, of this IS/MND, the proposed project would not cause substantial effects to human beings, including effects related to exposure to air pollutants, hazardous materials, traffic, and noise. Therefore, the proposed project would result in a ***less-than-significant*** impact.

APPENDIX A

AIR QUALITY AND GHG MODELING RESULTS

Lone Tree Way Roadway Improvements Custom Report

Table of Contents

1. Basic Project Information
   1.1. Basic Project Information
   1.2. Land Use Types
   1.3. User-Selected Emission Reduction Measures by Emissions Sector
2. Emissions Summary
   2.1. Construction Emissions Compared Against Thresholds
   2.2. Construction Emissions by Year
      2.2.1. Total Construction Emissions by Year, Unmitigated
      2.2.2. Onsite Construction Emissions by Year, Unmitigated
      2.2.3. Offsite Construction Emissions by Year, Unmitigated
3. Construction Emissions Details
   3.1. Linear, Grubbing & Land Clearing (2027)
      3.1.1. Onsite - Unmitigated
      3.1.2. Offsite - Unmitigated
   3.2. Linear, Grading & Excavation (2027)
      3.2.1. Onsite - Unmitigated
      3.2.2. Offsite - Unmitigated
   3.3. Linear, Drainage, Utilities, & Sub-Grade (2027)

3.3.1. Onsite - Unmitigated
3.3.2. Offsite - Unmitigated
3.4. Linear, Paving (2027)
3.4.1. Onsite - Unmitigated
3.4.2. Offsite - Unmitigated
4. Operations Emissions Details
4.10. Soil Carbon Accumulation By Vegetation Type
4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated
4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated
4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated
5. Activity Data
5.1. Construction Schedule
5.2. Off-Road Equipment
5.2.1. Unmitigated
5.3. Construction Vehicles
5.3.1. Unmitigated
5.4. Vehicles
5.4.1. Construction Vehicle Control Strategies
5.5. Architectural Coatings
5.6. Dust Mitigation
5.6.1. Construction Earthmoving Activities
5.6.2. Construction Earthmoving Control Strategies

5.7. Construction Paving
5.8. Construction Electricity Consumption and Emissions Factors
5.18. Vegetation
5.18.1. Land Use Change
5.18.1.1. Unmitigated
5.18.1. Biomass Cover Type
5.18.1.1. Unmitigated
5.18.2. Sequestration
5.18.2.1. Unmitigated
8. User Changes to Default Data
8.1. Justifications
8.4. Construction
8.4.1. Construction Phases

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Lone Tree Way Roadway Improvements
Construction Start Date	4/1/2027
Lead Agency	City of Brentwood
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.60000
Precipitation (days)	20.6000
Location	37.961632851877596, -121.71002159659265
County	Contra Costa
City	Brentwood
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	1363
EDFZ	1
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.45

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Road Widening	0.50000	Mile	1.17647	0.00000	—	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.47433	3.55375	32.4479	40.1131	0.09503	1.22846	2.09319	3.32166	1.13391	0.43162	1.56553	—	11,603.6	11,603.6	0.58348	0.64724	8.21453	11,819.3
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.34848	0.28942	2.47182	3.31189	0.00653	0.09292	0.08106	0.17398	0.08555	0.01619	0.10174	—	732.805	732.805	0.03101	0.01561	0.10224	738.336
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.06360	0.05282	0.45111	0.60442	0.00119	0.01696	0.01479	0.03175	0.01561	0.00295	0.01857	—	121.324	121.324	0.00513	0.00259	0.01693	122.240

2.2. Construction Emissions by Year

2.2.1. Total Construction Emissions by Year, Unmitigated

Includes both onsite and offsite emissions.

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

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	4.47433	3.55375	32.4479	40.1131	0.09503	1.22846	2.09319	3.32166	1.13391	0.43162	1.56553	—	11,603.6	11,603.6	0.58348	0.64724	8.21453	11,819.3
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.34848	0.28942	2.47182	3.31189	0.00653	0.09292	0.08106	0.17398	0.08555	0.01619	0.10174	—	732.805	732.805	0.03101	0.01561	0.10224	738.336
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.06360	0.05282	0.45111	0.60442	0.00119	0.01696	0.01479	0.03175	0.01561	0.00295	0.01857	—	121.324	121.324	0.00513	0.00259	0.01693	122.240

2.2.2. Onsite Construction Emissions by Year, Unmitigated

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

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	3.98784	3.35089	27.9061	36.4512	0.07059	1.18188	0.93235	1.96588	1.08733	0.13034	1.17352	—	7,644.02	7,644.02	0.31008	0.06202	0.00000	7,670.26
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.32915	0.27583	2.38857	3.14578	0.00615	0.09219	0.03035	0.12254	0.08482	0.00370	0.08852	—	641.694	641.694	0.02603	0.00521	0.00000	643.896
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.06007	0.05034	0.43591	0.57410	0.00112	0.01683	0.00554	0.02236	0.01548	0.00068	0.01616	—	106.240	106.240	0.00431	0.00086	0.00000	106.604

2.2.3. Offsite Construction Emissions by Year, Unmitigated

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

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.48649	0.20286	4.54172	3.66185	0.02444	0.04658	1.30920	1.35578	0.04658	0.34543	0.39201	—	3,959.56	3,959.56	0.27340	0.58522	8.21453	4,149.00
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.01933	0.01359	0.08325	0.16611	0.00038	0.00073	0.05071	0.05144	0.00073	0.01248	0.01321	—	91.1109	91.1109	0.00498	0.01041	0.10224	94.4395
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.00353	0.00248	0.01519	0.03031	0.00007	0.00013	0.00925	0.00939	0.00013	0.00228	0.00241	—	15.0845	15.0845	0.00082	0.00172	0.01693	15.6355

3. Construction Emissions Details

3.1. Linear, Grubbing & Land Clearing (2027)

3.1.1. Onsite - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50946	0.42808	3.80861	4.46942	0.00584	0.18470	—	0.18470	0.16993	—	0.16993	—	632.486	632.486	0.02566	0.00513	—	634.656
Dust From Material Movement	—	—	—	—	—	—	0.24953	0.24953	—	0.02694	0.02694	—	—	—	—	—	—	—
Demolition	—	—	—	—	—	—	0.68282	0.68282	—	0.10340	0.10340	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00698	0.00586	0.05217	0.06122	0.00008	0.00253	—	0.00253	0.00233	—	0.00233	—	8.66419	8.66419	0.00035	0.00007	—	8.69392

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Dust From Material Movement	—	—	—	—	—	—	0.00342	0.00342	—	0.00037	0.00037	—	—	—	—	—	—	—
Demolition	—	—	—	—	—	—	0.00935	0.00935	—	0.00142	0.00142	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00127	0.00107	0.00952	0.01117	0.00001	0.00046	—	0.00046	0.00042	—	0.00042	—	1.43445	1.43445	0.00006	0.00001	—	1.43938
Dust From Material Movement	—	—	—	—	—	—	0.00062	0.00062	—	0.00007	0.00007	—	—	—	—	—	—	—
Demolition	—	—	—	—	—	—	0.00171	0.00171	—	0.00026	0.00026	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.1.2. Offsite - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03382	0.03058	0.02121	0.36742	0.00000	0.00000	0.08266	0.08266	0.00000	0.01938	0.01938	—	84.8121	84.8121	0.00154	0.00324	0.28844	86.1049

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.05193	0.01187	0.65861	0.32397	0.00361	0.00688	0.14461	0.15149	0.00688	0.03959	0.04647	—	534.975	534.975	0.03955	0.08460	1.04263	562.218
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00044	0.00039	0.00034	0.00414	0.00000	0.00000	0.00112	0.00112	0.00000	0.00026	0.00026	—	1.07462	1.07462	0.00002	0.00004	0.00171	1.09016
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00071	0.00016	0.00934	0.00445	0.00005	0.00009	0.00196	0.00206	0.00009	0.00054	0.00063	—	7.32968	7.32968	0.00054	0.00116	0.00618	7.69478
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00008	0.00007	0.00006	0.00076	0.00000	0.00000	0.00020	0.00020	0.00000	0.00005	0.00005	—	0.17792	0.17792	< 0.000005	0.00001	0.00028	0.18049
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00013	0.00003	0.00170	0.00081	0.00001	0.00002	0.00036	0.00038	0.00002	0.00010	0.00012	—	1.21351	1.21351	0.00009	0.00019	0.00102	1.27396

3.2. Linear, Grading & Excavation (2027)

3.2.1. Onsite - Unmitigated

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

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Off-Road Equipment	3.98784	3.35089	27.9061	36.4512	0.07059	1.18188	—	1.18188	1.08733	—	1.08733	—	7,644.02	7,644.02	0.31008	0.06202	—	7,670.26
Dust From Material Movement	—	—	—	—	—	—	0.78399	0.78399	—	0.08619	0.08619	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05463	0.04590	0.38228	0.49933	0.00097	0.01619	—	0.01619	0.01489	—	0.01489	—	104.713	104.713	0.00425	0.00085	—	105.072
Dust From Material Movement	—	—	—	—	—	—	0.01074	0.01074	—	0.00118	0.00118	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00997	0.00838	0.06977	0.09113	0.00018	0.00295	—	0.00295	0.00272	—	0.00272	—	17.3364	17.3364	0.00070	0.00014	—	17.3959

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Dust From Material Movement	—	—	—	—	—	—	0.00196	0.00196	—	0.00022	0.00022	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.2.2. Offsite - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13528	0.12231	0.08483	1.46969	0.00000	0.00000	0.33066	0.33066	0.00000	0.07751	0.07751	—	339.248	339.248	0.00617	0.01296	1.15378	344.419
Vendor	0.00234	0.00083	0.03238	0.01572	0.00019	0.00037	0.00705	0.00742	0.00037	0.00195	0.00232	—	25.9767	25.9767	0.00146	0.00388	0.05641	27.2260
Hauling	0.34888	0.07971	4.42450	2.17644	0.02426	0.04621	0.97150	1.01770	0.04621	0.26598	0.31219	—	3,593.93	3,593.93	0.26570	0.56837	7.00434	3,776.95
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00174	0.00155	0.00135	0.01657	0.00000	0.00000	0.00447	0.00447	0.00000	0.00105	0.00105	—	4.29849	4.29849	0.00010	0.00018	0.00683	4.36066
Vendor	0.00003	0.00001	0.00046	0.00022	< 0.000005	0.00001	0.00010	0.00010	0.00001	0.00003	0.00003	—	0.35594	0.35594	0.00002	0.00005	0.00033	0.37261
Hauling	0.00475	0.00108	0.06273	0.02993	0.00033	0.00063	0.01317	0.01381	0.00063	0.00361	0.00424	—	49.2404	49.2404	0.00364	0.00779	0.04150	51.6931
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Worker	0.00032	0.00028	0.00025	0.00302	0.00000	0.00000	0.00082	0.00082	0.00000	0.00019	0.00019	—	0.71166	0.71166	0.00002	0.00003	0.00113	0.72196
Vendor	0.00001	< 0.00005	0.00008	0.00004	< 0.00005	< 0.00005	0.00002	0.00002	< 0.00005	< 0.00005	0.00001	—	0.05893	0.05893	< 0.00005	0.00001	0.00006	0.06169
Hauling	0.00087	0.00020	0.01145	0.00546	0.00006	0.00012	0.00240	0.00252	0.00012	0.00066	0.00077	—	8.15232	8.15232	0.00060	0.00129	0.00687	8.55839

3.3. Linear, Drainage, Utilities, & Sub-Grade (2027)

3.3.1. Onsite - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.06595	1.72988	15.0381	19.6689	0.03954	0.56552	—	0.56552	0.52028	—	0.52028	—	4,088.78	4,088.78	0.16586	0.03317	—	4,102.81
Dust From Material Movement	—	—	—	—	—	—	0.05545	0.05545	—	0.00599	0.00599	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Off-Road Equipment	0.25471	0.21327	1.85402	2.42493	0.00488	0.06972	—	0.06972	0.06414	—	0.06414	—	504.096	504.096	0.02045	0.00409	—	505.826
Dust From Material Movement	—	—	—	—	—	—	0.00684	0.00684	—	0.00074	0.00074	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04648	0.03892	0.33836	0.44255	0.00089	0.01272	—	0.01272	0.01171	—	0.01171	—	83.4588	83.4588	0.00339	0.00068	—	83.7453
Dust From Material Movement	—	—	—	—	—	—	0.00125	0.00125	—	0.00013	0.00013	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.3.2. Offsite - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09300	0.08409	0.05832	1.01041	0.00000	0.00000	0.22733	0.22733	0.00000	0.05329	0.05329	—	233.233	233.233	0.00424	0.00891	0.79322	236.788
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01079	0.00962	0.00836	0.10251	0.00000	0.00000	0.02766	0.02766	0.00000	0.00648	0.00648	—	26.5969	26.5969	0.00060	0.00110	0.04227	26.9816
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00197	0.00176	0.00153	0.01871	0.00000	0.00000	0.00505	0.00505	0.00000	0.00118	0.00118	—	4.40342	4.40342	0.00010	0.00018	0.00700	4.46711
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.4. Linear, Paving (2027)

3.4.1. Onsite - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.93732	0.78761	7.30737	11.7016	0.01633	0.27376	—	0.27376	0.25186	—	0.25186	—	1,768.15	1,768.15	0.07172	0.01434	—	1,774.22

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01284	0.01079	0.10010	0.16030	0.00022	0.00375	—	0.00375	0.00345	—	0.00345	—	24.2213	24.2213	0.00098	0.00020	—	24.3044
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00234	0.00197	0.01827	0.02925	0.00004	0.00068	—	0.00068	0.00063	—	0.00063	—	4.01011	4.01011	0.00016	0.00003	—	4.02387
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.4.2. Offsite - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06764	0.06116	0.04242	0.73484	0.00000	0.00000	0.16533	0.16533	0.00000	0.03875	0.03875	—	169.624	169.624	0.00309	0.00648	0.57689	172.210
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00087	0.00078	0.00068	0.00828	0.00000	0.00000	0.00223	0.00223	0.00000	0.00052	0.00052	—	2.14925	2.14925	0.00005	0.00009	0.00342	2.18033
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00016	0.00014	0.00012	0.00151	0.00000	0.00000	0.00041	0.00041	0.00000	0.00010	0.00010	—	0.35583	0.35583	0.00001	0.00001	0.00057	0.36098
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Linear, Grubbing & Land Clearing	Linear, Grubbing & Land Clearing	4/1/2027	4/7/2027	5.00000	5.00000	—
Linear, Grading & Excavation	Linear, Grading & Excavation	4/8/2027	4/14/2027	5.00000	5.00000	—
Linear, Drainage, Utilities, & Sub-Grade	Linear, Drainage, Utilities, & Sub-Grade	4/15/2027	6/16/2027	5.00000	45.0000	—
Linear, Paving	Linear, Paving	6/17/2027	6/23/2027	5.00000	5.00000	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Linear, Grubbing & Land Clearing	Crawler Tractors	Diesel	Average	1.000000	8.00000	87.0000	0.43000
Linear, Grubbing & Land Clearing	Excavators	Diesel	Average	2.00000	8.00000	36.0000	0.38000
Linear, Grubbing & Land Clearing	Signal Boards	Electric	Average	1.000000	8.00000	6.00000	0.82000
Linear, Grading & Excavation	Crawler Tractors	Diesel	Average	1.000000	8.00000	87.0000	0.43000
Linear, Grading & Excavation	Excavators	Diesel	Average	3.00000	8.00000	36.0000	0.38000
Linear, Grading & Excavation	Graders	Diesel	Average	2.00000	8.00000	148.000	0.41000
Linear, Grading & Excavation	Rollers	Diesel	Average	2.00000	8.00000	36.0000	0.38000
Linear, Grading & Excavation	Rubber Tired Loaders	Diesel	Average	1.000000	8.00000	150.000	0.36000
Linear, Grading & Excavation	Scrapers	Diesel	Average	2.00000	8.00000	423.000	0.48000
Linear, Grading & Excavation	Signal Boards	Electric	Average	1.000000	8.00000	6.00000	0.82000
Linear, Grading & Excavation	Tractors/Loaders/ Backhoes	Diesel	Average	4.00000	8.00000	84.0000	0.37000
Linear, Drainage, Utilities, & Sub-Grade	Air Compressors	Diesel	Average	1.000000	8.00000	37.0000	0.48000
Linear, Drainage, Utilities, & Sub-Grade	Generator Sets	Diesel	Average	1.000000	8.00000	14.0000	0.74000

