

Noise Study Report

INTERSTATE 80 (I-80) CORRIDOR IMPROVEMENTS PROJECT
SACRAMENTO, SOLANO, AND YOLO COUNTIES CALIFORNIA

03-SOL-80-PM 40.7/44.7

03-YOLO-80-PM 0.00/11.72

03-SAC-80-PM 0.00/1.36

03-YOLO-50-PM 0.00/3.12

03-SAC-50-PM 0.00/0.617

EA 03-3H900

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Noise Study Report

YOLO 80 (I-80) CORRIDOR IMPROVEMENTS PROJECT

SACRAMENTO, CALIFORNIA

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Summary

Caltrans in collaboration with stakeholders, proposes to construct improvements consisting of managed lanes, pedestrian/bicycle facilities, and Intelligent Transportation Systems elements along Interstate 80 (I-80) and U.S. Route (US-50) from Kidwell Road near the eastern Solano County boundary (near Dixon), through Yolo County and to Wet El Camino Avenue on I-80 and Interstate 5 (I-5) on US-50 in Sacramento County.¹

This Noise Study Report (NSR) summarizes the evaluation of noise impacts and abatement under the requirements of Title 23, Part 772 of the Code of Federal Regulations (23 CFR 772) “Procedures for Abatement of Highway Traffic Noise.” According to 23 CFR 772, all highway projects that are developed in conformance with this regulation are deemed to be in conformance with Federal Highway Administration (FHWA) noise standards.

The I-80 Corridor Improvements Project (Project) is a Type I project because it would involve the addition of lanes and would be eligible to receive federal funding from the Federal Highway Administration (FHWA) administered through Caltrans. Therefore, the Project requires noise abatement to be considered for impacted receptors. Compliance with 23 CFR 772 provides compliance with the noise impact assessment requirements of the National Environmental Policy Act (NEPA).

Activity Category B (residential), Category C (parks, trails, schools, medical facilities, and active sports areas), Category D (schools, medical facilities, and places of worship), Category E (hotels and offices), Category F (farmland), and Category G (undeveloped land) land uses were identified in the vicinity of the Project. Vehicles traveling along I-80 and US-50 are the primary source of noise for receptors located along the Project alignment. The study included noise measurements, calculations of future noise levels with the construction and operation of the Project, and identification of measures to reduce construction noise levels and to abate traffic noise levels at adjacent receptors. The FHWA Traffic Noise Model 2.5 (TNM 2.5) was used to calculate existing and future traffic noise levels, analyze traffic noise impacts, and analyze the feasibility of noise abatement. The model was validated based on measured noise and traffic conditions documented during the field survey. Following validation, noise levels were assessed in TNM 2.5 based on 2049 No Build and 2049 Build traffic conditions provided by *Fehr & Peers*.

¹ I-80 corridor between PM 40.7 and PM 44.7 in Solano County, between PM 0.00 and PM 11.72 in Yolo County, and between PM 0.00 and PM 1.36 in Sacramento County; and US-50 between PM 0.00 and PM 3.12 in Yolo County and between PM 0.00 and PM 0.617 in Sacramento County.

The project is divided up into six segments, Segment 1a, 1b, 1c, 2, 3a, and 3b. Segment 1a is located from Kidwell Road to Solano County/Yolo County Line. Segment 1b is located from the Solano/Yolo County Line to west end of the Yolo Causeway. Segment 1c is located from the start of the Yolo Causeway to east of Enterprise Boulevard. Segment 2 is located from just east of Enterprise Boulevard and continues north on I-80 to West El Camino Avenue. Segment 3a is between the I-80/US-50 Separation to Jefferson Boulevard Undercrossing. Segment 3b is located from the Jefferson Boulevard Undercrossing to just east I-5.

The Caltrans Traffic Noise Analysis Protocol for New Highway Construction, Reconstruction, and Retrofit Barrier Projects (Protocol) defines a noise increase as substantial when the predicted noise levels with Project implementation exceed existing noise levels by 12 dBA or more. Noise levels are calculated to increase by up to 2 dBA over Existing conditions assuming 2049 No Build conditions. The 2049 Alt 3a Build conditions would increase noise levels by up to 2 dBA over Existing conditions and over No Build conditions. These noise level increases are not considered substantial per the Protocol.

Loudest-hour noise levels at Category B land uses are calculated to range from 44 to 72 dBA $L_{eq[h]}$ under Existing conditions, from 45 to 72 dBA $L_{eq[h]}$ under 2049 No Build conditions, and from 45 to 72 dBA $L_{eq[h]}$ under 2049 Alt 3a Build conditions. The loudest-hour noise levels at Category C land uses are calculated to range from 54 to 73 dBA $L_{eq[h]}$ under Existing conditions, from 54 to 74 dBA $L_{eq[h]}$ under 2049 No Build conditions, and from 55 to 74 BA $L_{eq[h]}$ under 2049 Alt 3a Build conditions. The loudest-hour noise levels at Category E land uses are calculated to range from 47 to 80 dBA $L_{eq[h]}$ under Existing conditions, from 47 to 80 $L_{eq[h]}$ under 2049 No Build conditions, and from 47 to 80 dBA $L_{eq[h]}$ under 2049 Alt 3a Build conditions.

For Alternative 2b, the Category B receptors located to the east of the US-50 westbound ramp onto I-80 eastbound have a 1 dB increase over Alternative 3a. The 2049 Alt 2b Build conditions would increase noise levels by up to 2 dBA over Existing conditions and over No Build conditions. These noise level increases are not considered substantial per the Protocol.

When compared to Existing conditions, changes in noise levels under 2049 Build conditions would range from 0 to +2 dBA at all receptors.

Under Build conditions, traffic noise levels are predicted to approach or exceed the Noise Abatement Criteria (NAC) at Category B receptors located north of US-50 westbound travel lanes between Harbor Boulevard and Jefferson Boulevard, south of US-50 eastbound travel lanes between Harbor Boulevard and Jefferson Boulevard, east of the US-50 and I-5 interchange, east of the US-50 westbound ramp onto I-80 eastbound, to the east and west of I-80 at the Sacramento

River, and to the east of I-80 eastbound between Sacramento River and West El Camino Avenue. Some of these receptors are located behind existing noise barriers.

Under Build conditions, traffic noise levels are predicted to approach or exceed the NAC at Category C receptors located east of the US-50 westbound ramp onto I-80 eastbound and south of US-50 eastbound travel lanes between Harbor Boulevard and Jefferson Boulevard.

In accordance with 23 CFR 772, noise abatement is considered where noise impacts are predicted in areas of frequent human use that would benefit from a lowered noise level. Noise abatement, in the form of replacement and increased height noise barriers, was assessed for receptors where noise levels would approach or exceed the NAC and where an existing wall does not meet the feasibility and reasonableness requirements. Eight potential new evaluated barriers were evaluated for feasibility and acoustical reasonableness (i.e., would achieve the Caltrans noise reduction goal) under Build conditions. Of the eight barriers evaluated, only Evaluated Barrier 1, was found to be feasible and to achieve the Caltrans noise reduction design goal (minimum 7 dB reduction for at least one receptor). As shown in Table ES-1, the total reasonable allowance for Evaluated Barrier 1 would be \$107,000.

This study does not include an analysis of noise barrier cost-effectiveness. Noise barrier cost-effectiveness will be assessed and documented in the Noise Abatement Decision Report (NADR). The final decision to include noise barriers in the proposed Project design must consider reasonableness factors, such as cost-effectiveness, as well as other feasibility considerations including topography, access requirements, other noise sources, safety, and information developed during the design and public review process. Table ES-1 lists the reasonableness allowance calculated for all barriers that were calculated to be acoustically feasible and meet the Caltrans noise reduction design goal.

Construction activities would result in temporary increases to noise and vibration levels at adjacent sensitive receptors. Construction activities would be conducted following applicable local regulations and would be short-term and intermittent. Measures to reduce construction noise and vibration are included in this report.

Table ES-1. Summary of Acoustically Feasible and Resonable Noise Barriers

Barrier ID	Approximate Stationing/ Location ^a	Noise Level w/o Barrier at Benefited Receptors (L _{eq[h]})	Barrier Height (feet)	Insertion Loss (dBA)	Number of Benefited Receptors	Total Reasonable Monetary Allowance
Evaluated Barrier 1	9460 W Chiles Road Along I-80 eastbound between south of Richards Boulevard and north of railroad tracks (970 ft)	72	10	-7	1	\$107,000
			12 ^b	-8	1	\$107,000
			14 ^b	-8	1	\$107,000
			16 ^b	-8	1	\$107,000

^a Barrier lengths are based on linear approximations used for purposes of noise modeling in TNM 2.5. Actual lengths may differ slightly due to barrier curvature, etc.

^b Barrier breaks line of sight between 11.5-foot high truck stack and 5-foot high receptor.

^c Insertion loss is the reduction in noise due to the noise barrier.

Table of Contents

Chapter 1.	Introduction.....	1
1.1.	Purpose of the Noise Study Report	1
1.2.	Project Purpose.....	2
1.3.	Project Need	2
Chapter 2.	Project Description.....	4
2.1.	No Build	4
2.2.	Build Alternatives.....	12
2.3.	Unique Features of the Build Alternatives	21
2.3.1.	Build Alternatives 2a and 2b: HOV 2+ Managed Lane	21
2.3.2.	Build Alternatives 3a and 3b: HOT 2+ Managed Lane	23
2.3.3.	Build Alternatives 4a and 4b: HOT 3+ Managed Lane	24
2.3.4.	Build Alternatives 5a and 5b: Express Managed Lane	24
2.3.5.	Build Alternatives 6a and 6b: Transit Only Managed Lane.....	25
2.3.6.	Build Alternatives 7a and 7b: Repurpose Lanes to HOV 2+ Managed Lane	25
Chapter 3.	Fundamentals of Traffic Noise	27
3.1.	Sound, Noise, and Acoustics	27
3.2.	Frequency	27
3.3.	Sound Pressure Levels and Decibels	27
3.4.	Addition of Decibels	28
3.5.	A-Weighted Decibels	28
3.6.	Human Response to Changes in Noise Levels	29
3.7.	Noise Descriptors	30
3.8.	Sound Propagation	31
3.8.1.	Geometric Spreading.....	31
3.8.2.	Ground Absorption	31
3.8.3.	Atmospheric Effects.....	31
3.8.4.	Shielding by Natural or Human-Made Features	32
Chapter 4.	Federal Regulations and State Policies	33
4.1.	Federal Regulations	33
4.1.1.	23 CFR 772	33
4.1.2.	Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects	34
4.2.	State Regulations and Policies.....	35
4.2.1.	California Environmental Quality Act	35
4.2.2.	Section 216 of the California Streets and Highways Code	36
Chapter 5.	Study Methods and Procedures.....	37
5.1.	Methods for Identifying Land Uses and Selecting Noise Measurement and Modeling Receptor Locations	37
5.2.	Field Measurement Procedures	37
5.2.1.	Short-Term Measurements.....	38
5.2.2.	Long-Term Measurements.....	38
5.2.3.	Meteorology.....	39
5.3.	Traffic Noise Levels Prediction Methods.....	39
5.3.1.	Validation of the Traffic Noise Model.....	40
5.3.2.	Traffic Inputs used for Noise Modeling.....	40
5.4.	Methods for Identifying Traffic Noise Impacts and Consideration of Abatement.....	41
Chapter 6.	Existing Noise Environment	52

6.1.	Existing Land Uses.....	52
6.2.	Noise Measurement Results	54
6.2.1.	Short-Term Monitoring.....	54
6.2.2.	Long-Term Monitoring.....	63
6.3.	Model Validation to Existing Conditions.....	75
6.4.	Future Undeveloped Land Uses	77
Chapter 7.	Future Noise Environment, Impacts, and Considered Abatement	79
7.1.	Future Noise Environment and Impacts	79
7.1.1.	Exterior Noise Levels in Category B, C, and E Land Uses	96
7.1.2.	Interior Noise Levels in Category D Land Uses	97
7.2.	Preliminary Noise Abatement Analysis Alternatives 2a/2b through Alternative 7a/7b ...	100
7.2.1.	Segment 1B South of Richards Boulevard.....	102
7.2.2.	Segment 1B North of Richards Boulevard.....	103
7.2.3.	Section 3B East of Harbor Boulevard.....	103
7.2.4.	Segments 2 and 3A on the northeast side of the I-80 and US-50 Interchange.....	104
7.2.5.	Section 3B East of Harbor Boulevard.....	105
7.2.6.	Segment 3B on the northeast side of the I-80 and US-50 Interchange	106
7.2.7.	Segment 2 at the US-50 and I-80 Interchange	107
7.2.8.	Segment 2 at the US-50 and I-80 Interchange	108
7.2.9.	Segment 3 at the Sacramento River	108
7.2.10.	Segment 3 North of the Sacramento River	109
7.2.11.	Segment 3 North of Sacramento River to West El Camino Avenue	110
7.3.	Preliminary Reasonableness Analysis Alternative 2 through Alternative 7.....	111
Chapter 8.	Construction Noise.....	113
8.1.	Regulatory Criteria.....	113
8.2.	Construction Phasing and Noise Levels	113
8.3.	Construction Noise Impacts	114
8.4.	Construction Noise Minimization Measures	115
Chapter 9.	References.....	116
Chapter 10.	List of Preparers	118
Appendix A	Traffic Data	119
Appendix B	Predicted Future Noise Levels and Noise Barrier Analysis.....	136
Appendix C	Noise Barrier Analysis.....	184
Appendix D	Definition of Technical Terms	192
Appendix E	Site Photographs	193
Appendix F	Long-Term Noise Measurement Data.....	213
Appendix G	Traffic Volumes Used for TNM Model Validation	227
Appendix H	Comparison of Noise Levels Between Alternatives 3a and 2b.....	231
Appendix I	Calculated Interior Noise Levels.....	238
Appendix J	RCNM Output Files	239
Appendix K	TNM Alternative Modeling Results.....	250
Appendix L	On-Board Sound Intensity Measurements	357
Appendix M	Construction Vibration.....	368
M.1.	Regulatory Criteria	368
M.2.	Construction Vibration Levels	369
M.3.	Construction Vibration Impacts	370

List of Figures

Figure 5-1. Segment 1a Noise Measurement Positions from North of Kidwell Road to South of Richards Boulevard	43
Figure 5-2. Segment 1b Noise Measurement Positions from Richards Boulevard to West of Mace Boulevard.....	44
Figure 5-3. Segment 1b Noise Measurement Positions at Mace Boulevard.....	45
Figure 5-4. Segment 1b, and Segment 1c Noise Measurement Positions from East of Mace Boulevard to Levee Road	46
Figure 5-5. Segment 1c, Segment 2, and Segment 3a Noise Measurement Positions at the I-80/US-50 Interchange.....	47
Figure 5-6. Segment 3a Noise Measurement Positions from East of Harbor Boulevard to Jefferson Boulevard	48
Figure 5-7. Segment 3b Noise Measurement Positions at US-50/I-5 Interchange	49
Figure 5-8. Segment 2 Noise Measurement Positions North of the Sacramento River.....	50
Figure 5-9. Segment 2 Noise Measurement Positions South of West El Camino Avenue	51
Figure 6-1. Long-Term Monitoring at Location LT-1, March 24, 2021 through March 29, 2021	65
Figure 6-2. Long-Term Monitoring at Location LT-2, March 24, 2021 through March 29, 2021	66
Figure 6-3. Long-Term Monitoring at Location LT-3, July 6, 2021 through July 7, 2021	67
Figure 6-4. Long Term Monitoring at Location LT-4, July 6, 2021 through July 7, 2021	68
Figure 6-5. Long-Term Monitoring at Location LT-5, July 6, 2021 through July 7, 2021	69
Figure 6-6. Long-Term Monitoring at Location LT-6, July 7, 2021 through July 8, 2021	70
Figure 6-7. Long-Term Monitoring at Location LT-7, July 7, 2021 through July 8, 2021	71
Figure 6-8. Long-Term Monitoring at Location LT-9, July 7, 2021 through July 8, 2021	72
Figure 6-9. Long-Term Monitoring at Location LT-10, July 7, 2021 through July 8, 2021	73
Figure 6-10. Long-Term Monitoring at Location LT-11, July 6, 2021 through July 7, 2021	74
Figure 7-1. Segment 1A Receptor Locations and Noise Barriers West of the Railroad Tracks...	81
Figure 7-2. End of Segment 1A and Beginning of Segment 1B Receptor Locations and Noise Barriers West of Richards Boulevard.....	82
Figure 7-3. Segment 1B Receptor Locations and Noise Barriers West of Pole Line Road	83
Figure 7-4. Segment 1B Receptor Locations and Noise Barriers East of Pole Line Road.....	84
Figure 7-5. Section 1B Receptor Locations and Noise Barriers to Just East of Mace Boulevard	85
Figure 7-6. Section 1B Receptor Locations and Noise Barriers East of Mace Boulevard	86
Figure 7-7. End of Section 1B and Beginning of Section 1C Receptor Locations and Noise Barriers Just East of Levee Road.....	87
Figure 7-8. Beginning of Section 1C Receptor Locations West of Levee Road	88
Figure 7-9. Section 2 Receptor Locations and Noise Barriers East of Enterprise Boulevard	89
Figure 7-10. Section 3A Receptor Locations and Noise Barriers at the US-50 I-80 Interchange	90
Figure 7-11. Section 3A Receptor Locations and Noise Barriers West of Jefferson Boulevard..	91
Figure 7-12. Section 3B Receptor Locations and Noise Barriers at the US-50 and I-5 Interchange	92
Figure 7-13. Section 2 Receptor Locations at Reed Avenue	93
Figure 7-14. Section 2 Receptor Locations and Noise Barriers North of Sacramento River	94

Figure 7-15. Section 2 Receptor Locations and Noise Barriers South of West El Camino Avenue	95
Figure F-1. Daily Noise Trends at LT-1, Wednesday March 24, 2021	213
Figure F-2. Daily Noise Trends at LT-1, Thursday March 25, 2021	213
Figure F-3. Daily Noise Trends at LT-1, Friday March 26, 2021	214
Figure F-4. Daily Noise Trends at LT-1, Saturday March 27, 2021	214
Figure F-5. Daily Noise Trends at LT-1, Sunday March 28, 2021	215
Figure F-6. Daily Noise Trends at LT-1, Monday March 29, 2021	215
Figure F-7. Daily Noise Trends at LT-2, Wednesday March 24, 2021	216
Figure F-8. Daily Noise Trends at LT-2, Thursday March 25, 2021	216
Figure F-9. Daily Noise Trends at LT-2, Friday March 26, 2021	217
Figure F-10. Daily Noise Trends at LT-2, Saturday March 27, 2021	217
Figure F-11. Daily Noise Trends at LT-2, Sunday March 28, 2021	218
Figure F-12. Daily Noise Trends at LT-2, Monday March 29, 2021	218
Figure F-13. Daily Noise Trends at LT-3, Wednesday July 7, 2021	219
Figure F-14. Daily Noise Trends at LT-3, Thursday July 8, 2021	219
Figure F-15. Daily Noise Trends at LT-4, Wednesday July 7, 2021	220
Figure F-16. Daily Noise Trends at LT-4, Thursday July 8, 2021	220
Figure F-17. Daily Noise Trends at LT-5, Wednesday July 7, 2021	221
Figure F-18. Daily Noise Trends at LT-5, Thursday July 8, 2021	221
Figure F-19. Daily Noise Trends at LT-6, Thursday July 8, 2021	222
Figure F-20. Daily Noise Trends at LT-6, Friday July 9, 2021	222
Figure F-21. Daily Noise Trends at LT-7, Wednesday July 7, 2021	223
Figure F-22. Daily Noise Trends at LT-7, Thursday July 8, 2021	223
Figure F-23. Daily Noise Trends at LT-9, Wednesday July 7, 2021	224
Figure F-24. Daily Noise Trends at LT-9, Thursday July 8, 2021	224
Figure F-25. Daily Noise Trends at LT-10, Wednesday July 7, 2021	225
Figure F-26. Daily Noise Trends at LT-10, Thursday July 8, 2021	225
Figure F-27. Daily Noise Trends at LT-11, Tuesday July 6, 2021	226
Figure F-27. Daily Noise Trends at LT-11, Wednesday July 7, 2021	226
Figure L-7. Extent of OBSI measurements on Yolo I-80	357
Figure L-2. Extent of OBSI measurements on Yolo I-80	358
Figure L-3. Average 1/3 Octave Band Spectra Measured in the Westbound Direction	360
Figure L-4. Average 1/3 Octave Band Spectra Measured in the Eastbound Direction	361
Figure L-5. Photos of Yolo 80 pavement	362
Figure L-6. OBSI measured levels Yolo 80 segment between Pedrick Rd and Kidwell Rd	363
Figure L-7. OBSI measured levels Yolo 80 segment between Kidwell Rd and Richards Blvd	364
Figure L-8. OBSI measured levels Yolo 80 segment between Richards Blvd and Pole Line Rd	365
Figure L-9. OBSI measured levels Yolo 80 segment between Pole Line Rd and Mace Blvd ...	366
Figure L-10. OBSI measured levels Yolo 80 segment between Mace Blvd and Chiles Rd/Causeway	367

List of Tables

Table ES-1. Summary of Acoustically Feasible and Resonable Noise Barriers	vii
Table 2-1. List of Reasonably Foreseeable Future Actions	5
Table 2-2. Structure Modifications	15
Table 3-1. Typical A-Weighted Noise Levels	29
Table 4-1. Activity Categories and Noise Abatement Criteria (23 CFR 772)	35
Table 6-1. Summary of Short-Term Noise Measurements	55
Table 6-2. Summary of Long-Term Noise Monitoring at Locations LT-1 to LT-11	64
Table 6-3. Comparison of Measured to Predicted Sound Levels in the TNM Model	75
Table 7-1. Evaluated Barrier 1	102
Table 7-2. Evaluated Barrier 2	103
Table 7-3. Existing Barriers A.1, A.2, and A.3	104
Table 7-4. Evaluated Barrier 3	105
Table 7-5 Existing Barriers B.1 and B.2	106
Table 7-6. Evaluated Barriers 4.1 and 4.2	106
Table 7-7. Existing Barrier C	107
Table 7-8. Evaluated Barrier 5	108
Table 7-9. Evaluated Barriers 6 and 7	109
Table 7-10. Evaluated Barrier 8	109
Table 7-11. Existing Barrier D	110
Table 7-12. Summary of Acoustically Feasible and Resonable Noise Barriers and Replacement Barriers	112
Table 8-1. Noise Levels by Construction Phase at 100 feet	114
Table A-1. Traffic Data for Existing (2019) Conditions	120
Table A-2. Traffic Data for 2049 No Build Conditions	123
Table A-3. Traffic Data for 2049 Alt 3a Build Conditions	126
Table A-4. Traffic Data for 2049 Alt 2b Build Conditions	131
Table B-1. Predicted Future Noise and Barrier Analysis for Alternative 3a	137
Table B-2. Predicted Future Noise and Barrier Analysis for Alternative 2b	162
Table C-1. Analysis of Evaluated Barrier 1	185
Table C-2. Analysis of Evaluated Barrier 2	186
Table C-3. Analysis of Evaluated Barrier 3	187
Table C-4. Analysis of Evaluated Barriers 4.1 and 4.2	188
Table C-5. Analysis of Evaluated Barrier 5	189
Table C-6. Analysis of Evaluated Barriers 6 and 7	190
Table C-7. Analysis of Evaluated Barrier 8	191
Table G-1. I-5 Traffic Volumes Used for TNM Model Validation	227
Table H-1. Comparison of Noise Levels Between Alternatives 3a and 2b	231
Table I-1. Calculated Interior Noise Levels Alternatives 3a and 2b	238
Table K-1. Alternative 2a TNM Modeling Results	250
Table K-2. Alternative 3a TNM Modeling Results	265
Table K-3. Alternative 4a TNM Modeling Results	280
Table K-4. Alternative 5a TNM Modeling Results	295
Table K-5. Alternative 6a TNM Modeling Results	311
Table K-6. Alternative 7a TNM Modeling Results	326

Table K-7. Alternative 2b TNM Modeling Results	341
Table L-1. Summary of results from the OBSI measurements.....	359
Table M-1. Reaction of People and Damage to Buildings from Continuous or Frequent Intermittent Vibration Levels	369
Table M-2. Vibration Source Levels for Construction Equipment.....	370
Table M-3. Distance to Exceedance of Vibration Limit by Structure Type	371

List of Abbreviated Terms

23CFR772	Title 23, Part 772 of the Code of Federal Regulations
BMP	Best Management Practices
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CNEL	Community Noise Equivalent Level
dB	Decibel
dBA	A-Weighted Decibel
ETW	Edge of Traveled Way
FHWA	Federal Highway Administration
HOT	High-occupancy Toll
HOV	High-occupancy Vehicle
GSRD	Gross Solids Removal Device
Hz	Hertz
I-5	Interstate 5
I-80	Interstate 80
ICM	Integrated Corridor Management
kHz	Kilohertz
L _{dn}	Day-Night Level
L _{eq}	Equivalent Sound Level
L _{eq[h]}	Equivalent Sound Level over one hour
LOS	Level of Service
L _{xx}	Percentile-Exceeded Sound Level
LT	Long-Term Reference Noise Measurement
L _{max}	Maximum Instantaneous Sound Level
mph	miles per hour
NAC	Noise Abatement Criteria
NADR	Noise Abatement Decision Report
NEPA	National Environmental Policy Act
NSR	Noise Study Report
Project	Interstate 80 Corridor Improvements Project
Protocol	Traffic Noise Analysis Protocol for New Highway Construction, Reconstruction, and Retrofit Barrier Projects
PPV	Peak Particle Velocity
RCNM	FHWA Roadway Construction Noise Model v.1.0
ROW	Right of Way
SLM	Sound Level Meter
SMF	Sacramento International Airport
SPL	Sound Pressure Level
ST	Short-Term Noise Measurement
SWPPP	Stormwater Pollution Prevention Plan
TNAP	Traffic Noise Analysis Protocol for New Highway Construction, Reconstruction, and Retrofit Barrier Projects
TNM 2.5	FHWA Traffic Noise Model Version 2.5

TOAR	Traffic Operations Analysis Report
US 50	US Highway 50
USDOT	United States Department of Transportation

Chapter 1. Introduction

1.1. Purpose of the Noise Study Report

The purpose of this NSR is to evaluate noise impacts and abatement under the requirements of 23 CFR 772 “Procedures for Abatement of Highway Traffic Noise.” 23 CFR 772 provides procedures for preparing operational and construction noise studies and evaluating noise abatement considered for Federal and Federal-aid highway projects. According to 23 CFR 772.3, all highway projects that are developed in conformance with this regulation are deemed to be in conformance with Federal Highway Administration (FHWA) noise standards. Compliance with 23 CFR 772 provides compliance with the noise impact assessment requirements of the National Environmental Policy Act (NEPA).

The Caltrans Traffic Noise Analysis Protocol for New Highway Construction, Reconstruction, and Retrofit Barrier Projects (Protocol) (Caltrans 2020) provides Caltrans policy for implementing 23 CFR 772 in California and outlines the requirements for preparing noise study reports (NSR). The primary objective of the NSR is to identify noise-sensitive receptors where noise levels would approach or exceed the Noise Abatement Criteria (NAC) with the Project or receptors that would experience a substantial increase in noise levels as a result of the Project. Noise impacts associated with this Project under the California Environmental Quality Act (CEQA) are not evaluated in the NSR. The determination of significant impacts and adverse effects are made by the Project Development Team and will be disclosed in the Project’s Environmental Impact Report/Environmental Assessment (EIR/EA).

This NSR documents the assessment of existing and future traffic noise levels at noise-sensitive receptors in the vicinity of the proposed Project and identifies whether or not preliminary noise abatement measures are necessary for the Project to comply with State and Federal noise abatement requirements. The primary objective of this study is to identify noise-sensitive receptors where noise levels would approach or exceed the NAC with the Project or receptors that would experience a substantial increase in noise levels as a result of the Project.

1.2. Project Purpose

The California Department of Transportation (Caltrans or Department), in collaboration with stakeholders, proposes to construct improvements consisting of managed lanes, pedestrian/bicycle facilities, and Intelligent Transportation System (ITS) elements along Interstate 80 (I-80) and U.S. Route 50 (US-50) from Kidwell Road near the eastern Solano County boundary (near Dixon), through Yolo County, and to West El Camino Avenue on I-80 and Interstate 5 (I-5) on US-50 in Sacramento County.

Caltrans, as assigned by the Federal Highway Administration (FHWA), is the lead agency under the National Environmental Policy Act (NEPA) for the Caltrans EA 03-3H900 Yolo 80 Corridor Improvements Project (project). Caltrans is also the lead agency under the California Environmental Quality Act (CEQA).

The project is programmed in the State Transportation Improvement Program (STIP), Regional Surface Transportation Program, Congestion Management and Air Quality Improvement Program, and California Transportation Commission Trade Corridor Enhancement Program.

1.3. Project Need

The proposed project is needed for the following reasons:

- Recurring congestion during the morning and afternoon peak periods exceeds current design capacity limiting person throughput.
- Operational inefficiencies lead to the formation of bottlenecks due to short weaving and merging areas and lane drops.
- Inefficient movement of goods and services impedes regional and interstate economic sustainability.
- Corridor users rely heavily on single-occupancy vehicles with limited multi-modal options, e.g., transit, carpool, bicycle, and pedestrian facilities, resulting in unreliable travel times.
- Lack of real-time traveler information and coordinated traffic communication systems impedes timely response to roadway incidents resulting in secondary collisions and increased non-recurring congestion.

Roadway Deficiencies

The I-80/US-50 corridor experiences heavy congestion during the commute periods due to high vehicular demand. The corridor has infrastructure deficiencies, such as short weaving and merging areas, lane drops that create bottlenecks, incomplete ramp metering and auxiliary lane systems,

and inadequate Intelligent Transportation System elements. The corridor also experiences heavy recreational traffic, leading to heavy congestion on weekends and holidays.

The Yolo Bypass Causeway is the only direct route for connecting the Davis area to West Sacramento and beyond. Heavy congestion and stop-and-go traffic have contributed to increased vehicle emissions, travel costs, emergency response times, and reduced travel time reliability. The congestion has been created by multiple factors, including high traffic volumes, short weaving and merging areas, lane drops, limited sight distances, and incomplete bus and carpool lanes, ramp metering, and auxiliary lane networks.

Motorist traveling on I-80/US-50 experience delays throughout the day, with congestion at its maximum during the afternoon peak period. Data analysis shows that in the eastbound direction the peak hour occurs during the 5:00 p.m. to 6:00 p.m. hour with the peak period starting from 3:00 p.m. and lasting to 7:00 p.m. through Davis with travel being impacted by bottlenecks at Richards Boulevard and Mace Boulevard. Significant morning delays on westbound I-80 occurs between 8:00 a.m. to 10:00 a.m., with a severe bottleneck forming at the I-80/US 50 interchange when travel demand volumes are at their peak because of commute-related trips. Westbound US-50 frequently experiences congestion due to queue spillback of traffic at the I-80/US 50 interchange bottleneck. Peak congestion on eastbound US-50 within the project limits occurs during the afternoon peak period, from 4:00 p.m. to 6:00 p.m. The projected traffic in the project area will further exacerbate delay on each freeway segment listed above.

The I-80/US-50 corridor primarily operates at Level of Service (LOS) F during the morning and afternoon peak hours within the proposed project limits. The LOS F conditions are anticipated to worsen due to the projected traffic growth in the area. The I-80/US-50 corridor experiences significant bottlenecks that occur during both morning and afternoon peak periods, as well as on the weekends. The most severe bottlenecks in the project area occur in the eastbound direction during the afternoon peak period.

The existing Yolo 80 bikeway on the north side of the existing Yolo Causeway is underutilized by bicycle riders due to lack of connectivity. Currently, there are three entrance and exit points to the Yolo 80 bikeway. The configuration of the eastern terminus requires that east/west bicycle and pedestrian traffic traverse around the back of two gas stations in order to avoid several driveways of ingress and egress for automobile and commercial truck traffic. Bicycle and pedestrian traffic then crosses four lanes of traffic to proceed eastbound on West Capitol Avenue.

Chapter 2. Project Description

Project alternatives include the No Build and Build Alternatives, as discussed below.

2.1. No Build

Build Alternative 1: No Build Alternative

Alternative 1, the No Build Alternative, would maintain the existing conditions, and no work would be conducted to relieve current traffic congestion to improve traffic flow, mobility, and travel time reliability while at the same time reducing vehicle emissions and travel costs. The No Build Alternative would not provide a transportation facility that functions for all users, including bicyclists, pedestrians, local transit services, and freight. Recurring travel demand would continue to exceed the current design capacity of the highway, resulting in severe traffic congestion and impaired mobility. Additionally, the transportation network would not include adequate facilities for all modes of transportation.

The No Build Alternative assumes programmed and planned improvements to the current corridor. While there are numerous planned or programmed transportation projects within the region that can impact future travel patterns, this section focuses only on those future baseline improvements that directly impact the project area. The baseline improvement projects within the project area are listed in Table 2.

Table 2-1. List of Reasonably Foreseeable Future Actions

Project ID	Project Name	Jurisdiction	Location	Project Description	Status
Transportation Projects					
T-1	Yolo Pavement Rehab 03-4F650	Caltrans District 3	Yolo County, on Route 80 from east of the Mace Boulevard Interchange in Davis to the Sacramento	This project would improve the safety and reliability of the existing facility. Improvements include rehabilitation of pavement and drainage, and operational improvements, including fiber-optic communications, CMS, CCTV, ramp metering, and detection. The work is expected to require right-of-way acquisition in the form of TCEs from industrial and commercial properties. There are Union Pacific Railroad Company tracks under the Lake Washington overhead that will be affected by the installation of fiber optic conduits on the bridge. This project also proposes to widen three structures along the various medians.	Construction is anticipated to begin in 2022
T-2	Sac River BOH Bryte Bend 03-0F250	Caltrans District 3	Interstate 80 in West Sacramento from PM YOL R11.1 to PM SAC M0.5	This project proposes to rehabilitate the Sacramento River Bridge and Overhead (BOH), Br.# 22-0026 L/R, on I-80 at the Yolo/Sacramento County Line in West Sacramento about three miles west of I-5. The project will also restripe the bridge to provide 20 feet of inside shoulder and 10 feet of outside shoulder. Features to accommodate project 03-3H900 will be incorporated on the 03-0F250 project. Those features include drainage system improvements, barrier pedestals for lights, overhead signs, reduced lane width, and a further narrowing of the shoulder width to help accommodate the managed lanes.	Construction efforts have started and are anticipated to be complete in November of 2022.
T-3	US 50 ICM Infrastructure 03-3H330	Caltrans District 3	US-50 in El Dorado County from the El Dorado County/ Sacramento County line to Stateline Avenue in the City of South Lake Tahoe	This project is on US-50 in and near the cities of Sacramento, Rancho Cordova, and Folsom, from the Yolo/Sacramento County line to Folsom Boulevard; and in Yolo County in West Sacramento along US-50, from the I-80/US-50 interchange to the Yolo/Sacramento County line (PM 0.0 to 3.156), and on I-80 from Enterprise Boulevard to US-50 (PM 9.2 to R9.552). Installation of TMS field elements.	Construction is anticipated to be complete in December 2021.
T-4	SAC-5 Corridor Improvement Project 03-4H580 and SAC 50 HOV 03-3F360	Caltrans District 3	Sacramento, Sacramento River bridge, Airport Boulevard, SR-99, I-80, US-50	This project would construct HOV lanes on US-50 from the existing HOV lanes at Watt Avenue to the Pioneer Bridge, connecting to the eastern limit of the proposed Managed Lanes project on I-80/US-50 (03-3H900).	Construction is anticipated to be complete in December 2024.