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Linear, Drainage, Utilities, & Sub-Grade	Graders	Diesel	Average	1.000000	8.00000	148.000	0.41000
Linear, Drainage, Utilities, & Sub-Grade	Plate Compactors	Diesel	Average	1.000000	8.00000	8.00000	0.43000
Linear, Drainage, Utilities, & Sub-Grade	Pumps	Diesel	Average	1.000000	8.00000	11.0000	0.74000
Linear, Drainage, Utilities, & Sub-Grade	Rough Terrain Forklifts	Diesel	Average	1.000000	8.00000	96.0000	0.40000
Linear, Drainage, Utilities, & Sub-Grade	Scrapers	Diesel	Average	1.000000	8.00000	423.000	0.48000
Linear, Drainage, Utilities, & Sub-Grade	Signal Boards	Electric	Average	1.000000	8.00000	6.00000	0.82000
Linear, Drainage, Utilities, & Sub-Grade	Tractors/Loaders/ Backhoes	Diesel	Average	3.00000	8.00000	84.0000	0.37000
Linear, Paving	Pavers	Diesel	Average	1.000000	8.00000	81.0000	0.42000
Linear, Paving	Paving Equipment	Diesel	Average	1.000000	8.00000	89.0000	0.36000
Linear, Paving	Rollers	Diesel	Average	2.00000	8.00000	36.0000	0.38000
Linear, Paving	Signal Boards	Electric	Average	1.000000	8.00000	6.00000	0.82000
Linear, Paving	Tractors/Loaders/ Backhoes	Diesel	Average	3.00000	8.00000	84.0000	0.37000

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Linear, Grubbing & Land Clearing	Worker	10.00000	11.7000	LDA,LDT1,LDT2
Linear, Grubbing & Land Clearing	Vendor	0.00000	8.40000	HHDT,MHDT
Linear, Grubbing & Land Clearing	Hauling	7.80000	20.0000	HHDT
Linear, Grubbing & Land Clearing	Onsite truck	—	—	HHDT
Linear, Grading & Excavation	Worker	40.0000	11.7000	LDA,LDT1,LDT2
Linear, Grading & Excavation	Vendor	1.000000	8.40000	HHDT,MHDT
Linear, Grading & Excavation	Hauling	52.4000	20.0000	HHDT
Linear, Grading & Excavation	Onsite truck	—	—	HHDT
Linear, Drainage, Utilities, & Sub-Grade	Worker	27.5000	11.7000	LDA,LDT1,LDT2
Linear, Drainage, Utilities, & Sub-Grade	Vendor	0.00000	8.40000	HHDT,MHDT
Linear, Drainage, Utilities, & Sub-Grade	Hauling	0.00000	20.0000	HHDT
Linear, Drainage, Utilities, & Sub-Grade	Onsite truck	—	—	HHDT
Linear, Paving	Worker	20.0000	11.7000	LDA,LDT1,LDT2
Linear, Paving	Vendor	0.00000	8.40000	HHDT,MHDT
Linear, Paving	Hauling	0.00000	20.0000	HHDT
Linear, Paving	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Linear, Grubbing & Land Clearing	—	—	1.17647	3,316.15	0.00000
Linear, Grading & Excavation	—	2,090.00	1.17647	0.00000	0.00000
Linear, Drainage, Utilities, & Sub-Grade	—	—	1.17647	0.00000	0.00000

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2027	117.403	203.983	0.03300	0.00400

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

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

8. User Changes to Default Data

8.1. Justifications

Screen	Justification
Construction: Construction Phases	Phase timing is based on the project-specific construction schedule provided by the applicant.

Screen	Justification
Construction: Demolition	Future Potential Roadway Improvements may require demolition of two structures located along the roadway. Thus, potential demolition has been assumed to occur during the first phase of construction, and the square footage of those structures has been accounted for here.

8.4. Construction

8.4.1. Construction Phases

Phase Type	Phase Name	Model Parameter	Default Value	New Value
Linear, Grubbing & Land Clearing	Linear, Grubbing & Land Clearing	End Date	4/9/2027	4/7/2027
Linear, Grubbing & Land Clearing	Linear, Grubbing & Land Clearing	Work Days per Phase	6.00000	5.00000
Linear, Grading & Excavation	Linear, Grading & Excavation	Start Date	4/10/2027	4/8/2027
Linear, Grading & Excavation	Linear, Grading & Excavation	End Date	5/17/2027	4/14/2027
Linear, Grading & Excavation	Linear, Grading & Excavation	Work Days per Phase	27.0000	5.00000
Linear, Drainage, Utilities, & Sub-Grade	Linear, Drainage, Utilities, & Sub-Grade	Start Date	5/18/2027	4/15/2027
Linear, Drainage, Utilities, & Sub-Grade	Linear, Drainage, Utilities, & Sub-Grade	End Date	6/12/2027	6/16/2027
Linear, Drainage, Utilities, & Sub-Grade	Linear, Drainage, Utilities, & Sub-Grade	Work Days per Phase	18.0000	45.0000
Linear, Paving	Linear, Paving	Start Date	6/13/2027	6/17/2027
Linear, Paving	Linear, Paving	End Date	6/25/2027	6/23/2027
Linear, Paving	Linear, Paving	Work Days per Phase	9.00000	5.00000

APPENDIX B

ENVIRONMENTAL NOISE ASSESSMENT

Environmental Noise Assessment

Lone Tree Way Improvements

City of Brentwood, California

July 7, 2026

Project #220512

Prepared for:

Raney Planning and Management
1501 Sports Drive
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Prepared by:

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Table of Contents

INTRODUCTION **1**

ENVIRONMENTAL SETTING **1**

BACKGROUND INFORMATION ON NOISE *1*

EXISTING AND FUTURE NOISE AND VIBRATION ENVIRONMENTS **7**

EXISTING NOISE RECEPTORS *7*

EXISTING GENERAL AMBIENT NOISE LEVELS *7*

FUTURE TRAFFIC NOISE ENVIRONMENT AT OFF-SITE RECEPTORS **10**

CONSTRUCTION NOISE ENVIRONMENT **14**

CONSTRUCTION VIBRATION ENVIRONMENT **17**

REGULATORY CONTEXT **17**

FEDERAL *17*

STATE *17*

LOCAL *17*

CRITERIA FOR ACCEPTABLE VIBRATION *22*

IMPACTS AND MITIGATION MEASURES **23**

THRESHOLDS OF SIGNIFICANCE *23*

PROJECT-SPECIFIC IMPACTS AND MITIGATION MEASURES *24*

REFERENCES **29**

List of Figures

Figure 1: Site Plan 3

Figure 2: Noise Measurement Sites and Receptor Locations 4

Figure 3: Existing Traffic Noise Levels, dBA L_{dn} 9

Figure 4: Existing Plus Project Traffic Noise Levels, dBA L_{dn} 11

Figure 5: GP Buildout Traffic Noise Levels, dBA L_{dn} 12

Figure 6: GP Buildout Plus Project Traffic Noise Levels, dBA L_{dn} 13

Figure 7: Construction Noise Levels, dBA L_{eq} 16

List of Tables

Table 1: Typical Noise Levels 5
Table 2: Summary of Existing Background Noise Measurement Data 8
Table 3: Construction Equipment Noise Levels 15
Table 4: Vibration Levels for Various Construction Equipment 17
Table 5: Land Use Compatibility Table 19
Table 6: Municipal Code Stationary Noise Level Standards 20
Table 7: Effects of Vibration on People and Buildings 23
Table 8: Existing Plus Project Traffic Noise Level Increase Significance 25
Table 9: General Plan Buildout Plus Project Traffic Noise Level Increase Significance 25
Table 10: Construction Noise Levels Increases 26

Appendices

Appendix A: Acoustical Terminology
Appendix B: Field Noise Measurement Data

INTRODUCTION

The City of Brentwood is currently proposing improvements to the segment of Lone Tree Way from the Smith Road intersection to the Tilton Lane intersection. Such improvements would only occur on the eastbound (southern) side of the roadway, and would include the following:

- Widening of the roadway from one eastbound through lane to two eastbound through lanes;
- Construction of a westbound turn lane to provide access south onto Smith Road to Isaac R. Montañez Elementary School;
- Construction of an eastbound Class IV bicycle lane (i.e., a buffered bicycle lane with delineators);
- Installation of a permanent sidewalk along the southern portion of the road;
- Construction of bioretention facilities;
- Installation of a drainage structure;
- Installation of fiber conduit for future use;
- Installation of streetlights;
- Undergrounding of PG&E poles/lines; and
- Installation of sound walls along the northern property line of the residential uses located at 2410 Lone Tree Way and 7721 Lone Tree Way.

Figure 1 shows the project site plan. **Figure 2** shows an aerial photo of the project site as well as noise measurement locations.

ENVIRONMENTAL SETTING

BACKGROUND INFORMATION ON NOISE

Fundamentals of Acoustics

Acoustics is the science of sound. Sound may be thought of as mechanical energy of a vibrating object transmitted by pressure waves through a medium to human (or animal) ears. If the pressure variations occur frequently enough (at least 20 times per second), then they can be heard and are called sound. The number of pressure variations per second is called the frequency of sound, and is expressed as cycles per second or Hertz (Hz).

Noise is a subjective reaction to different types of sounds. Noise is typically defined as (airborne) sound that is loud, unpleasant, unexpected or undesired, and may therefore be classified as a more specific group of sounds. Perceptions of sound and noise are highly subjective from person to person.

Measuring sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel scale was devised. The decibel scale uses the hearing threshold (20 micropascals), as a point of reference, defined as 0 dB. Other sound pressures are then compared to this reference pressure, and the logarithm is taken to keep the numbers in a practical range. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB, and changes in levels (dB) correspond closely to human perception of relative loudness.

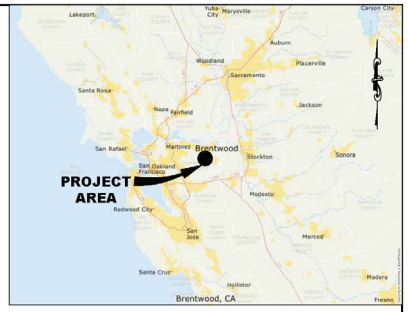
The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable, and can be approximated by A-weighted sound levels. There is a strong correlation between A-weighted sound levels (expressed as dBA) and the way the human ear perceives sound. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment.

CITY OF BRENTWOOD
ENGINEERING DEPARTMENT

PLANS FOR

LONE TREE WAY ROADWAY IMPROVEMENTS (PHASE 2)

CITY PROJECT NO. 336-31701



VICINITY MAP
NTS

INDEX OF SHEETS:

1	TITLE SHEET
2	GENERAL NOTES
3	SURVEY CONTROL PLAN
4	TYPICAL CROSS SECTIONS
5-7	EXISTING CONDITIONS/DEMOLITION PLANS
8-10	IMPROVEMENT PLAN
11-12	GRADING PLAN
13-14	SOUNDWALL PLAN
15	DRAINAGE PROFILE
16-18	SIGNING & STRIPING PLANS
19	CURB RAMP DETAILS
20-21	CONSTRUCTION DETAILS
22	CONSTRUCTION BEST MANAGEMENT PRACTICES
23	QUANTITY SHEET
24-34	JOINT TRENCH PLANS

APPLICABLE STANDARD PLANS:

CITY STANDARD LIST (LATEST EDITION):

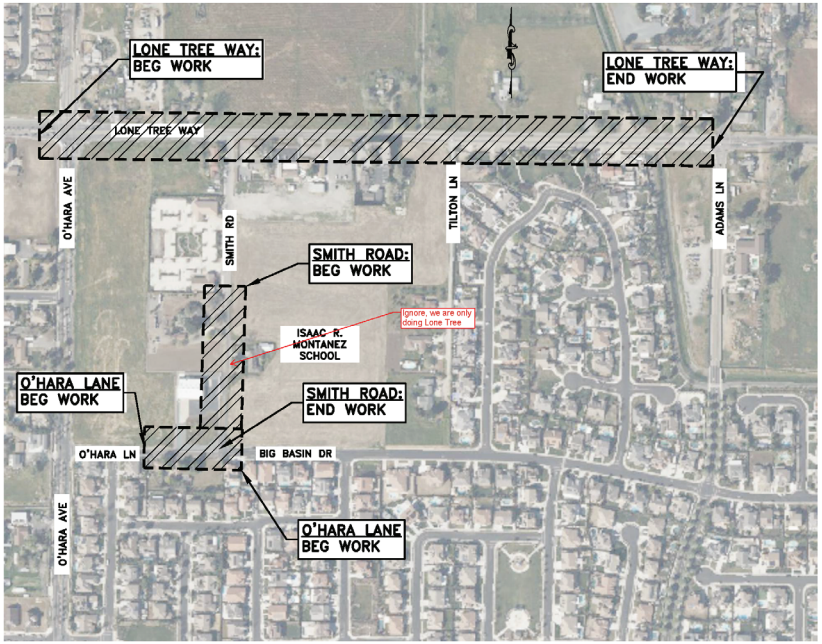
SD-1	STORM DRAIN MANHOLE
SD-16A	TYPE "C" INLET-DETAILS
SL-1	STREET LIGHT FOUNDATION
ST-7A	RESIDENTIAL DRIVEWAY WITH SEPARATED SIDEWALK
ST-12	STREET NAME SIGN
ST-21A	ACCESSIBLE CURB RAMP TYPE "A" AND "B"
ST-21B	ACCESSIBLE CURB RAMP TYPE "C" AND "D"
ST-23	SIDEWALK, CURB AND GUTTER
ST-28	CROSSWALK STRIPING ON ARTERIAL STREETS
ST-32	MEDIAN TAPER
ST-36	TYPICAL "STOP" INTERSECTION
ST-37	NEW & EXISTING PAVEMENT JOINT

CALTRANS STANDARD LIST (LATEST EDITION):

A20A-F	PAVEMENT MARKERS AND TRAFFIC LINES, TYPICAL DETAILS
A24A-G	PAVEMENT MARKINGS, ARROWS, SYMBOLS, NUMERAL WORDS, LIMIT AND YIELD LINES
ES-7Q	ELECTRICAL SYSTEMS (PEDESTRIAN BARRICADES)
T62	TEMPORARY WATER POLLUTION CONTROL DETAILS (TEMPORARY DRAINAGE INLET PROTECTION)

CA MUTCD STANDARD LIST (LATEST EDITION):

FIG 3B-102(CA)	EXAMPLES OF FIRE HYDRANT LOCATION PAVEMENT MARKERS
FIG 3B-103(CA)	EXAMPLES OF INTERSECTION MARKINGS



LOCATION MAP
NTS

LEGEND:

- CITY MONUMENTS
- SANITARY SEWER MANHOLE
- STORM DRAIN MANHOLE
- TELEPHONE MANHOLE
- ELECTRIC MANHOLE
- WATER VALVE
- GAS VALVE
- SANITARY SEWER CLEANOUT
- DRAIN INLET
- FIRE HYDRANT
- PULL BOX
- STREET LIGHT
- WOOD POWER POLE
- STREET SIGN

ABBREVIATIONS

AC	ASPHALT CONCRETE	D.C.	ON CENTER
AB	AGGREGATE BASE	PB	PULL BOX
BC	BACK OF CURB	PCC	PORTLAND CEMENT CONCRETE
BEG	BEGIN	PERF	PERFORATED
BFP	BACKFLOW PREVENTER	PG&E	PACIFIC GAS AND ELECTRIC
BOC	BOTTOM OF CURB	PPB	PEDESTRIAN PUSH BUTTON
BMP	BEST MANAGEMENT PRACTICES (BIORETENTION)	PP	POWER POLE
BSM	BIORETENTION SOIL MIX	PRC	POINT OF REVERSE CURVATURE
BW	BACK OF WALK	PROP	PROPOSED
CCCSS	CONTRA COSTA COUNTY STANDARD SPECIFICATIONS	PVMT	PAVEMENT
COB	CITY OF BRENTWOOD	PVT	PRIVATE
C&G	CURB AND GUTTER	R	RIGHT
CJ	CONSTRUCTION JOINT	RSP	REVISED STANDARD PLANS
CL/℄	CENTERLINE	R/W,ROW	RIGHT OF WAY
CONC	CONCRETE	S	SOUTH
CR	CURB RAMP	SD	STORM DRAIN
DI	DRAINAGE INLET	SDMH	STORM DRAIN MANHOLE
DET	DETAIL	SNS	STREET NAME SIGN
DESC	DESCRIPTION	SP	SIGNAL POLE
DWS	DETECTABLE WARNING SURFACE	SS	SANITARY SEWER
DWY	DRIVEWAY	SSCO	SANITARY SEWER CLEANOUT
E	EAST	SSMH	SANITARY SEWER MANHOLE
EC	END OF CURVE	STD	STANDARD
ELEC	ELECTRICAL	SE	SOUTHEAST
EP	EDGE OF PAVEMENT	S/W,SW	SIDEWALK, SOUTHWEST
EVT	ELECTRICAL VAULT	STD	STANDARD
EX	EXISTING	TBD	TO BE DETERMINED
FC	FACE OF CURB	TC	TOP OF CURB
FG	FINISH GRADE	TEL	TELEPHONE
FH	FIRE HYDRANT	TMH	TELEPHONE MANHOLE
FL	FLOWLINE	TPB	TRAFFIC PULL BOX
GV	GAS VALVE	TSP	TRAFFIC SIGNAL POLE
HMA	HOT MIX ASPHALT	TYP	TYPICAL
H.P.	HIGH POINT	UTIL	UTILITY
L	LEFT	VAR	VARIES
LF	LINEAR FOOT	W	WATER, WEST
LG	LIP OF GUTTER	WD	WOOD
LP	LAMP POST	WCW	WHITE CROSSWALK
L.P.	LOW POINT	WV	WATER VALVE
MON	MONUMENT	XFMR	TRANSFORMER
NE	NORTHEAST	YCW	YELLOW CROSSWALK
NW	NORTHWEST	YL	YIELD LINE
NTS	NOT TO SCALE		
N	NEW, NORTH		

REVIEWED FOR CONFORMANCE WITH THE CITY OF BRENTWOOD STANDARDS AND REQUIREMENTS. APPROVAL FOR CONSTRUCTION IS SUBJECT TO THE INFORMATION SHOWN HEREIN. CITY OF BRENTWOOD AND THE UNDERSIGNED ARE NOT RESPONSIBLE FOR ANY ERRORS OR OMISSIONS THAT MAY EXIST ON THESE PLANS.

ALLEN BAQUILAR
DIRECTOR OF ENGINEERING/CITY ENGINEER
R.C.E. No. 65399
DATE
EXPIRES 09-30-2026

811 Know what's below. Call before you dig.

THE CITY OF BRENTWOOD ENGINEERING DEPARTMENT

PREPARED BY: CSG Consultants, Inc.
3875 Hopyard Road, Suite 141
Pleasanton, CA 94588
Phone (925) 931-0370
Fax (925) 931-0388

NO.	REVISIONS	BY	APP	DATE
	100% SUBMITTAL (03/20/26) NOT FOR CONSTRUCTION			

LONE TREE WAY ROADWAY IMPROVEMENTS (PHASE 2)

TITLE SHEET

BRENTWOOD CALIFORNIA

DESIGNED UNDER THE DIRECTION OF:
LAWRENCE LAU
R.C.E. No. 57397
DATE

DESIGN: CC/DS/RG DATE: 03-19-26
DRAWN: CC/RG DATE: 03-19-26
CHECKED: LL DATE: 03-19-26

REGISTERED PROFESSIONAL ENGINEER LAWRENCE LAU No.C 57397 CIVIL STATE OF CALIFORNIA

SHEET T1
1 OF 34 SHEETS

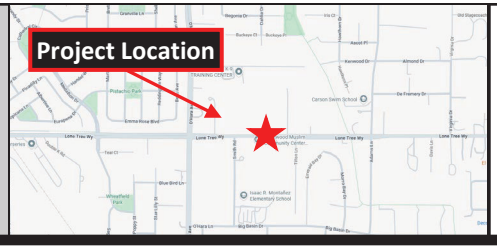
\\server2\clients\DESIGN\22.350-1 Brentwood Lone Tree Way\PLANS-350\01-TITLE-350.dwg 03/20/26 12:02:28 PM

Lone Tree Way Improvements

City of Brentwood, California

Figure 1

Project Site Plan



SAXELBY ACOUSTICS
Acoustics · Noise · Vibration

*Figure not OCR compatible.



Lone Tree Way Improvements

City of Brentwood, California

Figure 2

Noise Measurement Sites

Legend

- Roadway Improvement Segment
- Noise Measurement Site - Long Term

0 ft 500 ft 1000 ft 1500 ft 2000 ft 2500 ft 3000 ft

Projection: UTM Zone 10 / WGS84 / meters
Rev. Date: 06/30/2026

SAXELBY ACOUSTICS
Acoustics · Noise · Vibration

*Figure not OCR compatible.

The decibel scale is logarithmic, not linear. In other words, two sound levels 10-dB apart differ in acoustic energy by a factor of 10. When the standard logarithmic decibel is A-weighted, an increase of 10-dBA is generally perceived as a doubling in loudness. For example, a 70-dBA sound is half as loud as an 80-dBA sound, and twice as loud as a 60 dBA sound.

Community noise is commonly described in terms of the ambient noise level, which is defined as the all-encompassing noise level associated with a given environment. A common statistical tool is the average, or equivalent, sound level (L_{eq}), which corresponds to a steady-state A-weighted sound level containing the same total energy as a time varying signal over a given time period (usually one hour). The L_{eq} is the foundation of the composite noise descriptor, L_{dn}, and shows very good correlation with community response to noise.

The day/night average level (DNL or L_{dn}) is based upon the average noise level over a 24-hour day, with a +10-decibel weighing applied to noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours. The nighttime penalty is based upon the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because L_{dn} represents a 24-hour average, it tends to disguise short-term variations in the noise environment.

Table 1 lists several examples of the noise levels associated with common situations. **Appendix A** provides a summary of acoustical terms used in this report.

TABLE 1: TYPICAL NOISE LEVELS

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	--110--	Rock Band
Jet Fly-over at 300 m (1,000 ft.)	--100--	
Gas Lawn Mower at 1 m (3 ft.)	--90--	
Diesel Truck at 15 m (50 ft.), at 80 km/hr. (50 mph)	--80--	Food Blender at 1 m (3 ft.) Garbage Disposal at 1 m (3 ft.)
Noisy Urban Area, Daytime Gas Lawn Mower, 30 m (100 ft.)	--70--	Vacuum Cleaner at 3 m (10 ft.)
Commercial Area Heavy Traffic at 90 m (300 ft.)	--60--	Normal Speech at 1 m (3 ft.)
Quiet Urban Daytime	--50--	Large Business Office Dishwasher in Next Room
Quiet Urban Nighttime	--40--	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime	--30--	Library
Quiet Rural Nighttime	--20--	Bedroom at Night, Concert Hall (Background)
	--10--	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	--0--	Lowest Threshold of Human Hearing

Source: Caltrans, Technical Noise Supplement, Traffic Noise Analysis Protocol. September, 2013.

Effects of Noise on People

The effects of noise on people can be placed in three categories:

- Subjective effects of annoyance, nuisance, and dissatisfaction
- Interference with activities such as speech, sleep, and learning
- Physiological effects such as hearing loss or sudden startling

Environmental noise typically produces effects in the first two categories. Workers in industrial plants can experience noise in the last category. There is no completely satisfactory way to measure the subjective effects of noise or the corresponding reactions of annoyance and dissatisfaction. A wide variation in individual thresholds of annoyance exists and different tolerances to noise tend to develop based on an individual's past experiences with noise.

Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted: the so-called ambient noise level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it.

With regard to increases in A-weighted noise level, the following relationships occur:

- Except in carefully controlled laboratory experiments, a change of 1-dBA cannot be perceived;
- Outside of the laboratory, a 3-dBA change is considered a just-perceivable difference;
- A change in level of at least 5-dBA is required before any noticeable change in human response would be expected; and
- A 10-dBA change is subjectively heard as approximately a doubling in loudness, and can cause an adverse response.

Stationary point sources of noise–including stationary mobile sources such as idling vehicles–attenuate (lessen) at a rate of approximately 6-dB per doubling of distance from the source, depending on environmental conditions (i.e. atmospheric conditions and either vegetative or manufactured noise barriers, etc.). Widely distributed noises, such as a large industrial facility spread over many acres, or a street with moving vehicles, would typically attenuate at a lower rate.

EXISTING AND FUTURE NOISE AND VIBRATION ENVIRONMENTS

EXISTING NOISE RECEPTORS

Some land uses are considered more sensitive to noise than others. Land uses often associated with sensitive receptors generally include residences, schools, libraries, hospitals, and passive recreational areas. Noise sensitive land uses are typically given special attention in order to achieve protection from excessive noise.

Sensitivity is a function of noise exposure (in terms of both exposure duration and insulation from noise) and the types of activities involved. Existing sensitive land uses along the segment of Lone Tree Way between Smith Road and Tilton Lane include two single-family residences and the Brentwood Muslim Community Center. Other sensitive uses which could also be affected by construction noise in the project vicinity include single-family residences southwest, southeast, and northeast of the project site.

EXISTING GENERAL AMBIENT NOISE LEVELS

The existing noise environment in the project area is primarily defined by traffic on Lone Tree Way. To quantify the existing ambient noise environment in the project vicinity, Saxelby Acoustics conducted continuous (24-hr.) noise level measurements at two locations in the project area. Noise measurement locations are shown on **Figure 2**. A summary of the noise level measurement survey results is provided in **Table 2**. **Appendix B** contains the complete results of the noise monitoring.

The sound level meters were programmed to record the maximum, median, and average noise levels at each site during the survey. The maximum value, denoted L_{max}, represents the highest noise level measured. The average value, denoted L_{eq}, represents the energy average of all of the noise received by the sound level meter microphone during the monitoring period. The median value, denoted L_{50}, represents the sound level exceeded 50 percent of the time during the monitoring period.

Larson Davis Laboratories (LDL) model 820 and 831 precision integrating sound level meters were used for the ambient noise level measurement survey. The meters were calibrated before and after use with a CAL 200 acoustical calibrator to ensure the accuracy of the measurements. The equipment used meets all pertinent specifications of the American National Standards Institute for Type 1 sound level meters (ANSI S1.4).

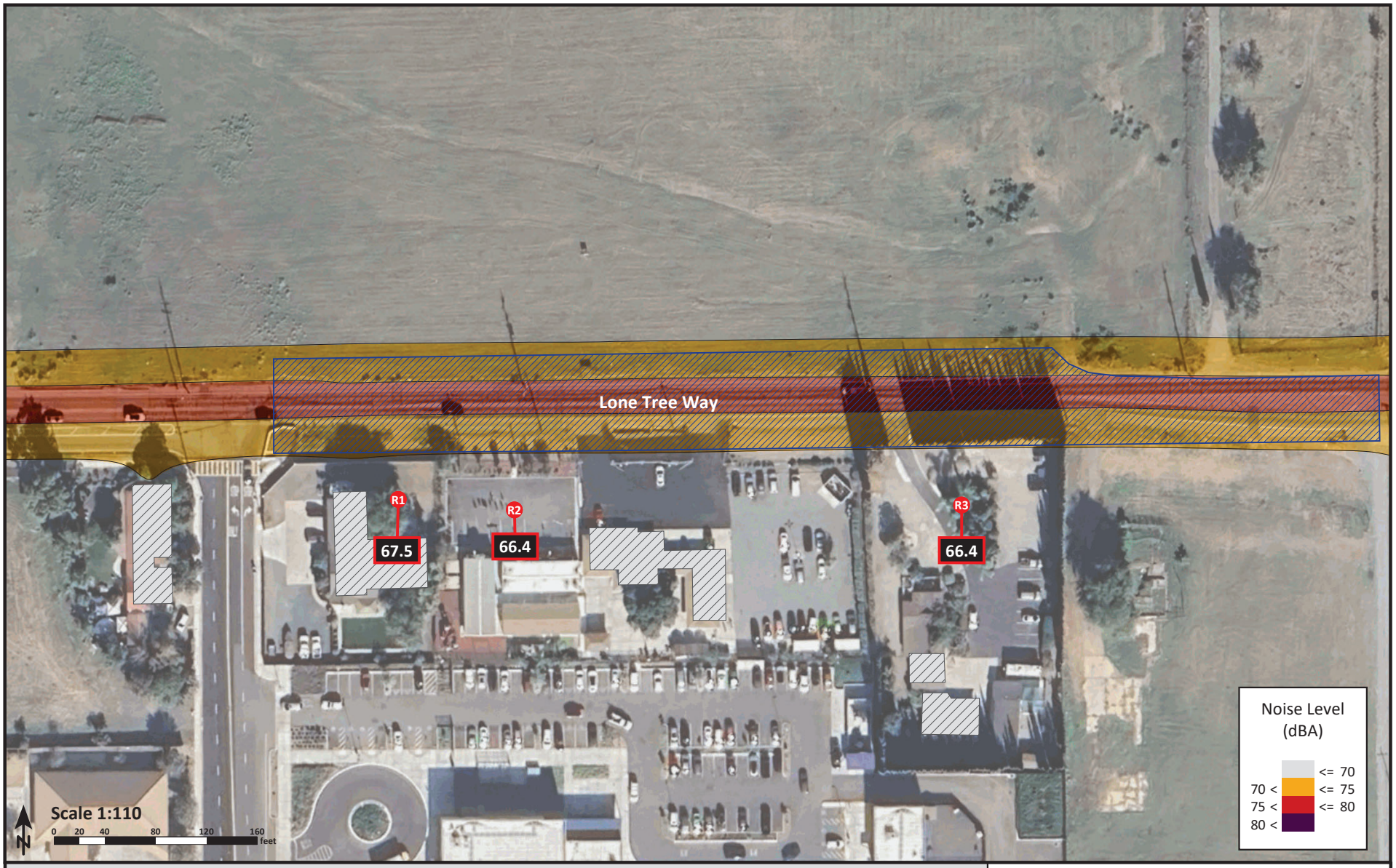
TABLE 2: SUMMARY OF EXISTING BACKGROUND NOISE MEASUREMENT DATA

Site	Date	L_{dn}	Day L_{eq}	Day L_{50}	Day L_{max}	Night L_{eq}	Night L_{50}	Night L_{max}
LT-1: 60 ft. to CL of Lone Tree Road	6/10/26	70	68	64	82	62	52	79
	6/11/26	71	68	65	81	63	52	82
Average:		**71**	**68**	**65**	**82**	**63**	**52**	**81**
LT-2: 165 ft. to CL of Lone Tree Road	6/10/26	60	55	53	70	54	50	69
	6/11/26	62	54	52	68	56	51	72
Average:		**61**	**55**	**53**	**69**	**55**	**51**	**71**