Project ID	Project Name	Jurisdiction	Location	Project Description	Status
T-5	SAC-5 Corridor Improvement Project 03-4H580 and I-5 HOV Phase 1 03-3C001	Caltrans District 3	Sacramento, Sacramento River bridge, Airport Boulevard, SR-99, I-80, US-50	This project would rehabilitate the roadway, construct HOV lanes, and install fiber optic cable on I-5, south of Elk Grove Overcrossing to US-50 at the American River Bridge (Br.# 24-0068). This project has been combined for construction in the 03-0H10U4.	Construction anticipated to be complete in December 2022.
T-6	Richards Boulevard / Olive Drive Circulation Improvements 0H360	City of Davis	City of Davis, Intersection of Richards Boulevard and Olive Drive	City of Davis, in cooperation with Caltrans, has completed a Project Study Report-Project Development Support and will be circulating Draft Project Report / Environmental Document in Early 2022 that evaluates the safety and operational functions of the interchange at Richards Boulevard and I-80. Davis proposes to reconfigure the westbound ramps to a tight diamond, improve the operations at the Olive Drive intersection by adding turn lanes and increasing the intersection spacing, and providing a safer and more user-friendly route through the interchange by eliminating the free traffic movements from the existing cloverleaf ramps and converting the existing 5-foot sidewalk to a barrier separated by a 12-foot, two-way pathway.	Construction is anticipated to begin July 2022; complete in February 2024.
T-7	Sycamore Trail Pedestrian Overcrossing 3H840	City of West Sacramento	City of West Sacramento	City of West Sacramento plans to construct a trail and pedestrian crossing over US-50 that will extend south from the newly developed pedestrian and bicycle trail at Joseph "Joey" Lopes Park to Westmore Oaks Elementary School. The project site is located between Evergreen Avenue and Stone Boulevard along the Sacramento Regional County Sanitation District lower northwest interceptor sewer easement. The width of the overcrossing would be either 16 or 22 feet.	Environmental analysis is complete; Design is complete. Construction is anticipated to begin in Mid-2022 and complete by late 2023.

Project ID	Project Name	Jurisdiction	Location	Project Description	Status
T-8	Yolo Rail Relocation	City of Davis, along with City of West Sacramento, City of Woodland and Yolo County	City of Davis, City of West Sacramento, City of Woodland, and Yolo County	<p>The Yolo Rail Realignment Project proposes to relocate the existing rail access from the Union Pacific Railroad mainline current alignment along the eastern edge of West Sacramento to a new location west of the I-80/US-50 split. The project will allow for the West Sacramento riverfront to fully realize its redevelopment potential, alleviate significant traffic impact from the existing freight rail alignment, and provide for the opportunity to expand freight rail service to West Sacramento's industrial areas with minimum community impact.</p> <p>It has been proposed to combine a new railroad overhead under I-80 as part of the combined projects 03-4F650 and 03-3H900 between the Yolo Causeway and Enterprise Boulevard to tie into existing tracks leading to/from the Port of West Sacramento.</p>	Planning phase
T-9	County Road 32A Crossing	Yolo County	CR-32A is located north of I-80 and east of the Mace Boulevard interchange	CR-32A to improve bike path connectivity between CR-105 (just east of Davis) and the western terminus of the proposed new Class I bicycle/pedestrian facility of the Managed Lanes Project (03-3H900) that will connect with CR 32A, just west of the westbound CR 32A Off-Ramp. The County recently completed a Project Study Report and is seeking funding for this project.	Planning Phase
T-10	Bridge Preventive Maintenance on Route 505 at Horse Creek Bridge and on Route 80 at McCune Creek Bridge	Caltrans District 4 SHOPP Projects	Vacaville (Solano I-505 and I-80)	In and near Vallejo, Dixon, and Vacaville, at I-80/SR-29 Separation Bridge (No. 23-008), McCune Creek Bridge (No. 23-0084L/R) and Horse Creek Bridge (No. 23-0077L). Bridge preventative maintenance.	Environmental analysis completed in December 2020.
T-11	SOL SR 37, 80 & 780 RRFB 0P760; SOL-Var. 2020 SHOPP	Caltrans District 4 SHOPP Projects	Solano County, Various post markers	Install rectangular rapid flashing beacons in Solano County on various routes (Routes 37, 80, and 780) at various locations.	Construction anticipated to begin in 2022/2023
T-12	SOL-VAR; 2020 SHOPP	Caltrans District 4 SHOPP Projects	Solano County, Various post markers	Install best management practices (stormwater mitigation) at Routes 37, 80, 780, 101, and 121.	Construction anticipated to begin 2023/2024

Project ID	Project Name	Jurisdiction	Location	Project Description	Status
Bicycle and Pedestrian Facility Projects					
BP-1	Mace Boulevard Corridor Project	City of Davis	City of Davis	Addition of green bicycle lane conflict markings where each westbound freeway ramp intersects with Mace Boulevard. Provision of bicycle intersection crossing markings at the signalized intersection of the I-80 westbound ramps and Mace Boulevard and addition of green bike lane conflict markings where each eastbound freeway ramp intersects with Mace Boulevard.	Planning phase; community meeting to be held on January 20, 2022.
BP-3	Jefferson Boulevard interchange area	City of West Sacramento	City of West Sacramento	Addition of Class II bicycle lanes. The pavement on Jefferson under the US 50 interchange structure was not widened for bicycle lanes. The pavement was recently rehabilitated as part of the West Capitol Avenue Safety Enhancement and Road Rehabilitation project.	Project construction complete.
BP-4	S. River Road interchange area	City of West Sacramento	City of West Sacramento	The widening of 5 th Street for Class II bicycle lanes through the US 50 interchange area will be constructed as part of the Riverfront Street Extension / Fifth Street Widening project.	Construction to begin soon.
I-80 Corridor Major Developments/General Plans/Specific Plans					
D-1	Olive Drive	City of Davis	City of Davis	The project would develop existing single-family homes to high density multi-family apartments.	Environmental documents approved in November 2019
D-2	University Mall/ University Commons Redevelopment Project	City of Davis	City of Davis	Transit-oriented infill project, commercial and residential.	Final City Council Approval granted on August 25 th , 2020
D-3	U.C. Davis West Village Expansion	U.C. Davis	City of Davis	200-acre mixed use neighborhood integrating student, faculty, and staff housing and educational and research facilities, all centered on a civic village square.	Under construction, anticipated completion in fall of 2021
D-4	West Sacramento Corporation Yard Relocation Project	City of West Sacramento	City of West Sacramento	West Sacramento proposes to construct a new Municipal Corporation Yard Facility at 4300 West Capitol Avenue, a parcel which the city anticipates purchasing from the Port of West Sacramento.	Phase I of the project is complete.

Project ID	Project Name	Jurisdiction	Location	Project Description	Status
D-5	West Capitol Avenue - Road Rehabilitation and Safety Enhancement Project	City of West Sacramento	City of West Sacramento	<p>West Capitol Avenue is envisioned as the West Sacramento 's Downtown: a central core with a vibrant main street that takes advantage of its prime location; providing an attractive setting for a variety of land uses including the Civic Center, Community Center, Transit Hub; and providing residential, commercial and urban parks that are accessible via multiple modes of transportation.</p> <p>The primary goals are to repair deteriorating pavement; complete scalloped street sections; install drainage improvements, sidewalks, access ramps, signal modifications, separated/buffered bike lanes, street lighting, high-visibility crosswalks for safer pedestrian crossings; and reduce unnecessary vehicular travel lanes.</p>	Construction is complete.
D-6	Upper Westside Specific Plan	Sacramento County	Sacramento County	<p>The project will be a transportation-oriented development due to its location and proximity to transportation infrastructure and major employment regions in the region. It will also incorporate many "complete streets" aspects such as pedestrian- and bicycle-friendly infrastructure, transit services, and some compact housing to encourage alternative modes of transportation within the area. The project area is currently zoned for agricultural use, but a general plan amendment is underway to alter the land use designations for the Upper Westside Plan area.</p>	Application accepted on February 26th, 2019. Environmental analysis in progress.
D-7	The Core Natomas 300-unit Apartments	City of Sacramento	City of Sacramento	<p>This project provides a 300-unit apartment complex with 506 parking spaces (including 203 garage types), two accesses (orchard and via planned cul-de-sac).</p>	Construction completed in 2020.
D-8	River Oaks Phase 2 - 591 Single Family	City of Sacramento	City of Sacramento	<p>This project provides 591 single-family lots on 83.3 acres of vacant land within the River Oaks Planned Unit Development.</p>	Planning phase; environmental documents submitted in 2018.

Project ID	Project Name	Jurisdiction	Location	Project Description	Status
D-9	Bell Avenue Warehouses Project	City of Sacramento	City of Sacramento	The proposed project would include development of the project site with two warehouse structures totaling approximately 339,549 sf as well as various other site improvements related to internal vehicle circulation, stormwater management, and landscaping. The warehouse situated on the eastern parcel would be approximately 259,749 sf and contain two depressed loading docks on the western face of the building. The warehouse on the western parcel would be approximately 79,800 sf and contain two depressed loading docks on the western face of the building. On-site parking would be provided by 277 proposed parking spaces.	Planning phase; environmental documents submitted in February 2020.
D-10	Rivers Oaks Marketplace	City of Sacramento	City of Sacramento	There is a plan amendment for four new commercial structures on a 3.91-acre parcel in the C-2-PUD (General Commercial-Park El Camino) Zone. This requires a Commission-level review for site plan and design review, conditional use permits, a tentative map, and a Planned unit development Schematic Plan Amendment.	Project construction would be anticipated to last approximately 16 months, beginning in April of 2021 and concluding in July of 2022. Construction would proceed in a single phase.
D-11	ParkeBridge Phase 4	City of Sacramento	City of Sacramento	The project proposes to construct 108 new detached, single-unit dwellings with four house plans on approximately 22 acres in the ParkeBridge Planned Unit Development.	Sub-division is currently under development
D-12	Bretton Woods	City of Davis	City of Davis	Davis is annexing land from Yolo County and rezoning land from agricultural intensive to medium density residential, high density residential, residential greenspace overlay, urban agriculture transition area, and mixed use. This will pave the way for 325 single-family homes, 260 of which are for senior citizens, and an additional 150 are affordable senior apartments. The project also includes an approximately 3-acre activity and wellness center. The project is on a site north of Covell Boulevard and west of SR-113, at the intersection of Shasta Drive and West Covell Boulevard.	Currently undergoing planning review of the subdivision phases.

Project ID	Project Name	Jurisdiction	Location	Project Description	Status
D-13	U.C. Davis Long Range Development Plan	University of California, Davis	Sacramento, located off US-50 near the Highway 99/Business 80 interchange	The 2020 LRDP Update proposes general types of campus development and land uses to support projected campus population growth and enable expanded and new program initiatives. The proposed Aggie Square Phase I project consists of approximately 1,384,500-gross square feet of building space for education, research, residential and commercial uses and parking structure space.	Planning phase; environmental documents submitted in November 2020.
D-14	Woodland Research & Technology Park Specific Plan	City of Woodland	City of Woodland	Woodland is pursuing a specific plan detailing a commercial mixed-use town center with 2.15 million square feet of non-residential building space for approximately 6,100 employees and 1,600 housing units. The project is located in the southern portion of Woodland's planning area, adjacent to the existing city limits, in an area bound by Farmers Central Road to the north, CR-101 to the east, SR-113 to the west, and CR-25A to the south.	Environmental analysis in progress.

Notes:

CCTV = closed-circuit television

CMS = changeable message signs

CR = County Road

I-80 = Interstate 80

LRDP = long-range development plan

sf = square feet

SHOPP = State Highway Operation and Protection Program

SR = State Route

TCE = temporary construction easement

TMS = transportation management system

U.C. = University of California

US-50 = U.S. Route 50

2.2. Build Alternatives

Caltrans proposes to make improvements on I-80 and US 50 from Kidwell Road near the eastern Solano County boundary (near Dixon), through Yolo County, and to West El Camino Avenue on I-80 and on US 50 to I-5 in Sacramento County.² The project would add managed lanes on I-80 and US-50 by a combination of lane conversion, restriping, and shoulder and median reconstruction with a concrete barrier. Drainage modifications would be required due to median reconstruction in the locations to which sheet flow currently drains. Existing ITS elements and infrastructure would be modified, and new ITS elements would be added, including ramp meters, fiber-optic conduit and cables, and overhead signs.

Build Alternatives 2a, 3a, 4a, 5a, and 6a propose the same geometric footprint, but would incorporate different managed lane types. Build Alternatives 2b, 3b, 4b, 5b, and 6b propose the same geometric footprint, include an I-80 managed lane direct connector, but would incorporate different managed lane types. Build Alternatives 7a and 7b would not construct new lanes but would repurpose an existing lane instead; however, Build Alternative 7b would include the I-80 managed lane direct connector.

- Build Alternative 2a: Add a high-occupancy vehicle lane in each direction for use by vehicles with two or more riders (HOV 2+).
- Build Alternative 2b: Add a high-occupancy vehicle lane in each direction for use by vehicles with two or more riders (HOV 2+), and build an I-80 managed lane direct connector.
- Build Alternative 3a: Add a high-occupancy toll lane in each direction for free use by vehicles with two or more riders (HOT 2+). Single-occupied vehicles would pay a fee for the lane usage.
- Build Alternative 3b: Add a high-occupancy toll lane in each direction for free use by vehicles with two or more riders (HOT 2+), and build an I-80 managed lane direct connector. Single-occupied vehicles would pay a fee for the lane usage.

² I-80 corridor between PM 40.7 and PM 44.7 in Solano County, between PM 0.00 and PM 11.72 in Yolo County, and between PM 0.00 and PM 1.36 in Sacramento County; and US-50 between PM 0.00 and PM 3.12 in Yolo County and between PM 0.00 and PM 0.617 in Sacramento County.

- Build Alternative 4a: Add a high-occupancy toll lane in each direction for free use by vehicles with three or more riders (HOT 3+). Vehicles with less than three riders would pay a fee for lane usage.
- Build Alternative 4b: Add a high-occupancy toll lane in each direction for free use by vehicles with three or more riders (HOT 3+), and build an I-80 managed lane direct connector. Vehicles with less than three riders would pay a fee for lane usage.
- Build Alternative 5a: Add an express lane in each direction (i.e., everyone would pay a fee to use the lane, regardless of number of riders).
- Build Alternative 5b: Add an express lane in each direction (i.e., everyone would pay a fee to use the lane, regardless of number of riders), and build an I-80 managed lane direct connector.
- Build Alternative 6a: Add a transit-only lane in each direction.
- Build Alternative 6b: Add a transit-only lane in each direction, and build an I-80 managed lane direct connector.
- Build Alternative 7a: Repurpose the current number one general-purpose lane for use by vehicles with two or more riders (HOV 2+); no new lanes would be constructed.
- Build Alternative 7b: Repurpose the current number one general-purpose lane for use by vehicles with two or more riders (HOV 2+); no new lanes would be constructed. Build an I-80 managed lane direct connector.

This project contains a number of standardized project features, which are employed on most, if not all, Caltrans projects and were not developed in response to any specific environmental impact resulting from the proposed project.

The Build Alternatives consist of the following three geographic segments.

Segment 1

Segment 1 stretches from Kidwell Road in Eastern Solano County through Davis to the Eastern end of the Yolo Causeway east of Enterprise Boulevard in West Sacramento. Segment 1 consists of three sub-segments:

- Segment 1a is from Kidwell Road to Solano County/Yolo County Line.

- Segment 1b is from the Solano/Yolo County Line to west end of the Yolo Causeway.
- Segment 1c is from the start of the Yolo Causeway to east of Enterprise Boulevard.

Segment 2

Segment 2 starts just east of Enterprise Boulevard and continues north on I-80 to West El Camino Avenue.

Segment 3

Segment 3 starts at the I-80/US-50 Separation and continues east along US-50 to I-5 near downtown Sacramento. Segment 3 consists of two sub-segments:

- Segment 3a is the I-80/US-50 Separation to Jefferson Boulevard Undercrossing.
- Segment 3b is the Jefferson Boulevard Undercrossing to just east of I-5.

Managed Lanes

Managed lanes are highway facilities or a set of lanes where operational strategies are implemented to manage overall traffic congestion or in response to changing conditions (FHWA 2008). Managed lanes can include pricing, vehicle eligibility, or access control concepts. The lanes have flexibility to be used by different types of vehicles, depending on the need and can be actively managed to accommodate peak travel demands. Managed lanes would be designated using a striping pattern to distinguish between the mixed-flow.

Intelligent Transportation System/Transportation Management Systems

Each of the Build Alternatives would include placement of ramp meters and other ITS/Transportation Management Systems (TMS) such as closed-circuit television (CCTV) and changeable message signs. Several maintenance pullouts are proposed adjacent to I-80 on-ramps to accommodate an electrical cabinet for proposed ramp meters or other ITS/TMS infrastructure.

Proposed ITS elements would be installed on a new pole foundation; some existing ITS infrastructure in these locations would be abandoned or replaced. Accordingly, it is assumed that each ITS pole foundation would have up to a 6-foot radius permanent footprint with up to 10-foot radius temporary area for construction.

Structure Modifications

As summarized in Table 2-2, Build Alternatives would add improvements to existing structures to accommodate proposed Managed Lanes.

Table 2-2. Structure Modifications

Structure Name	Structure Number	Route	Post Mile	Alternative	Structure Work
South Fork Putah Creek	23-0054 R	Sol 80	42.36	All Build Alternatives	Place fiber optic conduit
Old Davis Rd Undercrossing	23-0155R	Sol 80	R43.5	All Build Alternatives	Place fiber optic conduit
South Davis Overhead	23-0156R	Sol 80	R43.93	All Build Alternatives	Place fiber optic conduit
Putah Creek Pedestrian Undercrossing	22-0194	Yol 80	0.01	All Build Alternatives	Place fiber optic conduit
Richard Boulevard Overcrossing RW NO. 3	TBD	Yol 80	0/0.60	All Build Alternatives	Retaining wall at abutment along eastbound I-80 off-ramp to Richards Boulevard
I-80 Managed Lane Direct Connector	TBD	Yol 80	9.5/10.0	Build Alternatives 2b, 3b, 4b, 5b, 6b, 7b	Proposed managed lane connector retaining wall #1; Proposed managed lane connector retaining wall #2

Source: Caltrans Draft Project Report (July 2021)

Ramp Modifications

Within Segment 2, eastbound ramp modifications would be constructed at I-80 eastbound on-ramp from Richards Boulevard to accommodate realignment within the right-of-way. In addition, ramp modifications would occur at the westbound I-80 off-ramp to County Road (CR)-32A/Chiles Road to accommodate additional bicycle/pedestrian pathway within the right-of-way.

Bicycle/Pedestrian Facilities

The Build Alternatives would replace the existing bicycle pathway pavement behind the gas station located north of West Capitol Avenue from PM 9.15 to PM 9.35. The existing bicycle pathway would be rerouted during repaving activities for up to two months, but repaving activities may occur at nighttime to minimize access disruption. To maintain access, bicycles traveling

westbound would be redirected along West Capitol Avenue. Bicycles traveling eastbound would be redirected along a short segment of sidewalk on West Capitol Avenue and use the crosswalk at the West Capitol Avenue/westbound I-80 off-ramp intersection. Bicyclists would then continue eastbound along West Capitol Avenue using the existing bicycle lane. Caltrans would install a cross walk at the westbound I-80 off-ramp across right turn movement to West Capitol Avenue as well as a temporary flashing beacon located upstream. Caltrans would also place signage as part of the traffic management plan to note the access updates and identify the bicycle/pedestrian detours.

The Build Alternatives would also replace the existing bicycle pathway pavement from PM 9.1 to the Yolo Causeway bridge deck approach at approximately PM 8.9. While the existing Class I bicycle pathway is closed, a temporary bicycle pathway with K-rail barrier would be placed along the I-80 westbound on-ramp from West Capitol Avenue. Up to 100 linear feet of existing barrier near PM 8.9 would be removed and realigned to allow bicycles to rejoin the existing Class I Bicycle Pathway along Yolo Causeway. The existing Class I bicycle pathway along the Yolo Causeway would not require closure during construction activities.

The Build Alternatives would extend the westernmost limit of the existing Class I bicycle pathway from I-80 along Yolo Causeway to connect to CR-32A. The pathway extension would be located adjacent to the westbound I-80 off-ramp to CR 32A and would be approximately 12-feet-wide. The area surrounding the pathway extension would be graded to comply with the Americans with Disabilities Act of 1990 (ADA) regulations. A concrete barrier would separate the pathway extension from westbound off-ramp vehicular. Once construction the pathway extension along westbound I-80 off-ramp is complete, the Build Alternatives would conduct pavement rehabilitation from CR 32A to Levee Road. During pavement rehabilitation activities, Levee Road would be closed. Bicycles would be redirected along the newly constructed pathway extension on westbound I-80 off-ramp to access the existing Class I bicycle pathway along Yolo Causeway.

The Build Alternatives would include widening the shoulders of CR-32A from CR-105 to the proposed Class I bicycle path along CR-32A to accommodate a standard Class II bicycle lane. Construction of the Class II bicycle lane would involve widening the shoulders by 4 feet for the Class II 6-foot lane on both sides with standard edge line striping. No barriers would be constructed. Caltrans would coordinate with Yolo County Public Works Department to complete this bicycle pathway design along CR 32A.

Park-and-Ride Facility

Within Segment 2 of each of the Build Alternatives, a Park-and-Ride Facility would be constructed on the east side of Enterprise Boulevard in a 4.5-acre lot and would provide for approximately 300 parking spaces. Users of the Park-and-Ride Facility would have the option to park their cars for the day and connect to several county and regional transit services. The facility would be located partially within the existing Caltrans right-of-way and partially outside the existing Caltrans right-of-way.

Signage

The Build Alternatives would include roadside signs and overhead signs to provide symbolic or text messages that would guide and warn motorists and regulate the flow of traffic. Some of the signs would have hours of operation that restrict certain classes of vehicles during peak periods. Other signs would have information for motorists of the conditions or hazards that they are approaching.

Roadside signs would include regulatory and warning signs, route shields, and guide signs. These signs would be located on wood or metal posts. Wood posts would be approximately 6-inches by 6-inches while metal posts would be approximately 2.5-inches by 2.5-inches. Roadside signs would be mounted on the freeway concrete median barrier or placed adjacent to the edge of the travel way up to 30 feet. However, placement of roadway signs would avoid environmentally sensitive areas.

Overhead signs would be mounted on versatile truss structures spanning above the travel lanes. The total height of the overhead sign structure (including the sign) would depend on the type of sign being mounted but would not likely exceed 40 feet in height. Overhead sign structures would have a concrete foundation of up to 6.5 feet diameter and would either be supported on a cast-in-drilled-hole pile foundation or supported by a structure.

Lighting

Street lighting would be added near CR-32A at the proposed bicycle pathway extension adjacent to the westbound off-ramp. Within Segment 2, bridge deck lighting with Type 21 Barrier-Rail-Mounted Lighting Standards would be constructed. Additional street lighting would be added to the Bryte Bend Bridge (I-80 Sacramento River Bridge Overhead), but it may also be added at proposed auxiliary lane locations if determined necessary during the design phase. Some nighttime lighting would occur during nighttime construction work activities. Signage would use reflective lettering.

Road Cut/Fill

Some locations would require full structural section reconstruction, and other locations would require cut or fill of the embankment due to road widening.

Grinding

Cold planing, the process of removing part of the surface of a paved area, would be required throughout the project limits. Cold planing would be required for ramp conforms at all ramps and may be required at other locations along the travel way wherever hot mix asphalt is currently in place. A mill (cold planing) and fill operation may be proposed to repair roadway surface scarring that occurs during temporary restriping associated with some stage construction operations.

Site Preparation

Site preparation would include delineating construction work areas, installing environmentally sensitive area (ESA) fencing around sensitive habitats and cultural resource areas, installing wildlife exclusion fencing around staging areas, installing best management practices (BMPs) in accordance with the project's Stormwater Pollution Prevention Plan (SWPPP), and removing vegetation.

Utilities

Build Alternatives 2a, 3a, 4a, 5a, 6a, and 7a would not result in potential conflicts with existing utilities that are present along the I-80/US-50 corridor. Utility companies would require verification of facilities and involvement in construction plans. Accordingly, prior to construction, an estimated 15 test hole sites would be drilled at eight different locations for natural gas lines running transversely underneath I-80, the Yolo Causeway, and West Capitol Avenue in Sacramento where the new managed lane would be constructed with retaining walls and columns. Positive findings would verify whether the gas line would require relocation or how to redesign the project components to avoid conflicts with existing utilities.

Under all Build Alternatives, removal of an existing overhead sign near Westacre Park, within Caltrans right-of-way, would require an overhead electrical distribution line to be temporarily de-energized. Under Build Alternatives 2b, 3b, 4b, 5b, 6b, and 7b, up to four 115-kilovolt overhead utility towers may be relocated or tower height increased near the new I-80 managed lane direct connector at the I-80/US-50 separation in West Sacramento. **Fiber-Optic Cable**

The Build Alternatives would install a fiber-optic cable and associated fiber-optic splice boxes within the roadbed at the eastbound outside shoulder of I-80 from west of Kidwell Road in Solano County at PM 40.7 to PM 4.35 in Yolo County. Cut and cover or trenching would be the primary

construction method and would require excavation of up to 42 inches deep to install within a 12-foot buffer surrounding the running line. Fiber-optic cable may also be placed via directional borings to avoid conflicts with existing utilities.

Right-of-Way and Temporary Construction Easements

The Build Alternatives would require Caltrans to acquire two private fee parcels to construct the proposed park-and-ride facility at Enterprise Boulevard (2.8 acres) and a permanent easement for placement of the gross solids removal devices (GSRD) adjacent to eastbound I-80, between the I-80/US 50 interchange and Harbor Boulevard (0.1 acre). A total of seven TCEs would be required along the project alignment for a total of 13.74 acres. No displacement of any residences or businesses would be required.

Staging Areas

Staging areas would be located at the I-80/West El Camino Avenue interchange, South River Road, I-80/Richards Boulevard interchange, the I-80 and SR-113 interchange, West Capitol Avenue, and along Kidwell Road. These areas total 53.31 acres and would be used for equipment maintenance and storage of equipment, construction materials, fuels, lubricants, solvents, and other possible contaminants during construction.

Traffic Management During Construction

Various Transportation Management Plan (TMP) elements such as portable changeable message signs (CMS) and the California Highway Patrol Construction Zone Enhanced Enforcement Program would be used to minimize delays to the traveling public. Flaggers would be used to divert traffic. Prior to construction, a detailed TMP would be prepared.

Ramp closures are anticipated at all ramp locations adjacent to proposed widening or proposed mainline paving. Traffic would be detoured to the next interchange. Caltrans would also place signage as part of the TMP to note the access updates and identify the bicycle/pedestrian detours. Caltrans would install a cross walk at the westbound I-80 off-ramp across right turn movement to West Capitol Avenue as well as a temporary flashing beacon located upstream.

Build Alternatives 2b, 3b, 4b, 5b, 6b, and 7b may require a temporary, full closure on westbound US-50. Full closures would occur during the hours of the lowest volume of traffic (e.g., nighttime) or during a continuous 24- or 48-hour operation. The primary detour for westbound US-50 traffic would be to use northbound I-5 to westbound I 80. Local traffic would use other interchanges in the area.

Vegetation and Tree Removal

Vegetation clearing would be required and would be confined to the area within the project footprint, including construction access routes. Vegetation removal and clearing would be completed with hand tools where possible. Chainsaws, grinders, and excavators would be used for vegetation that cannot be removed by hand. All vegetation would be removed within proposed cut and fill lines as well as within temporary impact lines where ITS components would be constructed. Within areas of temporary impact, vegetation removal would be avoided to the extent possible.

Construction Equipment

The equipment used for the proposed work of the Build Alternatives would be similar among the Build Alternatives. Center median work would use excavators, scrapers, motor graders, loaders, backhoes, pavers, concrete barrier slip form pavers, truck mounted cranes, 18-wheel trucks, dump trucks, and water trucks. Reconstruction and modification of ramps/gores/shoulder embankments would use excavators, motor graders, loaders, backhoes, pavers, 18-wheel trucks, dump trucks, and water trucks. Road surfacing work, including placement for sensors in the road surface, would use core drillers, trailers containing and dispersing sealant, and water trucks.

Construction of the I-80 managed lane direct connector under Build Alternatives 2b, 3b, 4b, 5b, 6b, and 7b would require pile driving to install the footings to a depth of up to 40 feet. Equipment would also include a crane (for pile driving), excavator, dozer, loader, manlift, articulated 4x4 forklift, truck, dump truck, trailer unit air compressor, and water truck. This construction equipment would also be used for structural sign mounts along with a truck mounted crane for all Build Alternatives. A truck-mounted auger would be used for installing roadside signs.

Ground Disturbance

The depth of ground disturbance would vary throughout the project limits. At locations where CMS, sign structures, or piles would be installed, disturbance could be up to 30 feet deep. As described, construction of the I-80 managed lane direct connector under Build Alternatives 2b, 3b, 4b, 5b, 6b, and 7b would require pile driving to install the footings to a depth of up to 40 feet. At locations of culverts, depth of ground disturbance could vary from 3 feet to 10 feet (i.e., the estimated depth to the bottom of a culvert or inlet). At locations of linear electrical facilities such as fiber-optic and conduit installations, the ideal depth is typically 4 feet, assuming 42 inches of cover; however, depth could be increased to avoid conflicts with existing or proposed drainage or existing utilities.

Site Cleanup and Post-Construction Activities

All construction materials and debris would be removed from the construction work areas and recycled or properly disposed of off-site. Caltrans would restore all areas temporarily disturbed by project activities, such as staging areas and access roads, to near or better than pre-construction conditions in accordance with applicable permits and Caltrans requirements.

2.3. Unique Features of the Build Alternatives

2.3.1. Build Alternatives 2a and 2b: HOV 2+ Managed Lane

Lane Configuration – Build Alternatives 2a and 2b

Build Alternatives 2a and 2b would begin at the Solano/Yolo County Line west of Davis to West El Camino Avenue on I-80 and end at I-5 on US-50 in Sacramento County. Build Alternatives 2a and 2b would include an HOV 2+ managed lane in the eastbound and westbound direction. This would be accomplished by constructing in the median from the Solano/Yolo County line to west of the Yolo Causeway and continuing eastward by restriping to West El Camino Avenue on I-80 and to I-5 on US-50 in Sacramento County.

Build Alternative 2b would involve construction of an I-80 managed lane direct connector in addition to the construction activities planned for Build Alternative 2a. The I-80 managed lane direct connector would provide a direct connection of the HOV 2+ managed lane by flying over US-50 at the I-80/US-50 Interchange. The connector would include a retaining wall on either side and would travel underneath the existing eastbound connector from I-80 to US-50. The proposed managed lane direct connector would be constructed of columns and include concrete barrier type 842 railings.

SEGMENT 1

Segments 1a, 1b, and 1c would be restriped with 6-inch thermoplastic traffic stripes for three mixed-flow lanes and one managed lane in each direction, westbound and eastbound.

Within Segment 1b, from just west of the Solano/Yolo County Line to the west end of the Yolo Causeway, the project would involve replacement of the existing inside shoulders and construction of the eastbound and westbound median from around Richards Boulevard to 1.5 miles east of Mace Boulevard to accommodate managed lanes in the eastbound and westbound directions. The new shoulders and construction areas would be asphalt concrete material. The median barriers would be upgraded from a metal beam guard rail to a reinforced concrete barrier.

SEGMENT 2

Within Segment 2, the Bryte Bend Bridge would be restriped to accommodate the HOV 2+ managed lane in each direction. Reducing lane and shoulder widths would accommodate a fourth lane on the Bryte Bend Bridge. The bridge striping would change from three lanes (two 12-foot lanes and one 11.5-foot lane) to four lanes (four 11-foot lanes) with 1-foot inside and 2.5-foot outside shoulders.

SEGMENT 3

Within Segment 3a, from I-80/US-50 Separation to Jefferson Boulevard Undercrossing, the pavement would be restriped to convert one mixed-flow lane in each direction to managed lanes.

Within Segment 3b, from the Jefferson Boulevard Undercrossing to just east of I-5, the Jefferson Boulevard Undercrossing (Br. No. 22-0106 L/R), and the Sacramento River viaduct (Br. No. 24-0014 R/L) between Jefferson Boulevard and the I-5/US-50 interchange would be restriped to add an additional managed lane in each direction.

Lane Access – Build Alternatives 2a and 2b

An HOV lane is a type of managed lane that allows qualified users, who meet the minimum number of passengers, to use the managed lane. The number of vehicle occupants required to qualify can vary depending on location. Under Build Alternatives 2a and 2b, vehicles with two or more occupants would be permitted to access the HOV lane, and all other vehicles would be prohibited from using those lanes. The HOV lanes would be designated using a striping pattern and a diamond marking to distinguish them from mixed-flow lanes and would operate only during peak commute hours.

Signage – Build Alternatives 2a and 2b

Approximately 45 overhead signs would be replaced or proposed within the project area. Several existing overhead signs would be removed and not replaced. In addition, 311 roadside signs would be replaced and 221 roadside signs are proposed within the median or the shoulder. Proposed signage would be the same for Build Alternatives 2a and 2b.

Drainage/Culverts – Build Alternatives 2a and 2b

Anticipated work includes extending existing culverts through existing unpaved medians, extending existing culverts at locations where construction may occur outside the existing edge of pavement lining, and possibly abandoning existing culverts where median construction would

occur in crowned sections of the roadway. New drainage inlets and culverts are proposed to be replaced or repaired to accommodate areas where existing shoulders are being narrowed, to accommodate additional runoff due to the increased pavement area, or to perpetuate existing drainage patterns. Additionally, GSRD would include physical and mechanical methods of removing litter, debris, and vegetation from stormwater runoff using various metal or fabric screening technologies. The linings of one pipe would occur using cast-in-place-pipe lining (CIPP). CIPP is a method to repair pipes without needing to trench by inserting a liner inside the existing culvert pipe.

Build Alternative 2a and Build Alternative 2b would construct 5 new culverts and replace or improve 21 existing culverts. As described, many of the proposed drainage features would be located within the construction footprint of the median for the new HOV 2+ managed lane. In addition, proposed culverts would traverse beneath the freeway to convey drainage to a new outlet. In these instances, the freeway would be trenched using an excavator and the barrel would be installed. Once the barrel is installed, the trench would be backfilled and compacted back to preconstruction conditions. Trenching across the freeway travel lanes would occur in segments during low peak (nighttime) traffic hours to maintain access. Construction of each new or replaced culvert would occur over approximately 2 nights; however, construction of several culverts could occur concurrently as further described in the construction schedule. It is assumed each of these culvert repair or replacement areas would have a 20-foot by 20-foot temporary construction impact footprint, not to exceed the roadway right of way. Proposed drainage features for the I-80 managed lane direct connector, under Build Alternative 2b, would occur within the construction footprint of the I-80 managed lane direct connector.

Construction Schedule – Build Alternatives 2a and 2b

Construction of Build Alternative 2a is anticipated to take approximately 443 construction working days over 22 months. Construction of Build Alternative 2b is anticipated to take approximately 732 construction working days over 36 months. Construction would potentially commence in Spring 2025. Due to high daytime traffic volumes, nighttime work would be expected. Both daytime and nighttime work should be anticipated throughout the project duration.

2.3.2. Build Alternatives 3a and 3b: HOT 2+ Managed Lane

Build Alternatives 3a and 3b would be the same as Build Alternatives 2a and 2b, respectively, but would include an HOT 2+ managed lane instead of an HOV 2+ lane. Build Alternative 3b would involve construction of the I-80 managed lane direct connector in addition to the construction activities planned for Build Alternative 3a.

The HOT managed lane would allow vehicles with a minimum two-person occupancy to use the lane for free, while single-occupied vehicles would pay for the lane usage. All other project components would be the same as Build Alternatives 2a and 2b, respectively, with the exception of signage locations.

Approximately 79 overhead signs would be replaced or proposed within the project area. Several existing overhead signs would be removed and not replaced. In addition, 311 roadside signs would be replaced and 373 roadside signs are proposed within the median or the shoulder.

2.3.3. Build Alternatives 4a and 4b: HOT 3+ Managed Lane

Build Alternatives 4a and 4b would be the same as Build Alternatives 2a and 2b, respectively, but would include an HOT 3+ managed lane instead of an HOV 2+ lane. Build Alternative 4b would involve construction of the I-80 managed lane direct connector in addition to the construction activities planned for Build Alternative 4a.

The HOT managed lane would allow vehicles with a minimum three-person occupancy to use the lane for free. Vehicles with less than three riders would pay for the lane usage. Vehicles with two passengers may pay reduced or full tolls to travel within the HOT lane. All other project components would be the same as Build Alternatives 2a and 2b, respectively, with the exception of signage locations.

Proposed signage for Build Alternatives 4a and 4b would be the same as Build Alternatives 3a and 3b, respectively.