Notes:

- *All values shown in dBA*
- *Daytime hours: 7:00 a.m. to 10:00 p.m.*
- *Nighttime Hours: 10:00 p.m. to 7:00 a.m.*
- *Source: Saxelby Acoustics 2026*

Saxelby Acoustics used the SoundPLAN noise prediction model to map existing noise levels at the sensitive receptors along the proposed improvement segment of Lone Tree Way. Inputs to the model included sound levels for Lone Tree Way as determined in the ambient noise level survey, buildings, terrain type, and locations of sensitive receptors. These predictions are made in accordance with International Organization for Standardization (ISO) standard 9613-2:2024 (Acoustics – Attenuation of sound during propagation outdoors). ISO 9613 is the most commonly used method for calculating exterior noise propagation. **Figure 3** shows the existing noise level contours in terms of the day/night average (L_{dn}).



Lone Tree Way Improvements

City of Brentwood, California

Figure 3
Existing Noise Levels (Ldn, dBA)

Legend
- Project Roadway Area
- Existing Building

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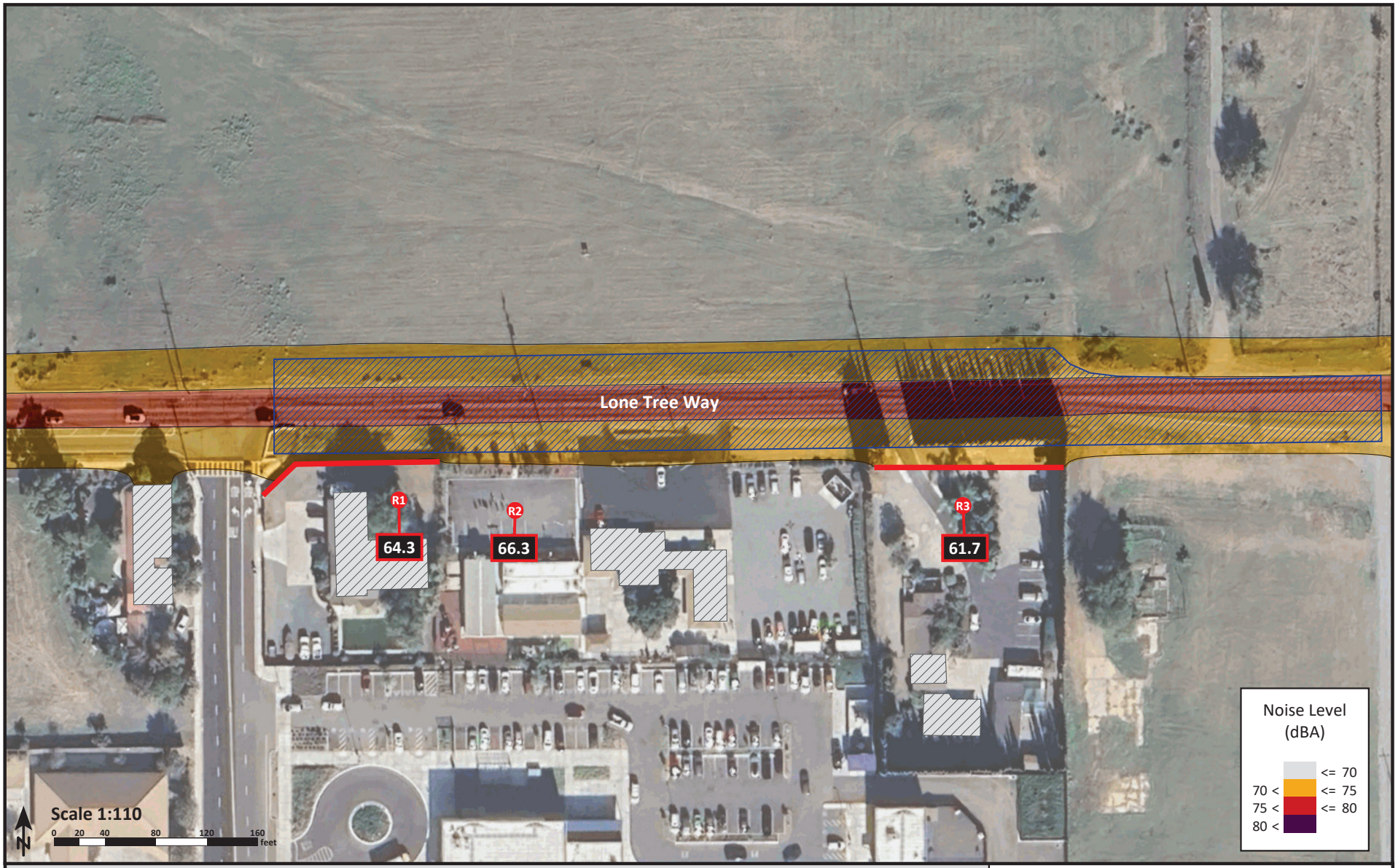
*Figure not OCR compatible.

FUTURE TRAFFIC NOISE ENVIRONMENT AT OFF-SITE RECEPTORS

The proposed project includes the widening of Lone Tree Way and the construction of sound walls at two existing residences along the project roadway segment. The roadway widening would result in a shift of the roadway centerline by approximately five feet to the south. Saxelby Acoustics assumed that roadway volumes would remain constant.

Saxelby Acoustics modeled existing plus project noise levels with completion of the roadway improvement project using the SoundPLAN noise model. Inputs to the model included sound levels for Lone Tree Way, buildings, proposed sound walls, terrain type, and locations of sensitive receptors. These predictions are made in accordance with International Organization for Standardization (ISO) standard 9613-2:2024 (Acoustics – Attenuation of sound during propagation outdoors). ISO 9613 is the most commonly used method for calculating exterior noise propagation. **Figure 4** shows the existing plus project traffic noise level contours.

Additionally, Saxelby Acoustics also modeled noise levels with and without the project under the General Plan Buildout (GP Buildout). Roadway volumes for the General Plan Buildout to Planning Area scenario were obtained from the General Plan EIR. **Figure 5** shows roadway noise levels under the GP Buildout scenario. **Figure 6** shows roadway noise levels under the GP Buildout plus project scenario.



Lone Tree Way Improvements

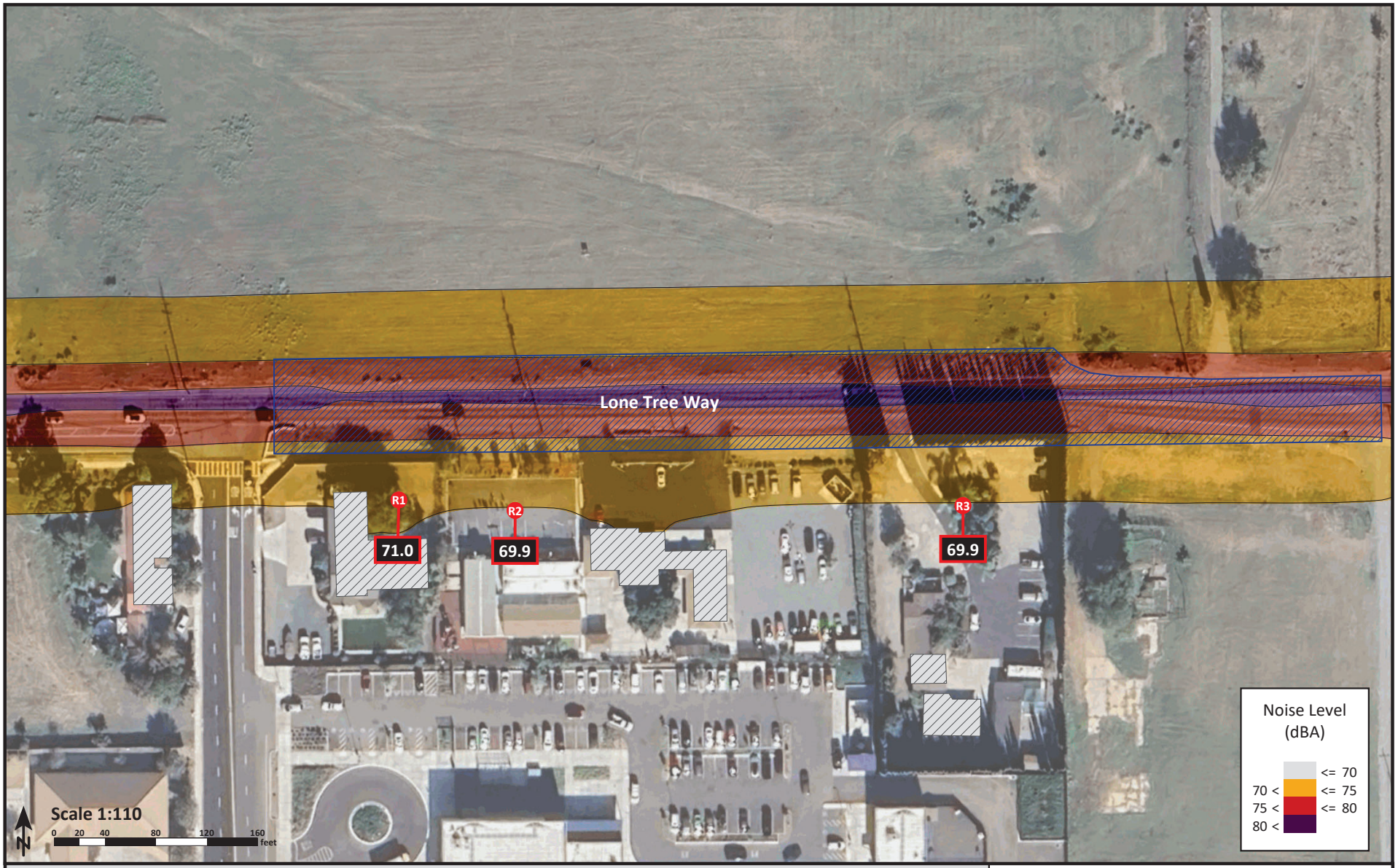
City of Brentwood, California

Figure 4
Existing Plus Project (Ldn, dBA)

Legend
- Project Roadway Area
- Existing Building
- Proposed Sound Wall

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*Figure not OCR compatible.



Lone Tree Way Improvements

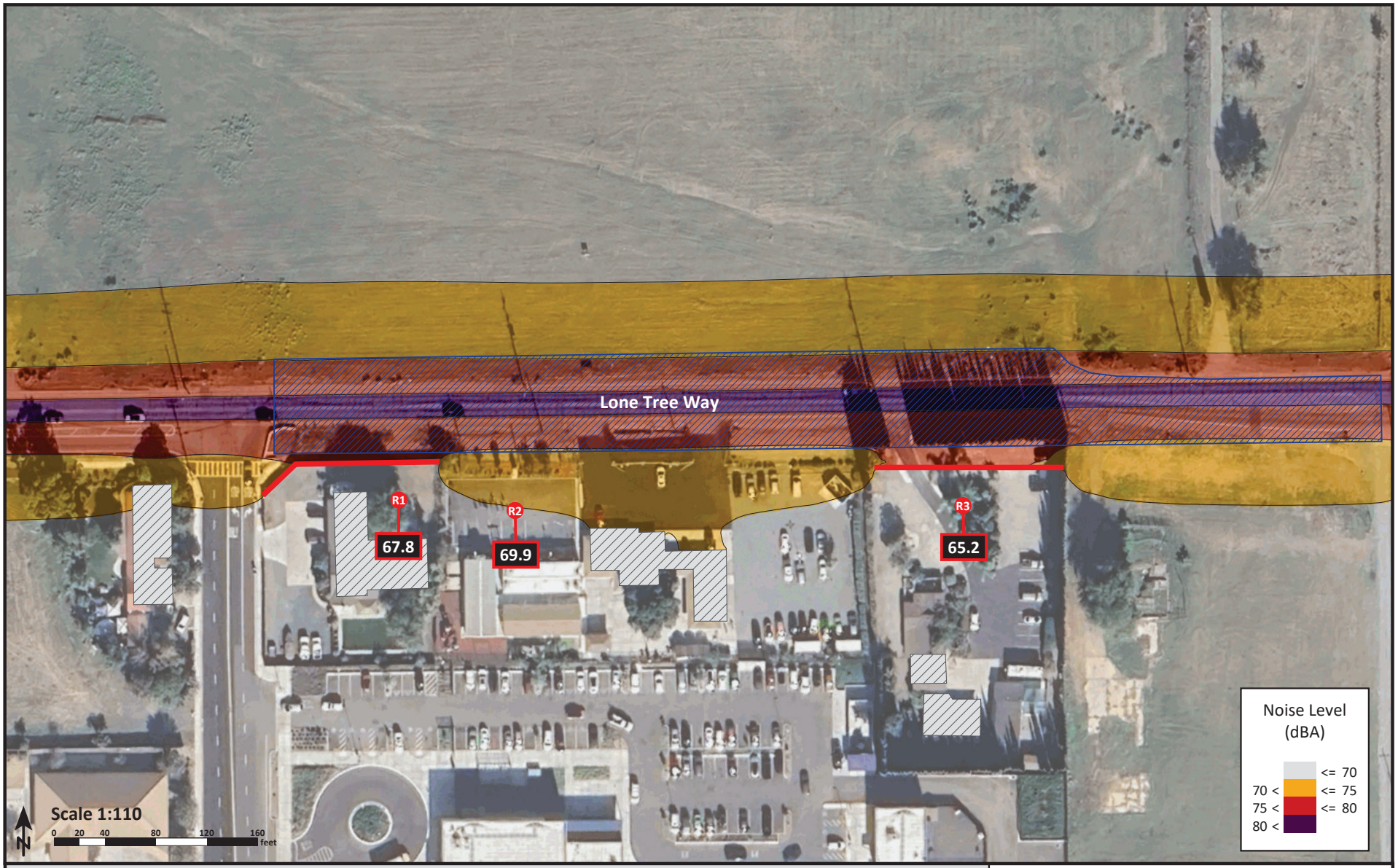
City of Brentwood, California

Figure 5
GP Buildout (Ldn, dBA)

Legend
- Project Roadway Area
- Existing Building

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*Figure not OCR compatible.