2.3.4. Build Alternatives 5a and 5b: Express Managed Lane

Build Alternatives 5a and 5b would be the same as Build Alternatives 2a and 2b, respectively, but would include an express lane instead of an HOV 2+ lane. Build Alternative 5b would involve construction of the I-80 managed lane direct connector in addition to the construction activities planned for Build Alternative 5a. An express lane is a managed lane that allows vehicles of any occupancy to access a dedicated lane once a toll is paid. All other project components would be the same as Build Alternatives 2a and 2b, respectively, with the exception of signage locations.

Proposed signage for Build Alternatives 5a and 5b would be the same as Build Alternatives 3a and 3b, respectively.

2.3.5. Build Alternatives 6a and 6b: Transit Only Managed Lane

Build Alternatives 6a and 6b would be the same as Build Alternatives 2a and 2b, respectively, but would include transit-only managed lanes instead of HOV 2+ lanes. Build Alternative 6b would involve construction of the I-80 managed lane direct connector in addition to the construction activities planned for Build Alternative 6a. A transit-only lane is a managed lane that allows only approved public transit vehicles, such as bus services, to access a dedicated lane. All other project components would be the same as Build Alternatives 2a and 2b, including the proposed signage for Build Alternatives 6a and 6b, respectively..

2.3.6. Build Alternatives 7a and 7b: Repurpose Lanes to HOV 2+ Managed Lane

Build Alternatives 7a and 7b would repurpose the current number one general-purpose lanes to HOV 2+ managed lanes. No new lanes would be constructed. Build Alternative 7b would involve construction of the I-80 managed lane direct connector in addition to the construction activities planned for Build Alternative 7a.

Lane Configuration - Build Alternatives 7a and 7b

Build Alternatives 7a and 7b would maintain the existing median pavement delineation, unpaved median, and add an HOV 2+ lane by repurposing an existing mixed-flow lane (lane number one). As a result, Build Alternatives 7a and 7b would not shift the edge of travel way into the median or require barrier beam removal within the median.

Lane Access - Build Alternatives 7a and 7b

Vehicles with two or more occupants would be permitted to access the HOV 2+ lane, and all other vehicles would be prohibited from using them. The HOV 2+ lanes would be designated using a striping pattern and a diamond marking to distinguish them from mixed-flow lanes. HOV 2+ lanes would only operate during peak commute hours.

Signage – Build Alternatives 7a and 7b

Proposed signage for Build Alternatives 7a and 7b would be the same for Build Alternatives 2a and 2b, respectively.

Drainage/Culverts – Build Alternatives 7a and 7b

Build Alternatives 7a and 7b would repurpose the current number one general-purpose lanes to HOV 2+ managed lanes. Therefore, culvert construction associated with Build Alternative 7a would only be related to replacements or improvements to 18 existing culverts. Build Alternative

7b would construct 5 new culverts associated with the I-80 managed lane direct connector. Construction methods would be the same as Build Alternative 2a and 2b, respectively. The lining of one pipe would also occur using CIPP. As stated earlier, CIPP is a method to repair pipes without needing to trench by inserting a liner inside the existing culvert pipe.

Construction Schedule – Build Alternatives 7a and 7b

Construction of Build Alternative 7a is anticipated to take approximately 180 construction working days over 10 months. Construction of Build Alternative 7b is anticipated to take 732 construction working days over 36 months to complete. Construction would potentially commence in Spring 2025. Due to high daytime traffic volumes, nighttime work would be expected. Both daytime and nighttime work should be anticipated throughout the project duration.

Chapter 3. Fundamentals of Traffic Noise

The following is a brief discussion of fundamental traffic noise concepts. For a detailed discussion, please refer to Caltrans' Technical Noise Supplement (TeNS) (Caltrans 2013), a technical supplement to the Protocol that is available on Caltrans' Web site (<https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tens-sep2013-a11y.pdf>). Technical terms are defined in Appendix D.

3.1. Sound, Noise, and Acoustics

Sound can be described as the mechanical energy of a vibrating object transmitted by pressure waves through a liquid or gaseous medium (e.g., air) to a hearing organ, such as a human ear. Noise is defined as loud, unexpected, or annoying sound.

In the science of acoustics, the fundamental model consists of a sound (or noise) source, a receptor, and the propagation path between the two. The loudness of the noise source and obstructions or atmospheric factors affecting noise propagation to the receptor determines sound level and characteristics of the noise perceived by the receptor. The field of acoustics deals primarily with the propagation and control of sound.

3.2. Frequency

Continuous sound can be described by frequency (pitch) and amplitude (loudness). A low-frequency sound is perceived as low in pitch. Frequency is expressed in terms of cycles per second, or Hertz (Hz) (e.g., a frequency of 250 cycles per second is referred to as 250 Hz). High frequencies are sometimes more conveniently expressed in kilohertz (kHz), or thousands of Hertz. The audible frequency range for humans is generally between 20 Hz and 20,000 Hz.

3.3. Sound Pressure Levels and Decibels

The amplitude of pressure waves generated by a sound source determines the loudness of that source. Sound pressure amplitude is measured in micro-Pascals. One mPa is approximately one hundred billionth (0.0000000001) of normal atmospheric pressure. Sound pressure amplitudes for different kinds of noise environments can range from less than 100 to 100,000,000 mPa. Because of this huge range of values, sound is rarely expressed in terms of mPa. Instead, a logarithmic scale is used to describe sound pressure level (SPL) in terms of decibels (dB). The threshold of hearing for young people is about 0 dB, which corresponds to 20 mPa.

3.4. Addition of Decibels

Because decibels are logarithmic units, SPL cannot be added or subtracted through ordinary arithmetic. Under the decibel scale, a doubling of sound energy corresponds to a 3-dB increase. In other words, when two identical sources are each producing sound of the same loudness, the resulting sound level at a given distance would be 3 dB higher than one source under the same conditions. For example, if one automobile produces an SPL of 70 dB when it passes an observer, two cars passing simultaneously would not produce 140 dB—rather, they would combine to produce 73 dB. Under the decibel scale, three sources of equal loudness together produce a sound level 5 dB louder than one source.

3.5. A-Weighted Decibels

The decibel scale alone does not adequately characterize how humans perceive noise. The dominant frequencies of a sound have a substantial effect on the human response to that sound. Although the intensity (energy per unit area) of the sound is a purely physical quantity, the loudness or human response is determined by the characteristics of the human ear.

Human hearing is limited in the range of audible frequencies as well as in the way it perceives the SPL in that range. In general, people are most sensitive to the frequency range of 1,000–8,000 Hz and perceive sounds within that range better than sounds of the same amplitude in higher or lower frequencies. To approximate the response of the human ear, sound levels of individual frequency bands are weighted, depending on the human sensitivity to those frequencies. Then, an “A-weighted” sound level (expressed in units of dBA) can be computed based on this information.

The A-weighting network approximates the frequency response of the average young ear when listening to most ordinary sounds. When people make a judgment of the relative loudness or annoyance of a sound, their judgment correlates well with the A-scale sound levels of those sounds. Other weighting networks have been devised to address high noise levels or other special problems (e.g., B-, C-, and D-scales), but these scales are rarely used in conjunction with highway-traffic noise. Noise levels for traffic noise reports are typically reported in terms of A-weighted decibels or dBA. Table 3-1 describes typical A-weighted noise levels for various noise sources.

Table 3-1. Typical A-Weighted Noise Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
Jet fly-over at 1000 feet	— 110 —	Rock band
Gas lawn mower at 3 feet	— 100 —	
Diesel truck at 50 feet at 50 mph	— 90 —	Food blender at 3 feet
Noisy urban area, daytime	— 80 —	Garbage disposal at 3 feet
Gas lawn mower, 100 feet	— 70 —	Vacuum cleaner at 10 feet
Commercial area	— 60 —	Normal speech at 3 feet
Heavy traffic at 300 feet	— 50 —	Large business office
Quiet urban daytime	— 40 —	Dishwasher next room
Quiet urban nighttime	— 30 —	Theater, large conference room (background)
Quiet suburban nighttime	— 20 —	Library
Quiet rural nighttime	— 10 —	Bedroom at night, concert hall (background)
	— 0 —	Broadcast/recording studio
Lowest threshold of human hearing	— 0 —	Lowest threshold of human hearing

Source: Caltrans 2013.

3.6. Human Response to Changes in Noise Levels

As discussed above, doubling sound energy results in a 3-dB increase in sound. However, given a sound level change measured with precise instrumentation, the subjective human perception of a doubling of loudness will usually be different than what is measured.

Under controlled conditions in an acoustical laboratory, the trained, healthy human ear is able to discern 1-dB changes in sound levels, when exposed to steady, single-frequency (“pure-tone”) signals in the mid-frequency (1,000 Hz–8,000 Hz) range. In typical noisy environments, changes in noise of 1 to 2 dB are generally not perceptible. However, it is widely accepted that people are able to begin to detect sound level increases of 3 dB in typical noisy environments. Further, a 5-dB increase is generally perceived as a distinctly noticeable increase, and a 10-dB increase is generally perceived as a doubling of loudness. Therefore, a doubling of sound energy (e.g., doubling the volume of traffic on a highway) that would result in a 3-dB increase in sound, would generally be perceived as barely detectable.

3.7. Noise Descriptors

Noise in our daily environment fluctuates over time. Some fluctuations are minor, but some are substantial. Some noise levels occur in regular patterns, but others are random. Some noise levels fluctuate rapidly, but others slowly. Some noise levels vary widely, but others are relatively constant. Various noise descriptors have been developed to describe time-varying noise levels. The following are the noise descriptors most commonly used in traffic noise analysis.

- **Equivalent Sound Level (L_{eq}):** L_{eq} represents an average of the sound energy occurring over a specified period. In effect, L_{eq} is the steady-state sound level containing the same acoustical energy as the time-varying sound that actually occurs during the same period. The 1-hour A-weighted equivalent sound level ($L_{eq[h]}$) is the energy average of A-weighted sound levels occurring during a one-hour period and is the basis for NAC used by Caltrans and FHWA.
- **Percentile-Exceeded Sound Level (L_{xx}):** L_{xx} represents the sound level exceeded for a given percentage of a specified period (e.g., L_{10} is the sound level exceeded 10% of the time, and L_{90} is the sound level exceeded 90% of the time).
- **Maximum Sound Level (L_{max}):** L_{max} is the highest instantaneous sound level measured during a specified period.
- **Day-Night Level (L_{dn}):** L_{dn} is the energy average of A-weighted sound levels occurring over a 24-hour period, with a 10-dB penalty applied to A-weighted sound levels occurring during nighttime hours between 10 p.m. and 7 a.m.
- **Community Noise Equivalent Level (CNEL):** Similar to L_{dn} , CNEL is the energy average of the A-weighted sound levels occurring over a 24-hour period, with a 10-dB penalty applied to A-weighted sound levels occurring during the nighttime hours between 10 p.m. and 7 a.m., and a 5-dB penalty applied to the A-weighted sound levels occurring during evening hours between 7 p.m. and 10 p.m.

3.8. Sound Propagation

When sound propagates over a distance, it changes in level and frequency content. The manner in which noise reduces with distance depends on the following factors.

3.8.1. Geometric Spreading

Sound from a localized source (i.e., a point source) propagates uniformly outward in a spherical pattern. The sound level attenuates (or decreases) at a rate of 6 decibels for each doubling of distance from a point source. Highways consist of several localized noise sources on a defined path, and hence can be treated as a line source, which approximates the effect of several point sources. Noise from a line source propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of 3 decibels for each doubling of distance from a line source.

3.8.2. Ground Absorption

The propagation path of noise from a highway to a receptor is usually very close to the ground. Noise attenuation from ground absorption and reflective-wave canceling adds to the attenuation associated with geometric spreading. Traditionally, the excess attenuation has also been expressed in terms of attenuation per doubling of distance. This approximation is usually sufficiently accurate for distances of less than 200 feet. For acoustically hard sites (i.e., sites with a reflective surface between the source and the receptor, such as a parking lot or body of water,), no excess ground attenuation is assumed. For acoustically absorptive or soft sites (i.e., those sites with an absorptive ground surface between the source and the receptor, such as soft dirt, grass, or scattered bushes and trees), an excess ground-attenuation value of 1.5 decibels per doubling of distance is normally assumed. When added to the cylindrical spreading, the excess ground attenuation results in an overall drop-off rate of 4.5 decibels per doubling of distance.

3.8.3. Atmospheric Effects

Receptors located downwind from a source can be exposed to increased noise levels relative to calm conditions, whereas locations upwind can have lowered noise levels. Sound levels can be increased at large distances (e.g., more than 500 feet) from the highway due to atmospheric temperature inversion (i.e., increasing temperature with elevation). Other factors such as air temperature, humidity, and turbulence can also have significant effects.

3.8.4. Shielding by Natural or Human-Made Features

A large object or barrier in the path between a noise source and a receptor can substantially attenuate noise levels at the receptor. The amount of attenuation provided by shielding depends on the size of the object and the frequency content of the noise source. Natural terrain features (e.g., hills and dense woods) and human-made features (e.g., buildings and walls) can substantially reduce noise levels. Walls are often constructed between a source and a receptor specifically to reduce noise. A barrier that breaks the line of sight between a source and a receptor will typically result in at least 5 dB of noise reduction. Taller barriers provide increased noise reduction. Vegetation between the highway and receptor is rarely effective in reducing noise because it does not create a solid barrier.

Chapter 4. Federal Regulations and State Policies

This report focuses on the requirements of 23 CFR 772, as discussed below.

4.1. Federal Regulations

4.1.1. 23 CFR 772

23 CFR 772 provides procedures for preparing operational and construction noise studies and evaluating noise abatement considered for Federal and Federal-aid projects. Under 23 CFR 772.7, projects are categorized as Type I, Type II, or Type III projects.

FHWA defines a Type I project as a proposed Federal or Federal-aid project for the construction of a highway or roadway on a new location or the physical alteration of an existing highway, which significantly changes either the horizontal or vertical alignment of the highway. The following projects are also considered to be Type I projects:

- The addition of a through-traffic lane(s). This includes the addition of a through-traffic lane that functions as an HOV lane, HOT lane, bus lane, or truck climbing lane,
- The addition of an auxiliary lane, except for when the auxiliary lane is a turn lane,
- The addition or relocation of interchange lanes or ramps added to a quadrant to complete an existing partial interchange,
- Restriping existing pavement for the purpose of adding a through traffic lane or an auxiliary lane,
- The addition of a new or substantial alteration of a weigh station, rest stop, ride-share lot, or toll plaza.

If a project is determined to be a Type I project under this definition, the entire project area, as defined in the environmental document, is a Type I project.

A Type II project is a noise barrier retrofit project that involves no changes to highway capacity or alignment. A Type III project is a project that does not meet the classifications of a Type I or Type II project. Type III projects do not require a noise analysis.

Under 23 CFR 772.11, noise abatement must be considered for Type I projects if the project is predicted to result in a traffic noise impact. In such cases, 23 CFR 772 requires that the project

sponsor “consider” noise abatement before adoption of the final NEPA document. This process involves identification of noise abatement measures that are reasonable, feasible, and likely to be incorporated into the project, and of noise impacts for which no apparent solution is available.

Traffic noise impacts, as defined in 23 CFR 772.5, occur when the predicted noise level in the design-year approaches or exceeds the NAC specified in 23 CFR 772, or a predicted noise level substantially exceeds the existing noise level (a “substantial” noise increase). 23 CFR 772 does not specifically define the terms “substantial increase” or “approach;” these criteria are defined in the Protocol, as described below.

Table 4-1 summarizes NAC corresponding to various land use activity categories. Activity categories and related traffic noise impacts are determined based on the actual or permitted land use in a given area.

In identifying noise impacts, primary consideration is given to exterior areas of frequent human use. In situations where there are no exterior activities, or where the exterior activities are far from the roadway or physically shielded in a manner that prevents an impact on exterior activities, the interior criterion (Activity Category D) is used as the basis for determining a noise impact. Indoor analysis is conducted at Activity Category D land uses only after all outdoor analysis options have been exhausted and after a determination has been made that exterior abatement measures will not be feasible and reasonable.

4.1.2. Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects

The Protocol specifies the policies, procedures, and practices to be used by agencies that sponsor new construction or reconstruction of Federal or Federal-aid highway projects. The Protocol defines a noise increase as substantial when the predicted noise levels with project implementation exceed existing noise levels by 12 dBA or more. The Protocol also states that a sound level is considered to approach a NAC level when the sound level is within 1 dB of the NAC identified in 23 CFR 772 (e.g., 66 dBA is considered to approach the NAC of 67 dBA, but 65 dBA is not).

The Technical Noise Supplement to the Protocol provides detailed technical guidance for the evaluation of highway traffic noise. This includes field measurement methods, noise modeling methods, and report preparation guidance.

Table 4-1. Activity Categories and Noise Abatement Criteria (23 CFR 772)

Activity Category	Activity $L_{eq}[h]$ ¹	Evaluation Location	Description of Activities
A	57	Exterior	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B ²	67	Exterior	Residential.
C ²	67	Exterior	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.
D	52	Interior	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.
E	72	Exterior	Hotels, motels, offices, restaurants/bars, and other developed lands, properties, or activities not included in A–D or F.
F			Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing.
G			Undeveloped lands that are not permitted.

¹ The $L_{eq}[h]$ activity criteria values are for impact determination only and are not design standards for noise abatement measures. All values are A-weighted decibels (dBA).

² Includes undeveloped lands permitted for this activity category.

4.2. State Regulations and Policies

4.2.1. California Environmental Quality Act

Noise analysis under CEQA may be required regardless of whether or not the Project is a Type I project. The CEQA noise analysis is completely independent of the 23 CFR 772 analysis done for NEPA. Under CEQA, the baseline noise level is compared to the build noise level. The assessment entails looking at the setting of the noise impact and then how large or perceptible any noise increase would be in the given area. Key considerations include: the uniqueness of the setting, the sensitive nature of the noise receptors, the magnitude of the noise increase, the number of residences affected, and the absolute noise level.

The significance of noise impacts under CEQA are addressed in the environmental document rather than the NSR. Even though the NSR (or noise technical memorandum) does not specifically

evaluate the significance of noise impacts under CEQA, it must contain the technical information that is needed to make that determination in the environmental document.

4.2.2. Section 216 of the California Streets and Highways Code

Section 216 of the California Streets and Highways Code relates to the noise effects of a proposed freeway project on public and private elementary and secondary schools. Under this code, a noise impact occurs if, as a result of a proposed freeway project, noise levels exceed 52 dBA $L_{eq[h]}$ in the interior of public or private elementary or secondary classrooms, libraries, multipurpose rooms, or spaces. This requirement does not replace the “approach or exceed” NAC criterion for FHWA Activity Category D for classroom interiors, but it is a requirement that must be addressed in addition to the requirements of 23 CFR 772.

If a project results in a noise impact under this code, noise abatement must be provided to reduce classroom noise to a level that is at or below 52 dBA $L_{eq[h]}$. If the noise levels generated from freeway and roadway sources exceed 52 dBA $L_{eq[h]}$ prior to the construction of the proposed freeway project, then noise abatement must be provided to reduce the noise to the level that existed prior to construction of the project.

Chapter 5. Study Methods and Procedures

This chapter describes the methodology used to measure and evaluate noise levels in the Project area.

5.1. Methods for Identifying Land Uses and Selecting Noise Measurement and Modeling Receptor Locations

A field investigation was conducted from Wednesday, March 24, 2021, to Monday, March 29, 2021, and from Tuesday, July 6, 2021, to Thursday, July 8, 2021, to identify land uses that could be subject to traffic and construction noise impacts from the proposed Project. Existing land uses in the Project area were categorized by land use type and Activity Category (see Table 4-1), and the extent of frequent human use areas was documented. Noise receptor locations in the Project area were identified through a review of Project mapping, aerial photos, and field reconnaissance. Activity Category B, C, D, E, F, and G land uses border the Project. Although all land uses are evaluated in this analysis, the focus is on locations of frequent human use that would benefit from a lowered noise level. Accordingly, this impact analysis focuses on locations with defined outdoor activity areas, which include residential backyards, common use areas at multi-family residences, common use areas at hotels and motels, places of worship, schools, parks, restaurants, offices, and retail.

The geometry of the project relative to nearby existing and planned land uses was also identified.

Long-term measurement sites were selected to capture the diurnal traffic noise level pattern in the Project area. Short-term measurement locations were selected to serve as model validation points for representative modeling locations. Additional non-measurement locations were selected as modeling locations.

Photographs of the measurement sites are provided in Appendix E. Receptor locations selected for the Project area are illustrated in Figures 5-1 through 5-9 and Figures 7-1 through 7-13.

5.2. Field Measurement Procedures

A field noise study was conducted in accordance with recommended procedures in the Protocol. Noise measurements were made with Larson Davis Model LxT1 Integrating Sound Level Meters (SLMs) set at “slow” response. The sound level meters were equipped with PCB Model 377B02 1/2" free-field, prepolarized condenser microphones fitted with windscreens. The sound level meters were calibrated prior to the noise measurements using a Larson Davis Model CAL200 acoustical calibrator. The response of the system was checked after each measurement session and was always found to be within 0.2 dBA. At the completion of monitoring, the noise data were

obtained from the SLM using the Larson Davis G4 software program. All instrumentation used during the noise survey met the requirements of the American National Standards Institute (ANSI) SI 4-1983 for Type I use.

5.2.1. Short-Term Measurements

Sixty-nine short-term noise measurements (ST-1 through ST-75, six short-term measurements were conducted but not reported) were made in the Project vicinity in concurrent time intervals with the data collected at the long-term reference measurement sites. This method facilitates a direct comparison between both the short-term and long-term noise measurements and allows for the identification of the loudest-hour noise levels at land uses in the Project vicinity where long-term noise measurements were not made, but where both short-term and long-term measurements are exposed to the same primary noise source. During the short-term measurements, field staff attended each meter. Two or more consecutive 10-minute measurements were made at each noise measurement site. Dominant noise sources were identified and logged. At all locations, noise levels were measured 5 feet above the ground surface and at least 10 feet from structures or barriers. Noise measurement locations were used to validate the traffic noise model.

Traffic counts and speed observations were made along I-80 and US-50 during the short-term noise measurements for model calibration purposes. Traffic volumes were classified into five vehicle types: (1) light-duty autos and trucks, (2) medium-duty trucks (typically trucks with two axles and more than four wheels), (3) heavy-duty trucks (typically trucks with more than two axles), (4) buses, and (5) motorcycles. An automobile was defined as a vehicle with two axles and four tires that are designed primarily to carry passengers. Small vans and light trucks were included in this category. Medium-duty trucks included all cargo vehicles with two axles and six tires. Heavy-duty trucks included all vehicles with three or more axles. The posted speed on I-80 and US-50 was 65 mph for all vehicles with less than 3 axles and 55 mph for all vehicles with 3 or more axles.

5.2.2. Long-Term Measurements

Long-term reference noise measurements were made at ten locations in the Project vicinity to quantify the diurnal trend in noise levels and to establish the peak traffic noise hour. These reference noise measurements included one near the I-80 WB/SR-113 NB onramp, north of I-80 (LT-1); one at 1280 Olive Drive, northwest of I-80 (LT-2); one near the Cromwell Boulevard and Chiles Road intersection, south of I-80 (LT-3); one across the street from Davis Soccer Fields (26375 County Road 105D), south of I-80 (LT-4); one at Valhalla Mobile Home Club (3901 Lake Road), south of I-80 (LT-5); one at Meadowdale Park, east of I-80 (LT-6); one at 3524 Doran Avenue, north of US-50 (LT-7); one at Westacre Park (1755 Evergreen Avenue), north of US-50 (LT-9); one at Southside Park Community Garden (2226 5th Street), north of US-50 (LT-10); and

one at River Otter Park (2303 Barandas Drive), east of I-80 (LT-11). Long-term noise measurement LT-8 was not made as the site was inaccessible during the survey. The long-term noise measurements (LT-1 and LT-2) were made over approximate 120-hour periods, from the morning on Wednesday, March 24, to the morning on Monday, March 29, 2021. The long-term noise measurements (LT-3, LT-4, LT-5, LT-6, LT-7, LT-9, LT-10, and LT-11) were made over approximate 24-hour periods, from the morning on Tuesday, July 6, to the morning on Thursday, July 8, 2021. Long-term measurements were taken at heights of about 10 to 12 feet above ground level. Care was taken to select sites that were primarily affected by traffic noise and to avoid those sites where extraneous noise sources, such as barking dogs or mechanical equipment, could contaminate the noise data. After the data were downloaded from the SLM, the data were reviewed to identify any time periods possibly contaminated by local noise sources. Data points were excluded from the dataset where significant contamination was noted. The trends in ambient noise levels measured at long-term locations are summarized graphically in Figures 6-1 through 6-10 with daily trends in Appendix F.

5.2.3. Meteorology

Handheld weather meters were used to collect weather data at noise measurement locations during the field noise investigation. Meteorological conditions were observed during the long-term and short-term noise measurements. Conditions ranged from clear skies to fog with calm to moderate winds (1 to 5 mph). Temperatures generally ranged between 59°F to 88°F during midday. Noise monitoring would not occur if weather conditions consisted of rain or high winds (i.e., greater than 11 mph); these weather conditions did not occur during field noise measurements.

5.3. Traffic Noise Levels Prediction Methods

Traffic noise levels were predicted using TNM 2.5. TNM 2.5 is a computer model based on two FHWA reports: FHWA-PD-96-009 and FHWA-PD-96-010 (FHWA 1998a, 1998b). Due to the reliability constraints of TNM 2.5 to accurately calculate noise levels at great distances from the roadway, Caltrans limits noise assessments to approximately 500 feet of the roadway source.

TNM 2.5 calculates traffic noise levels based on the geometry of the sites, which includes the positioning of travel lanes, receptors, barriers, terrain, ground type, buildings, etc. The noise source is the traffic flow, as defined by the user, in terms of hourly volumes of automobiles, medium-duty trucks, heavy-duty trucks, buses, and motorcycles. Existing traffic and Design Year (2049) peak hour traffic volume data and speed estimates were used as model inputs for local roads and ramps. Caltrans provided the geometric plans used to create the base traffic noise model. The proposed roadway, existing and future receptors, terrain lines, ground zones, and noise barriers were digitized and input into the traffic noise model.

5.3.1. Validation of the Traffic Noise Model

TNM 2.5 cannot accurately account for pavement types and conditions, atypical vehicle noise populations, transparent shielding (such as wood fences with shrinkage gaps), reflections from nearby buildings and structures, or meteorological conditions. For these reasons, noise measurements are conducted, and traffic noise model adjustments and validation factors are developed. For each measured condition, the corresponding observed traffic conditions are used in the model to calculate the noise level. The calculated and measured noise levels are compared to assess differences and validate the traffic noise model.

Traffic counts made during the noise monitoring survey were adjusted to reflect one-hour conditions, assuming the traffic volumes during the noise measurement interval (10 minutes) were equal during the six 10-minute intervals of an hour. These adjusted one-hour volumes were input into the model for validation. Traffic volumes and mix information recorded during the noise monitoring survey and used for validation of the model are given in Appendix G.

Validation factors or model adjustments developed from this process are used to modify the model to represent measured conditions more closely. Comparison of model results under different conditions is made after the model results are rounded. Modeled results that vary from measurements by more than 3 dB are adjusted after a careful review of all measurement and modeled data. The adjustments are calculated as follows, based on the supplemental guidance provided in Appendix E of the Protocol:

- A model is considered validated if modeled and measured levels are within +/-3 dB.
Adjustment = 0
- Where modeled levels are more than 3 dB lower or higher than measured levels, the modeled results are adjusted to measured conditions: Adjustment = Measured – Modeled.

5.3.2. Traffic Inputs used for Noise Modeling

Once TNM 2.5 was validated, the loudest hour traffic noise levels were calculated for Existing Conditions, 2049 No Build, and 2049 Build scenarios. The loudest hour is not necessarily the hour with peak traffic volumes. Congestion results in slower speeds, which substantially reduces traffic noise levels. The loudest hour is generally characterized by free-flowing traffic at the roadway design speed (i.e., Level of Service [LOS] C/D or better). The highest average traffic volumes on I-80 and US-50 are predicted to occur during the AM peak hour; therefore, AM peak hour traffic

volumes were used in the model. For this analysis, it is assumed that each lane has a maximum capacity of 1,800 vehicles per hour at the design speed of the highway.

Traffic volume and mix inputs for the traffic noise model were taken from the traffic projections. Future traffic volumes for 2049 No Build and 2049 Build cases were provided in the I-80/US-50 Travel Pattern Data Memorandum by *Fehr & Peers*. Arterial roadways were modeled at the posted speed limits for the roadway.

Traffic mix information reported by Caltrans was used for both existing and future scenarios for I-80 and US-50. This data is available on the Caltrans Traffic Census Program website (<https://dot.ca.gov/programs/traffic-operations/census>). The average traffic mix for the I-80 mainline within the Project study limits was 89.2% autos, 5.3% medium trucks (MT), and 5.5% heavy trucks (HT). The average traffic mix for the US-50 mainline within the Project study limits was 92.6% autos, 3.0% medium trucks (MT), and 4.4% heavy trucks (HT).

Traffic volumes, speeds, and mix information used in the TNM 2.5 model are provided in Tables A-1 through A-3 in Appendix A.

5.4. Methods for Identifying Traffic Noise Impacts and Consideration of Abatement

Traffic noise impacts are considered to occur at receptor locations where predicted design-year noise levels are 12 dB or greater than existing noise levels, or where predicted design-year noise levels approach or exceed the NAC for the applicable activity category, as shown in Table 4-1. Caltrans has defined the meaning of approaching the NAC to be 1 dBA below the NAC (e.g., 66 dBA is considered approaching the NAC for Activity Category B activity areas). Where traffic noise impacts are identified, noise abatement must be considered for reasonableness and feasibility, as required by 23 CFR 772 and the Protocol.

Noise abatement is only considered necessary where frequent human usage occurs and where a lowered noise level would be of benefit. Areas of frequent human usage are considered to occur at exterior locations where people are exposed to traffic noise for an extended period of time on a regular basis. Therefore, impacts are typically assessed at locations with defined outdoor activity areas, such as residential backyards, common exterior use areas, trails, pools, patios, and parks (e.g., playfields, playgrounds, or picnic tables). Other examples are outdoor seating areas at restaurants or outdoor use areas at hotels.

Caltrans policies and procedures for traffic noise analysis are contained in the Protocol and TeNS. The feasibility of noise abatement is an engineering consideration. According to the Protocol, abatement measures are considered acoustically feasible if a minimum noise reduction of 5 dB at

impacted receptor locations is predicted with implementation of the abatement measures. Other factors that affect feasibility include topography, utility conflicts, and safety considerations.

Once all feasible noise abatement is identified, a procedure is conducted to assess the reasonableness of noise abatement. The determination of the reasonableness of noise abatement is more subjective than the determination of its feasibility. As defined in Section 772.5 of 23 CFR 772, reasonableness is the combination of social, economic, and environmental factors considered in the evaluation of a noise abatement measure. NSRs calculate the reasonable cost allowance for feasible noise barriers but do not determine whether a feasible barrier would be reasonable.

The overall reasonableness of noise abatement is determined by the following three factors:

- The noise reduction design goal (a barrier must be predicted to provide at least 7 dB of noise reduction at one or more benefited receptors).
- The cost of noise abatement (2019 allowance of \$107,000 per benefited receptor).
- The viewpoints of benefited receptors (including property owners and residents of the benefited receptors).

The Caltrans acoustical design goal is that a barrier must be predicted to provide at least 7 dB of noise reduction at one benefited receptor.

The Protocol defines the procedure for assessing reasonableness of noise barriers from a cost perspective. Cost considerations for determining noise abatement reasonableness are based on an allowance per benefitted receptor. This reasonable allowance may be adjusted based on the most recent annual Construction Price Index. The annual price index for the fourth quarter of any year is usually posted by February of the following year. The base cost allowance for any 2019 reasonable/feasible analysis is \$107,000 for each benefited receptor (i.e., receptors that receive at least 5 dB of noise reduction from a noise barrier). The cost allowance has not yet been updated for 2020 or 2021. The total allowance for each barrier is calculated by multiplying the number of benefited receptors by \$107,000.

The NSR identifies traffic noise impacts and evaluates noise abatement for acoustical feasibility. It also reports information that will be used in the reasonableness analysis, including if the 7 dB design goal reduction in noise can be achieved, and the abatement allowances. The overall feasibility and reasonableness of noise abatement is reported in the Noise Abatement Decision Report (NADR).