Lone Tree Way Improvements

City of Brentwood, California

Figure 6
GP Buildout Plus Project (Ldn, dBA)

Legend

- Project Roadway Area
- Existing Building
- Proposed Sound Wall

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*Figure not OCR compatible.

CONSTRUCTION NOISE ENVIRONMENT

The Federal Highway Administration's (FHWA) Roadway Construction Noise Model (RCNM) was used to predict noise levels for standard construction equipment used for roadway improvement projects. The assessment of potential significant noise effects due to construction is based on the standards and procedures described in the Federal Transit Authority (FTA) guidance manual and FHWA's RCNM.

The RCNM is a Windows-based noise prediction model that enables the prediction of construction noise levels for a variety of construction equipment based on a compilation of empirical data and the application of acoustical propagation formulas. It enables the calculation of construction noise levels in more detail than the manual methods, which eliminates the need to collect extensive amounts of project-specific input data. RCNM allows for the modeling of multiple pieces of construction equipment working either independently or simultaneously, the character of noise emission, and the usage factors for each piece of equipment.

Construction noise varies depending on the construction process, type of equipment involved, location of the construction site with respect to sensitive receptors, the schedule proposed to carry out each task (e.g., hours and days of the week), and the duration of the construction work.

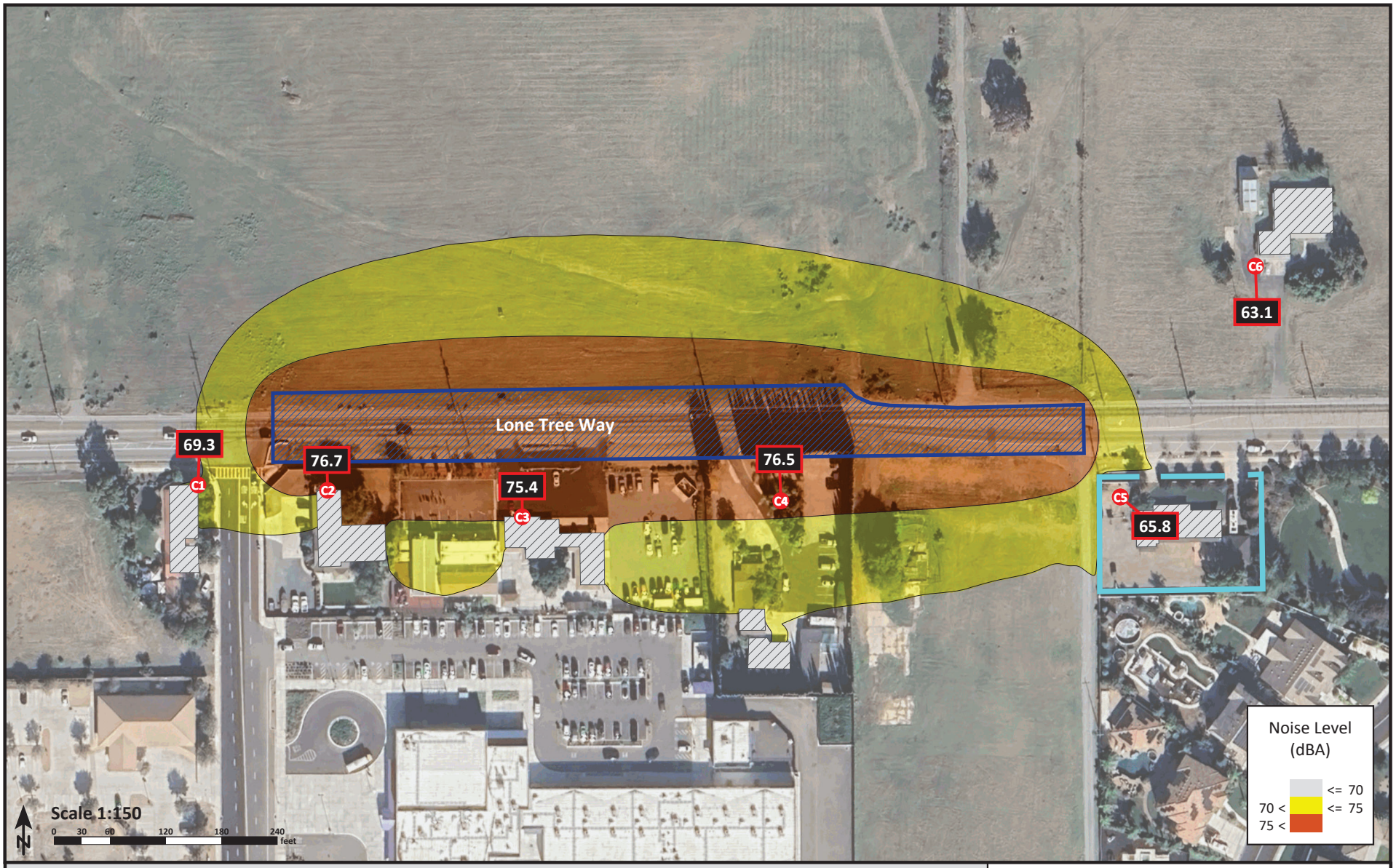
Noise sources in the RCNM database include actual noise levels and equipment usage percentages. This source data was used in this construction noise analysis. **Table 3** shows predicted construction noise levels for the project site.

TABLE 3: CONSTRUCTION EQUIPMENT NOISE LEVELS

Equipment	Quantity	Usage (%)	Maximum, L_{max} (dBA at 50 feet)	Hourly Average, L_{eq} (dBA at 50 feet)
Linear, Grubbing, and Land Clearing				
Tractor/Loader/Backhoe	1	40	84	80
Excavator	2	40	81	80
			Total:	**83**
Linear, Grading, and Excavation				
Tractor/Loader/Backhoe	1	40	84	80
Excavator	3	40	81	82
Grader	2	40	85	84
Roller	2	40	80	79
Front End Loader	1	40	79	75
Scraper	2	40	84	83
Tractor/Loader/Backhoe	4	40	84	86
			Total:	**91**
Linear, Drainage, Utilities, & Sub-Grade				
Air Compressor	1	40	79	75
Generator	1	50	81	78
Grader	1	40	85	81
Compactor (ground)	1	40	83	79
Pumps	1	40	81	77
Fork Lift	1	40	83	79
Scraper	1	40	84	80
Tractor/Loader/Backhoe	3	40	84	85
			Total:	**89**
Linear, Paving				
Paver	1	40	77	73
Paving Equipment	1	40	77	73
Roller	2	40	80	79
Tractor/Loader/Backhoe	3	40	84	85
			Total:	**86**

Source: FHWA, Roadway Construction Noise Model (RCNM), January 2006.

Based upon the **Table 3** data, the loudest phases of construction on the project site would be linear, grading, and excavation with an average noise exposure of 91 dBA L_{eq} at 50 feet from the center of activity. The results of the construction noise analysis are shown graphically on **Figure 7**.



Lone Tree Way Improvements

City of Brentwood, California

Figure 7
Construction Noise Levels (Leq, dBA)

Legend
- Future Roadway
- Existing Building
- Existing Sound Wall

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*Figure not OCR compatible.

CONSTRUCTION VIBRATION ENVIRONMENT

The primary vibration-generating activities associated with the proposed project would occur during construction when activities such as grading, utilities placement, and parking lot construction occur. **Table 4** shows the typical vibration levels produced by construction equipment.

TABLE 4: VIBRATION LEVELS FOR VARIOUS CONSTRUCTION EQUIPMENT

Type of Equipment	Peak Particle Velocity at 25 feet (inches/second)	Peak Particle Velocity at 50 feet (inches/second)	Peak Particle Velocity at 100 feet (inches/second)
Large Bulldozer	0.089	0.031	0.011
Loaded Trucks	0.076	0.027	0.010
Small Bulldozer	0.003	0.001	0.000
Auger/drill Rigs	0.089	0.031	0.011
Jackhammer	0.035	0.012	0.004
Vibratory Hammer	0.070	0.025	0.009
Vibratory Compactor/roller	0.210 (Less than 0.20 at 26 feet)	0.074	0.026

Source: *Transit Noise and Vibration Impact Assessment Guidelines.* Federal Transit Administration. May 2006.

REGULATORY CONTEXT

FEDERAL

There are no federal regulations related to noise that apply to the Proposed Project.

STATE

California Environmental Quality Act

The California Environmental Quality Act (CEQA) Guidelines, Appendix G, indicate that a significant noise impact may occur if a project exposes persons to noise or vibration levels in excess of local general plans or noise ordinance standards, or cause a substantial permanent or temporary increase in ambient noise levels. CEQA standards are discussed more below under the Thresholds of Significance section.

LOCAL

City of Brentwood General Plan

The Noise Element is a mandatory component of the General Plan. The overall purpose of the Noise Element is to address major noise sources and to promote safe and comfortable noise levels throughout Brentwood. The Noise Element contains goals, policies, and actions that seek to reduce community exposure to excessive noise levels through the establishment of noise level standards for a variety of land uses.

Noise is typically defined as unwanted sound that interferes with an individual's ability to perform a task or enjoy an activity. From a planning perspective, noise control focuses on two primary concerns: (1) preventing the introduction of new noise-producing uses in noise-sensitive areas; and (2) preventing the encroachment of noise-sensitive uses into existing noise-producing areas. Noise in Brentwood is generated by a variety of sources, including, but not limited to: vehicle traffic, including automobiles, trucks, and motorcycles; restaurants/bars; industrial operations; and other businesses.

Goals

N-1: Preserve a pleasant noise environment and enhance the quality of existing and future land uses by minimizing exposure to harmful and excessive noise.

Policies

N-1.2: Require development and infrastructure projects to be consistent with the Land Use Compatibility for Community Noise Environments standards indicated in Table N-1 to ensure acceptable noise levels for existing and future development.

N-1.3: Require new development to mitigate excessive noise through best practices, including building location and orientation, building design features, placement of noise-generating equipment away from sensitive receptors, shielding of noise-generating equipment, placement of noise tolerant features between noise sources and sensitive receptors, and use of noise-minimizing materials such as rubberized asphalt.

N-1.6: Require acoustical studies for new developments and transportation improvements that affect noise-sensitive uses such as schools, hospitals, libraries, group care facilities, convalescent homes, and residential areas.

N-1.7: For projects that are required by the California Environmental Quality Act (CEQA) to analyze noise impacts, the following criteria shall be used to determine the significance of those impacts:

Stationary and Non-Transportation Noise Sources:

- A significant impact will occur if the project results in an exceedance of the noise level standards contained in this element, or the project will result in an increase in ambient noise levels by more than 3 dB, whichever is greater.

Transportation Noise Sources:

- Where existing traffic noise levels are less than 60 dB L_{dn} at the outdoor activity areas of noise-sensitive uses, a +5 dB L_{dn} increase in roadway noise levels will be considered significant;
- Where existing traffic noise levels range between 60 and 65 dB L_{dn} at the outdoor activity areas of noise-sensitive uses, a +3 dB L_{dn} increase in roadway noise levels will be considered significant; and
- Where existing traffic noise levels are greater than 65 dB L_{dn} at the outdoor activity areas of noise-sensitive uses, a + 1.5 dB L_{dn} increase in roadway noise levels will be considered significant.

N-1.8: Support noise-compatible land uses along existing and future roadways, including County, State, and Federal routes.

N-1.10: Work with Caltrans to ensure that adequate noise studies are prepared and alternative noise mitigation measures are considered in State transportation projects.

N-1.11: Ensure that existing development is protected, to the greatest extent feasible, from noise impacts due to construction on adjacent or nearby properties.

N-1.13: Control non-transportation related noise from site specific noise sources to the standards shown in Table N-2.

N-1.15: Require construction activities to comply with standard best practices (see Action N 1e).

TABLE 5: LAND USE COMPATIBILITY TABLE

TABLE N-1 Land Use Compatibility for Community Noise Environment

Land Use Category	Exterior Noise Exposure (Ldn)						
	55	60	65	70	75	80	
Single-Family Residential							
Multi-Family Residential, Hotels, and Motels							
Outdoor Sports and Recreation, Neighborhood Parks and Playgrounds							
Schools, Libraries, Museums, Hospitals, Personal Care, Meeting Halls, Churches							
Office Buildings, Business Commercial, and Professional							
Industrial							



NORMALLY ACCEPTABLE

Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special insulation requirements

CONDITIONALLY ACCEPTABLE

Specified land use may be permitted only after detailed analysis of the noise reduction requirements and needed noise insulation features included in the design

UNACCEPTABLE

New construction or development should generally not be undertaken because mitigation is usually not feasible to comply with noise element policies

Sources: City of Brentwood General Plan

*Figure not OCR compatible.

City of Brentwood Municipal Code

9.32.030 Designated noise zones.

A. Assignment of Noise Zones. Receiving properties are assigned to designated noise zones as follows:

1. Designated noise zone I—residential properties;
2. Designated noise zone II—commercial properties;
3. Designated noise zone III—industrial properties.

B. Exterior Noise Levels.

1. Noise zone exterior noise levels. The following exterior noise levels, unless otherwise specifically indicated, shall apply to all receiving properties within a designated noise zone for the purpose of establishing noise level limits in subsection **9.32.030(B)**:

TABLE 6: MUNICIPAL CODE STATIONARY NOISE LEVEL STANDARDS

Zone #'s	Designated Zone	Time Interval	Exterior Noise Levels
Zone 1	Residential	7:00 a.m.-10:00 p.m.	60
		10:00 p.m.-7:00 a.m.	45
Zone 2	Commercial	7:00 a.m.-10:00 p.m.	60
		10:00 p.m.-7:00 a.m.	45
Zone 3	Industrial	7:00 a.m.-10:00 p.m.	65
		10:00 p.m.-7:00 a.m.	60

2. Noise level limits. Unless otherwise provided in this article, no person shall operate or cause to be operated any source of sound at any location within the city, or allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such person which causes the noise level when measured on any receiving property to exceed the following noise level limits:

a. The exterior noise levels for that land use, as specified in subsection 9.32.030(B)(1), for a total of more than thirty minutes in any consecutive sixty minutes;

b. The exterior noise levels plus 5 dB for a total period of more than fifteen minutes in any consecutive sixty minutes;

c. The exterior noise levels plus 10 dB for a total period of more than five minutes in any consecutive sixty minutes; or

d. The exterior noise levels plus 15 dB for a total period of more than one minute in any consecutive sixty minutes; or

e. The exterior noise levels plus 20 dB for any time.

3. Ambient noise level in excess of noise level limits. If the ambient noise level exceeds that permissible for any of the noise level limits in subsections 9.32.030(B)(2)(a), (b), (c) and (d), the noise level limit shall be increased in 5 dB increments as appropriate to encompass or reflect said ambient noise level. In the event the ambient noise level exceeds the noise level limit in subsection 9.32.030(B)(2)(e) this limit shall be increased to the maximum ambient noise level.

9.32.050 Prohibited special noise sources.

A. Grading, Site Improvement, Infrastructure Improvements and Outside Heavy Construction. All operation of power construction equipment or any other construction device that creates noise in excess of the noise level limits of this article, and all performance of any outside construction work, including, but not limited to, grading and trenching, that creates noise in excess of the noise level limits of this article shall be limited to the following hours: Monday through Friday from seven a.m. until three-thirty p.m., or until five-thirty p.m. with the express written approval of the city engineer or designee. No such work shall be performed on Saturday or Sunday or city holidays, except that such work may be performed on Saturday between eight a.m. and five p.m. with the express written approval of the city engineer or designee.

1. Home repairs and routine maintenance of personal property are not considered construction.
2. Construction activities within city right-of-way, such as road work or installation of drainage facilities, may be performed outside of the specified work hours of this subsection **A**, including overnight work, with the express written approval of the city engineer or designee.
3. The planning commission and city council may impose more restrictive hours of construction upon any projects involving construction activity by adding appropriate conditions to the city's approval of subdivisions, planned development permits, conditional use permits, variances and other projects.

9.32.070 Exemptions.

F. Construction activity or garbage collection performed by an agency of government, provided that all equipment is operated in accordance with manufacturer's specifications and is equipped with all noise reducing equipment in proper condition.

CRITERIA FOR ACCEPTABLE VIBRATION

Vibration is like noise in that it involves a source, a transmission path, and a receiver. While vibration is related to noise, it differs in that noise is generally considered to be pressure waves transmitted through air, whereas vibration usually consists of the excitation of a structure or surface. As with noise, vibration consists of an amplitude and frequency. A person's perception of the vibration will depend on their individual sensitivity to vibration, as well as the amplitude and frequency of the source and the response of the system which is vibrating.

Vibration can be measured in terms of acceleration, velocity, or displacement. A common practice is to monitor vibration measures in terms of peak particle velocities (p.p.v.) in inches per second. Standards pertaining to perception as well as damage to structures have been developed for vibration levels defined in terms of peak particle velocities.

Human and structural response to different vibration levels is influenced by a number of factors, including ground type, distance between source and receptor, duration, and the number of perceived vibration events. **Table 7**, which was developed by Caltrans, shows the vibration levels which would normally be required to result in damage to structures. The vibration levels are presented in terms of peak particle velocity in inches per second.

Table 7 indicates that the threshold for architectural damage to structures is 0.20 in/sec p.p.v. A threshold of 0.20 in/sec p.p.v. is considered to be a reasonable threshold for short-term construction projects.

TABLE 7: EFFECTS OF VIBRATION ON PEOPLE AND BUILDINGS

Peak Particle Velocity		Human Reaction	Effect on Buildings
mm/second	in/second		
0.15-0.30	0.006-0.019	Threshold of perception; possibility of intrusion	Vibrations unlikely to cause damage of any type
2.0	0.08	Vibrations readily perceptible	Recommended upper level of the vibration to which ruins and ancient monuments should be subjected
2.5	0.10	Level at which continuous vibrations begin to annoy people	Virtually no risk of "architectural" damage to normal buildings
5.0	0.20	Vibrations annoying to people in buildings (this agrees with the levels established for people standing on bridges and subjected to relative short periods of vibrations)	Threshold at which there is a risk of "architectural" damage to normal dwelling - houses with plastered walls and ceilings. Special types of finish such as lining of walls, flexible ceiling treatment, etc., would minimize "architectural" damage
10-15	0.4-0.6	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges	Vibrations at a greater level than normally expected from traffic, but would cause "architectural" damage and possibly minor structural damage

Source: *Transportation Related Earthborne Vibrations.* Caltrans. TAV-02-01-R9601. February 20, 2002.

IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Appendix G of the CEQA Guidelines states that a project would normally be considered to result in significant noise impacts if noise levels conflict with adopted environmental standards or plans, or if noise generated by the project would substantially increase existing noise levels at sensitive receivers on a permanent or temporary basis. Significance criteria for noise impacts are drawn from CEQA Guidelines Appendix G (Items XIII [a-c]).

Would the project:

a. Generate 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. Generate excessive groundborne vibration or groundborne noise levels?

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

Noise Level Increase Criteria for Long-Term Project-Related Noise Level Increases

The City of Brentwood establishes the following criteria to determine significance of a long-term project-related noise level increase:

Transportation Noise Sources:

- Where existing traffic noise levels are less than 60 dB L_{dn} at the outdoor activity areas of noise-sensitive uses, a +5 dB L_{dn} increase in roadway noise levels will be considered significant;
- Where existing traffic noise levels range between 60 and 65 dB L_{dn} at the outdoor activity areas of noise-sensitive uses, a +3 dB L_{dn} increase in roadway noise levels will be considered significant; and
- Where existing traffic noise levels are greater than 65 dB L_{dn} at the outdoor activity areas of noise-sensitive uses, a + 1.5 dB L_{dn} increase in roadway noise levels will be considered significant.

Temporary Construction Noise Impacts

With temporary noise impacts (construction), identification of "substantial increases" depends upon the duration of the impact, the temporal daily nature of the impact, and the absolute change in decibel levels. Per the City of Brentwood Municipal Code, construction activities are exempt from the Municipal Code between the hours of 7:00 a.m. and 3:30 or 5:30 p.m. per approval of city engineer or designee on weekdays and 8:00 a.m. and 5:00 p.m. on Saturdays per approval of city engineer or designee.

The City has not adopted any formal standard for evaluating temporary increases in existing noise levels due to construction which occurs within allowable hours. For short-term noise associated with Project construction, Saxelby Acoustics recommends use of the Caltrans increase criteria of 12 dBA (Caltrans Traffic Noise Protocol, 2020), applied to existing residential receptors in the project vicinity. This level of increase is approximately equivalent to a doubling of sound energy and has been the standard of significance for Caltrans projects at the state level for many years. Application of this standard to construction activities is considered reasonable considering the temporary nature of construction activities.

PROJECT-SPECIFIC IMPACTS AND MITIGATION MEASURES

Impact 1: ***Would the project generate 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?***

Traffic Noise Increases at Off-Site Receptors

Based upon the City of Brentwood criteria, where existing traffic noise levels are greater than 65 dBA L_{dn} at the outdoor activity areas of noise-sensitive uses, a +1.5 dBA increase in roadway noise levels will be considered significant. Where traffic noise levels are between 60 dBA L_{dn} and 65 dBA L_{dn}, a +3.0 dBA increase in roadway noise levels will be considered significant. Where traffic noise levels are less than 60 dBA L_{dn}, a +5.0 dBA increase in roadway noise levels will be considered significant. Additionally, if existing

noise levels are below the City's normally acceptable 60 dBA L_{dn} standard, increases causing traffic noise to exceed this threshold are also considered significant.

Figure 3 and **Figure 4** show the existing and existing plus project traffic noise levels, respectively. **Table 8** below analyzes the significance of project-related traffic noise increases at the sensitive receptors along the project area roadway segment.

TABLE 8: EXISTING PLUS PROJECT TRAFFIC NOISE LEVEL INCREASE SIGNIFICANCE

Receptor	Existing (dBA L_{dn})	Significance Threshold	Existing + Project (dBA L_{dn})	Change (dBA)[1]	Significant?
R1	67.5	+1.5 dBA	64.3	-3.2	No
R2	66.4	+1.5 dBA	66.3	-0.1	No
R3	66.4	+1.5 dBA	61.7	-4.7	No

[1] *A negative value indicates a decrease in noise levels due to installation of project sound walls.*

Figure 5 and **Figure 6** show the GP Buildout and GP Buildout plus project traffic noise levels, respectively. **Table 9** below analyzes the significance of project-related traffic noise increases at the sensitive receptors along the project area roadway segment.

TABLE 9: GENERAL PLAN BUILDOUT PLUS PROJECT TRAFFIC NOISE LEVEL INCREASE SIGNIFICANCE

Receptor	GP Buildout (dBA L_{dn})	Significance Threshold	GP Buildout + Project (dBA L_{dn})	Change (dBA)[1]	Significant?
R1	71.0	+1.5 dBA	67.8	-3.2	No
R2	69.9	+1.5 dBA	69.9	0.0	No
R3	69.9	+1.5 dBA	65.2	-4.7	No

[1] *A negative value indicates a decrease in noise levels due to installation of project sound walls.*

As shown in **Table 8** and **Table 9**, the proposed project is not predicted to generate a significant permanent increase in traffic noise levels at the existing sensitive receptors. Therefore, this is a ***less-than-significant*** impact.

Compliance with City of Brentwood General Plan Transportation Noise Standards

The City of Brentwood General Plan establishes Land Use Compatibility guidelines in Table N-1 of the General Plan (**Table 5**). Single-family residential uses are considered "Normally Acceptable" in noise environments of 60 dBA L_{dn} or less and "Conditionally Acceptable" in noise environments of 60 dBA L_{dn} to 75 dBA L_{dn}. Churches are considered "Normally Acceptable" in noise environments of 65 dBA L_{dn} or less and "Conditionally Acceptable" in noise environments of 65 dBA L_{dn} to 75 dBA L_{dn}. As shown in **Figure 3** to **Figure 6**, the three sensitive receptors would fall into the "Conditionally Acceptable" land use category with and without the project in both the existing and General Plan buildout conditions.

Construction Noise

During the construction phases of the project, noise from construction activities would add to the noise environment in the immediate project vicinity. Construction activities would be temporary in nature and are anticipated to occur during normal daytime working hours. Noise would also be generated during the construction phase by increased truck traffic on area roadways. A project-generated noise source would be truck traffic associated with transport of heavy materials and equipment to and from the construction site. This noise increase would be of short duration and would occur during daytime hours.

Caltrans defines a significant increase due to noise as an increase of 12 dBA over existing ambient noise levels; Saxelby Acoustics used this criterion to evaluate increases due to construction noise associated with the project. Construction noise levels were modeled using the input data shown in **Table 3** and evaluated for significance in **Table 10** below. **Figure 7** shows modeled construction noise level contours as well as the locations of the analyzed receptors.

TABLE 10: CONSTRUCTION NOISE LEVELS INCREASES

Construction Noise Receptor	Representative Noise Measurement Location	Existing Ambient (dBA L_{eq})	Construction Noise (dBA L_{eq})	Ambient + Construction (dBA L_{eq})	Difference (dBA L_{eq})	Complies with Standards?
C1	LT-1	67.5	69.3	71.5	4.0	Yes
C2	LT-1	67.5	76.7	77.2	9.7	Yes
C3	LT-1	67.5	75.4	76.1	8.6	Yes
C4	LT-1	67.5	76.5	77.0	9.5	Yes
C5	LT-1	67.5	65.8	69.8	2.3	Yes
C6	LT-2	54.8	63.1	63.7	8.9	Yes

As shown in the above table, construction of the proposed project is not predicted to generate a significant temporary increase in noise levels at the existing sensitive receptors.

Although construction activities are temporary in nature and would occur during normal daytime working hours, construction-related noise could result in sleep interference at existing noise-sensitive land uses in the vicinity of the construction if construction activities were to occur outside the normal daytime hours. Therefore, impacts resulting from noise levels temporarily exceeding the threshold of significance due to construction would be considered ***potentially significant***. Mitigation measure 1(a) would reduce construction noise impacts to ***less-than-significant***.

Mitigation Measures

1(a) The City shall establish the following as conditions of approval for any permit that results in the use of construction equipment:

- Construction shall be limited to 7:00 a.m. and 3:30 p.m. or 5:00 p.m. on weekdays and 8:00 a.m. and 5:00 p.m. on Saturdays unless allowed by special permit issued by the Designee or City Engineer.

- All equipment driven by internal combustion engines shall be equipped with mufflers, air-inlet silencers where appropriate, and any other shrouds, shields, or other noise-reducing features in good operating condition that meet or exceed original factory specifications. Mobile or fixed "package" equipment (e.g., arc welders, air compressors) shall be equipped with shrouds and noise- control features that are readily available for that type of equipment.
- All mobile or fixed noise-producing equipment used on the project site that are regulated for noise output by a federal, state, or local agency shall comply with such regulations while in the course of project activity.
- The construction contractor shall utilize "quiet" models of air compressors and other stationary noise sources where technology exists.
- At all times during project grading and construction, stationary noise-generating equipment shall be located as far as practicable from sensitive receptors and placed so that emitted noise is directed away from residences.
- Unnecessary idling of internal combustion engines shall be prohibited.
- Construction staging areas shall be established at locations that would create the greatest distance between the construction-related noise sources and noise-sensitive receptors near the project site during all project construction activities, to the extent feasible.
- Construction site and access road speed limits shall be established and enforced during the construction period.
- The use of noise-producing signals, including horns, whistles, alarms, and bells, shall be for safety warning purposes only.
- Project-related public address or music systems shall not be audible at any adjacent receptor.
- Neighbors located adjacent to the construction site shall be notified of the construction schedule in writing.
- The construction contractor shall designate a "noise disturbance coordinator" who would be responsible for responding to any local complaints about construction noise. The disturbance coordinator shall be responsible for determining the cause of the noise complaint (e.g., starting too early, poor muffler, etc.) and instituting reasonable measures as warranted to correct the problem. A telephone number for the disturbance coordinator shall be conspicuously posted at the construction site.

Timing/Implementation: Implemented prior to approval of grading and/or building permits
Enforcement/Monitoring: City of Brentwood

Implementation of Mitigation Measure 1(a) would help to reduce construction-related noise levels. With mitigation, this impact would be considered ***less-than-significant***.

IMPACT 2: WOULD THE PROJECT GENERATE EXCESSIVE GROUNDBORNE VIBRATION OR GROUNDBORNE NOISE LEVELS?

Construction vibration impacts include human annoyance and building structural damage. Human annoyance occurs when construction vibration rises significantly above the threshold of perception. Building damage can take the form of cosmetic or structural.

The **Table 4** data indicate that construction vibration levels anticipated for the project are less than the 0.2 in/sec threshold at distances of 26 feet. Sensitive receptors which could be impacted by construction related vibrations, especially vibratory compactors/rollers, are located approximately 26 feet, or further, from typical construction activities. At these distances construction vibrations are not predicted to exceed acceptable levels. Additionally, construction activities would be temporary in nature and would likely occur during normal daytime working hours.