Figure 5-1. Segment 1a Noise Measurement Positions from North of Kidwell Road to South of Richards Boulevard



Figure 5-2. Segment 1b Noise Measurement Positions from Richards Boulevard to West of Mace Boulevard

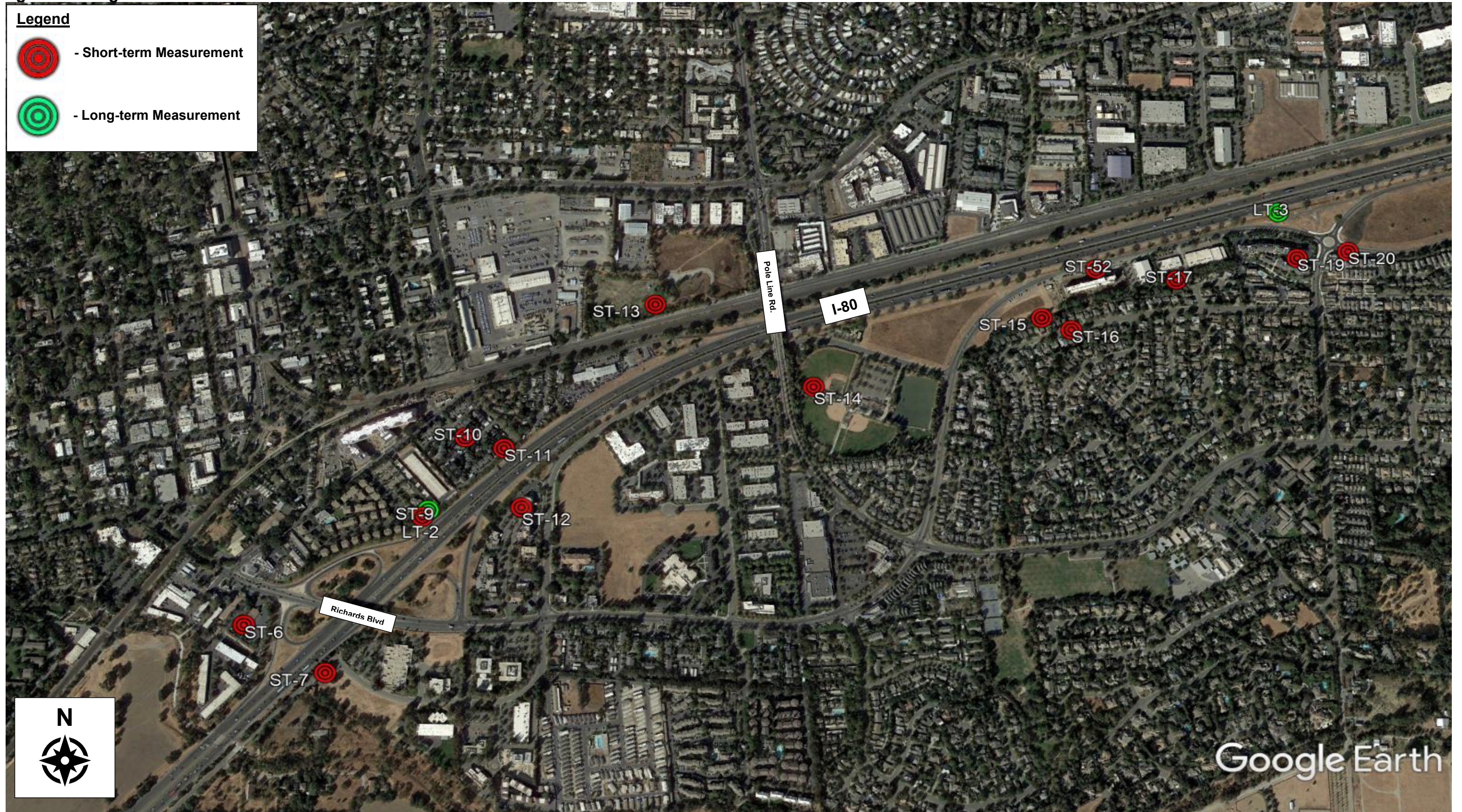


Figure 5-3. Segment 1b Noise Measurement Positions at Mace Boulevard



Figure 5-4. Segment 1b, and Segment 1c Noise Measurement Positions from East of Mace Boulevard to Levee Road



Figure 5-5. Segment 1c, Segment 2, and Segment 3a Noise Measurement Positions at the I-80/US-50 Interchange



Figure 5-6. Segment 3a Noise Measurement Positions from East of Harbor Boulevard to Jefferson Boulevard



Figure 5-7. Segment 3b Noise Measurement Positions at US-50/I-5 Interchange

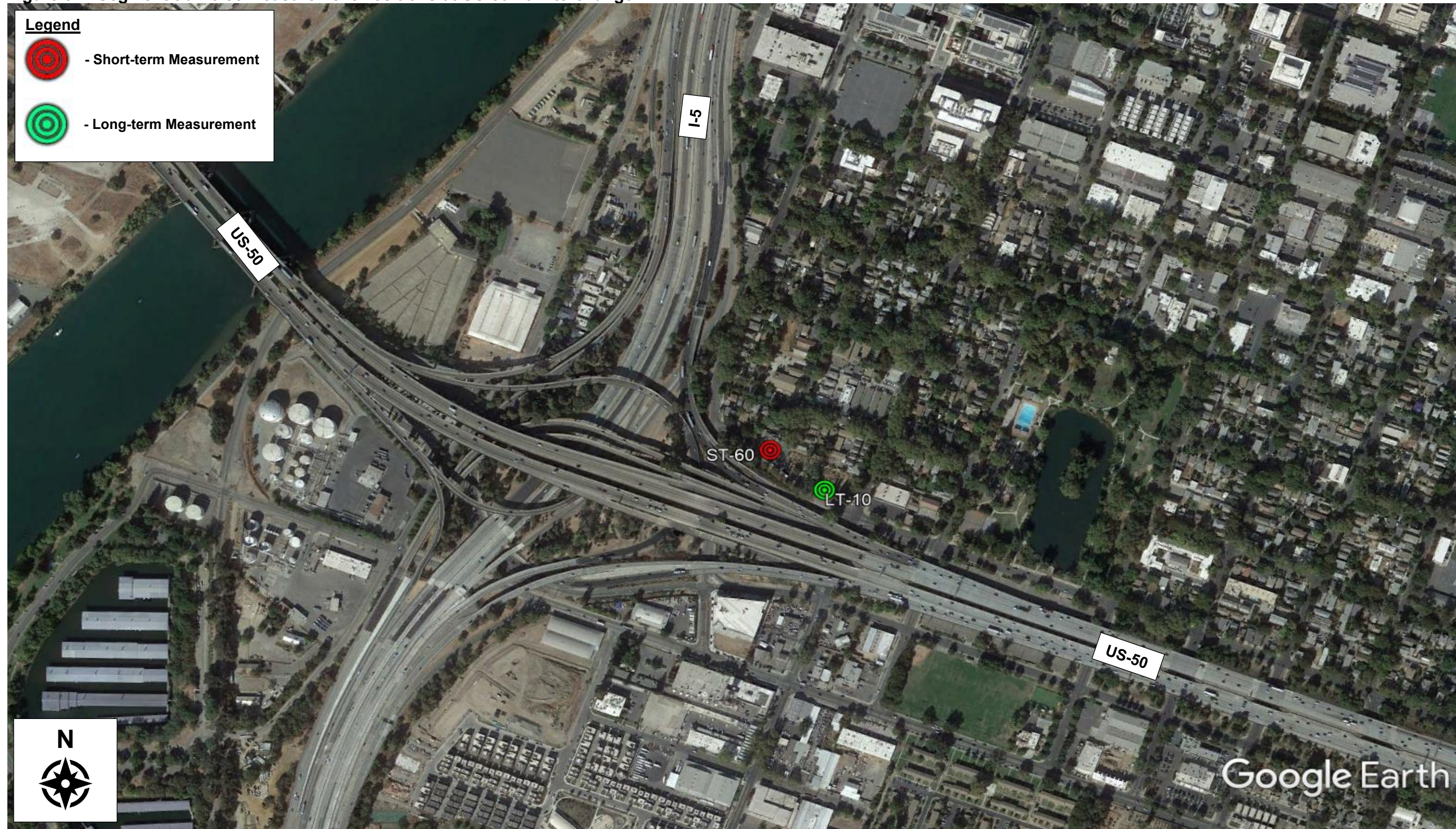
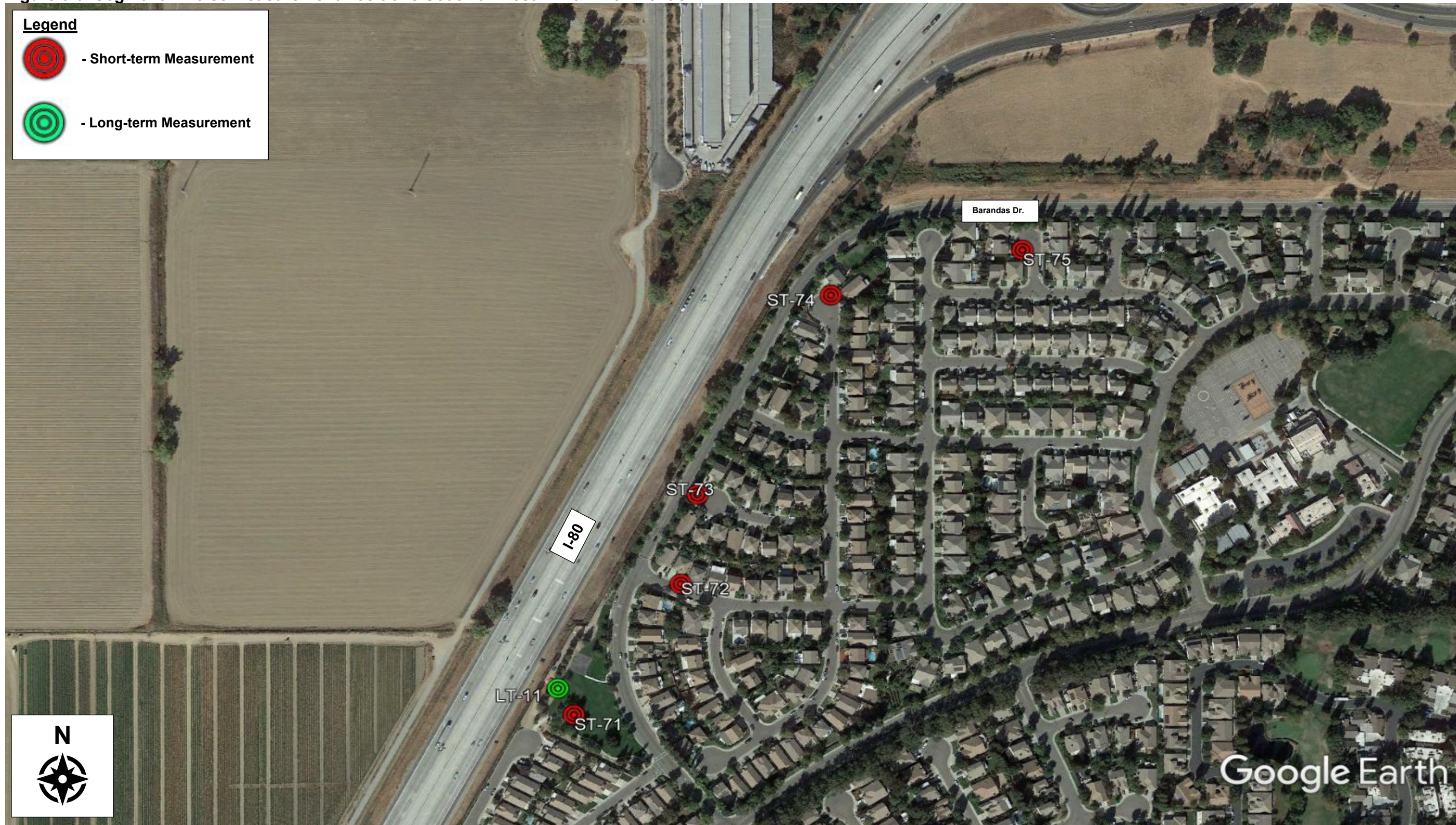


Figure 5-8. Segment 2 Noise Measurement Positions North of the Sacramento River



Figure 5-9. Segment 2 Noise Measurement Positions South of West El Camino Avenue



Chapter 6. Existing Noise Environment

The following is a discussion of existing noise levels in the Project area.

6.1. Existing Land Uses

Existing land uses in the Project area were categorized by Activity Category, as outlined in Section 4.1 (see Table 4-1 for land use descriptions). Activity Category A land uses (lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose) were not identified in the Project area. The following noise-sensitive land uses were identified in the Project area:

- Activity Category B - Residential;
- Activity Category C –Schools, Parks, Trails, Medical Facility, Active Sports Areas;
- Activity Category D (Interior) –Schools, Medical Facility, Place of Worship; and
- Activity Category E – Restaurants, Hotels, Offices.
- Activity Category F – Agriculture, Retail Facilities, Utilities, Warehousing.
- Activity Category G – Undeveloped Land Use.

Activity Category F and G land uses located in the Project area are not noise sensitive. Although all developed land uses are evaluated in this analysis, noise abatement is only considered for areas of frequent human use that would benefit from a lowered noise level. Accordingly, this impact analysis focuses on locations with defined outdoor activity areas, such as residential backyards, common exterior use areas for multi-family development and parks. The noise-sensitive uses identified in the Project area are described in further detail in Chapter 7.

Land uses in the project area have been grouped into a series of numbered analysis areas that are identified in Figures 5-1 through 5-9.

- **Segment 1a:** Segment 1a is located from Kidwell Road to Solano County/Yolo County Line. Agriculture (Activity Category F), Undeveloped Land (Activity Category G), University of California Davis (Activity Category C), and single family residential uses (Activity Category B) are located in this area. This segment does not currently include existing sound walls. (Refer to Figure 5-1)

- **Segment 1b:** Segment 1b is located from the Solano/Yolo County Line to west end of the Yolo Causeway. Eight multi-family properties (Activity Category B) and three residential subdivisions (Activity Category B) are located in this area. An existing sound barrier with a nominal height of 6 feet is located along the I-80 westbound off-ramp at Richards Boulevard. This sound wall is currently shielding a multi-family residential development west of a storage facility. East of the storage facility is another 6-foot sound wall shielding additional multi-family residences. Two medical facilities (Activity Category D), a hotel (Activity Category E), offices (Activity Category E), a sports facility (Activity Category C), a school (Activity Category D), and undeveloped land (Activity Category G) are also located within this segment. There are no outdoor areas associated with the offices and medical facilities that are considered to be areas of frequent human use. (Refer to Figures 5-2, 5-3, 5-4)
- **Segment 1c:** Segment 1c is located from the start of the Yolo Causeway to east of Enterprise Boulevard. Agriculture (Activity Category F), undeveloped lands that are not permitted (Activity Category F), undeveloped land (Activity Category G), and a wildlife trail crossing (Activity Category C) are located in this area. (Refer to Figures 5-4 and 5-5)
- **Segment 2:** Segment 2 is located from just east of Enterprise Boulevard and continues north on I-80 to West El Camino Avenue. Single-family residential (Activity Category B), a RV Park (Activity Category C), a mobile home park (Activity Category B), a medical facility (Activity Category D), and undeveloped land (Activity Category G) are located within this area. This area is generally flat. An existing sound wall runs parallel to I-80 between the eastbound lanes and Thor Drive, shielding a mobile home park. This wall is about 12 feet tall. An existing sound wall is located adjacent to I-80 eastbound, just south of West El Camino Avenue is approximately 12 feet tall and shields the single-family residential housing development. No outdoor areas considered to be areas of frequent human use are associated with the medical facility. (Refer to Figure 5-5, 5-8, 5-9)
- **Segment 3a:** Segment 3a is between the I-80/US-50 Separation to Jefferson Boulevard Undercrossing. Three residential subdivisions (Activity Category B), two multi-family properties (Activity Category B), two medical facilities (Activity Category C and D), two hotels (Activity Category E), a school (Activity Category C and D), a park (Activity Category C), a place of worship (Activity Category D), and undeveloped land (Activity Category G) are located within this segment. An existing sound wall, located north of US-50 just east of the I-80/US-50 interchange, is approximately 13.5 feet tall and shields multi-family and single-family developments. Another 12-foot-tall sound wall is located south of the US-50 eastbound lanes at the off-ramp at Harbor Boulevard. This wall is

shielding a Motel 6 and Radisson hotel. The Sacramento Valley Charter School, single-family housing area, Westacre Park, and Yolo High School, which are located north of the US-50 westbound lanes west of the Jefferson Boulevard interchange, are shielded by 6-12 feet tall sound walls. The single-family houses south of the US-50 eastbound lanes, which are also west of the Jefferson Boulevard interchange, are also currently shielded by 6-12 feet tall sound walls. (Refer to Figures 5-5 and 5-6)

- **Segment 3b:** Segment 3b is located from the Jefferson Boulevard Undercrossing to just east I-5. Parks (Category C), residential (Activity Category B), and undeveloped land (Activity Category G) land uses adjoin this segment. (Refer to Figure 5-7)

6.2. Noise Measurement Results

The existing noise environment throughout the Project area varies by location, depending on site characteristics, such as proximity of receptors to I-80, US-50, local roadways, or other significant sources of noise in the area; the relative base elevations of roadways and receptors; and the presence of any intervening structures or barriers.

6.2.1. Short-Term Monitoring

Sixty-nine short-term noise measurements (ST-1 through ST-75, six short-term measurement positions were made but not reported) were made at land uses in the Project vicinity. All short-term noise measurements were made at heights of 5 feet above ground level. Short-term noise measurement locations were used to validate the traffic noise model. The 10-minute traffic volumes counted during the short-term measurements are shown in Table 6-1. Table G-1 in Appendix G contains the computed hourly traffic counts used to validate the model.

The results of the short-term field measurements are summarized in Table 6-1. The calculated existing loudest-hour noise levels at short-term noise measurement locations are based on validated noise modeling results. As indicated in Table 6-1, existing loudest hour noise levels ranged from 46 to 85 dBA $L_{eq[h]}$ at short-term measurement locations.

Table 6-1. Summary of Short-Term Noise Measurements

Receptor ID	Location (See Appendix E)	Activity Category	Land Use	Date	Start Time	10-minute L_{eq} or L_{50} , dBA	Autos	Medium Trucks	Heavy Trucks	Observed Speed
ST-1	9010 Sparling Lane	B	Residential	7/8/2021	11:50 a.m.	69	1173	41	114	65
					12:00 p.m.	67	1256	34	100	65
ST-2	8991-8999 Olmo Lane	B	Residential	7/8/2021	11:50 a.m.	69	1173	41	114	65
					12:00 p.m.	70	1256	34	100	65
ST-3	UC Davis SE Corner of Equestrian Center Property	C	School-Active Sports Area	3/25/2021	10:10 a.m.	64	1018	33	84	65
					10:20 a.m.	63	970	55	91	65
ST-4	UC Davis near Carolee Shields Gazebo	C	School-Arboretum	3/25/2021	9:40 a.m.	53	1066	54	102	65
					9:50 a.m.	53	1070	65	112	65
ST-5	9460 W Chiles Road	B	Residential	3/25/2021	10:30 a.m.	70	1043	47	87	65
					10:40 a.m.	70	1089	54	85	65
ST-6	University Inn Park and Suites Pool Area	E	Hotel	3/25/2021	10:00 a.m.	60	996	44	93	65
					10:10 a.m.	58	1018	33	84	65
ST-7	1100 Chiles Nachtman Analytical Laboratory	E	Office	3/25/2021	10:50 a.m.	68	1176	52	101	65
					11:00 a.m.	68	769	48	60	65
ST-8	UC Davis Vet Med Serology	D	School	3/25/2021	9:50 a.m.	65	1070	65	112	65
					10:00 a.m.	65	996	44	93	65

Receptor ID	Location (See Appendix E)	Activity Category	Land Use	Date	Start Time	10-minute L_{eq} or L_{50} , dBA	Autos	Medium Trucks	Heavy Trucks	Observed Speed
ST-9	Cesar Chavez Plaza Apartments	B	Residential	3/25/2021	11:40 a.m.	63	1186	40	82	65
					11:50 a.m.	63	1130	73	95	65
ST-10	The Arbors Apartments Pool Area	B	Residential	3/25/2021	12:10 p.m.	51	1183	64	100	65
					12:20 p.m.	50	1174	62	81	65
ST-11	The Arbors Apartments	B ³	Residential	3/25/2021	12:40 p.m.	64	1202	61	83	65
					12:50 p.m.	64	1210	66	82	65
ST-12	La Quinta Inn and Suites by Wyndham Davis Pool Area	E	Hotel	3/25/2021	11:40 a.m.	67	1186	40	82	65
					11:50 a.m.	68	1130	73	95	65
ST-13	Toad Hollow Dog Park	C	Park	3/25/2021	12:10 p.m.	51	1183	64	100	65
					12:20 p.m.	53	1174	62	81	65
ST-14	Play Fields Park	C	Active Sports Area	3/25/2021	11:40 a.m.	60	1186	40	82	65
					11:50 a.m.	61	1130	73	95	65
ST-15	2617 Albany Avenue	B	Residential	3/25/2021	12:50 p.m.	61	1210	66	82	65
					1:00 p.m.	61	1310	54	70	65
ST-16	2646 Albany Avenue	B	Residential	3/25/2021	12:50 p.m.	52 ^{2,4}	1210	66	82	65
					1:00 p.m.	51 ^{2,4}	1310	54	70	65
ST-17	2813 Albany Avenue	C	Playground	3/25/2021	1:20 p.m.	57	1275	60	88	65
					1:40 p.m.	57	1285	66	77	65

Receptor ID	Location (See Appendix E)	Activity Category	Land Use	Date	Start Time	10-minute L_{eq} or L_{50} , dBA	Autos	Medium Trucks	Heavy Trucks	Observed Speed
ST-18	UC Davis Building 641 Hilgard Lane	D	School	3/25/2021	10:20 a.m.	58	970	55	91	65
					10:30 a.m.	58	1043	47	87	65
ST-19	Playground at New Harmony Mutual Housing Community	C	Playground	7/6/2021	11:50 a.m.	52 ^{2,5}	1271	43	75	65
					12:00 p.m.	50 ^{2,5}	1191	26	92	65
ST-20	3212 Koso Terrace	B	Residential	3/25/2021	1:20 p.m.	62	1275	60	88	65
					1:40 p.m.	63	1285	66	77	65
ST-21	3720 Chiles Road	B	Residential	3/25/2021	1:50 p.m.	58	1297	45	74	65
					2:00 p.m.	59	1352	54	58	65
ST-22	3707 El Segundo Ave	B	Residential	3/25/2021	1:20 p.m.	65	1275	60	88	65
					1:30 p.m.	66	1302	73	85	65
ST-23	213 La Vida Way	C	Preschool	7/6/2021	9:50 a.m.	55	1092	53	94	65
					10:00 a.m.	54	1034	65	79	65
ST-24	Days Inn by Wyndham Davis Near UC Davis	E	Hotel	7/6/2021	9:50 a.m.	59	1092	53	94	65
					10:00 a.m.	59	1034	65	79	65
ST-25	Pool Area at Motel 6 Davis, CA-Sacramento Area	E	Hotel	7/6/2021	10:30 a.m.	59	1180	48	95	65
					10:40 a.m.	57	1097	65	83	65

Receptor ID	Location (See Appendix E)	Activity Category	Land Use	Date	Start Time	10-minute L_{eq} or L_{50} , dBA	Autos	Medium Trucks	Heavy Trucks	Observed Speed
ST-26	5070 Veranda Terrace	B	Residential	7/6/2021	10:40 a.m.	47	1097	65	83	65
					10:50 a.m.	46	1118	67	75	65
ST-27	5093 Veranda Terrace	B	Residential	7/6/2021	11:10 a.m.	51	1110	64	69	65
					11:20 a.m.	48	1228	67	85	65
ST-28	Yolo Basin Foundation 45211 Country Road 32 B	B	Residential	7/6/2021	10:30 a.m.	59	1180	48	95	65
					10:40 a.m.	58	1097	65	83	65
ST-29	26375 Country Road 105 D	C	Active Sports Area	7/6/2021	11:00 a.m.	59	1050	54	66	65
					11:10 a.m.	58	1110	64	69	65
ST-30	Yolo Bypass Wildlife Area	E	Trail	7/6/2021	11:00 a.m.	85	1050	54	66	65
					11:10 a.m.	84	1110	64	69	65
ST-31	Yolo Bypass Wildlife Area	E	Trail	7/6/2021	10:30 a.m.	66	1180	48	95	65
					10:40 a.m.	65	1097	65	83	65
ST-32	Roland Hensley Park-4900 W Capitol Avenue	E	Trail	7/6/2021	11:30 a.m.	61	1251	61	81	65
					11:40 a.m.	61	1254	51	73	65
ST-34	Valhalla Mobile Home Club Pool Area	B	Residential	7/6/2021	12:10 p.m.	48	1242	38	96	65
					12:20 p.m.	50	1251	32	86	65
ST-35	10 Thor Drive	B ³	Residential	7/6/2021	12:10 p.m.	67	1242	38	96	65
					12:20 p.m.	67	1251	32	86	65

Receptor ID	Location (See Appendix E)	Activity Category	Land Use	Date	Start Time	10-minute L_{eq} or L_{50} , dBA	Autos	Medium Trucks	Heavy Trucks	Observed Speed
ST-36	43 Bragi Drive	B	Residential	7/6/2021	11:40 a.m.	53	1254	51	73	65
					11:50 a.m.	52	1271	43	75	65
ST-37	241 Bragi Drive	B	Residential	7/6/2021	12:10 p.m.	61	1242	38	96	65
					12:20 p.m.	60	1251	32	86	65
ST-38	Meadowdale Park	C	Park	7/7/2021	12:00 p.m.	63	978	35	57	65
					12:10 p.m.	63	957	35	52	65
ST-39	3624 Palomar Avenue	B	Residential	7/7/2021	12:00 p.m.	61	978	35	57	65
					12:10 p.m.	61	957	35	52	65
ST-40	3604 Doran Avenue	B	Residential	7/7/2021	11:30 a.m.	64	993	23	44	65
					11:40 a.m.	64	1000	20	59	65
ST-41	861 Garnet Street	B	Residential	7/7/2021	11:10 a.m.	66	867	32	67	65
					11:20 a.m.	66	930	27	57	65
ST-43	Center for Spiritual Awareness	D ³	Place of Worship	7/7/2021	11:10 a.m.	61	867	32	67	65
					11:20 a.m.	61	930	27	57	65
ST-44	Motel 6 West Sacramento Pool Area	E	Hotel	7/7/2021	12:00 p.m.	57	978	35	57	65
					12:10 p.m.	57	957	35	52	65
ST-45	2225 Hickory Way	B	Residential	7/7/2021	12:40 p.m.	64	1202	61	83	65
					12:50 p.m.	64	988	42	78	65
ST-46	1089 Orchard Way	B	Residential	7/7/2021	12:30 p.m.	64	890	24	41	65
					12:40 p.m.	63	1202	61	83	65

Receptor ID	Location (See Appendix E)	Activity Category	Land Use	Date	Start Time	10-minute L_{eq} or L_{50} , dBA	Autos	Medium Trucks	Heavy Trucks	Observed Speed
ST-47	Westmore Oaks Elementary School	C	School-Active Sports Area	7/7/2021	12:50 p.m.	69	988	42	78	65
					1:00 p.m.	69	1042	34	72	65
ST-48	Westmore Oaks Elementary School	C	School-Playground	7/7/2021	12:50 p.m.	64	988	42	78	65
					1:00 p.m.	64	1042	34	72	65
ST-49	1905 Buckeye Drive	B	Residential	7/7/2021	1:10 p.m.	70	756	22	62	65
					1:20 p.m.	70	979	41	75	65
ST-50	1412 Norfolk Avenue	B	Residential	7/7/2021	1:20 p.m.	57 ^{2,6}	979	41	75	65
					1:30 p.m.	57 ^{2,6}	1030	49	66	65
ST-51	Westacre Park	C	Playground	7/7/2021	1:00 p.m.	66	1042	34	72	65
					1:10 p.m.	65	756	22	62	65
ST-52	1309 Norfolk Avenue	B	Residential	7/7/2021	1:20 p.m.	59	979	41	75	65
					1:30 p.m.	59	1030	49	66	65
ST-53	Yolo High School	C	School	7/8/2021	9:20 a.m.	62	762	20	41	65
					9:30 a.m.	62	834	22	54	65
ST-55	719 11 th Street	B	Residential	7/8/2021	9:20 a.m.	59	762	20	41	65
					9:30 a.m.	58	834	22	54	65
ST-56	1011 Canna Way	B	Residential	7/8/2021	9:50 a.m.	62	766	19	49	65
					10:00 a.m.	61	792	28	38	65
ST-58	918 Meadow Road	B	Residential	7/8/2021	9:20 a.m.	58	762	20	41	65
					9:30 a.m.	59	834	22	54	65

Receptor ID	Location (See Appendix E)	Activity Category	Land Use	Date	Start Time	10-minute L_{eq} or L_{50} , dBA	Autos	Medium Trucks	Heavy Trucks	Observed Speed
ST-59	Our Lady of Grace Church	D ³	Place of Worship	7/8/2021	9:50 a.m.	67	766	19	49	65
					10:00 a.m.	67	792	28	38	65
ST-60	2214 4 th Street	B	Residential	7/8/2021	9:50 a.m.	66	766	19	49	65
					10:00 a.m.	66	792	28	38	65
ST-61	Tenrikyo High Sacramento Church	D ³	Place of Worship	7/8/2021	9:20 a.m.	67	762	20	41	65
					9:30 a.m.	67	834	22	54	65
ST-62	NW of 2197 Garden Highway	B	Residential	7/6/2021	1:10 p.m.	55	756	22	62	65
					1:20 p.m.	57	639	24	46	65
ST-63	2184 Garden Highway	B	Residential	7/6/2021	1:40 p.m.	58 ^{2,7}	740	25	51	65
					1:50 p.m.	60 ^{2,7}	1264	53	69	65
ST-64	2125 Garden Highway	B	Residential	7/6/2021	1:00 p.m.	65	774	14	74	65
					1:10 p.m.	66	756	22	62	65
ST-65	3814 W River Drive	B	Residential	7/6/2021	12:50 p.m.	63	766	18	74	65
					1:00 p.m.	63	774	14	74	65
ST-66	3760 W River Drive	B	Residential	7/6/2021	1:20 p.m.	62	639	24	46	65
					1:30 p.m.	61	809	23	50	65
ST-67	6 Rivulet Court	B	Residential	7/7/2021	9:40 a.m.	60	749	27	69	65
					9:50 a.m.	60	752	28	80	65
ST-68	3638 W River Drive	B	Residential	7/7/2021	10:10 a.m.	65	736	31	77	65
					10:20 a.m.	65	721	24	97	65
ST-70	5 Cool Fountain Court	B	Residential	7/7/2021	10:00 a.m.	64	705	33	79	65
					10:10 a.m.	63	736	31	77	65

Receptor ID	Location (See Appendix E)	Activity Category	Land Use	Date	Start Time	10-minute L_{eq} or L_{50} , dBA	Autos	Medium Trucks	Heavy Trucks	Observed Speed
ST-71	River Otter Park	C	Park	7/7/2021	9:30 a.m.	60	739	23	73	65
					9:40 a.m.	60	749	27	69	65
ST-72	3451 Delphinium Way	B	Residential	7/7/2021	9:30 a.m.	59	739	23	73	65
					9:40 a.m.	59	749	27	69	65
ST-73	40 White Lilly Court	B	Residential	7/7/2021	10:00 a.m.	58	705	33	79	65
					10:10 a.m.	58	736	31	77	65
ST-74	52 Blue Fern Court	B	Residential	7/7/2021	9:30 a.m.	56	739	23	73	65
					9:40 a.m.	56	749	27	69	65
ST-75	11 Swinging Bridge Court	B	Residential	7/7/2021	10:10 a.m.	51	736	31	77	65
					10:20 a.m.	49	721	24	97	65

1 Acoustically equivalent site to represent residential land use nearby.

2 $L_{(50)}$ Used

3 No outdoor use area

4 $L_{(50)}$ Used at ST-16 due to local traffic on Albany Avenue.

5 $L_{(50)}$ Used at ST-19 due to a distant leaf blower coming on during the measurement.

6 $L_{(50)}$ Used at ST-50 due to local traffic on Norfolk Avenue.

7 $L_{(50)}$ Used at ST-63 due to local traffic on Garden Highway.

Note: Refer to Figures 5-1 through 5-9 for measurement locations

6.2.2. Long-Term Monitoring

Ten long-term noise measurements (LT-1, LT-2, LT-3, LT-4, LT-5, LT-6, LT-7, LT-9, LT-10, and LT-11) were made to quantify the diurnal trend in noise levels and establish the peak traffic noise hour.

Long-term monitoring location LT-1 was located at the I-80WB/SR-113 NB onramp, approximately 300 feet from the centerline of I-80. LT-2 was located at the Lexington Apartments, 1280 Olive Drive, approximately 160 feet from the centerline of I-80. LT-3 was located near the Cromwell Boulevard and Chiles Road intersection, approximately 100 feet from the centerline of I-80. LT-4 was located across the street from Davis Soccer Fields at 26375 County Road 105D, approximately 120 feet from the centerline of I-80. LT-5 was located at Valhalla Mobile Home Club, 3901 Lake Road, approximately 170 feet from the centerline of I-80. LT-6 was located at Meadowdale Park, approximately 400 feet from the centerline of I-80. LT-7 was located at 3524 Doran Avenue, approximately 200 feet from the centerline of US-50. LT-9 was located at Westacre Park, 1755 Evergreen Avenue, approximately 115 feet from the centerline of US-50. LT-10 was located at Southside Community Garden, 2226 5th Street, approximately 290 feet from the centerline of US-50. LT-11 was located at River Otter Park, 2303 Barandas Drive, approximately 160 feet from the centerline of I-80.

The long-term noise measurements (LT-1 and LT-2) were made over approximate 120-hour periods, from the morning on Wednesday, March 24, to the morning on Monday, March 29, 2021. The long-term noise measurements (LT-3, LT-4, LT-5, LT-6, LT-7, LT-9, LT-10, and LT-11) were made over approximate 24-hour periods, from the morning on Tuesday, July 6, to the morning on Thursday, July 8, 2021. Long-term measurements were taken at heights of about 10 to 12 feet above ground level. Care was taken to select sites that were primarily affected by traffic noise and to avoid those sites where extraneous noise sources, such as barking dogs or mechanical equipment, could contaminate the noise data. After the data were downloaded from the SLM, the data were reviewed to identify any time periods possibly contaminated by local noise sources. Data points were excluded from the dataset where significant contamination was noted. The daily trends in ambient noise levels measured at long-term locations are summarized graphically in Figures 6-1 through 6-10 with daily trends shown in Appendix F.

The results of the long-term field measurements are summarized in Table 6-2. As indicated in Table 6-2, existing loudest hour noise levels ranged from 64 to 82 dBA $L_{eq[h]}$ at long-term locations. Figures 6-1 through 6-10 summarize the results of the long-term noise monitoring for sites LT-1 through LT-11, respectively.

Table 6-2. Summary of Long-Term Noise Monitoring at Locations LT-1 to LT-11

Receptor ID	Location (See Photos in Appendix E)	Date	Loudest Hour(s)	Loudest Hour $L_{eq[h]}$, dBA
LT-1	I-80 WB/SR 113 NB onramp	3/26/2021	7:00 p.m.	68
		3/27/2021	8:00 a.m.	64
		3/28/2021	4:00 p.m.	66
		3/29/2021	6:00 p.m.	68
LT-2	1280 Olive Drive	3/26/2021	5:00 a.m.	69
		3/27/2021	5:00 a.m.	69
		3/28/2021	9:00 a.m.	68
		3/29/2021	10:00 a.m.	68
LT-3	Cromwell Boulevard and Chiles Road Intersection	7/6/2021	1:00 p.m.	76
LT-4	Davis Soccer Fields, 26375 County Road 105D	7/6/2021	1:00 p.m.	82
LT-5	Valhalla Mobile Home Club, 3901 Lake Road	7/6/2021	1:00 p.m.	67
LT-6	Meadowdale Park	7/8/2021	7:00 a.m.	67
LT-7	3524 Doran Avenue	7/8/2021	6:00 a.m.	69
LT-9	Westacre Park, 1755 Evergreen Avenue	7/8/2021	6:00 a.m.	71
LT-10	Southside Community Garden, 2226 5 th Street,	7/8/2021	6:00 a.m.	71
LT-11	River Otter Park, 2303 Barandas Drive	7/6/2021	5:00 p.m.	67

Figure 6-1. Long-Term Monitoring at Location LT-1, March 24, 2021 through March 29, 2021

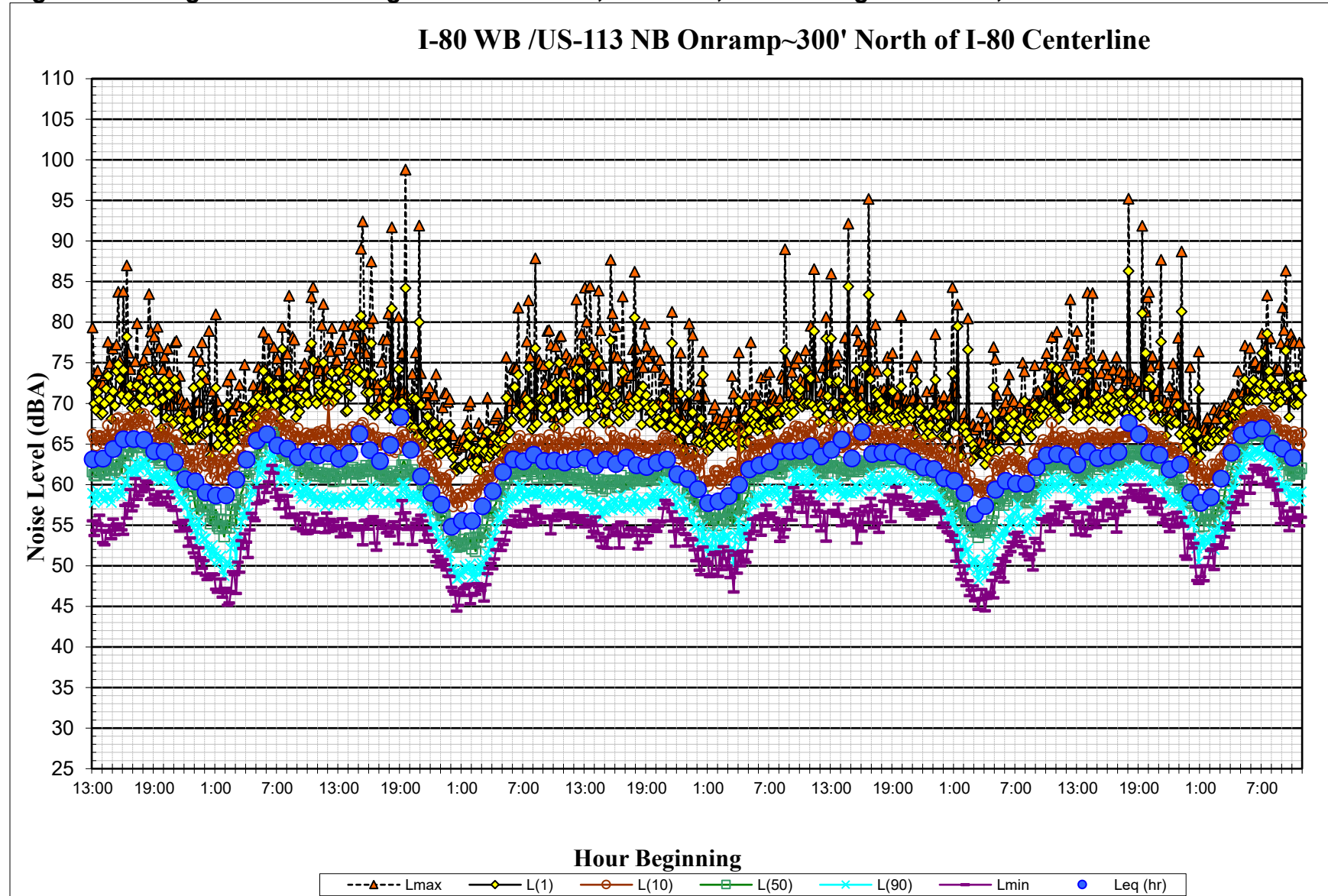


Figure 6-2. Long-Term Monitoring at Location LT-2, March 24, 2021 through March 29, 2021

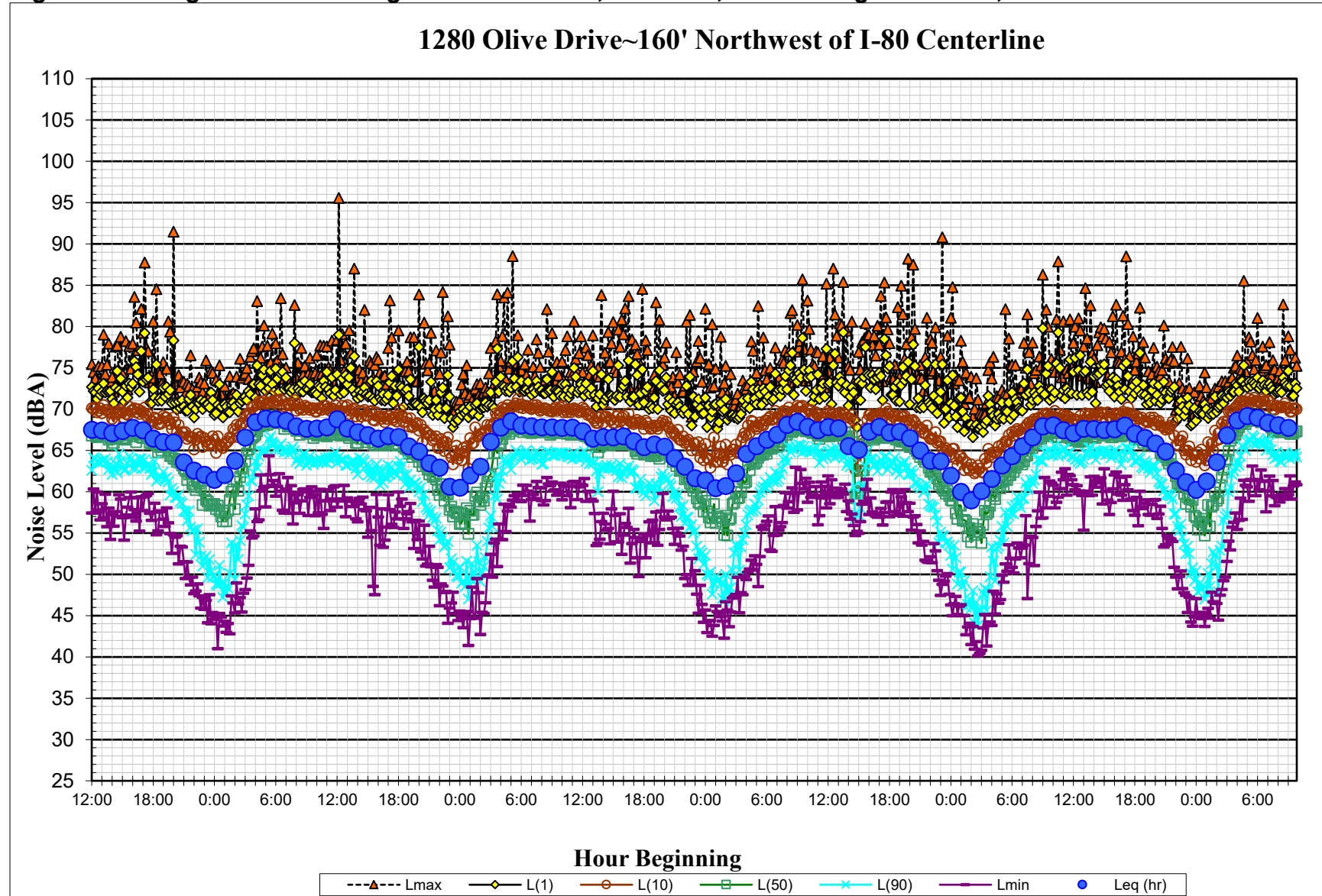


Figure 6-3. Long-Term Monitoring at Location LT-3, July 6, 2021 through July 7, 2021

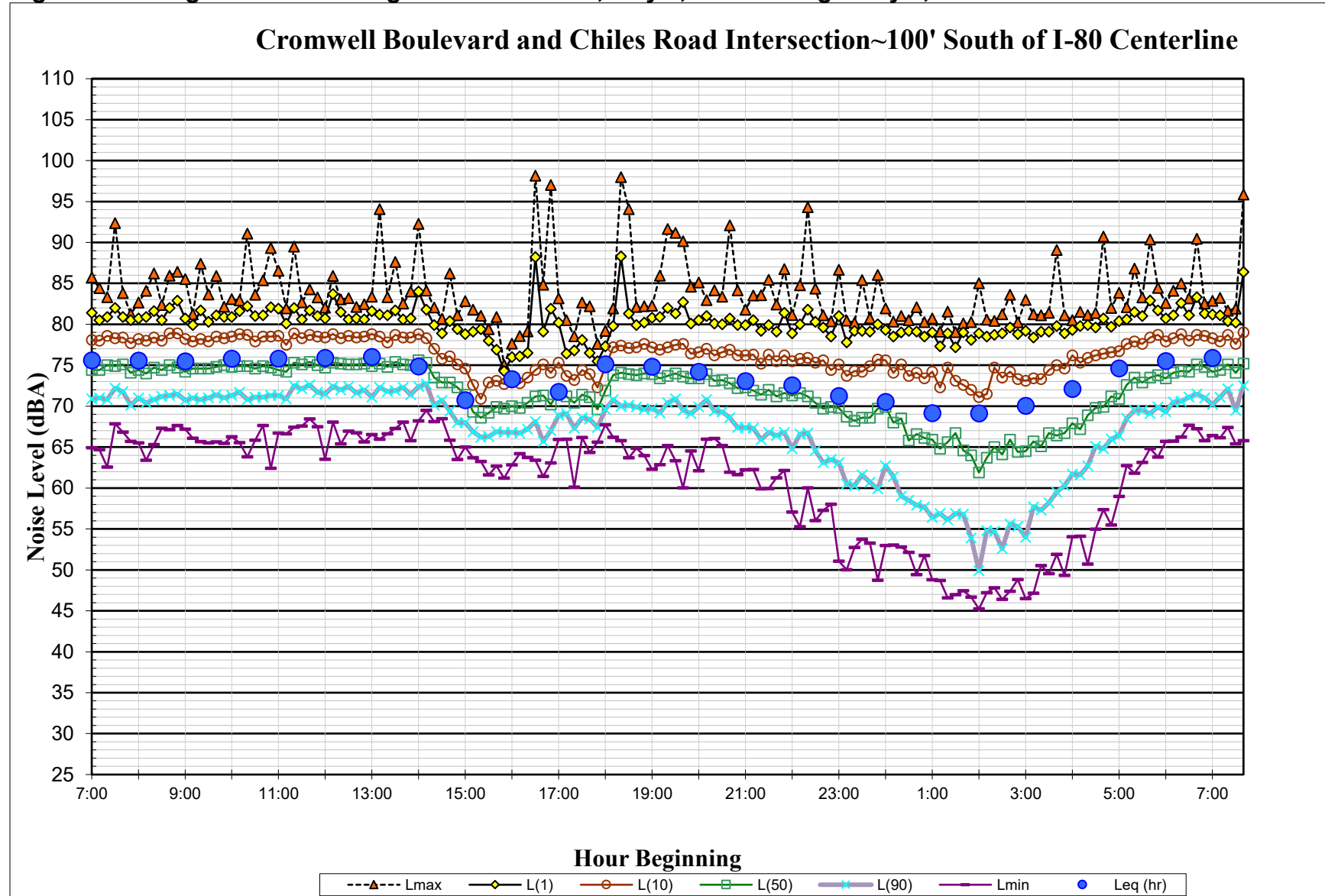


Figure 6-4. Long Term Monitoring at Location LT-4, July 6, 2021 through July 7, 2021

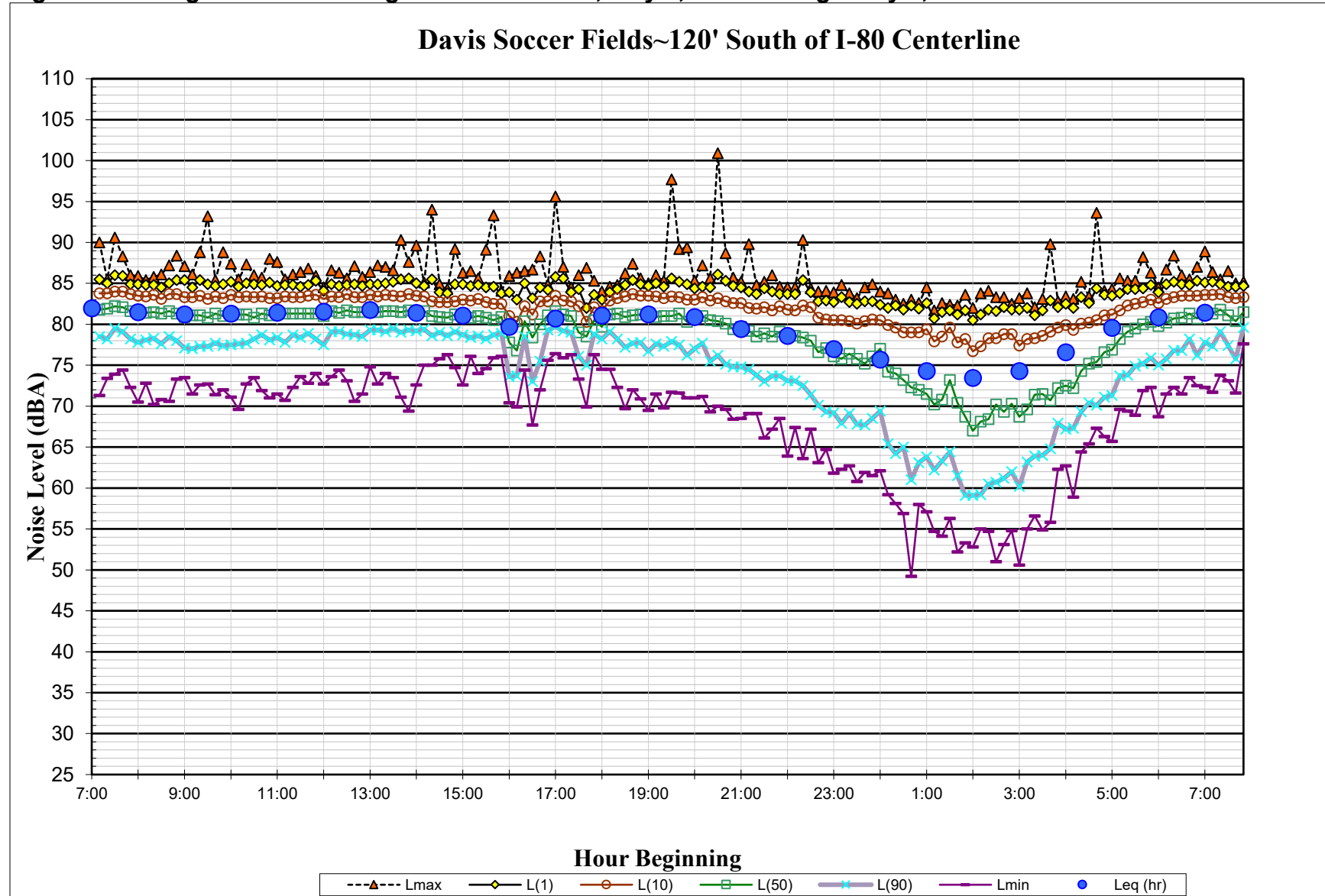


Figure 6-5. Long-Term Monitoring at Location LT-5, July 6, 2021 through July 7, 2021

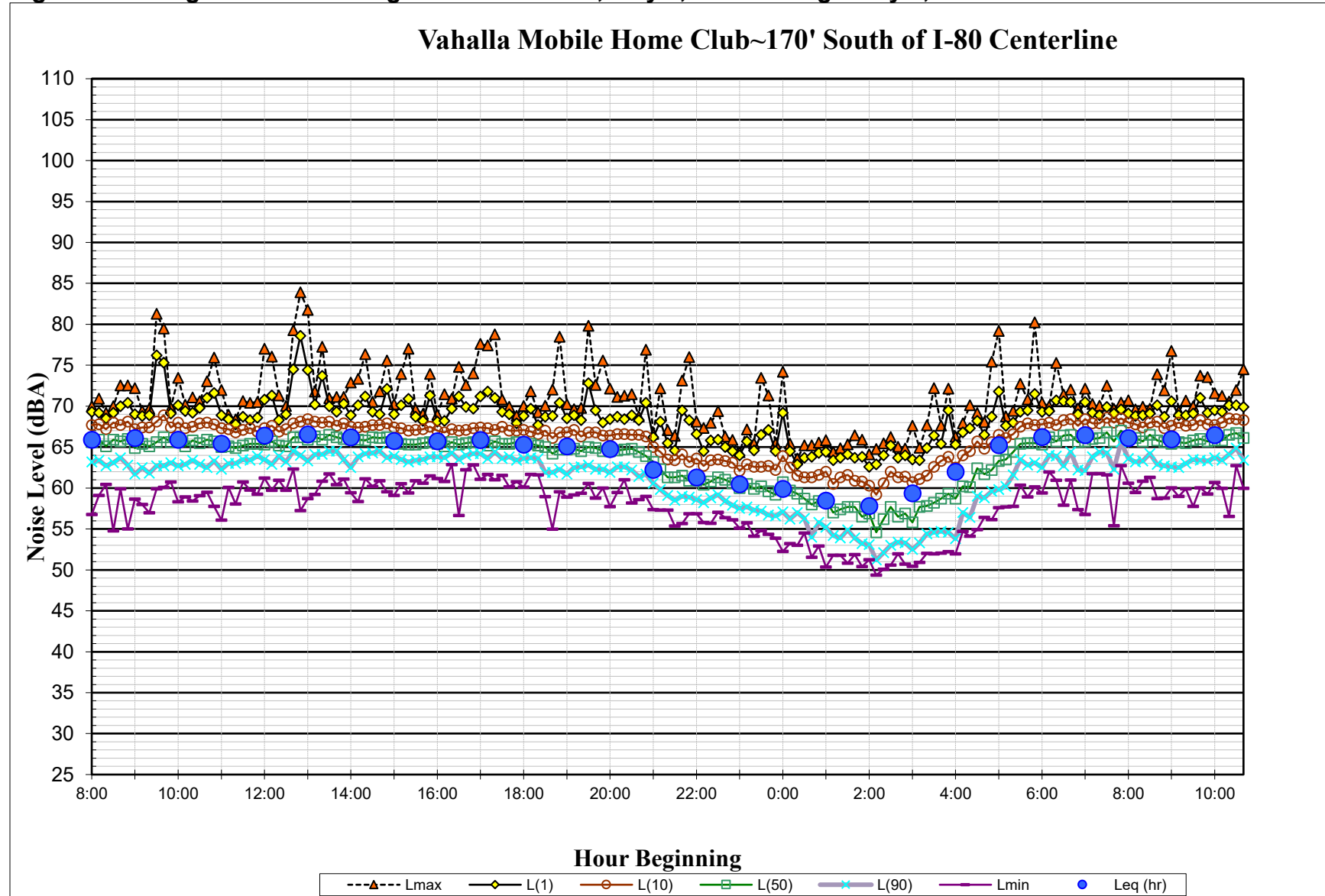


Figure 6-6. Long-Term Monitoring at Location LT-6, July 7, 2021 through July 8, 2021

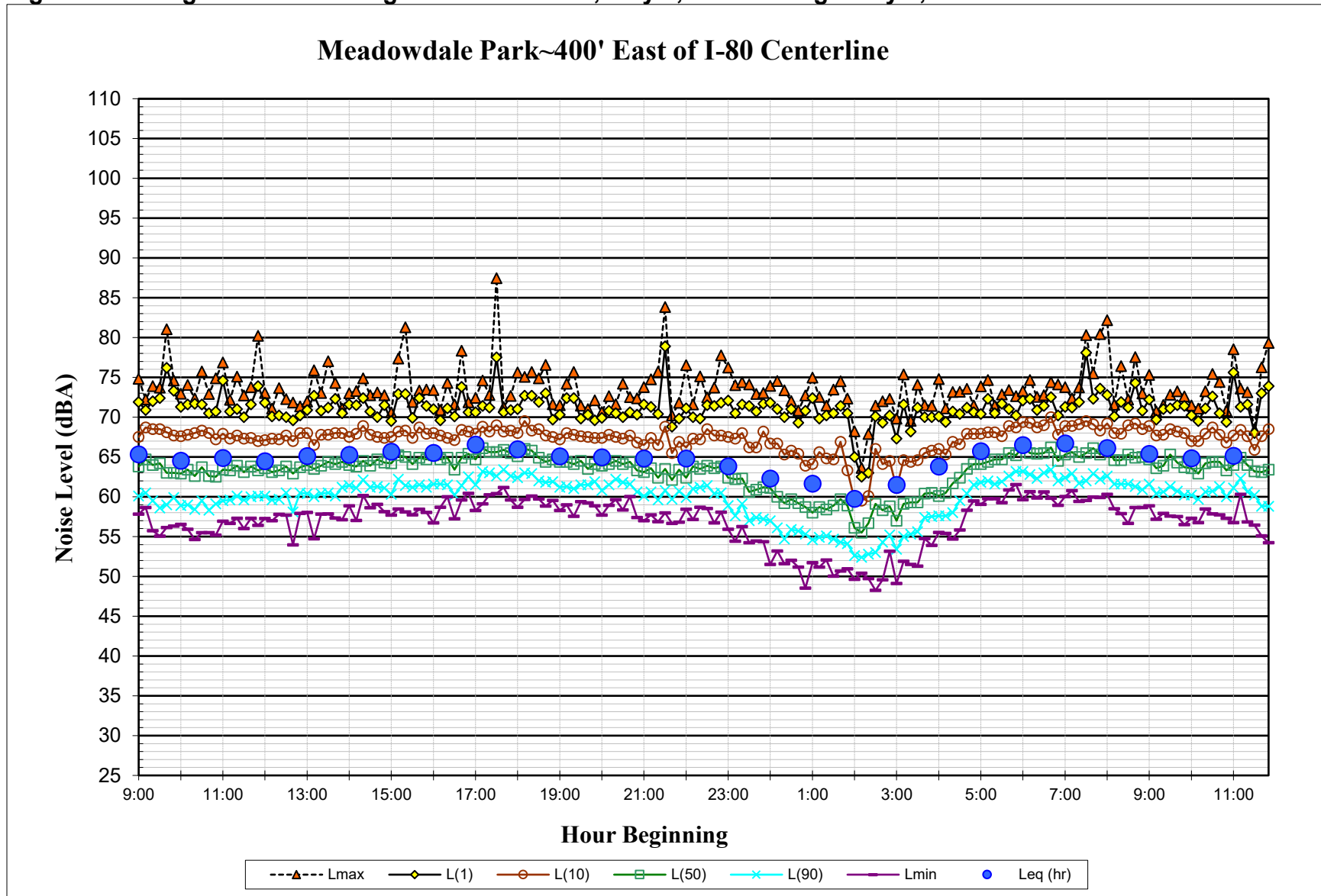


Figure 6-7. Long-Term Monitoring at Location LT-7, July 7, 2021 through July 8, 2021

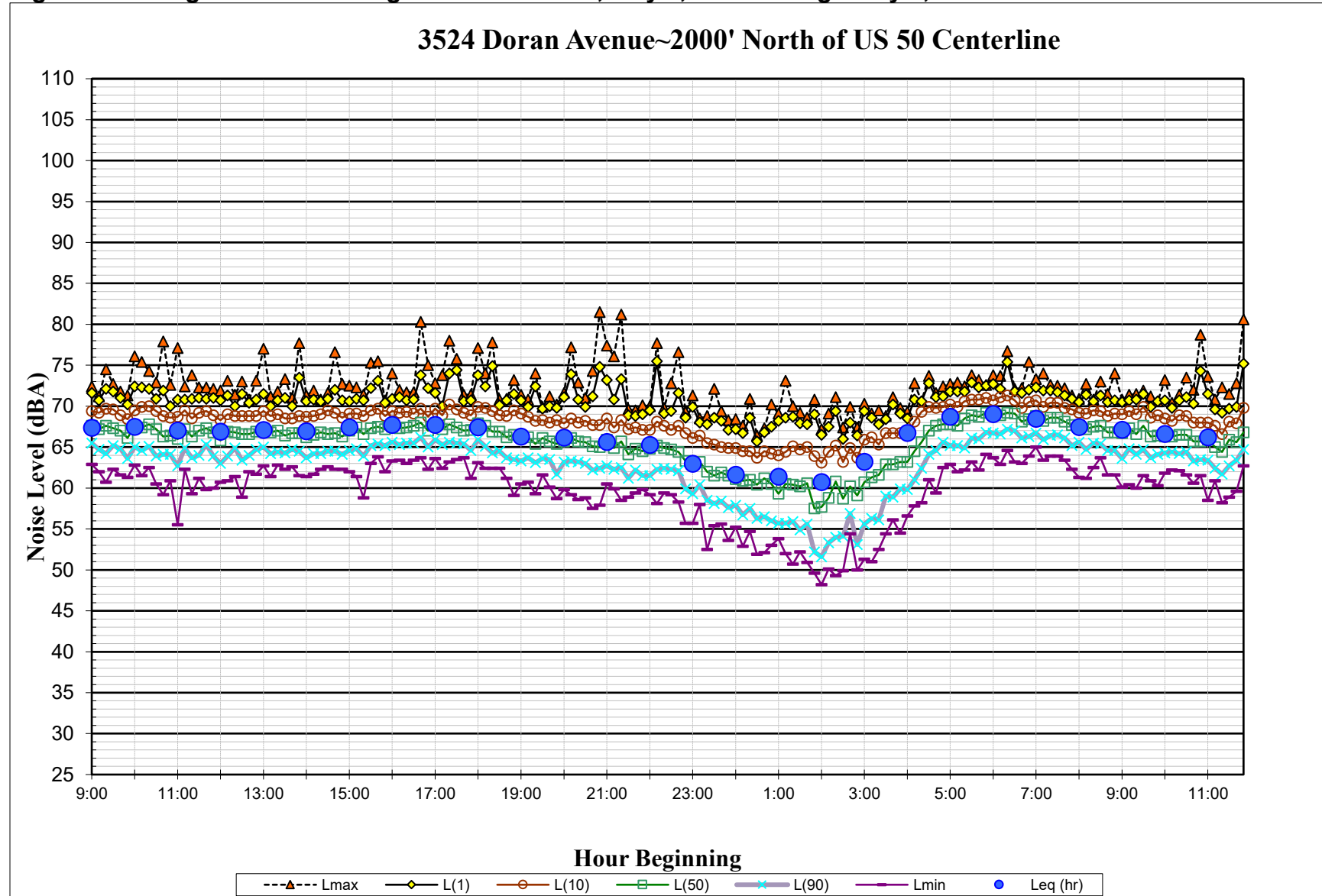


Figure 6-8. Long-Term Monitoring at Location LT-9, July 7, 2021 through July 8, 2021

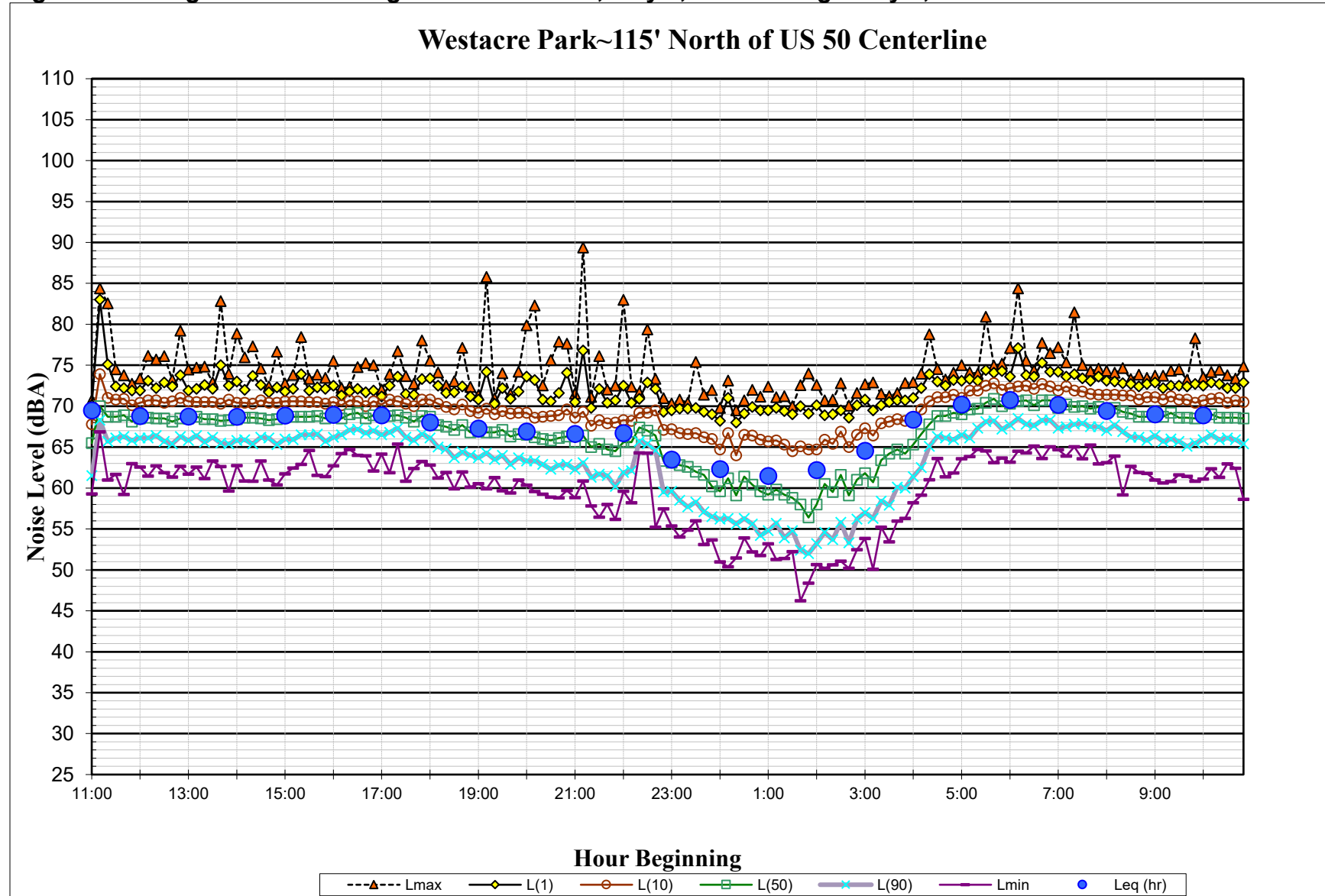


Figure 6-9. Long-Term Monitoring at Location LT-10, July 7, 2021 through July 8, 2021

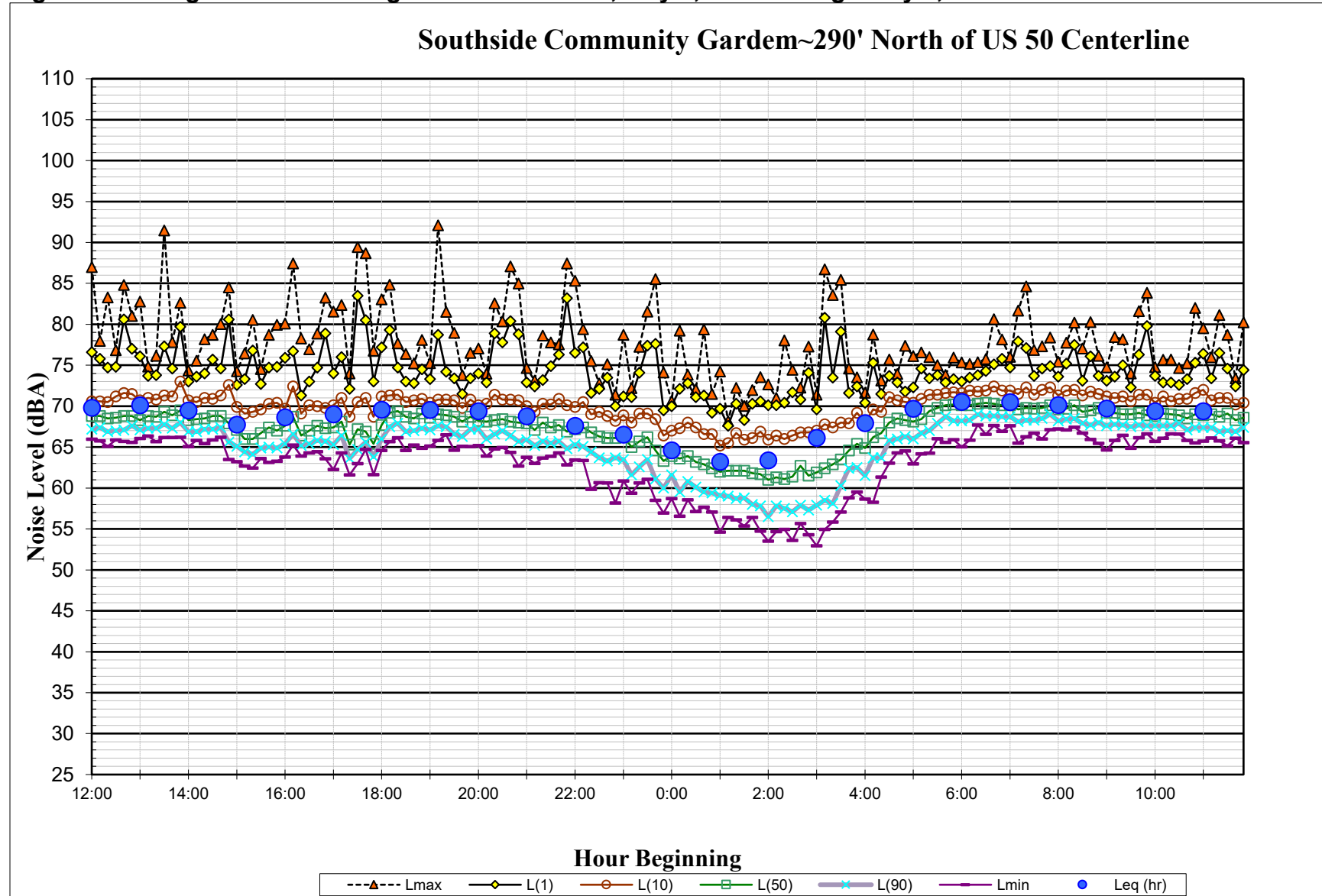
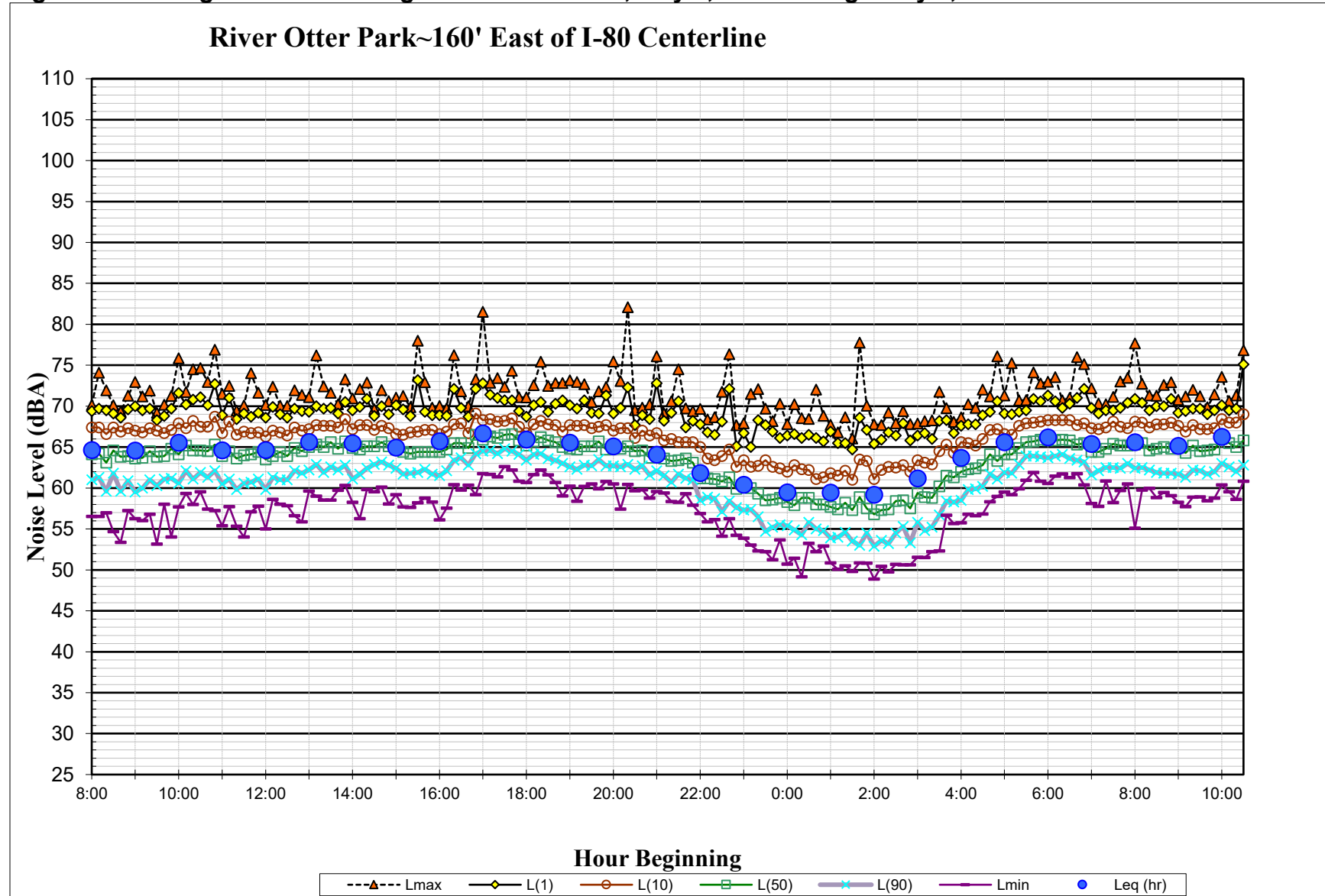


Figure 6-10. Long-Term Monitoring at Location LT-11, July 6, 2021 through July 7, 2021



6.3. Model Validation to Existing Conditions

TNM 2.5 was used to calculate existing noise levels at field measurement locations during periods when the measurements were made and traffic was counted. Adjustments or “Validation Factors” were then developed where the traffic noise model and the measured levels varied by 3 dBA or greater. The development of each Validation Factor followed the methodology detailed in Section 5.3-of Caltrans’ TeNS Manual (2013). The Validation Factor is added to modeled results for existing and future loudest-hour traffic conditions. The Validation Factor for each receptor can be found in Table 6-3. As shown in Table 6-3, the TNM model validation factors range from -14 to +5.

The range in validation factors could be a result of multiple factors including pavement type, wind direction, speed, and/or the source height of heavy trucks in TNM.

Since the initial validation results varied dramatically from measured noise levels, on-board sound intensity (OBSI) measurements were conducted on November 19, 2021, within the Project limits between Pedrick Road and Causeway/Chiles Road. The results of the OBSI measurements indicated that the study area is paved a pavement consistent with the average pavement used in FHWA’s TNM 2.5 software. The TNM average pavement uses a sound intensity level of 103 dB which is consistent with the 104 dB westbound and 103 dB eastbound measured using the OBSI method. The wayside noise levels from porous pavements have been observed to be reduced in the community by up to 3 dB along the project corridor. Detailed information on the OBSI measurements conducted can be found in Appendix L.

Wind conditions were also found to affect the measured noise levels. During the measurements taken on March 25, 2021, the wind was blowing north at 0-6 mph, and during the measurements taken on July 6, 2021, the wind was blowing south at 0-4 mph. Similarly, on July 7, 2021, the wind was blowing south at 0-4 mph, and on July 8, 2021, the wind was blowing south at 0-2 mph. Wind reduces sound upwind and amplifies sounds downwind.