This is a **less-than-significant** impact and no mitigation is required.

Impact 3: ***For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?***

There are no airports within 2 miles of the project site. Therefore, this is a ***less-than-significant*** impact.

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Appendix A: Acoustical Terminology

Acoustics	The science of sound.
Ambient Noise	The distinctive acoustical characteristics of a given space consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.
ASTC	Apparent Sound Transmission Class. Similar to STC but includes sound from flanking paths and correct for room reverberation. A larger number means more attenuation. The scale, like the decibel scale for sound, is logarithmic.
Attenuation	The reduction of an acoustic signal.
A-Weighting	A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response.
Decibel or dB	Fundamental unit of sound, A Bell is defined as the logarithm of the ratio of the sound pressure squared over the reference pressure squared. A Decibel is one-tenth of a Bell.
CNEL	Community Noise Equivalent Level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by +5 dBA and nighttime hours weighted by +10 dBA.
DNL	See definition of Ldn.
IIC	Impact Insulation Class. An integer-number rating of how well a building floor attenuates impact sounds, such as footsteps. A larger number means more attenuation. The scale, like the decibel scale for sound, is logarithmic.
Frequency	The measure of the rapidity of alterations of a periodic signal, expressed in cycles per second or hertz (Hz).
Ldn	Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.
Leq	Equivalent or energy-averaged sound level.
Lmax	The highest root-mean-square (RMS) sound level measured over a given period of time.
L(n)	The sound level exceeded a described percentile over a measurement period. For instance, an hourly L50 is the sound level exceeded 50% of the time during the one-hour period.
Loudness	A subjective term for the sensation of the magnitude of sound.
NIC	Noise Isolation Class. A rating of the noise reduction between two spaces. Similar to STC but includes sound from flanking paths and no correction for room reverberation.
NNIC	Normalized Noise Isolation Class. Similar to NIC but includes a correction for room reverberation.
Noise	Unwanted sound.
NRC	Noise Reduction Coefficient. NRC is a single-number rating of the sound-absorption of a material equal to the arithmetic mean of the sound-absorption coefficients in the 250, 500, 1000, and 2,000 Hz octave frequency bands rounded to the nearest multiple of 0.05. It is a representation of the amount of sound energy absorbed upon striking a particular surface. An NRC of 0 indicates perfect reflection; an NRC of 1 indicates perfect absorption.
RT60	The time it takes reverberant sound to decay by 60 dB once the source has been removed.
Sabin	The unit of sound absorption. One square foot of material absorbing 100% of incident sound has an absorption of 1 Sabin.
SEL	Sound Exposure Level. SEL is a rating, in decibels, of a discrete event, such as an aircraft flyover or train pass by, that compresses the total sound energy into a one-second event.
SPC	Speech Privacy Class. SPC is a method of rating speech privacy in buildings. It is designed to measure the degree of speech privacy provided by a closed room, indicating the degree to which conversations occurring within are kept private from listeners outside the room.
STC	Sound Transmission Class. STC is an integer rating of how well a building partition attenuates airborne sound. It is widely used to rate interior partitions, ceilings/floors, doors, windows and exterior wall configurations. The STC rating is typically used to rate the sound transmission of a specific building element when tested in laboratory conditions where flanking paths around the assembly don't exist. A larger number means more attenuation. The scale, like the decibel scale for sound, is logarithmic.
Threshold of Hearing	The lowest sound that can be perceived by the human auditory system, generally considered to be 0 dB for persons with perfect hearing.
Threshold of Pain	Approximately 120 dB above the threshold of hearing.
Impulsive	Sound of short duration, usually less than one second, with an abrupt onset and rapid decay.
Simple Tone	Any sound which can be judged as audible as a single pitch or set of single pitches.

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Appendix B: Continuous Ambient Noise Measurement Results

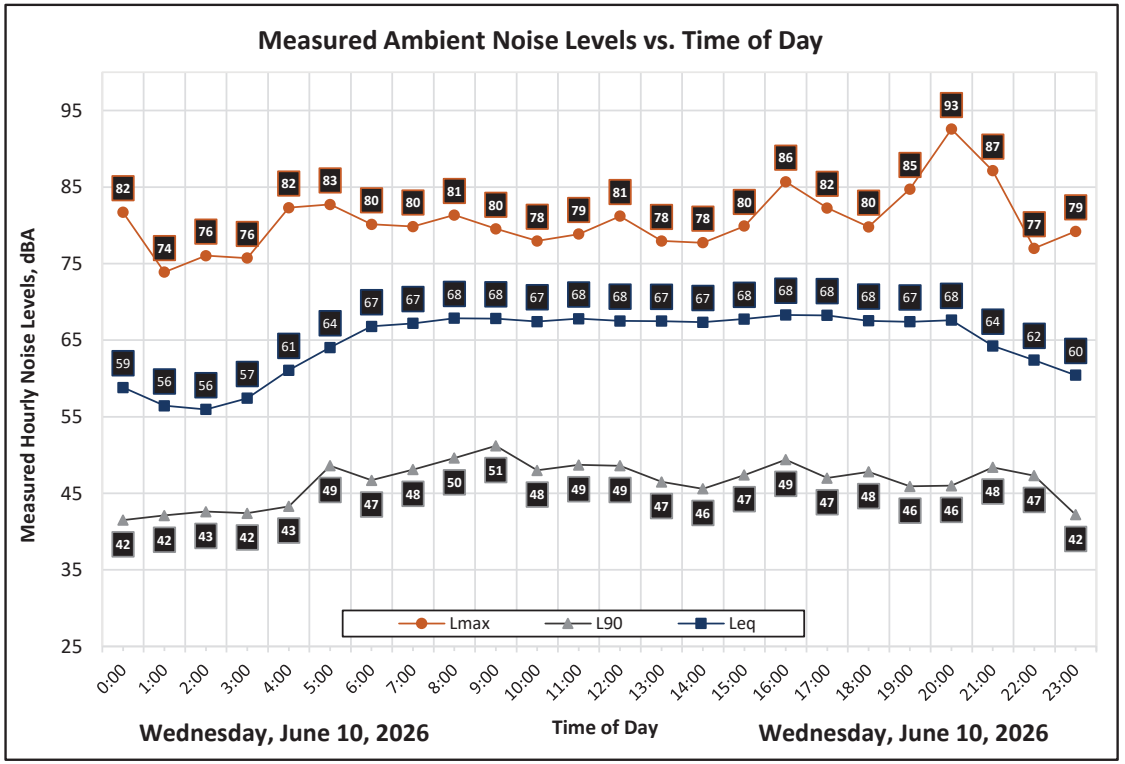


Appendix B1a: Continuous Noise Monitoring Results

Site: LT-1
Project: Lone Tree Way Improvements
Location: Eastern Project Boundary
Coordinates: (37.9613935, -121.7075468)
Meter: LDL 821-1
Calibrator: CAL200

Date	Time	Measured Level, dBA			
		L_{eq}	L_{max}	L_{50}	L_{90}
Wednesday, June 10, 2026	0:00	59	82	47	42
Wednesday, June 10, 2026	1:00	56	74	48	42
Wednesday, June 10, 2026	2:00	56	76	49	43
Wednesday, June 10, 2026	3:00	57	76	51	42
Wednesday, June 10, 2026	4:00	61	82	50	43
Wednesday, June 10, 2026	5:00	64	83	57	49
Wednesday, June 10, 2026	6:00	67	80	59	47
Wednesday, June 10, 2026	7:00	67	80	61	48
Wednesday, June 10, 2026	8:00	68	81	64	50
Wednesday, June 10, 2026	9:00	68	80	65	51
Wednesday, June 10, 2026	10:00	67	78	64	48
Wednesday, June 10, 2026	11:00	68	79	66	49
Wednesday, June 10, 2026	12:00	68	81	66	49
Wednesday, June 10, 2026	13:00	67	78	66	47
Wednesday, June 10, 2026	14:00	67	78	65	46
Wednesday, June 10, 2026	15:00	68	80	66	47
Wednesday, June 10, 2026	16:00	68	86	67	49
Wednesday, June 10, 2026	17:00	68	82	66	47
Wednesday, June 10, 2026	18:00	68	80	65	48
Wednesday, June 10, 2026	19:00	67	85	64	46
Wednesday, June 10, 2026	20:00	68	93	62	46
Wednesday, June 10, 2026	21:00	64	87	58	48
Wednesday, June 10, 2026	22:00	62	77	54	47
Wednesday, June 10, 2026	23:00	60	79	51	42

Statistics	Leq	Lmax	L50	L90
Day Average	68	82	64	48
Night Average	62	79	52	44
Day Low	64	78	58	46
Day High	68	93	67	51
Night Low	56	74	47	42
Night High	67	83	59	49
Ldn	70	Day %		86
CNEL	70	Night %		14



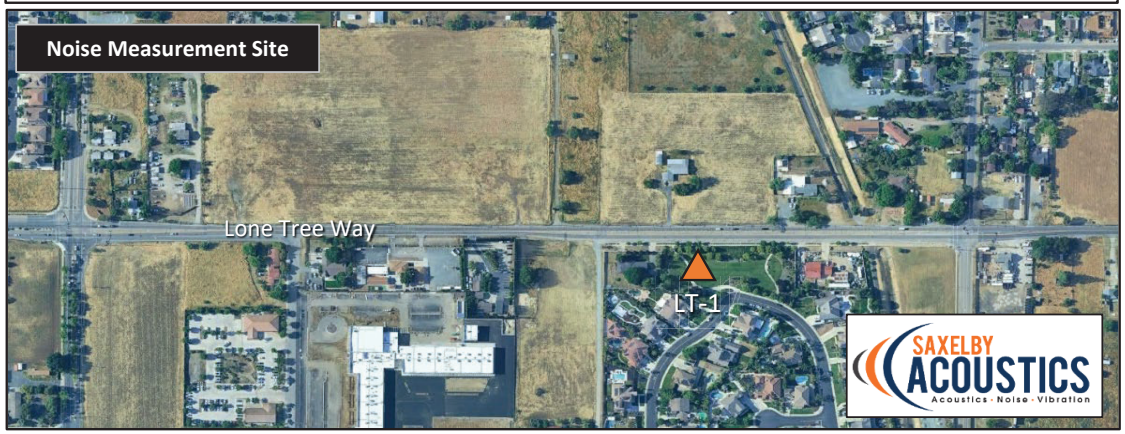


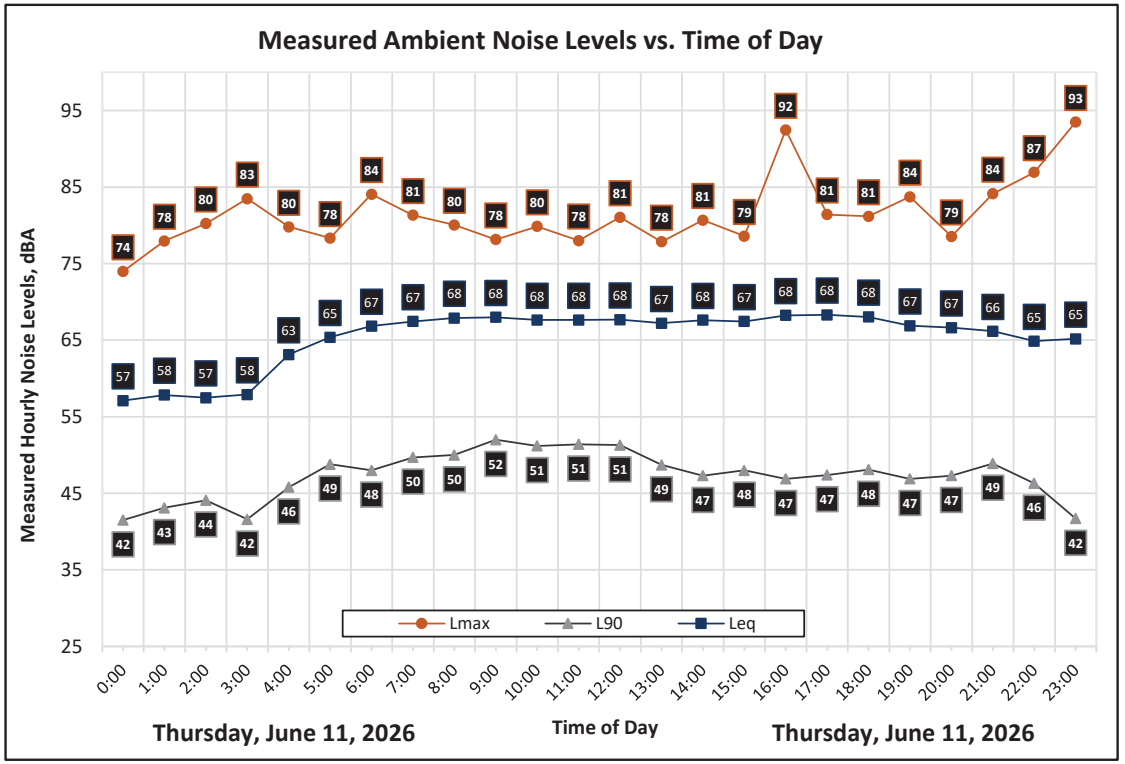
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Appendix B1b: Continuous Noise Monitoring Results

Site: LT-1
Project: Lone Tree Way Improvements
Location: Eastern Project Boundary
Coordinates: (37.9613935, -121.7075468)
Meter: LDL 821-1
Calibrator: CAL200

Date	Time	Measured Level, dBA			
		L_{eq}	L_{max}	L_{50}	L_{90}
Thursday, June 11, 2026	0:00	57	74	47	42
Thursday, June 11, 2026	1:00	58	78	48	43
Thursday, June 11, 2026	2:00	57	80	49	44
Thursday, June 11, 2026	3:00	58	83	47	42
Thursday, June 11, 2026	4:00	63	80	56	46
Thursday, June 11, 2026	5:00	65	78	58	49
Thursday, June 11, 2026	6:00	67	84	61	48
Thursday, June 11, 2026	7:00	67	81	63	50
Thursday, June 11, 2026	8:00	68	80	65	50
Thursday, June 11, 2026	9:00	68	78	65	52
Thursday, June 11, 2026	10:00	68	80	65	51
Thursday, June 11, 2026	11:00	68	78	66	51
Thursday, June 11, 2026	12:00	68	81	66	51
Thursday, June 11, 2026	13:00	67	78	65	49
Thursday, June 11, 2026	14:00	68	81	66	47
Thursday, June 11, 2026	15:00	67	79	65	48
Thursday, June 11, 2026	16:00	68	92	66	47
Thursday, June 11, 2026	17:00	68	81	67	47
Thursday, June 11, 2026	18:00	68	81	66	48
Thursday, June 11, 2026	19:00	67	84	63	47
Thursday, June 11, 2026	20:00	67	79	63	47
Thursday, June 11, 2026	21:00	66	84	61	49
Thursday, June 11, 2026	22:00	65	87	55	46
Thursday, June 11, 2026	23:00	65	93	50	42