Table 6-3. Comparison of Measured to Predicted Sound Levels in the TNM Model

Receptor ID	10-min L_{eq} Noise Level, dBA						Validation Factor, dBA
	Measured Level	TNM 2.5 Modeled Level	Difference (Measured - Modeled)	Measured Level	TNM 2.5 Modeled Level	Difference (Measured - Modeled)	
ST-1	69	75	-6	67	75	-8	-7
ST-2	69	77	-8	70	77	-7	-8
ST-3	64	67	-3	63	67	-4	-4
ST-4	53	57	-4	53	57	-4	-4
ST-5	70	74	-4	70	75	-5	-5
ST-6	60	58	2	58	58	0	0

Receptor ID	10-min L _{eq} Noise Level, dBA						Validation Factor, dBA
	Measured Level	TNM 2.5 Modeled Level	Difference (Measured - Modeled)	Measured Level	TNM 2.5 Modeled Level	Difference (Measured - Modeled)	
ST-7	68	74	-6	68	72	-4	-5
ST-8	65	67	-2	65	67	-2	0
ST-9	63	62	1	63	62	1	0
ST-10	51	49	2	50	48	2	0
ST-11	64	63	1	64	63	1	0
ST-12	67	69	-2	68	70	-2	0
ST-13	51	54	-3	51	54	-3	0
ST-14	60	65	-5	61	65	-4	-5
ST-15	61	64	-3	61	64	-3	0
ST-16	52	56	-4	51 ¹	55	-4	-4
ST-17	57	60	-3	57	60	-3	0
ST-18	58	65	-7	58	65	-7	-7
ST-19	52	54	-2	50 ¹	53	-3	0
ST-20	62	65	-3	63	66	-3	0
ST-21	58	65	-7	59	64	-5	-6
ST-22	65	71	-6	66	71	-5	-6
ST-23	55	62	-7	54	61	-7	-7
ST-24	59	69	-10	59	68	-9	-10
ST-25	59	56	3	57	56	1	0
ST-26	47	53	-6	46	54	-8	-7
ST-27	51	57	-6	48	57	-9	-8
ST-28	59	71	-12	58	71	-13	-13
ST-29	59	73	-14	58	71	-13	-14
ST-30	85	80	5	84	80	4	5
ST-31	66	68	-2	65	68	-3	0
ST-32	61	64	-3	61	64	-3	0
ST-34	48	51	-3	50	51	-1	0
ST-35	67	65	2	67	64	3	0
ST-36	53	55	-2	52	55	-3	0
ST-37	61	58	3	60	57	3	0
ST-38	63	66	-3	63	65	-2	0
ST-39	61	64	-3	61	63	-2	0
ST-40	64	61	3	64	62	2	0
ST-41	66	63	3	66	63	3	0
ST-43	61	58	3	61	58	3	0
ST-44	57	55	2	57	54	3	0
ST-45	64	63	1	64	62	2	0
ST-46	64	58	6	63	60	3	5
ST-47	69	71	-2	69	72	-3	0
ST-48	64	62	2	64	62	2	0
ST-49	70	67	3	70	67	3	0

Receptor ID	10-min L_{eq} Noise Level, dBA						Validation Factor, dBA
	Measured Level	TNM 2.5 Modeled Level	Difference (Measured - Modeled)	Measured Level	TNM 2.5 Modeled Level	Difference (Measured - Modeled)	
ST-50	57	58	-1	57	58	-1	0
ST-51	66	63	3	65	62	3	0
ST-52	59	60	-1	59	60	-1	0
ST-53	62	59	3	62	59	3	0
ST-55	59	58	1	58	58	0	0
ST-56	62	59	3	61	59	2	0
ST-58	58	58	0	59	58	1	0
ST-59	67	65	2	67	65	2	0
ST-60	66	68	-2	66	68	-2	0
ST-62	55	57	-2	57	60	-3	0
ST-63	58	61	-3	60	60	0	0
ST-64	65	68	-3	66	68	-2	0
ST-65	63	66	-3	63	66	-3	0
ST-66	62	59	3	61	59	2	0
ST-67	60	60	0	60	60	0	0
ST-68	65	64	1	65	64	1	0
ST-70	64	64	0	63	64	-1	0
ST-71	60	62	-2	60	62	-2	0
ST-72	59	57	2	59	56	3	0
ST-73	58	58	0	58	58	0	0
ST-74	56	59	-3	56	59	-3	0
ST-75	51	52	-1	49	52	-3	0

¹L50 noise level was used

6.4. Future Undeveloped Land Uses

The Protocol requires that the NSR discuss the development of future land uses in the vicinity of the Project. Some of the land in the Project area is developed. Lists of planned and approved projects in the Solano, Yolo, and Sacramento Counties and City of Davis, City of Sacramento, and City of West Sacramento were reviewed to identify undeveloped lands for which development is planned, designed, and programmed so that those proposed developments may be considered approved (or, a part of the existing conditions). According to the Protocol, future development would be considered planned, designed, and programmed once it receives final development approval. The review focused on projects within approximately 500 feet of the Project limits, where traffic noise levels from the improved Project roadways could dominate the noise environment. Projects located beyond this distance were excluded from further analysis.

The University Research Park development located southeast the intersection of I-80 and Pole Line Road is within 500 feet of the Project. University Research Park development is 352 multi-

family residential dwelling units over 26,912 square feet of tech space. University Research Park has been approved, but construction has not started.³ Receptor R15 is within the common outdoor area in planned footprint of University Research Park (see Figure 7-3). The receptor was not determined to be impacted by the Project. According to the architectural drawings, there is a planned interior courtyard and no private patios or balconies.⁴ The University Research Park development has been designed to an exterior noise standard of 60 dBA L_{dn} , more restrictive than the 67 dBA $L_{eq[h]}$ NAC for residences.

The Plaza 2555 development located east the intersection of I-80 and Pole Line Road is within 500 feet of the Project. Plaza 2555 development proposes to construct up to 200 multi-family dwelling units. The City of Davis has approved the planned land use, zoning and development agreement for Plaza 2555 development.⁵ Receptors R18, R19, and R20 are within the planned footprint of Plaza 2555 (see Figure 7-4). None of these receptors were determined to be impacted by the Project. The noise study completed for Plaza 2555 determined that it would not contribute to a future cumulative traffic noise increase within the Project vicinity.⁶ The Plaza 2555 development has been designed to an exterior noise standard of 60 dBA L_{dn} , more restrictive than the 67 dBA $L_{eq[h]}$ NAC for residences.

The 3820 Chiles Road Apartments development located west of the intersection of I-80 and Mace Boulevard is within 500 feet of the Project. 3820 Chiles Road Apartments development proposed to construct up to 225 multi-family dwelling units. 3820 Chiles Road Apartments has been approved, but construction has not started.⁷ Receptors R40, R41, R42 and R43 are within the planned footprint of 3820 Chiles Road Apartments (see Figure 7-5). None of these receptors were determined to be impacted by the Project. The noise study completed for 3820 Chiles Road determined that it would not contribute to a future cumulative traffic noise increase within the Project vicinity.⁸ The 3820 Chiles Road development has been designed to an exterior noise standard of 60 dBA L_{dn} , more restrictive than the 67 dBA $L_{eq[h]}$ NAC for residences.

³ City of Davis website, <https://www.cityofdavis.org/city-hall/community-development-and-sustainability/development-projects/research-park-mixed-use>

⁴ City of Davis website, <https://www.cityofdavis.org/home/showpublisheddocument/12103/636727985405230000>

⁵ City of Davis website, <https://www.cityofdavis.org/city-hall/community-development-and-sustainability/development-projects/plaza-2555>

⁶ City of Davis website, http://documents.cityofdavis.org/Media/CityCouncil/Documents/PDF/CDD/Planning/Project-Applications/Plaza-2555/Sustainable-Communities-Project-Checklist/Att_4h-Noise_Study.pdf

⁷ City of Davis website, <https://www.cityofdavis.org/city-hall/community-development-and-sustainability/development-projects/3820-chiles-road-apartments>

⁸ City of Davis website, <https://www.cityofdavis.org/home/showpublisheddocument/10916/636688834877930000>

Chapter 7. Future Noise Environment, Impacts, and Considered Abatement

This chapter discusses potential noise impacts and presents a preliminary analysis of noise abatement measures.

7.1. Future Noise Environment and Impacts

Traffic noise modeling results and predicted traffic noise impacts for existing and design year conditions are shown in Table B-1 in Appendix B. In Table B-1, modeling results for the Build/Project condition for Alternative 3a exterior noise levels are compared to Existing conditions and to No Build conditions. The comparison to Existing conditions is included in the analysis to identify traffic noise impacts, as defined under 23 CFR 772. The comparison between Build and No Build conditions indicates the direct effect of the Project. In Table I-1, in Appendix I, interior noise levels within Activity Category D spaces under Build/Project conditions for Alternative 3a and 2b are calculated to identify impacts resulting from traffic noise exceeding the interior NAC. As stated in the TeNS, modeling results are rounded to the nearest decibel before comparisons are made. The worst-case peak hour traffic volumes were associated with Alternative 3a. The detailed modeling results for Alternatives 2a, 3a, 4a, 5a, 6a, 7a, and 2b can be found in Tables K-1 through K-7, respectively in Appendix K.

In Table B-2 in Appendix B, modeling results for the Build/Project condition for Alternative 2b exterior noise levels are compared to Existing conditions and to No Build conditions. The comparison to Existing conditions is included in the analysis to identify traffic noise impacts, as defined under 23 CFR 772. The comparison between Build and No Build conditions indicates the direct effect of the Project. In Table I-1 in Appendix I, interior noise levels within Activity Category D spaces under Build/Project conditions for Alternative 2b are calculated to identify impacts resulting from traffic noise exceeding the interior NAC. As stated in the TeNS, modeling results are rounded to the nearest decibel before comparisons are made. Peak hour traffic was only provided for Alternative 2b. Alternatives 3b, 4b, 5b, 6b, and 7b should generate noise levels within 1-2 dB of Alternative 2b.

In Table H-1 in Appendix H, a comparison is made between Alternative 3a and 2b.

Impacted receptors were identified by Activity Category, and the number of impacted receptors is summarized to calculate reasonableness monetary allowances for feasible noise barriers that also meet the 7 dB noise reduction design goal. Noise levels discussed in this section are based on the adjusted model results, using loudest-case traffic conditions (in terms of noise generation) for the

Existing, No Build, and Build scenarios. The Existing, No Build, and Build scenarios consider the attenuation provided by any existing sound barriers along the project corridor.

Sixty-nine short-term measurement positions (ST-1 through ST-75, six short-term measurement positions were made but not reported) were used as modeling receptors in the vicinity of the Project alignment. In addition, there are one hundred eighty-nine modeled receptor locations (R1 through R192, three modeled receptors were not report). Receptors are shown in Figures 7-1 through 7-13.

Figure 7-1. Segment 1A Receptor Locations and Noise Barriers West of the Railroad Tracks

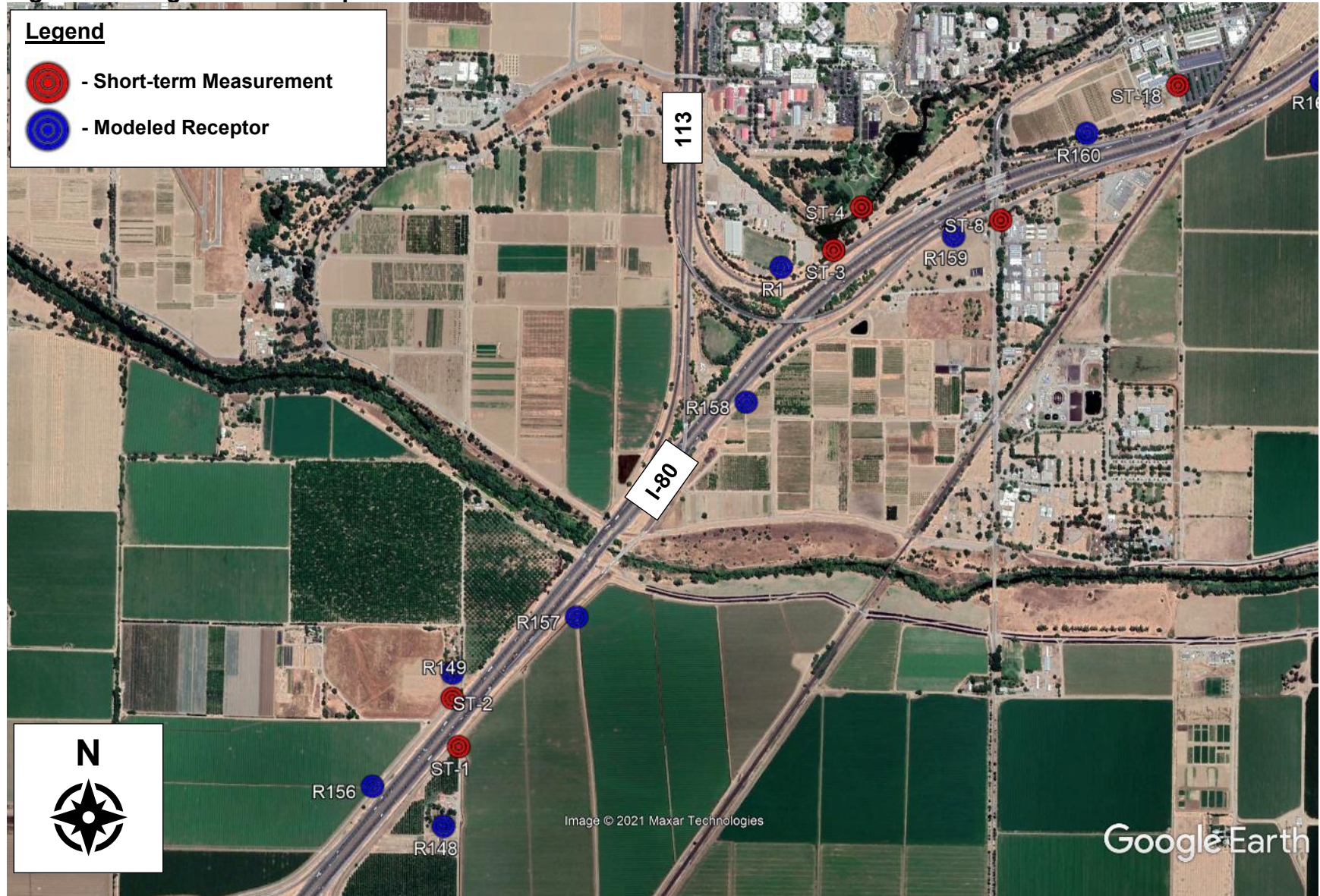


Figure 7-2. End of Segment 1A and Beginning of Segment 1B Receptor Locations and Noise Barriers West of Richards Boulevard

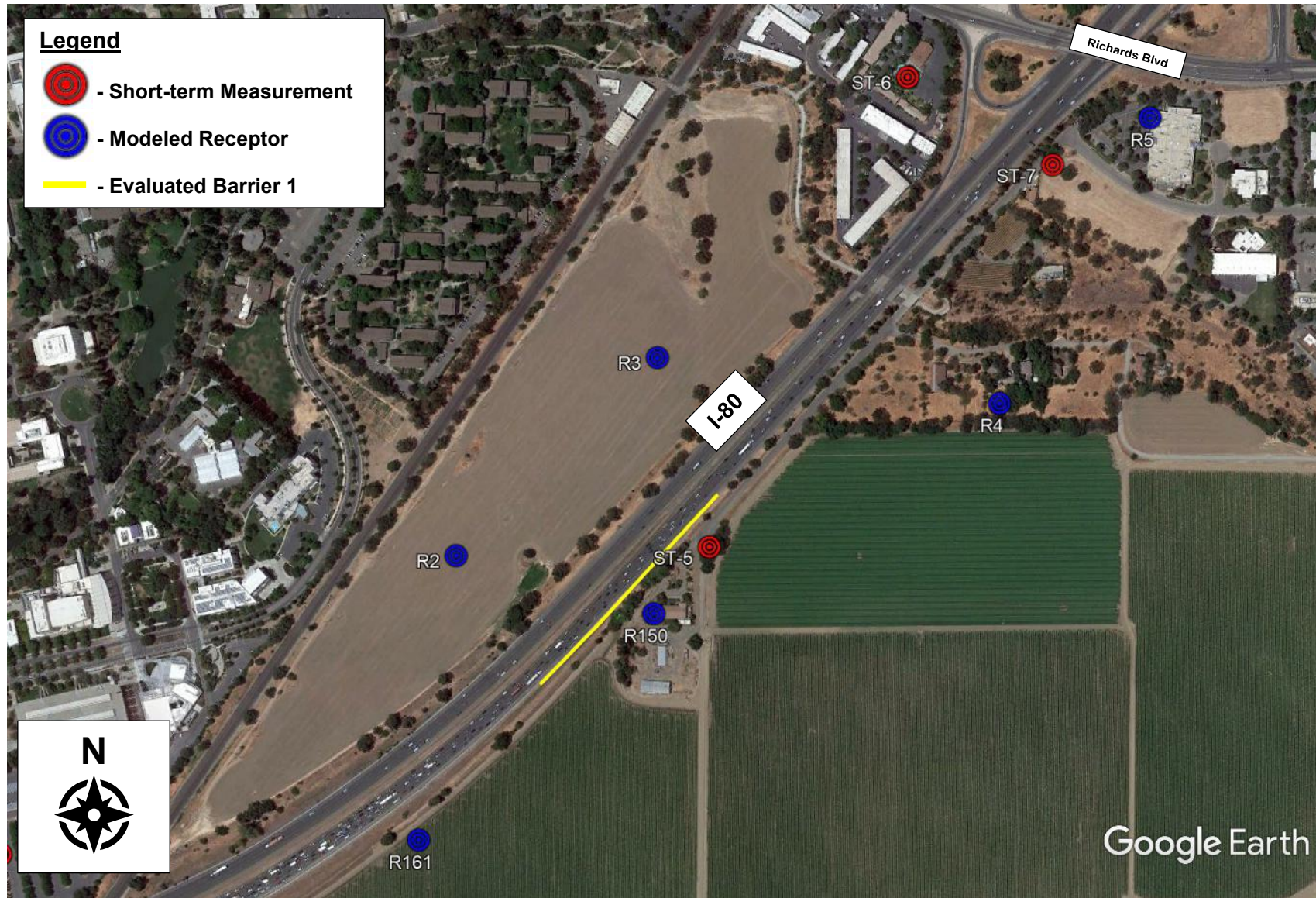


Figure 7-3. Segment 1B Receptor Locations and Noise Barriers West of Pole Line Road

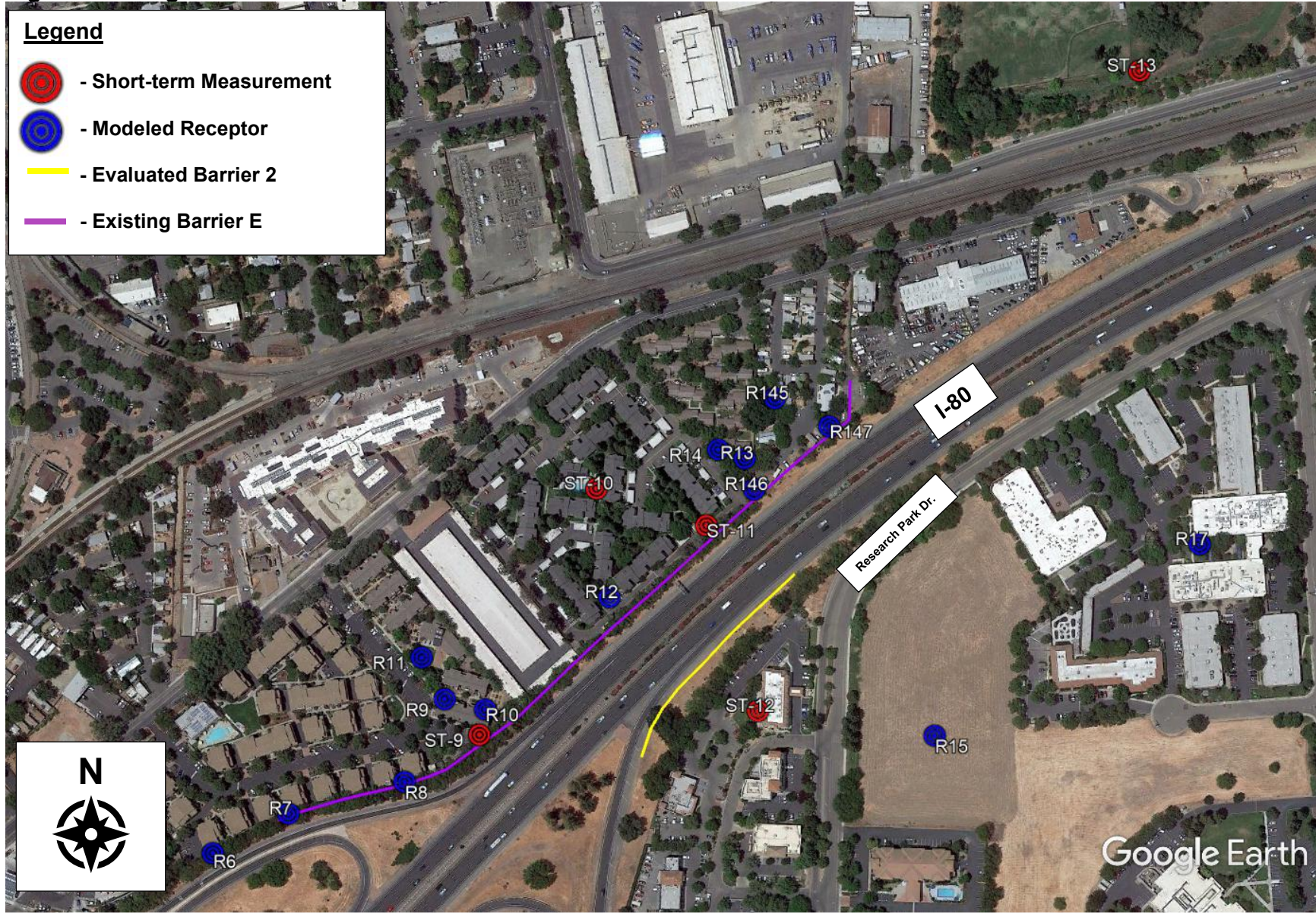


Figure 7-4. Segment 1B Receptor Locations and Noise Barriers East of Pole Line Road



Figure 7-5. Section 1B Receptor Locations and Noise Barriers to Just East of Mace Boulevard

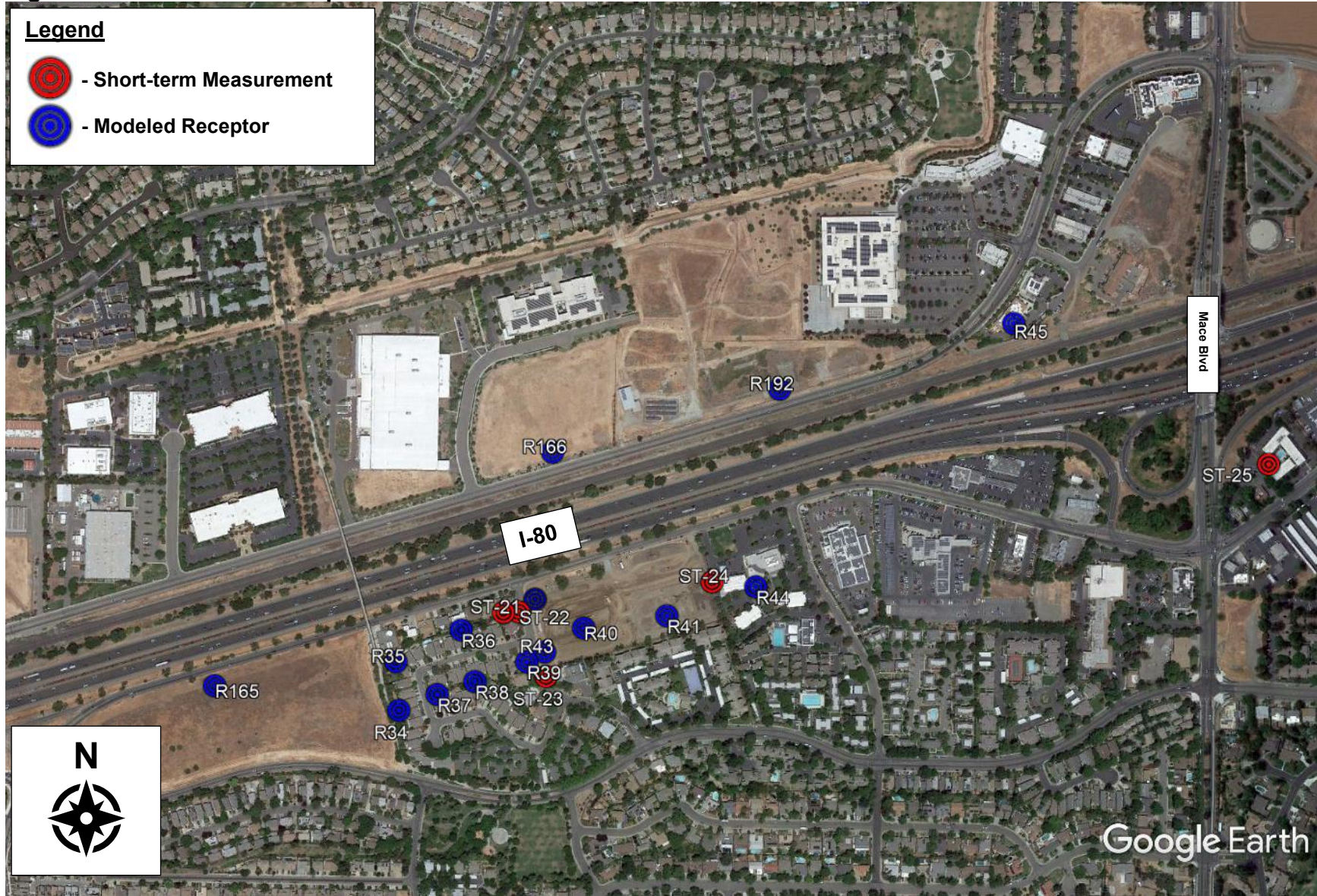


Figure 7-6. Section 1B Receptor Locations and Noise Barriers East of Mace Boulevard



Figure 7-7. End of Section 1B and Beginning of Section 1C Receptor Locations and Noise Barriers Just East of Levee Road

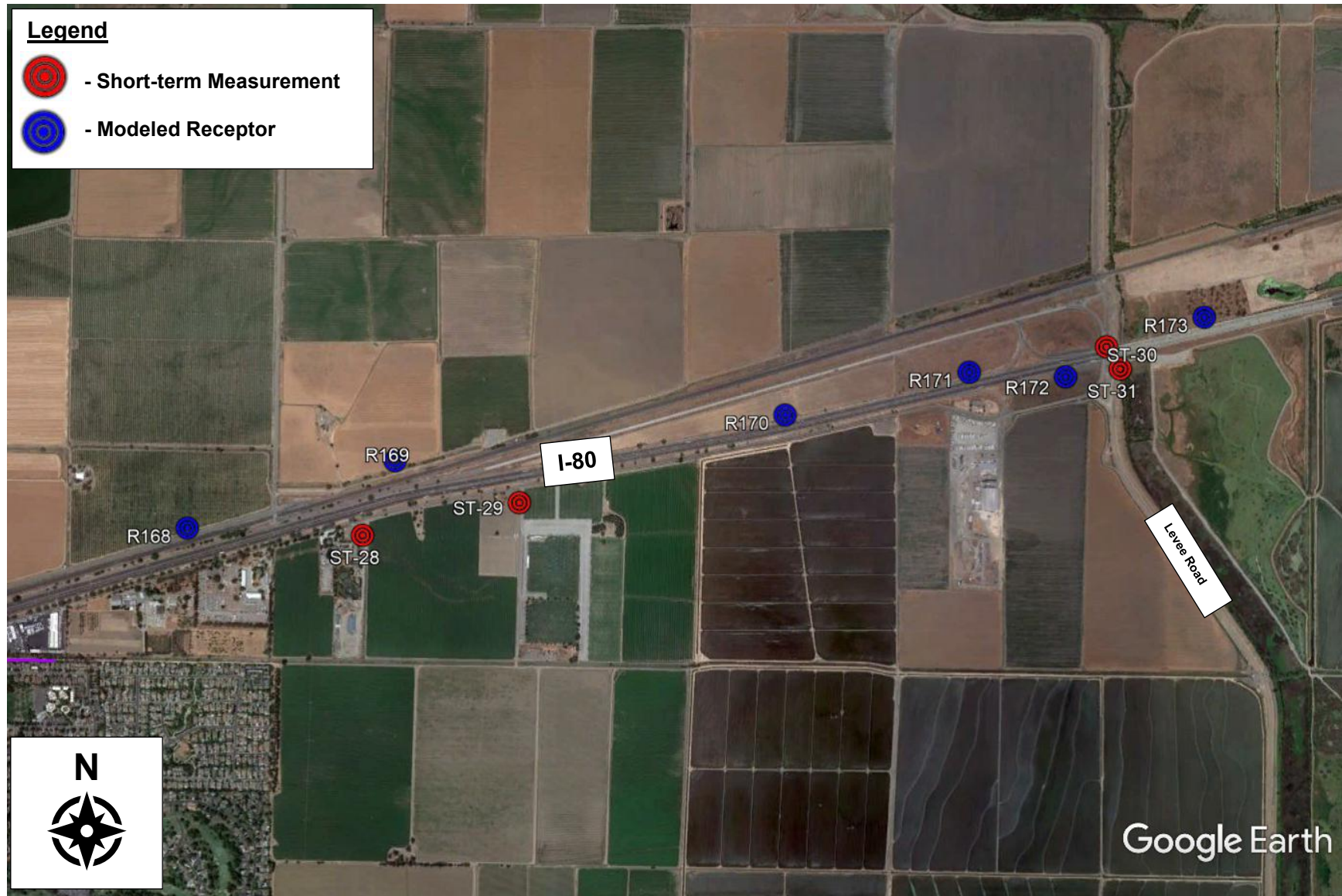


Figure 7-8. Beginning of Section 1C Receptor Locations West of Levee Road



Figure 7-9. Section 2 Receptor Locations and Noise Barriers East of Enterprise Boulevard

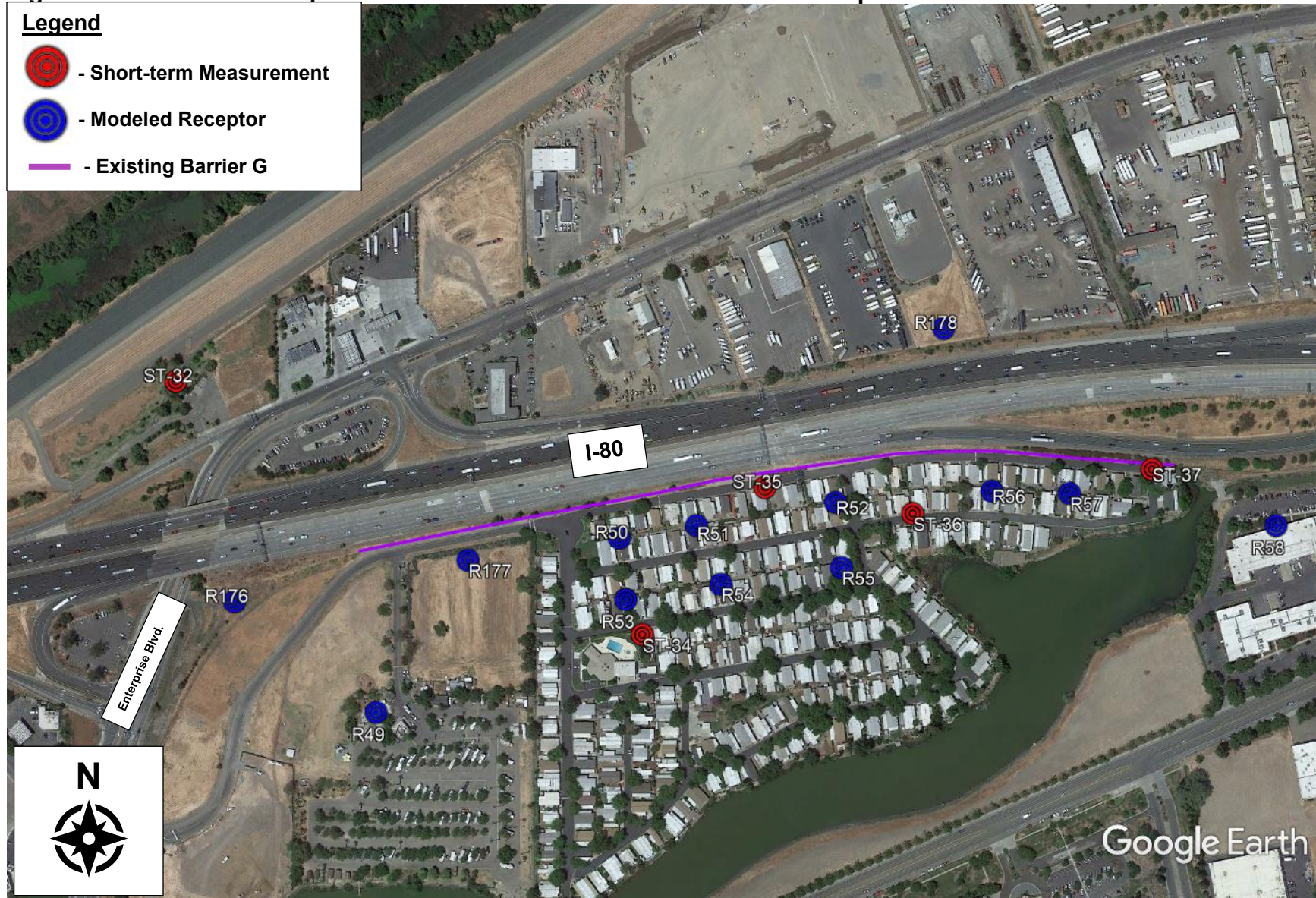


Figure 7-10. Section 3A Receptor Locations and Noise Barriers at the US-50 I-80 Interchange



Figure 7-11. Section 3A Receptor Locations and Noise Barriers West of Jefferson Boulevard



Figure 7-12. Section 3B Receptor Locations and Noise Barriers at the US-50 and I-5 Interchange

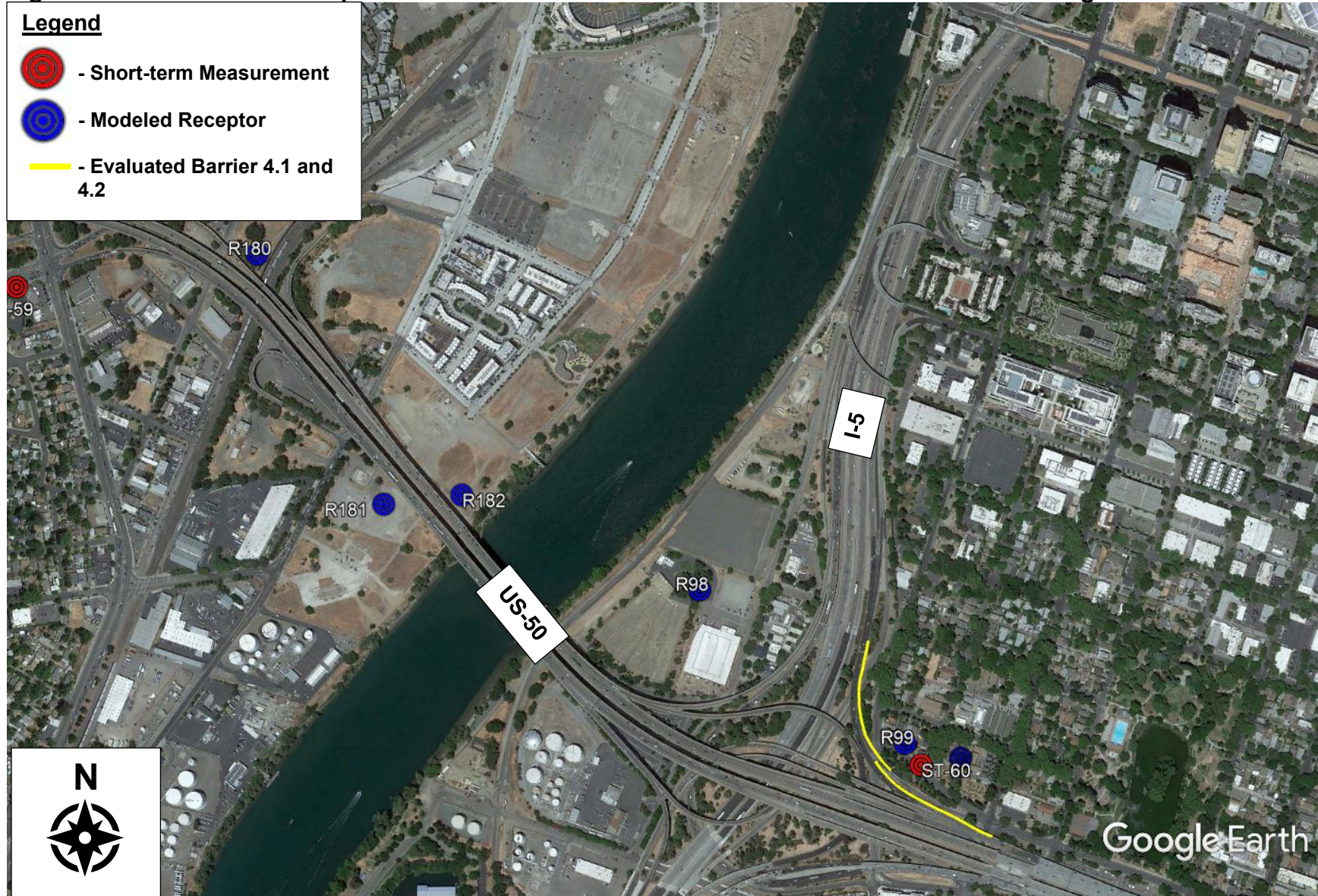


Figure 7-13. Section 2 Receptor Locations at Reed Avenue



Figure 7-14. Section 2 Receptor Locations and Noise Barriers North of Sacramento River