Statistics	Leq	Lmax	L50	L90
Day Average	68	81	65	49
Night Average	63	82	52	45
Day Low	66	78	61	47
Day High	68	92	67	52
Night Low	57	74	47	42
Night High	67	93	61	49
Ldn	71	Day %		82
CNEL	71	Night %		18



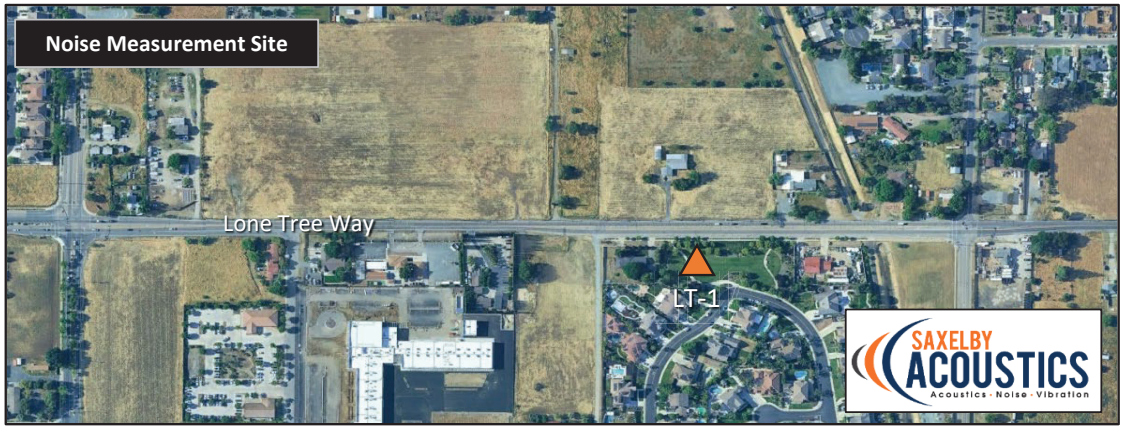


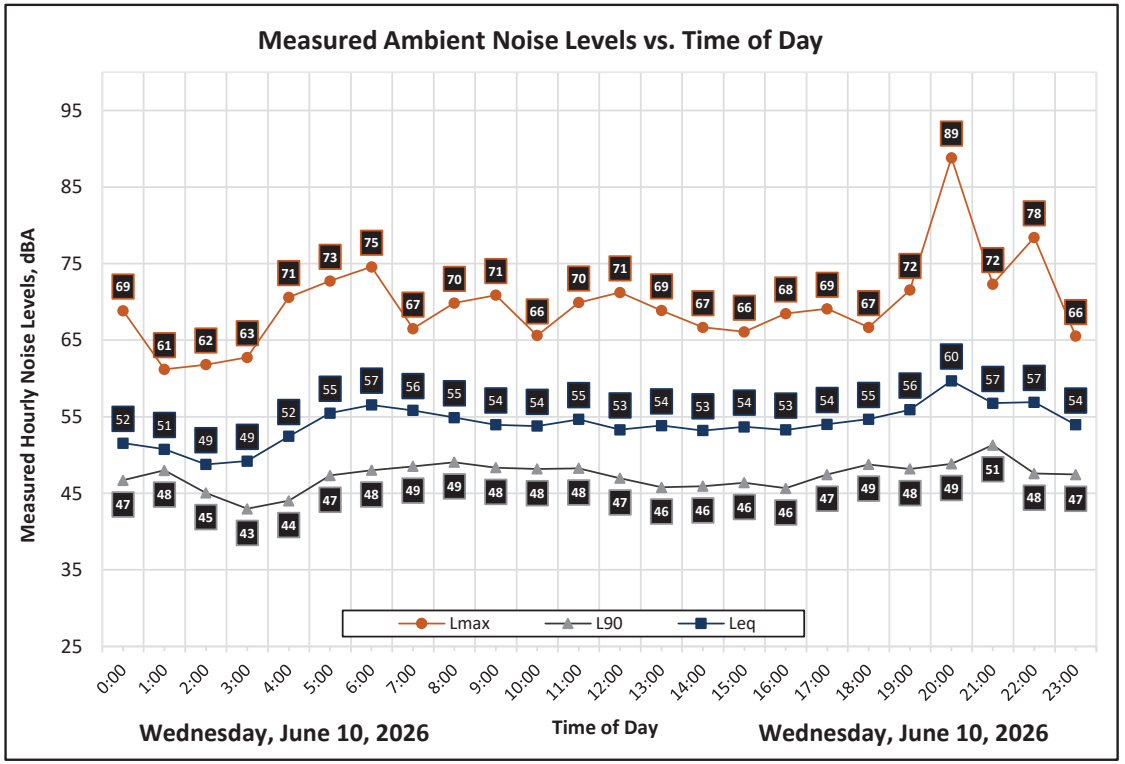
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Appendix B2a: Continuous Noise Monitoring Results

Site: LT-2
Project: Lone Tree Way Improvements
Location: Western Project Boundary
Coordinates: (37.9619188, -121.7122088)
Meter: LDL 820-7
Calibrator: CAL200

Date	Time	Measured Level, dBA			
		L_{eq}	L_{max}	L_{50}	L_{90}
Wednesday, June 10, 2026	0:00	52	69	49	47
Wednesday, June 10, 2026	1:00	51	61	49	48
Wednesday, June 10, 2026	2:00	49	62	48	45
Wednesday, June 10, 2026	3:00	49	63	47	43
Wednesday, June 10, 2026	4:00	52	71	48	44
Wednesday, June 10, 2026	5:00	55	73	53	47
Wednesday, June 10, 2026	6:00	57	75	53	48
Wednesday, June 10, 2026	7:00	56	67	54	49
Wednesday, June 10, 2026	8:00	55	70	53	49
Wednesday, June 10, 2026	9:00	54	71	52	48
Wednesday, June 10, 2026	10:00	54	66	52	48
Wednesday, June 10, 2026	11:00	55	70	53	48
Wednesday, June 10, 2026	12:00	53	71	52	47
Wednesday, June 10, 2026	13:00	54	69	52	46
Wednesday, June 10, 2026	14:00	53	67	51	46
Wednesday, June 10, 2026	15:00	54	66	52	46
Wednesday, June 10, 2026	16:00	53	68	51	46
Wednesday, June 10, 2026	17:00	54	69	52	47
Wednesday, June 10, 2026	18:00	55	67	53	49
Wednesday, June 10, 2026	19:00	56	72	54	48
Wednesday, June 10, 2026	20:00	60	89	54	49
Wednesday, June 10, 2026	21:00	57	72	55	51
Wednesday, June 10, 2026	22:00	57	78	53	48
Wednesday, June 10, 2026	23:00	54	66	50	47

Statistics	Leq	Lmax	L50	L90
Day Average	55	70	53	48
Night Average	54	69	50	46
Day Low	53	66	51	46
Day High	60	89	55	51
Night Low	49	61	47	43
Night High	57	78	53	48
Ldn	60	Day %		70
CNEL	61	Night %		30



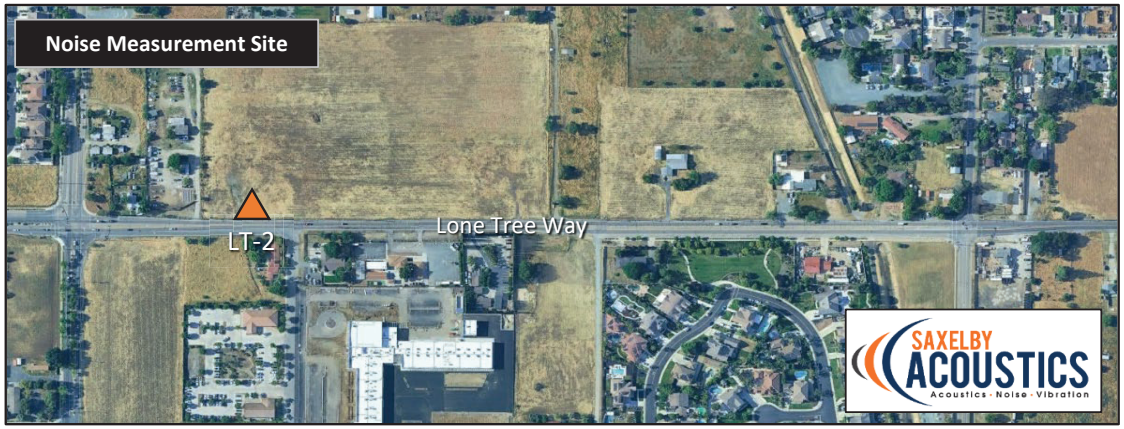


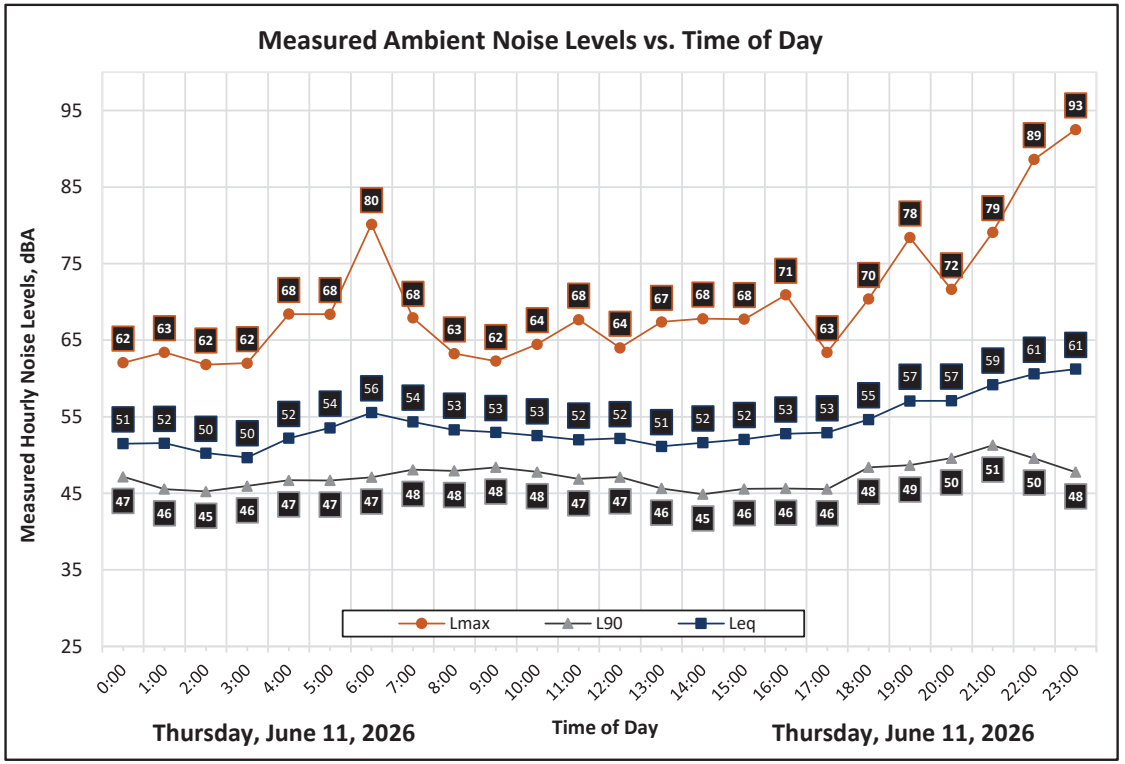
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Appendix B2a: Continuous Noise Monitoring Results

Site: LT-2
Project: Lone Tree Way Improvements
Location: Western Project Boundary
Coordinates: (37.9619188, -121.7122088)
Meter: LDL 820-7
Calibrator: CAL200

Date	Time	Measured Level, dBA			
		L_{eq}	L_{max}	L_{50}	L_{90}
Thursday, June 11, 2026	0:00	51	62	50	47
Thursday, June 11, 2026	1:00	52	63	50	46
Thursday, June 11, 2026	2:00	50	62	49	45
Thursday, June 11, 2026	3:00	50	62	49	46
Thursday, June 11, 2026	4:00	52	68	50	47
Thursday, June 11, 2026	5:00	54	68	51	47
Thursday, June 11, 2026	6:00	56	80	52	47
Thursday, June 11, 2026	7:00	54	68	53	48
Thursday, June 11, 2026	8:00	53	63	52	48
Thursday, June 11, 2026	9:00	53	62	52	48
Thursday, June 11, 2026	10:00	53	64	51	48
Thursday, June 11, 2026	11:00	52	68	50	47
Thursday, June 11, 2026	12:00	52	64	51	47
Thursday, June 11, 2026	13:00	51	67	50	46
Thursday, June 11, 2026	14:00	52	68	50	45
Thursday, June 11, 2026	15:00	52	68	50	46
Thursday, June 11, 2026	16:00	53	71	51	46
Thursday, June 11, 2026	17:00	53	63	52	46
Thursday, June 11, 2026	18:00	55	70	53	48
Thursday, June 11, 2026	19:00	57	78	54	49
Thursday, June 11, 2026	20:00	57	72	55	50
Thursday, June 11, 2026	21:00	59	79	56	51
Thursday, June 11, 2026	22:00	61	89	54	50
Thursday, June 11, 2026	23:00	61	93	51	48

Statistics	Leq	Lmax	L50	L90
Day Average	54	68	52	47
Night Average	56	72	51	47
Day Low	51	62	50	45
Day High	59	79	56	51
Night Low	50	62	49	45
Night High	61	93	54	50
Ldn	62	Day %		53
CNEL	63	Night %		47



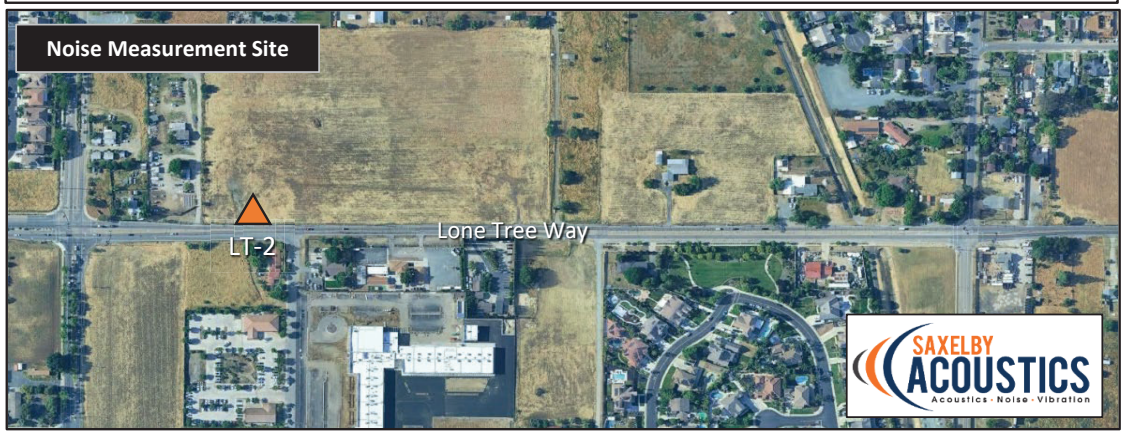


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