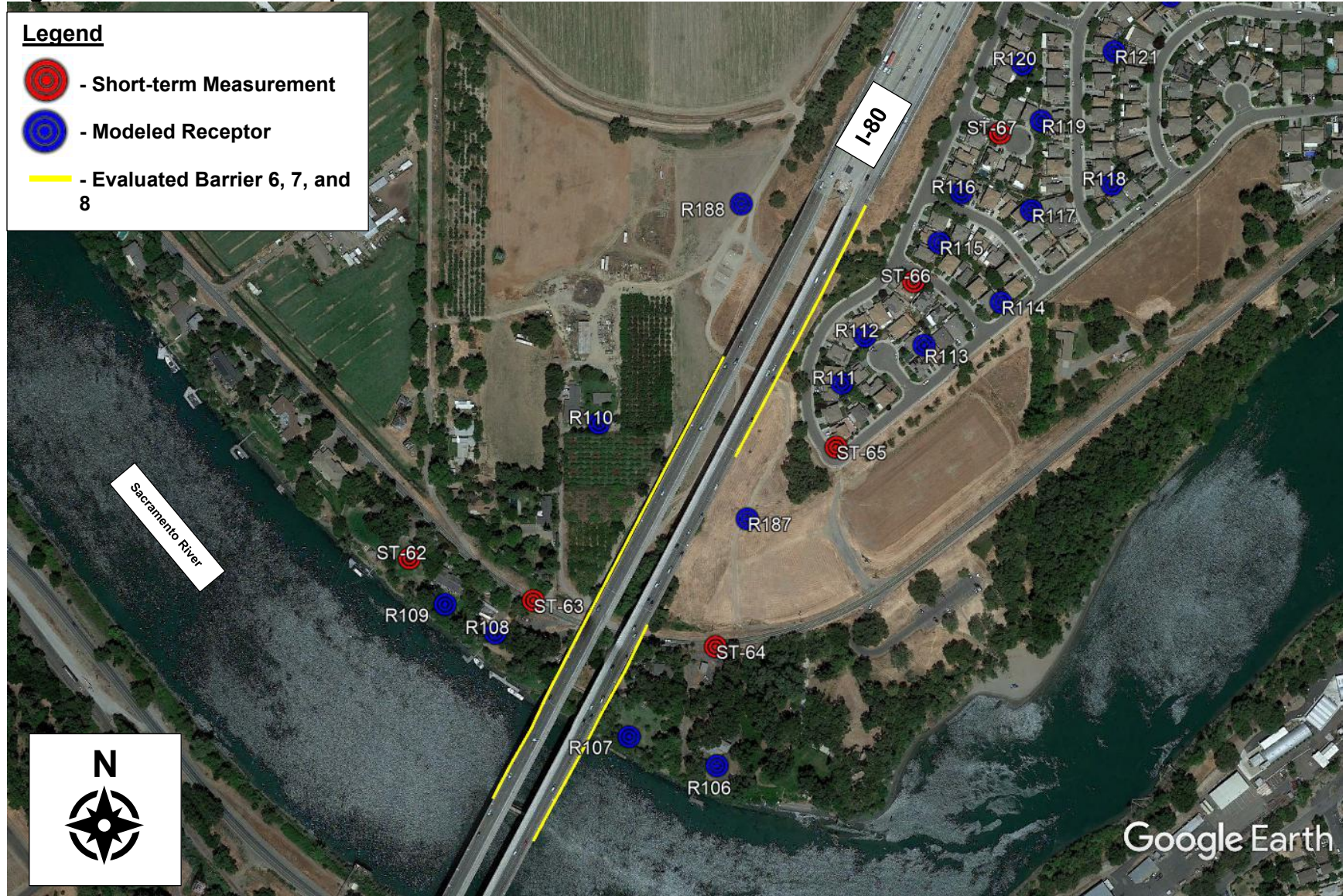


Figure 7-15. Section 2 Receptor Locations and Noise Barriers South of West El Camino Avenue



7.1.1. Exterior Noise Levels in Category B, C, and E Land Uses

As shown in Table B-1 in Appendix B, the loudest-hour noise levels at Category B land uses are calculated to range from 44 to 72 dBA $L_{eq[h]}$ under Existing conditions, from 45 to 72 dBA $L_{eq[h]}$ under 2049 No Build conditions, and from 45 to 72 dBA $L_{eq[h]}$ under 2049 Alt 3a Build conditions. The 2049 Build traffic noise levels are predicted to approach or exceed the NAC at 35 of the Category B receptors (ST-46, ST-49, ST-58, ST-60, ST-62, R65, R70, R71, R75, R79, R80, R82, R83, R84, R85, R92, R93, R96, R97, R99, R101, R105, R106, R107, R108, R109, R110, R111, R113, R125, R126, R141, R150, R152, and R155). Most of these receptors are located behind existing noise barriers, which range from 8 to 16 feet.

The loudest-hour noise levels at Category C land uses are calculated to range from 54 to 73 dBA $L_{eq[h]}$ under Existing conditions, from 54 to 74 dBA $L_{eq[h]}$ under 2049 No Build conditions, and from 55 to 74 dBA $L_{eq[h]}$ under 2049 Alt 3a Build conditions. The 2049 Alt 3a Build traffic noise levels are predicted to approach or exceed the NAC at two Category C receptors (ST-38 and R151).

The loudest-hour noise levels at Category E land uses are calculated to range from 47 to 80 dBA $L_{eq[h]}$ under Existing conditions, from 47 to 80 $L_{eq[h]}$ under 2049 No Build conditions, and from 47 to 80 dBA $L_{eq[h]}$ under 2049 Alt 3a Build conditions. The 2049 Alt 3a Build traffic noise levels are predicted to approach or exceed the NAC at one Category E receptor (ST-12).

Noise levels would increase by up to 2 dBA over Existing conditions under 2049 No Build conditions. When compared to Existing conditions, changes in noise levels under 2049 Alt 3a Build conditions would range from 0 to +2 dBA. Although noise levels are predicted to approach or exceed the NAC at some receptors, none of the noise level increases that would result from the Project are considered substantial as they would be well below the Caltrans 12 dBA threshold.

As shown in Table H-1 in Appendix H, Alternative 2b receptors ST-38, R60, R61, R62, R63, R103, R104, R152, R153, R154, and R155 have a 1 dB increase over Alternative 3a, and receptors ST-9, ST-19, R-38 and R109 have a 1 dB decrease over Alternative 3a. When compared to Existing conditions, changes in noise levels under 2049 Alt 2b Build conditions would range from 0 to +2 dBA. Although noise levels are predicted to approach or exceed the NAC at some receptors, none of the noise level increases that would result from the Project are considered substantial as they would be well below the Caltrans 12 dBA threshold.

7.1.2. Interior Noise Levels in Category D Land Uses

A noise impact would occur if, as a result of a proposed freeway project, noise levels approach or exceed 52 dBA $L_{eq[h]}$ in the interior of auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios. Based on FHWA Guidance, a typical Category D use structure would be anticipated to provide about 10 dBA of noise reduction from exterior noise sources with windows open, and 20 to 30 dBA of noise reduction with windows in the closed position, depending on the window and exterior wall construction. Therefore, Category D use structures that do not have forced-air mechanical ventilation, to allow occupants to keep windows closed to control noise, could be anticipated to have interior noise levels approaching or exceeding 52 dBA $L_{eq[h]}$ with exterior exposures of 62 dBA $L_{eq[h]}$ or more. For structures with windows in the closed position, exterior noise levels of 72 to 82 dBA $L_{eq[h]}$ or less, depending on the acoustical construction of the structure, would result in acceptable interior noise levels. Noise levels at the worst-case exterior façades of Category D land uses identified along the alignment range from 56 to 72 dBA $L_{eq[h]}$ under 2049 Alt 3a and Alt 2b Build conditions. Tables 7-2 lists the calculated loudest-hour interior noise levels within the four Category D land uses.

Four medical facilities were identified in the Project area. Davis Urgent Care is located approximately 320 feet north of I-80 and is represented by Receptor R45 (Figure 7-5). The 4515 Fermi Place building, of which Davis Urgent Care is an occupant, is a large office building of modern construction and is anticipated to provide about 30 dB of exterior-to-interior noise reduction with windows closed. Based on a desktop review, the 4515 Fermi Place building includes mechanical ventilation, allowing occupants the option of closing windows to control noise. Noise levels within the 4515 Fermi Place building are not anticipated to approach or exceed 52 dBA $L_{eq[h]}$. Concentra Urgent Care is located approximately 350 feet south of I-80 and is represented by Receptor R58 (Figure 7-8). The 3680 Industrial Boulevard building, of which Concentra Urgent Care is an occupant, is a large office building of modern construction and is anticipated to provide about 30 dB of exterior-to-interior noise reduction with windows closed. Based on a desktop review, the 3680 Industrial Boulevard building includes mechanical ventilation, allowing occupants the option of closing windows to control noise. Noise levels within the 3680 Industrial Boulevard building are not anticipated to approach or exceed 52 dBA $L_{eq[h]}$. DaVita West Sacramento Dialysis Center is located approximately 280 feet south of US-50 and is represented by Receptor R59 (Figure 7-9). The 3450 Industrial Boulevard building, of which DaVita West Sacramento Dialysis Center is an occupant, is a large office building of modern construction and is anticipated to provide about 30 dB of exterior-to-interior noise reduction with windows closed. Based on a desktop review, the 3450 Industrial Boulevard building includes mechanical ventilation, allowing occupants the option of closing windows to control noise. Noise

levels within the 3450 Industrial Boulevard building are not anticipated to approach or exceed 52 dBA $L_{eq[h]}$. River Bend Nursing Center is located approximately 180 feet north of US-50 and is represented by Receptor R69 (Figure 7-10). The 2215 Oakmont Way building, of which River Bend Nursing Center is an occupant, is a large office building of modern construction and is anticipated to provide about 30 dB of exterior-to-interior noise reduction with windows closed. Based on a desktop review, the 2215 Oakmont Way building includes mechanical ventilation, allowing occupants the option of closing windows to control noise. Noise levels within the 2215 Oakmont Way building are not anticipated to approach or exceed 52 dBA $L_{eq[h]}$.

Two colleges were identified in the Project area. University of California Davis (UC Davis) has multiple building locations throughout the project area. The UC Davis Center of Laboratory Animal Science is located approximately 290 feet south of I-80 and is represented by Receptor ST-8 (Figure 7-1). The laboratory building is a large office building of modern construction and is anticipated to provide about 30 dB of exterior-to-interior noise reduction with windows closed. Based on a desktop review, the laboratory building includes mechanical ventilation, allowing occupants the option of closing windows to control noise. Noise levels within the UC Davis Center for Laboratory Animal Science building are not anticipated to approach or exceed 52 dBA $L_{eq[h]}$. The UC Davis August A. Busch III Brewing and Food Science Laboratory is located approximately 450 feet north of I-80 and is represented by Receptor ST-18 (Figure 7-1). The 641 Hilgard Lane building, of which The UC Davis August A. Busch III Brewing and Food Science Laboratory is an occupant, is a large office building of modern construction and is anticipated to provide about 30 dB of exterior-to-interior noise reduction with windows closed. Based on a desktop review, the 641 Hilgard Lane building includes mechanical ventilation, allowing occupants the option of closing windows to control noise. Noise levels within the 641 Hilgard Lane building are not anticipated to approach or exceed 52 dBA $L_{eq[h]}$. The UC Davis Center for Neuroscience is located approximately 250 feet east of I-80 and is represented by Receptor R5 (Figure 7-2). The 1544 Newton Court building, of which the UC Davis Center for Neuroscience is an occupant, is a large office building of modern construction and is anticipated to provide about 30 dB of exterior-to-interior noise reduction with windows closed. Based on a desktop review, the 1544 Newton Court building includes mechanical ventilation, allowing occupants the option of closing windows to control noise. Noise levels within the 1544 Newton Court building are not anticipated to approach or exceed 52 dBA $L_{eq[h]}$. The University of California Agriculture and Natural Resources is located approximately 300 feet north of I-80 and is represented by Receptor R30 (Figure 7-4). The 2801 2nd Street building, of which the University of California Agriculture and Natural Resources is an occupant, is a large office building of modern construction and is anticipated to provide about 30 dB of exterior-to-interior noise reduction with windows closed. Based on a desktop review, the 2801 2nd Street building includes mechanical ventilation, allowing

occupants the option of closing windows to control noise. Noise levels within the 2801 2nd Street building are not anticipated to approach or exceed 52 dBA $L_{eq[h]}$.

Four schools were identified in the Project area. Merryhill Preschool is located approximately 320 feet south of I-80 and is represented by Receptor ST-23 (Figure 7-5). The 222 La Vida Way building, of which Merryhill Preschool is an occupant, is a medium building of modern construction and is anticipated to provide about 30 dB of exterior-to-interior noise reduction with windows closed. Based on a desktop review, the 222 La Vida Way building includes mechanical ventilation, allowing occupants the option of closing windows to control noise. Noise levels within the 222 La Vida Way building are not anticipated to approach or exceed 52 dBA $L_{eq[h]}$. Westmore Oaks Elementary School is located approximately 400 feet south of US-50 and is represented by Receptor ST-48 (Figure 7-10). The 1514 Fallbrook Street building, of which Westmore Oaks Elementary School is an occupant, is a large building of modern construction and is anticipated to provide about 30 dB of exterior-to-interior noise reduction with windows closed. Based on a desktop review, the 1514 Fallbrook Street building includes mechanical ventilation, allowing occupants the option of closing windows to control noise. Noise levels within the 1514 Fallbrook Street building are not anticipated to approach or exceed 52 dBA $L_{eq[h]}$. Yolo High School is located approximately 340 feet north of US-50 and is represented by Receptor ST-53 (Figure 7-10). The 919 Westacre Road building, of which Yolo High School is an occupant, is a large building of modern construction and is anticipated to provide about 30 dB of exterior-to-interior noise reduction with windows closed. Based on a desktop review, the 919 Westacre Road building includes mechanical ventilation, allowing occupants the option of closing windows to control noise. Noise levels within the 919 Westacre Road building are not anticipated to approach or exceed 52 dBA $L_{eq[h]}$. Sacramento Valley Charter School is located approximately 125 feet north of US-50 and is represented by Receptor R68 (Figure 7-10). The 2399 Sellers Way building, of which Sacramento Valley Charter School is an occupant, is a large building of modern construction and is anticipated to provide about 30 dB of exterior-to-interior noise reduction with windows closed. Based on a desktop review, the 2399 Sellers Way building includes mechanical ventilation, allowing occupants the option of closing windows to control noise. Noise levels within the 2399 Sellers Way building are not anticipated to approach or exceed 52 dBA $L_{eq[h]}$.

One place of worship was identified in the Project area. The Center for Spiritual Awareness is located approximately 128 feet south of US-50 and is represented by Receptor ST-43 (Figure 7-9). The 1275 Starboard Drive building, of which the Center for Spiritual Awareness is an occupant, is a large building of modern construction and is anticipated to provide about 30 dB of exterior-to-interior noise reduction with windows closed. Based on a desktop review, the 1275 Starboard Drive building includes mechanical ventilation, allowing occupants the option of closing windows

to control noise. Noise levels within the 1275 Starboard Drive building are not anticipated to approach or exceed 52 dBA $L_{eq[h]}$.

7.2. Preliminary Noise Abatement Analysis Alternatives 2a/2b through Alternative 7a/7b

Noise abatement is considered where noise impacts are predicted in areas of frequent human use that would benefit from a lowered noise level. Noise abatement must be predicted to provide at least a 5 dB minimum reduction at an impacted receptor to be considered feasible by Caltrans (i.e., the barrier would provide a noticeable noise reduction). Additionally, the Protocol's acoustical design goal states that the noise barrier must provide at least 7 dB of noise reduction at one or more benefited receptors. Noise abatement measures that provide noise reduction of more than 5 dB are encouraged, as long as they meet the reasonableness guidelines. According to 23 CFR 772(13)(c) and 772(15)(c), federal funding may be used for the following abatement measures:

- Construction of noise barriers, including acquisition of property rights, either within or outside the highway right-of-way.
- Traffic management measures including, but not limited to, traffic control devices and signing for prohibition of certain vehicle types, time-use restrictions for certain vehicle types, modified speed limits, and exclusive lane designations.
- Alteration of horizontal and vertical alignments.
- Acquisition of real property or interests therein (predominantly unimproved property) to serve as a buffer zone to preempt development, which would be adversely impacted by traffic noise.
- Noise insulation of Activity Category D land use facilities listed in Table 4-1. Post-installation maintenance and operational costs for noise insulation are not eligible for Federal-aid funding.

Noise barriers are the only form of noise abatement considered for exterior land uses in the Project area. Each noise barrier has been evaluated for feasibility based on achievable noise reduction. As described in the Protocol, Caltrans typically limits noise barrier heights to 16 feet for seismic considerations. For each noise barrier found to be acoustically feasible, reasonable cost allowances were calculated by multiplying the number of benefited receptors by \$107,000.

For any noise barrier to be considered reasonable from a cost perspective, the estimated cost of the noise barrier should be equal to or less than the total cost allowance calculated for the barrier. The

cost calculations of the noise barrier must include all items appropriate and necessary for construction of the barrier, such as traffic control, drainage modification, retaining walls, landscaping for graffiti abatement, and right-of-way costs. Construction cost estimates are not provided in this NSR but are presented in the NADR. The NADR is a design responsibility and is prepared to compile information from the NSR, other relevant environmental studies, and design considerations into a single, comprehensive document before public review of the project. The NADR is prepared by the project engineer after completion of the NSR and prior to publication of the draft environmental document. The NADR includes noise abatement construction cost estimates that have been prepared and signed by the project engineer based on site-specific conditions. Construction cost estimates are compared to reasonableness allowances in the NADR to identify which wall configurations are reasonable from a cost perspective.

The design of noise barriers presented in this report is preliminary and has been conducted at a level appropriate for environmental review but not for final design of the Project. Preliminary information on the physical location, length, and height of noise barriers is provided in this report. If pertinent parameters change substantially during the final project design, preliminary noise barrier designs may be modified or eliminated from the final project. A final decision on the construction of noise barriers will be made upon completion of the project design.

Preliminary noise barriers were evaluated at the most acoustically effective locations within the State right-of-way. Where the roadway is at grade, or elevated above receptors, the most acoustically effective location for a barrier is near the edge of the shoulder, either on the structure or at the top of the slope. Where the roadway is located in a cut-section, the most acoustically effective location for a barrier is typically at the right-of-way.

Barrier analysis was performed in accordance with the Protocol for instances where noise levels at receptors located behind existing noise barriers approached or exceeded the NAC. If, through a comparison of Build noise levels with and without the existing barrier, the existing barrier meets the feasibility and acoustical reasonableness requirements for noise reduction, no modifications to the existing barrier or additional abatement are considered. If the existing barrier fails to meet feasibility and acoustical reasonableness requirements, additional barrier heights are considered.

Degradation of noise barrier performance is a possibility when the ratio of the spacing between parallel barriers or retaining walls constructed with noise-reflecting materials and the average height of the barriers or walls is 15:1 or less. For these barriers, reflective noise and the use of acoustically absorptive surfaces should be considered.

Eight new noise barriers were studied as potential noise abatement (see Figures 7-1 through 7-13). Potential new noise barriers are discussed in detail below. Once a noise barrier achieved the

minimum of a 5 dB reduction at an impacted receptor and achieved the 7 dB noise reduction design goal for at least one receptor, the reasonable allowance was determined. Tables 7-1 through 7-11 show the predicted 2049 loudest-hour noise level and insertion loss for each barrier at various design heights under Alt 3a Build conditions. Table 7-12 summarizes the insertion loss, benefited receptors, and reasonable allowances for each feasible barrier that also met the 7 dB noise reduction design goal.

In addition, 2049 Build noise levels are calculated to approach or exceed the NAC at locations behind four existing barriers. These existing barriers were assessed for feasibility and reasonableness. If the existing barriers fail to meet feasibility and acoustical reasonableness requirements, additional barrier heights are considered, as described in detail below.

7.2.1. Segment 1B South of Richards Boulevard

The outdoor use area at the residential property located at 9460 W Chiles Road (represented by Receptor R150), has been identified for noise abatement because modeled 2049 Build Alt 3 noise levels would approach or exceed the NAC.

Evaluated Barrier 1 was modeled along the I-80 eastbound travel lanes, extending approximately 970 feet (see Figure 7-2). Table 7-1 shows the 2049 Build noise levels and insertion loss for Evaluated Barrier 1 at various design heights.

Table 7-1. Evaluated Barrier 1

Barrier I.D.: Evaluated Barrier 1 in Segment 1b														
Receptor ID	Units Represented	2049 Noise Level w/o Wall	With Wall H=6 feet		With Wall H=8 feet		With Wall H=10 feet		With Wall H=12 ² feet		With Wall H=14 ² feet		With Wall H=16 ² feet	
			Leq[h]	I.L. ¹	Leq[h]	I.L. ¹	Leq[h]	I.L. ¹	Leq[h]	I.L. ¹	Leq[h]	I.L. ¹	Leq[h]	I.L. ¹
R150	1	72	67	5	66	6	65	7	64	8	64	8	64	8

¹ I.L. = Insertion Loss

² Barrier breaks line of sight between 11.5-foot-high truck stack and 5-foot-high receptor.

As shown in Table 7-1, Evaluated Barrier 1 would feasibly abate traffic noise at a minimum height of six feet but would not meet the 7 dB design goal. Evaluated Barrier 1 would feasibly abate traffic noise and meet the 7 dB noise reduction goal at a minimum height of 10 feet. The reasonable allowance calculated for a barrier height of 10 feet or greater is \$107,000. Table C-1 in Appendix C summarizes the results of the barrier analysis for each receptor location.

7.2.2. Segment 1B North of Richards Boulevard

The pool area at La Quinta Inn & Suites by Wyndham Davis (represented by Receptor ST-12) has been identified for noise abatement because modeled 2049 Build noise levels would exceed the NAC.

Evaluated Barrier 2 was modeled along the I-80 eastbound travel lanes, extending approximately 560 feet (see Figure 7-3). Table 7-2 shows the modeled 2049 Build noise levels and insertion loss for Evaluated Barrier 2 at various design heights.

Table 7-2. Evaluated Barrier 2

Barrier I.D.: Evaluated Barrier 2 in Segment 1b														
Receptor ID	Units Represented	2049 Noise Level w/o Wall	With Wall H=6 feet		With Wall H=8 feet		With Wall H=10 feet		With Wall H=12 ² feet		With Wall H=14 ² feet		With Wall H=16 ² feet	
			Leq[h]	I.L. ¹	Leq[h]	I.L. ¹	Leq[h]	I.L. ¹	Leq[h]	I.L. ¹	Leq[h]	I.L. ¹	Leq[h]	I.L. ¹
ST-12	1	71	70	1	70	1	69	2	69	2	69	2	68	3

¹ I.L. = Insertion Loss

² Barrier breaks line of sight between 11.5-foot-high truck stack and 5-foot-high receptor.

As indicated above in Table 7-2, Evaluated Barrier 2 would not feasibly abate traffic noise or meet the 7 dB noise reduction goal, at any impacted receptors, even at a height of 16 feet. Therefore, reasonable allowances were not calculated for Evaluated Barrier 2.

7.2.3. Section 3B East of Harbor Boulevard

The private outdoor areas of residences at the homes east of Harbor Boulevard, represented by Receptors R70 and R71, have been identified for noise abatement because 2049 Build noise levels would exceed the NAC. Receptors R70 and R71 are shielded from US-50 by an existing 15- to 16-foot-high noise barrier (Existing Barrier A.1) located along US-50 westbound travel lanes.

The private outdoor areas of residences at the homes east of Harbor Boulevard, represented by Receptors R75, R76, R77, R78, and R79, have been identified for noise abatement because 2049 Build noise levels would exceed the NAC. Receptors R75, R76, R77, R78, and R79 are shielded from US-50 by an existing 11- to 16-foot-high noise barrier (Existing Barrier A.2) located along US-50 westbound travel lanes.

The private outdoor areas of residences at the homes east of Harbor Boulevard, represented by Receptors R80, R81, and ST-49, have been identified for noise abatement because 2049 Build noise levels would exceed the NAC. Receptors R80, R81, and ST-49 are shielded from US-50 by an existing 16- to 11-foot-high noise barrier (Existing Barrier A.3) located along US-50 westbound travel lanes.

As summarized in Table 7-3, existing Barriers A.1, A.2 and A.3 (see Figure 7-11) were calculated to provide 5 dB of noise reduction at R78, 6 dB of noise reduction at R73, and 7 dB of noise reduction at R76, therefore meeting the noise reduction standard for feasibility. The barrier was calculated to provide noise reduction at other receptors in the area, including 9 dB of noise reduction at R68, 10 dB of noise reduction at R72, 11 dB of noise reduction at R70, 12 dB of noise reduction at R71, 13 dB of noise reduction at R75, 14 dB of noise reduction at R80, and 15 dB noise reduction at R79 and ST-49, therefore meeting the noise reduction design goal. Existing Barriers A.1, A.2, and A.3 meet the noise reduction standard for feasibility and the noise reduction design goal. Based on these results, this barrier is not studied further in this assessment.

Table 7-3. Existing Barriers A.1, A.2, and A.3

Receptor ID	Units Represented	Noise Level w/o Wall	With Existing Wall H=11 to 16 feet	
			Leq(h)	I.L. ¹
R68	1	77	68	9
R69	1	65	62	3
R70	6	81	70	11
R71	6	82	70	12
R72	6	77	67	10
R73	12	72	66	6
R74	1	66	63	3
R75	7	82	69	13
R76	8	67	59	7
R77	10	61	58	2
R78	5	65	60	5
R79	5	83	68	15
R80	3	82	68	14
R81	6	64	60	4
ST-49	1	85	70	15

¹ I.L. = Insertion Loss

² Barrier breaks line of sight between 11.5-foot-high truck stack and 5-foot-high receptor.

As shown in Table 7-3, Existing Barriers A.1, A.2, and A.3 would feasibly abate traffic noise and meet the 7 dB design goal at its existing heights of 11 feet to 16 feet.

7.2.4. Segments 2 and 3A on the northeast side of the I-80 and US-50 Interchange

The outdoor use area at Westmore Oaks Elementary School east of Harbor Boulevard, represented by Receptor R151, has been identified for noise abatement because modeled 2049 Build noise levels would approach or exceed the NAC.

Evaluated Barrier 3 was modeled along the US-50 eastbound travel lanes, extending approximately 970 feet (see Figure 7-11). Table 7-4 shows the 2049 Build noise levels and insertion loss for Evaluated Barrier 3 at various design heights.

Table 7-4. Evaluated Barrier 3

Barrier I.D.: Evaluated Barrier 3 in Segment 2 and 3a														
Receptor ID	Units Represented	2049 Noise Level w/o Wall	With Wall H=6 feet		With Wall H=8 feet		With Wall H=10 feet		With Wall H=12 ² feet		With Wall H=14 ² feet		With Wall H=16 ² feet	
			Leq[h]	I.L. ¹	Leq[h]	I.L. ¹	Leq[h]	I.L. ¹	Leq[h]	I.L. ¹	Leq[h]	I.L. ¹	Leq[h]	I.L. ¹
R151	1	70	66	4	66	4	66	4	64	6	64	6	64	6

¹ I.L. = Insertion Loss² Barrier breaks line of sight between 11.5-foot-high truck stack and 5-foot-high receptor.

As indicated above in Table 7-4, Evaluated Barrier 3 would feasibly abate traffic noise at a height of 12 feet but would not meet the 7 dB noise reduction goal, at any impacted receptors, even at a height of 16 feet. Therefore, reasonable allowances were not calculated for Evaluated Barrier 3.

7.2.5. Section 3B East of Harbor Boulevard

The private outdoor areas of residences at the homes east of Harbor Boulevard, represented by Receptors R82, R83, R84, R85, R86, R87, R88, R89, R90, R91, and R92, have been identified for noise abatement because 2049 Build noise levels would exceed the NAC. Receptors R82, R83, R84, R85, R86, R87, R88, R89, R90, R91, and R92 are shielded from US-50 by an existing 8- to 13.5-foot-high noise barrier (Existing Barrier B.1) located along US-50 westbound travel lanes.

The private outdoor areas of residences at the homes east of Harbor Boulevard, represented by Receptors R93, R94, R95, R96, and R97, have been identified for noise abatement because 2049 Build noise levels would exceed the NAC. Receptors R93, R94, R95, R96, and R97 are shielded from US-50 by an existing 11.5- to 9-foot-high noise barrier (Existing Barrier B.2) located along US-50 westbound travel lanes.

As summarized in Table 7-5, existing Barriers B.1 and B.2 (see Figure 7-11) were calculated to provide 6 dB of noise reduction at R85, and 7dB of noise reduction at R84, therefore meeting the noise reduction standard for feasibility. The barriers were calculated to provide noise reduction at other receptors in the area, including 8 dB of noise reduction at R83, 9 dB of noise reduction at R82, therefore meeting the noise reduction design goal. Existing Barriers B.1 and B.2 meet the noise reduction standard for feasibility and the noise reduction design goal. Based on these results, this barrier is not studied further in this assessment.

Table 7-5 Existing Barriers B.1 and B.2

Receptor ID	Units Represented	Noise Level w/o Wall	With Existing Wall H=8 to 13.5 feet	
			Leq[h]	I.L. ¹
R82	6	80	71	9
R83	7	79	70	9
R84	9	78	71	7
R85	2	78	72	6
R86	10	61	60	1
R87	10	62	60	2
R88	13	63	62	1
R89	9	63	62	1
R90	4	63	62	1
R91	8	65	64	1
R92	3	73	71	2
R93	11	66	66	0
R94	5	64	64	0
R95	7	64	64	0
R96	5	66	66	0
R97	4	67	67	0

¹ I.L. = Insertion Loss² Barrier breaks line of sight between 11.5-foot-high truck stack and 5-foot-high receptor.

As shown in Table 7-5, Existing Barriers B.1 and B.2 would feasibly abate traffic noise and meet the 7 dB design goal at its existing heights of 8 feet to 13.5 feet.

7.2.6. Segment 3B on the northeast side of the I-80 and US-50 Interchange

The private outdoor areas of residences at the US-50 and I-5 interchange, represented by Receptors ST-60, R99, and R100, have been identified for noise abatement because modeled 2049 Build noise levels would approach or exceed the NAC.

Evaluated Barriers 4.1 and 4.2 were modeled along the US-50 westbound ramp onto the I-5 northbound, extending approximately 700 feet and 760 feet, respectively (see Figure 7-12). Table 7-6 shows the 2049 Build noise levels and insertion loss for Evaluated Barriers 4.1 and 4.2 at various design heights.

Table 7-6. Evaluated Barriers 4.1 and 4.2

Barrier I.D.: Evaluated Barriers 4.1 and 4.2 in Segment 3b														
Receptor ID	Units Represented	2049 Noise Level w/o Wall	With Wall H=6 feet		With Wall H=8 feet		With Wall H=10 feet		With Wall H=12 ² feet		With Wall H=14 ² feet		With Wall H=16 ² feet	
			Leq[h]	I.L. ¹	Leq[h]	I.L. ¹	Leq[h]	I.L. ¹	Leq[h]	I.L. ¹	Leq[h]	I.L. ¹	Leq[h]	I.L. ¹
ST-60	1	72	69	3	69	3	68	4	68	4	68	4	67	5
R99	9	72	70	2	69	3	69	3	68	4	68	4	67	5
R100	7	65	64	1	64	1	63	2	63	2	63	2	63	2

¹ I.L. = Insertion Loss² Barrier breaks line of sight between 11.5-foot-high truck stack and 5-foot-high receptor.

As indicated above in Table 7-6, Evaluated Barriers 4.1 and 4.2 would feasibly abate traffic noise at a height of 16 feet but would not meet the 7 dB noise reduction goal, at any impacted receptors,

even at a height of 16 feet. Therefore, reasonable allowances were not calculated for Evaluated Barriers 4.1 and 4.2.

7.2.7. Segment 2 at the US-50 and I-80 Interchange

The private outdoor areas of residences at the I-80 US-50 interchange, represented by Receptors R60, R61, R62, R63, R64, R65, R66, ST-40, and ST-41, have been identified for noise abatement because modeled 2049 Build noise levels would approach or exceed the NAC. Receptors R60, R61, R62, R63, R64, R65, R66, ST-40, and ST-41 are shielded from US-50 by an existing 8- to 13.5-foot-high noise barrier (Existing Barrier C) located along US-50 westbound travel lanes and along the US-50 westbound to I-80 eastbound ramp.

As summarized in Table 7-7, existing Barrier C (see Figure 7-10) was calculated to provide 5 dB of noise reduction at R64 and 6 dB of noise reduction at R61, therefore meeting the noise reduction standard for feasibility. The barrier was calculated to provide noise reduction at other receptors in the area, including 9 dB of noise reduction at ST-40, 11 dB of noise reduction at ST-41, 14 dB of noise reduction at R65, therefore meeting the noise reduction design goal. Existing Barrier C meets the noise reduction standard for feasibility and the noise reduction design goal. Based on these results, this barrier is not studied further in this assessment.

Table 7-7. Existing Barrier C

Receptor ID	Units Represented	Noise Level w/o Wall	With Existing Wall H=8 to 13.5 feet	
			$L_{eq[h]}$	I.L. ¹
R60	8	64	62	2
R61	10	70	64	6
R62	14	63	63	0
R63	11	66	62	4
R64	4	63	58	5
R65	1	80	66	14
R66	1	58	56	2
ST-40	1	75	66	9
ST-41	1	77	66	11

¹ I.L. = Insertion Loss

² Barrier breaks line of sight between 11.5-foot-high truck stack and 5-foot-high receptor.

As shown in Table 7-7, Existing Barrier C would feasibly abate traffic noise and meet the 7 dB design goal at its existing heights of 8 feet to 13.5 feet.

7.2.8. Segment 2 at the US-50 and I-80 Interchange

The private outdoor areas of residences at the I-80 US-50 interchange, represented by Receptors R102, R103, R104, R105, R152, R153, R154, and R155, have been identified for noise abatement because modeled 2049 Build noise levels would approach or exceed the NAC. Meadowdale Park, represented by ST-38, has also been identified for noise abatement because 2049 Build noise levels would approach or exceed the NAC.

Evaluated Barrier 5 was modeled along the US-50 westbound ramp onto the I-80 eastbound, extending approximately 1,200 feet (see Figure 7-10). Table 7-8 shows the 2049 Build noise levels and insertion loss for Evaluated Barrier 5 at various design heights.

Table 7-8. Evaluated Barrier 5

Barrier I.D.: Evaluated Barrier 5 in Segment 2														
Receptor ID	Units Represented	2049 Noise Level w/o Wall	With Wall H=6 feet		With Wall H=8 feet		With Wall H=10 feet		With Wall H=12 ² feet		With Wall H=14 ² feet		With Wall H=16 ² feet	
			Leq[h]	I.L. ¹	Leq[h]	I.L. ¹	Leq[h]	I.L. ¹	Leq[h]	I.L. ¹	Leq[h]	I.L. ¹	Leq[h]	I.L. ¹
R102	3	65	63	2	62	3	62	3	61	4	61	4	60	5
R103	11	62	61	1	60	2	60	2	59	3	59	3	59	3
R104	4	65	63	2	63	2	62	3	61	4	61	4	61	4
R105	1	69	67	2	66	3	65	4	65	4	64	5	64	5
R152	2	67	65	2	65	2	64	3	63	4	63	4	63	4
R153	3	66	64	2	63	3	62	4	62	4	62	4	62	4
R154	3	65	63	2	62	3	62	3	61	4	61	4	61	4
R155	2	67	64	3	63	4	63	4	62	5	62	5	62	5
ST-38	1	67	66	1	65	2	65	2	65	2	65	2	64	3
ST-39	1	68	66	2	65	3	64	4	64	4	64	4	63	5

¹ I.L. = Insertion Loss

² Barrier breaks line of sight between 11.5-foot-high truck stack and 5-foot-high receptor.

As indicated above in Table 7-8, Evaluated Barrier 5 would feasibly abate traffic noise at a height of 12 feet but would not meet the 7 dB noise reduction goal, at any impacted receptors, even at a height of 16 feet. Therefore, reasonable allowances were not calculated for Evaluated Barrier 5.

7.2.9. Segment 3 at the Sacramento River

The private outdoor areas of residences at the Sacramento River, represented by Receptors ST-62, R106, R107, R108, R109, and R110, have been identified for noise abatement because modeled 2049 Build noise levels would approach or exceed the NAC.

Evaluated Barriers 6 and 7 were modeled along the I-80 eastbound and westbound travel lanes, extending approximately 600 feet and 650 feet, respectively (see Figure 7-14). Table 7-9 shows the modeled 2049 Build noise levels and insertion loss for Evaluated Barriers 6 and 7 at various design heights.

Table 7-9. Evaluated Barriers 6 and 7

Barrier I.D.: Evaluated Barriers 6 and 7 in Segment 3														
Receptor ID	Units Represented	2049 Noise Level w/o Wall	With Wall H=6 feet		With Wall H=8 feet		With Wall H=10 feet		With Wall H=12 ² feet		With Wall H=14 ² feet		With Wall H=16 ² feet	
			Leq[h]	I.L. ¹	Leq[h]	I.L. ¹	Leq[h]	I.L. ¹	Leq[h]	I.L. ¹	Leq[h]	I.L. ¹	Leq[h]	I.L. ¹
ST-62	1	66	63	3	62	4	62	4	61	5	61	5	61	5
R106	1	71	71	0	70	1	70	1	70	1	70	1	70	1
R107	1	70	69	1	69	1	69	1	69	1	69	1	69	1
R108	1	66	62	4	62	4	62	4	61	5	61	5	61	5
R109	1	67	65	2	63	4	63	4	63	4	63	4	63	4
R110	1	66	64	2	64	2	64	2	64	2	64	2	64	2

¹ I.L. = Insertion Loss² Barrier breaks line of sight between 11.5-foot-high truck stack and 5-foot-high receptor.

As indicated above in Table 7-9, Evaluated Barriers 6 and 7 would feasibly abate traffic noise at a height of 12 feet but would not meet the 7 dB noise reduction goal, at any impacted receptors, even at a height of 16 feet. Therefore, reasonable allowances were not calculated for Evaluated Barriers 6 and 7.

7.2.10. Segment 3 North of the Sacramento River

The private outdoor areas of residences at the subdivision north of the Sacramento River, represented by Receptors ST-65, ST-66, R111, R112, and R113, have been identified for noise abatement because modeled 2049 Build noise levels would approach or exceed the NAC.

Evaluated Barrier 8 was modeled along the I-80 eastbound lanes, extending approximately 750 feet (see Figure 7-14). Table 7-10 shows the modeled 2049 Build noise levels and insertion loss for Evaluated Barrier 8 at various design heights.

Table 7-10. Evaluated Barrier 8

Barrier I.D.: Evaluated Barrier 8 in Segment 3														
Receptor ID	Units Represented	2049 Noise Level w/o Wall	With Wall H=6 feet		With Wall H=8 feet		With Wall H=10 feet		With Wall H=12 ² feet		With Wall H=14 ² feet		With Wall H=16 ² feet	
			Leq[h]	I.L. ¹	Leq[h]	I.L. ¹	Leq[h]	I.L. ¹	Leq[h]	I.L. ¹	Leq[h]	I.L. ¹	Leq[h]	I.L. ¹
ST-65	1	71	69	2	68	3	67	4	66	5	66	5	66	5
ST-66	1	60	59	1	59	1	59	1	58	2	58	2	58	2
R111	8	66	62	4	61	5	60	6	60	6	60	6	60	6
R112	4	62	60	2	58	4	58	4	57	5	57	5	57	5
R113	8	67	64	3	63	4	62	5	61	6	61	6	61	6

¹ I.L. = Insertion Loss² Barrier breaks line of sight between 11.5-foot-high truck stack and 5-foot-high receptor.

As indicated above in Table 7-10, Evaluated Barrier 8 would feasibly abate traffic noise at a height of 8 feet but would not meet the 7 dB noise reduction goal, at any impacted receptors, even at a height of 16 feet. Therefore, reasonable allowances were not calculated for Evaluated Barrier 8.

7.2.11. Segment 3 North of Sacramento River to West El Camino Avenue

The private outdoor areas of residences north of the Sacramento River to West El Camino Avenue, represented by Receptors ST-68, ST-70, ST-72, ST-73, ST-74, ST-75, R125, R126, R127, R128, R129, R130, R131, R132, R133, R134, R135, R136, R137, R138, R139, R140, R141, R142, R143, and R144, have been identified for noise abatement because modeled 2049 Build noise levels would exceed the NAC. River Otter Park, represented by Receptor ST-71, has been identified for noise abatement because modeled 2049 Build noise levels would exceed the NAC. Receptors ST-68, ST-69, ST-70, ST-71, ST-72, ST-73, ST-74, ST-75, R125, R126, R127, R128, R129, R130, R131, R132, R133, R134, R135, R136, R137, R138, R139, R140, R141, R142, R143, and R144 are shielded from I-80 by an existing 12.5- to 13-foot-high noise barrier (Existing Barrier D) located along I-80 eastbound travel lanes.

As summarized in Table 7-11, existing Barrier D (see Figure 7-15) was calculated to provide 5 dB of noise reduction at R128, therefore meeting the noise reduction standard for feasibility. The barrier was calculated to provide noise reduction at other receptors in the area, including 7 dB of noise reduction at R139, 8 dB of noise reduction at ST-72 and ST-73, 9 dB of noise reduction at R125 and R126, and 10 dB of noise reduction at ST-70, ST-71, R130, and R141, therefore meeting the noise reduction design goal. Existing Barrier D meets the noise reduction standard for feasibility and the noise reduction design goal. Based on these results, this barrier is not studied further in this assessment.

Table 7-11. Existing Barrier D

Receptor ID	Units Represented	Noise Level w/o Wall	With Existing Wall H=12.5 to 13 feet	
			L _{eq(h)}	I.L. ¹
ST-68	1	68	66	2
ST-70	1	77	67	10
ST-71	1	75	65	10
ST-72	1	66	58	8
ST-73	1	68	60	8
ST-74	1	73	62	11
ST-75	3	59	55	4
R125	5	76	67	9
R126	5	75	66	9
R127	6	59	59	0
R128	8	65	60	5
R129	5	58	56	2
R130	11	74	64	10
R131	8	62	58	4
R132	10	54	54	0
R133	8	55	53	2

Receptor ID	Units Represented	Noise Level w/o Wall	With Existing Wall H=12.5 to 13 feet	
			L _{eq} (h)	I.L. ¹
R134	6	68	60	8
R135	3	57	54	3
R136	14	57	56	1
R137	6	55	54	1
R138	16	57	55	2
R139	10	68	61	7
R140	20	56	54	0
R141	7	76	66	10
R142	6	56	55	1
R143	40	53	52	1
R144	7	63	63	0

¹ I.L. = Insertion Loss

² Barrier breaks line of sight between 11.5-foot-high truck stack and 5-foot-high receptor.

As shown in Table 7-11, Existing Barrier D would feasibly abate traffic noise and meet the 7 dB design goal at its existing heights of 12.5 feet to 13 feet.

7.3. Preliminary Reasonableness Analysis Alternative 2 through Alternative 7

The determination of the reasonableness of noise abatement is more subjective than the determination of its feasibility. As defined in Section 772.5 of the regulation, reasonableness is the combination of social, economic, and environmental factors considered in the evaluation of a noise abatement measure.

The overall reasonableness of noise abatement is determined by the following three factors:

- The noise reduction design goal (a barrier must be predicted to provide at least 7 dB of noise reduction at one or more benefited receptors).
- The cost of noise abatement (reasonable allowance of \$107,000 per benefited receptor).
- The viewpoints of benefited receptors (including property owners and residents of the benefited receptors).

For any noise barrier to be considered reasonable from a cost perspective, the estimated cost of the barrier should be equal to or less than the total cost allowance calculated for the barrier. The cost calculations of the noise barrier must include all items appropriate and necessary for construction of the barrier, such as traffic control, drainage modification, retaining walls, landscaping for graffiti abatement, and right-of-way costs. Construction cost estimates are not provided in this NSR but are presented in the NADR. The NADR is prepared to compile information from the NSR, other relevant environmental studies, and design considerations into a single, comprehensive

document before public review of the Project. The NADR is prepared by the Project Development Team after completion of the NSR and prior to publication of the draft environmental document. The NADR includes noise abatement construction cost estimates that have been prepared and signed by the Project Development Team based on site-specific conditions. Construction cost estimates are compared to reasonable allowances in the NADR to identify which wall configurations are reasonable from a cost perspective.

Table 7-12 lists the reasonableness allowance calculated for all barriers that were calculated to be acoustically feasible and to meet the Caltrans noise reduction design goal. For each noise barrier found to be acoustically feasible, reasonable cost allowances were calculated by multiplying the number of benefited receptors by \$107,000.

Table 7-12. Summary of Acoustically Feasible and Reasonable Noise Barriers and Replacement Barriers

Barrier ID	Approximate Stationing/ Location ^a	Noise Level w/o Barrier at Benefited Receptors (L _{eq[h]})	Barrier Height (feet)	Insertion Loss (dBA)	Number of Benefited Receptors	Total Reasonable Monetary Allowance
Evaluated Barrier 1	9460 W Chiles Road Along I-80 eastbound between south of Richards Boulevard to north of railroad tracks (970 ft)	72	10	-7	1	\$107,000
			12 ^b	-8	1	\$107,000
			14 ^b	-8	1	\$107,000
			16 ^b	-8	1	\$107,000

^a Barrier lengths are based on linear approximations used for purposes of noise modeling in TNM 2.5. Actual lengths may differ slightly due to barrier curvature, etc.

^b Barrier breaks line of sight between 11.5-foot-high truck stack and 5-foot-high receptor.

^c Insertion loss is the reduction in noise due to the noise barrier.

Chapter 8. Construction Noise

Components of the Project are described in detail in Chapter 2. Roadway and bridge construction would be completed in a period of approximately 42 months. Noise generated by Project-related construction activities would be a function of the noise levels generated by individual pieces of construction equipment, the type and amount of equipment operating at any given time, the timing and duration of construction activities, the proximity of nearby sensitive land uses, and the presence or lack of shielding at these sensitive land uses. Construction noise levels would vary on a day-to-day basis during each phase of construction, depending on the specific task being completed.

8.1. Regulatory Criteria

Noise associated with construction is controlled by Caltrans Standard Specification Section 14-8.02, “Noise Control,” which states the following:

- Control and monitor noise resulting from work activities.
- Do not exceed 86 dBA L_{\max} at 50 feet from the job site from 9:00 p.m. to 6:00 a.m.
- Equip an internal combustion engine with the manufacturer-recommended muffler. Do not operate an internal combustion engine on the job site without the appropriate muffler.

8.2. Construction Phasing and Noise Levels

Project construction is anticipated to occur over a period of three years and would include road cut/fill, grinding, grubbing/land cleaning, grading/excavation, drainage/utilities, and paving. Pile driving is planned to be used as a method of construction for structure foundation for the bridges crossing I-80 and the American River, US-50 and the American River, and for the construction of Phase B I-80 managed lane connector ramp. Cut and cover method could be used, which involves methods typical of roadway and bridge construction and will be utilized throughout other areas of the Project, including grading, excavation, and paving. Blasting would not be required. Construction noise would primarily result from the operation of heavy construction equipment and the arrival and departure of heavy-duty trucks.

Table 8-1 presents construction noise levels calculated for each major phase of the Project at a distance of 100 feet, based on calculations conducted in FHWA’s Roadway Construction Noise Model (RCNM) using Project-specific construction information detailed in Appendix J. This construction noise model includes representative sound levels for the most common types of

construction equipment and the approximate usage factors of such equipment that were developed based on an extensive database of information gathered during the construction of the Central Artery/Tunnel Project in Boston, Massachusetts (CA/T Project or "Big Dig"). In some instances, maximum instantaneous noise levels are calculated to be slightly lower than hourly average noise levels. This occurs because the model reports the maximum instantaneous noise level generated by the loudest single piece of construction equipment, while reporting the hourly average noise levels resulting from the additive effect of multiple pieces of construction equipment operating simultaneously. Noise generated by construction equipment drops off at a rate of 6 dB per doubling of distance.

Table 8-1. Noise Levels by Construction Phase at 100 feet

Construction Type	Construction Phase	Maximum Noise Level (L _{max} , dBA)	Hourly Average Noise Level (L _{eq[h]} , dBA)
Roadway Construction	Grubbing / Land Clearing	78	77
	Grading / Excavation	79	83
	Drainage / Utilities	79	82
	Paving	78	78
Bridge / Structures Construction	Grubbing / Land Clearing	78	77
	Grading / Excavation	79	84
	Drainage / Utilities	79	83
	Paving	75	77
Impact Pile Driving		95	88

Source: FHWA's RCNM

8.3. Construction Noise Impacts

Although the overall construction schedule is anticipated to occur over a period of three years, roadway construction activities typically occur for relatively short periods of time in any specific location as construction proceeds along the Project's alignment. Construction noise would mostly be of concern in areas where heavy construction would be concentrated for extended periods of time in areas adjacent to noise-sensitive receptors, where noise levels from individual pieces of equipment are substantially higher than ambient conditions, or when construction activities would occur during noise-sensitive early morning, evening, or nighttime hours.

As indicated through comparison of Table 8-1, most construction phases would generate average noise levels that would exceed ambient daytime noise levels at adjacent land uses by 15 to 20 dBA L_{eq[h]}. Receptors shielded by noise barriers would be exposed to a similar increase in noise, albeit at lower overall noise levels because the shielding provided by the existing noise barriers would attenuate construction noise at a similar rate to traffic noise.

With the exception of possible nighttime construction involving heavy equipment, construction noise levels would not be expected to exceed the quantitative noise limits established by Caltrans.

8.4. Construction Noise Minimization Measures

To reduce the potential for noise impacts resulting from Project construction, the following measures shall be implemented during Project construction.

- All construction equipment shall conform to Section 14-8.02, Noise Control, of the latest Standard Specifications.
- When feasible, noise-generating construction activities shall be restricted to between 7:00 a.m. and 7:00 p.m. on weekdays, with no construction occurring on weekends or holidays. If work is necessary outside of these hours, Caltrans shall require the contractor to implement a construction noise monitoring program and provide additional noise controls where practical and feasible.
- Pile driving activities shall be limited to daytime hours only.
- All internal combustion engine driven equipment shall be equipped with manufacturer recommended intake and exhaust mufflers that are in good condition and appropriate for the equipment.
- Unnecessary idling of internal combustion engines within 100 feet of residences shall be strictly prohibited.
- Noise-generating equipment shall be located as far as practical from sensitive receptors when sensitive receptors adjoin or are near the construction Project area.
- “Quiet” air compressors and other “quiet” equipment shall be utilized where such technology exists.

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Chapter 10. List of Preparers

The following individuals had substantial roles in the preparation of this report:

- Heather Bruce (Illingworth & Rodkin, Inc. — Senior Consultant) – Project Manager, data analysis, traffic noise modeling, report preparation, and quality assurance review.
- Steve Deines (Illingworth & Rodkin, Inc. — Staff Consultant) – Noise measurements, traffic noise modeling, and data analysis.
- Michael Thill (Illingworth & Rodkin, Inc. — Principal Consultant) – Noise measurements, traffic noise modeling review, and quality assurance review.
- Micah Black (Illingworth & Rodkin, Inc. — Staff Consultant) – Noise measurements.
- Carrie Janello (Illingworth & Rodkin, Inc. — Senior Consultant) – Quality assurance review.

Appendix A Traffic Data

This appendix contains tables presenting the traffic data for existing conditions, design-year conditions without the project, and design-year conditions with the project for each alternative. Tables A-1 through A-4 are sample tables containing traffic data.

Table A-1. Traffic Data for Existing (2019) Conditions

Roadway		Number of Lanes	Total Volume PM Peak Hour Traffic Volume	Auto		Medium Trucks		Heavy Trucks		Speed (A/MT/HT) (mph)
Direction	Segment			%	Volume	%	Volume	%	Volume	
Mainline										
I-80 Westbound	Between Kidwell Road and SR-113	4	4754	89.2%	4241	5.3%	252	5.5%	261	65/60/55
I-80 Eastbound	Between Kidwell Road and SR-113	4	4241	89.2%	4241	5.3%	252	5.5%	261	65/60/55
I-80 Westbound	Between Pole Line Road and Richards Boulevard	4	4877	89.2%	4350	5.3%	258	5.5%	268	65/60/55
I-80 Eastbound	Between Pole Line Road and Richards Boulevard	4	4350	89.2%	4350	5.3%	258	5.5%	268	65/60/55
I-80 Westbound	Between Mace Boulevard and Pole Line Road	3	5122	89.2%	4569	5.3%	271	5.5%	282	65/60/55
I-80 Eastbound	Between Mace Boulevard and Pole Line Road	3	4569	89.2%	4569	5.3%	271	5.5%	282	65/60/55
I-80 Westbound	Between Mace Boulevard and Co Rd 32A	3	5400	89.2%	4817	5.3%	286	5.5%	297	65/60/55
I-80 Eastbound	Between Mace Boulevard and Co Rd 32A	3	5059	89.2%	4513	5.3%	268	5.5%	278	65/60/55
I-80 Westbound	Between Co Rd 32A and W Capitol Avenue	3	5400	89.2%	4817	5.3%	286	5.5%	297	65/60/55
I-80 Eastbound	Between Co Rd 32A and W Capitol Avenue	3	5351	89.2%	4773	5.3%	284	5.5%	294	65/60/55

Roadway		Number of Lanes	Total Volume PM Peak Hour Traffic Volume	Auto		Medium Trucks		Heavy Trucks		Speed (A/MT/HT) (mph)
Direction	Segment			%	Volume	%	Volume	%	Volume	
I-80 Westbound	Between Capitol Avenue and US-50	3	5400	89.2%	4817	5.3%	286	5.5%	297	65/60/55
I-80 Eastbound	Between Capitol Avenue and US-50	4	5543	89.2%	4944	5.3%	294	5.5%	305	65/60/55
US-50 Westbound	Between I-80 and Harbor Boulevard	4	4189	92.6%	3879	3%	126	4.4%	184	65/60/55
US-50 Eastbound	Between I-80 and Harbor Boulevard	4	5460	92.6%	5056	3%	164	4.4%	245	65/60/55
US-50 Westbound	Between Harbor Boulevard and Jefferson Boulevard	4	5150	92.6%	4769	3%	155	4.4%	227	65/60/55
US-50 Eastbound	Between Harbor Boulevard and Jefferson Boulevard	4	5559	92.6%	5148	3%	167	4.4%	245	65/60/55
US-50 Westbound	Between Jefferson Boulevard and I-5	3	5400	92.6%	5000	3%	162	4.4%	238	65/60/55
US-50 Eastbound	Between Jefferson Boulevard and I-5	3	5400	92.6%	5000	3%	162	4.4%	238	65/60/55
US-50 Westbound	Between I-5 and W Street	4	7200	92.6%	6667	3%	216	4.4%	317	65/60/55
US-50 Eastbound	Between I-5 and W Street	4	7200	92.6%	6667	3%	216	4.4%	317	65/60/55
I-80 Westbound	Between US-50 and Reed Avenue	3	4394	89.2%	3919	5.3%	233	5.5%	242	65/60/55
I-80 Eastbound	Between US-50 and Reed Avenue	3	3161	89.2%	2820	5.3%	168	5.5%	174	65/60/55
I-80 Westbound	Between Reed Avenue and W El Camino Avenue	3	5400	89.2%	4817	5.3%	286	5.5%	297	65/60/55
I-80 Eastbound	Between Reed Avenue and W El Camino Avenue	3	2789	89.2%	2488	5.3%	148	5.5%	153	65/60/55

Roadway		Number of Lanes	Total Volume PM Peak Hour Traffic Volume	Auto		Medium Trucks		Heavy Trucks		Speed (A/MT/HT) (mph)
Direction	Segment			%	Volume	%	Volume	%	Volume	
I-80 Westbound	Between W El Camino Avenue and I-5	3	5400	89.2%	4817	5.3%	286	5.5%	297	65/60/55
I-80 Eastbound	Between W El Camino Avenue and I-5	3	3510	89.2%	3131	5.3%	186	5.5%	193	65/60/55
Offramps										
I-80 Westbound	Off to Northbound SR 113	2	1011	89.2%	902	5.3%	54	5.5%	56	50/50/50
I-80 Eastbound	Off to Richards Boulevard	1	389	89.2%	902	5.3%	54	5.5%	56	50/50/50
I-80 Eastbound	Off to I-80 Eastbound	2	1756	89.2%	1626	5.3%	53	5.5%	77	65/60/55
I-80 Westbound	Off to Westbound US-50/I-80	2	2721	89.2%	2520	5.3%	82	5.5%	120	65/60/55
US-50 Westbound	Off to I-80 Eastbound	2	1405	92.6%	1301	3%	42	4.4%	62	50/50/50
US-50 Eastbound	Off to Tower Bridge Gateway	1	652	92.6%	604	3%	20	4.4%	29	65/60/55
US-50 Westbound	Off to I-5 Northbound	2	2671	92.6%	2473	3%	80	4.4%	118	45/45/45
Onramps										
I-80 Westbound	Northbound Richards Boulevard on ramp	1	310	89.2%	277	5.3%	16	5.5%	17	25/25/25
I-80 Eastbound	Northbound Mace Boulevard on ramp	1-2	405	89.2%	361	5.3%	21	5.5%	22	45/45/45
I-80 Westbound	US-50 Eastbound	2	1673	89.2%	1549	5.3%	50	5.5%	74	45/45/45
I-80 Eastbound	W El Camino Avenue	1-2	606	89.2%	541	5.3%	32	5.5%	33	45/45/45

Table A-2. Traffic Data for 2049 No Build Conditions

Roadway		Number of Lanes	Total Volume PM Peak Hour Traffic Volume	Auto		Medium Trucks		Heavy Trucks		Speed (A/MT/HT) (mph)
Direction	Segment			%	Volume	%	Volume	%	Volume	
Mainline										
I-80 Westbound	Between Kidwell Road and SR-113	4	4810	89.2%	4291	5.3%	255	5.5%	265	65/60/55
I-80 Eastbound	Between Kidwell Road and SR-113	4	5110	89.2%	4558	5.3%	271	5.5%	281	65/60/55
I-80 Westbound	Between Pole Line Road and Richards Boulevard	4	7200	89.2%	6422	5.3%	382	5.5%	396	65/60/55
I-80 Eastbound	Between Pole Line Road and Richards Boulevard	4	7200	89.2%	6422	5.3%	382	5.5%	396	65/60/55
I-80 Westbound	Between Mace Boulevard and Pole Line Road	3	5400	89.2%	4817	5.3%	286	5.5%	297	65/60/55
I-80 Eastbound	Between Mace Boulevard and Pole Line Road	3	5400	89.2%	4817	5.3%	286	5.5%	297	65/60/55
I-80 Westbound	Between Mace Boulevard and Co Rd 32A	3	5400	89.2%	4817	5.3%	286	5.5%	297	65/60/55
I-80 Eastbound	Between Mace Boulevard and Co Rd 32A	3	5400	89.2%	4817	5.3%	286	5.5%	297	65/60/55
I-80 Westbound	Between Co Rd 32A and W Capitol Avenue	3	5400	89.2%	4817	5.3%	286	5.5%	297	65/60/55
I-80 Eastbound	Between Co Rd 32A and W Capitol Avenue	3	5400	89.2%	4817	5.3%	286	5.5%	297	65/60/55

Roadway		Number of Lanes	Total Volume PM Peak Hour Traffic Volume	Auto		Medium Trucks		Heavy Trucks		Speed (A/MT/HT) (mph)
Direction	Segment			%	Volume	%	Volume	%	Volume	
I-80 Westbound	Between Capitol Avenue and US-50	3	5400	89.2%	4817	5.3%	286	5.5%	297	65/60/55
I-80 Eastbound	Between Capitol Avenue and US-50	4	7200	89.2%	6422	5.3%	382	5.5%	396	65/60/55
US-50 Westbound	Between I-80 and Harbor Boulevard	4	7200	92.6%	6667	3%	216	4.4%	317	65/60/55
US-50 Eastbound	Between I-80 and Harbor Boulevard	4	7200	92.6%	6667	3%	216	4.4%	317	65/60/55
US-50 Westbound	Between Harbor Boulevard and Jefferson Boulevard	4	7200	92.6%	6667	3%	216	4.4%	317	65/60/55
US-50 Eastbound	Between Harbor Boulevard and Jefferson Boulevard	4	7200	92.6%	6667	3%	216	4.4%	317	65/60/55
US-50 Westbound	Between Jefferson Boulevard and I-5	3	5400	92.6%	5000	3%	162	4.4%	238	65/60/55
US-50 Eastbound	Between Jefferson Boulevard and I-5	3	5400	92.6%	5000	3%	162	4.4%	238	65/60/55
US-50 Westbound	Between I-5 and W Street	4	7200	92.6%	6667	3%	216	4.4%	317	65/60/55
US-50 Eastbound	Between I-5 and W Street	4	7200	92.6%	6667	3%	216	4.4%	317	65/60/55
I-80 Westbound	Between US-50 and Reed Avenue	3	5400	89.2%	4817	5.3%	286	5.5%	297	65/60/55
I-80 Eastbound	Between US-50 and Reed Avenue	3	5400	89.2%	4817	5.3%	286	5.5%	297	65/60/55
I-80 Westbound	Between Reed Avenue and W El Camino Avenue	3	5400	89.2%	4817	5.3%	286	5.5%	297	65/60/55
I-80 Eastbound	Between Reed Avenue and W El Camino Avenue	3	5400	89.2%	4817	5.3%	286	5.5%	297	65/60/55

Roadway		Number of Lanes	Total Volume PM Peak Hour Traffic Volume	Auto		Medium Trucks		Heavy Trucks		Speed (A/MT/HT) (mph)
Direction	Segment			%	Volume	%	Volume	%	Volume	
I-80 Westbound	Between W El Camino Avenue and I-5	3	5400	89.2%	4817	5.3%	286	5.5%	297	65/60/55
I-80 Eastbound	Between W El Camino Avenue and I-5	3	5400	89.2%	4817	5.3%	286	5.5%	297	65/60/55
Offramps										
I-80 Westbound	Off to Northbound SR 113	2	1460	89.2%	1302	5.3%	77	5.5%	80	50/50/50
I-80 Eastbound	Off to Richards Boulevard	1	710	89.2%	633	5.3%	38	5.5%	39	50/50/50
I-80 Eastbound	Off to I-80 Eastbound	2	3300	89.2%	3056	5.3%	99	5.5%	145	65/60/55
I-80 Westbound	Off to Westbound US-50/I-80	2	4100	89.2%	3797	5.3%	123	5.5%	180	65/60/55
US-50 Westbound	Off to I-80 Eastbound	2	3110	92.6%	2880	3%	93	4.4%	137	50/50/50
US-50 Eastbound	Off to Tower Bridge Gateway	1	2100	92.6%	1945	3%	63	4.4%	92	65/60/55
US-50 Westbound	Off to I-5 Northbound	2	3390	92.6%	3139	3%	102	4.4%	149	45/45/45
Onramps										
I-80 Eastbound	Northbound Mace Boulevard on ramp	1-2	810	89.2%	723	5.3%	43	5.5%	45	45/45/45
I-80 Westbound	US-50 Eastbound	2	3530	89.2%	3269	5.3%	106	5.5%	155	45/45/45
I-80 Eastbound	W El Camino Avenue	1-2	740	89.2%	660	5.3%	39	5.5%	41	45/45/45

Table A-3. Traffic Data for 2049 Alt 3a Build Conditions

Roadway		Number of Lanes	Total Volume PM Peak Hour Traffic Volume	Auto		Medium Trucks		Heavy Trucks		Speed (A/MT/HT) (mph)
Direction	Segment			%	Volume	%	Volume	%	Volume	
Mainline										
I-80 Westbound	Between Kidwell Road and SR-113	4	5130	89.2%	5476	5.3%	272	5.5%	282	65/60/55
I-80 Eastbound	Between Kidwell Road and SR-113	4	5130	89.2%	5476	5.3%	272	5.5%	282	65/60/55
I-80 Westbound	Between Pole Line Road and Richards Boulevard	4	7200	89.2%	6422	5.3%	382	5.5%	396	65/60/55
I-80 Eastbound	Between Pole Line Road and Richards Boulevard	4	7200	89.2%	6422	5.3%	382	5.5%	396	65/60/55
I-80 Westbound	Between Mace Boulevard and Pole Line Road	3	5400	89.2%	4817	5.3%	286	5.5%	297	65/60/55
I-80 Eastbound	Between Mace Boulevard and Pole Line Road	3	5400	89.2%	4817	5.3%	286	5.5%	297	65/60/55
I-80 Westbound	Between Mace Boulevard and Co Rd 32A	3	5400	89.2%	4817	5.3%	286	5.5%	297	65/60/55
I-80 Eastbound	Between Mace Boulevard and Co Rd 32A	3	5400	89.2%	4817	5.3%	286	5.5%	297	65/60/55
I-80 Westbound	Between Co Rd 32A and W Capitol Avenue	3	5400	89.2%	4817	5.3%	286	5.5%	297	65/60/55
I-80 Eastbound	Between Co Rd 32A and W Capitol Avenue	3	5400	89.2%	4817	5.3%	286	5.5%	297	65/60/55

Roadway		Number of Lanes	Total Volume PM Peak Hour Traffic Volume	Auto		Medium Trucks		Heavy Trucks		Speed (A/MT/HT) (mph)
Direction	Segment			%	Volume	%	Volume	%	Volume	
I-80 Westbound	Between Capitol Avenue and US-50	3	5400	89.2%	4817	5.3%	286	5.5%	297	65/60/55
I-80 Eastbound	Between Capitol Avenue and US-50	4	7200	89.2%	6422	5.3%	382	5.5%	396	65/60/55
US-50 Westbound	Between I-80 and Harbor Boulevard	4	7200	92.6%	6667	3%	216	4.4%	317	65/60/55
US-50 Eastbound	Between I-80 and Harbor Boulevard	4	7200	92.6%	6667	3%	216	4.4%	317	65/60/55
US-50 Westbound	Between Harbor Boulevard and Jefferson Boulevard	4	7200	92.6%	6667	3%	216	4.4%	317	65/60/55
US-50 Eastbound	Between Harbor Boulevard and Jefferson Boulevard	4	7200	92.6%	6667	3%	216	4.4%	317	65/60/55
US-50 Westbound	Between Jefferson Boulevard and I-5	3	5400	92.6%	5000	3%	162	4.4%	238	65/60/55
US-50 Eastbound	Between Jefferson Boulevard and I-5	3	5400	92.6%	5000	3%	162	4.4%	238	65/60/55
US-50 Westbound	Between I-5 and W Street	4	7200	92.6%	6667	3%	216	4.4%	317	65/60/55
US-50 Eastbound	Between I-5 and W Street	4	7200	92.6%	6667	3%	216	4.4%	317	65/60/55
I-80 Westbound	Between US-50 and Reed Avenue	3	5400	89.2%	4817	5.3%	286	5.5%	297	65/60/55
I-80 Eastbound	Between US-50 and Reed Avenue	3	5400	89.2%	4817	5.3%	286	5.5%	297	65/60/55
I-80 Westbound	Between Reed Avenue and W El Camino Avenue	3	5400	89.2%	4817	5.3%	286	5.5%	297	65/60/55
I-80 Eastbound	Between Reed Avenue and W El Camino Avenue	3	5400	89.2%	4817	5.3%	286	5.5%	297	65/60/55

Roadway		Number of Lanes	Total Volume PM Peak Hour Traffic Volume	Auto		Medium Trucks		Heavy Trucks		Speed (A/MT/HT) (mph)
Direction	Segment			%	Volume	%	Volume	%	Volume	
I-80 Westbound	Between W El Camino Avenue and I-5	3	5400	89.2%	4817	5.3%	286	5.5%	297	65/60/55
I-80 Eastbound	Between W El Camino Avenue and I-5	3	5400	89.2%	4817	5.3%	286	5.5%	297	65/60/55
Offramps										
I-80 Westbound	Off to Northbound SR 113	2	1320	89.2%	1177	5.3%	70	5.5%	73	50/50/50
I-80 Eastbound	Off to Richards Boulevard	1	590	89.2%	526	5.3%	31	5.5%	32	50/50/50
I-80 Eastbound	Off to I-80 Eastbound	2	3280	89.2%	3037	5.3%	98	5.5%	144	65/60/55
I-80 Westbound	Off to Westbound US-50/I-80	2	4950	89.2%	4584	5.3%	149	5.5%	218	65/60/55
US-50 Westbound	Off to I-80 Eastbound	2	3300	92.6%	3056	3%	99	4.4%	145	50/50/50
US-50 Eastbound	Off to Tower Bridge Gateway	1	2110	92.6%	1954	3%	63	4.4%	93	65/60/55
US-50 Westbound	Off to I-5 Northbound	2	3050	92.6%	2824	3%	92	4.4%	134	45/45/45
Onramps										
I-80 Eastbound	Northbound Mace Boulevard on ramp	1-2	920	89.2%	821	5.3%	43	5.5%	45	45/45/45
I-80 Westbound	US-50 Eastbound	2	3460	89.2%	3204	5.3%	104	5.5%	152	45/45/45
I-80 Eastbound	W El Camino Avenue	1-2	670	89.2%	598	5.3%	36	5.5%	37	45/45/45

Roadway		Number of Lanes	Total Volume PM Peak Hour Traffic Volume	Auto		Medium Trucks		Heavy Trucks		Speed (A/MT/HT) (mph)
Direction	Segment			%	Volume	%	Volume	%	Volume	
HOV										
I-80 Westbound	Between Start and Mace Boulevard	1	1500	94.7%	1427	5.3%	73	-	-	65/60
I-80 Eastbound	Between Start and Mace Boulevard	1	1470	94.7%	1366	5.3%	72	-	-	65/60
I-80 Westbound	Between Mace Boulevard and Co Rd 32A	1	1500	94.7%	1427	5.3%	73	-	-	65/60
I-80 Eastbound	Between Mace Boulevard and Co Rd 32A	1	1500	94.7%	1427	5.3%	73	-	-	65/60
I-80 Westbound	Between Co Rd 32A and Capitol Boulevard	1	1500	94.7%	1427	5.3%	73	-	-	65/60
I-80 Eastbound	Between Co Rd 32A and Capitol Boulevard	1	1500	94.7%	1427	5.3%	73	-	-	65/60
I-80 Westbound	Between Capitol Avenue and US-50	1	1060	94.7%	1004	5.3%	56	-	-	65/60
I-80 Eastbound	Between Capitol Avenue and US-50	1	1420	94.7%	1345	5.3%	75	-	-	65/60
US-50 Westbound	Between I-80 and Harbor Boulevard	1	1070	97%	1013	3%	57	-	-	65/60
US-50 Eastbound	Between I-80 and Harbor Boulevard	1	1020	97%	966	3%	54	-	-	65/60
US-50 Westbound	Between Harbor Boulevard and Jefferson Boulevard	1	1430	97%	1354	3%	76	-	-	65/60
US-50 Eastbound	Between Harbor Boulevard and Jefferson Boulevard	1	1170	97%	1108	3%	62	-	-	65/60
US-50 Westbound	Between Jefferson Boulevard and I-5	1	1460	97%	1383	3%	77	-	-	65/60
US-50 Eastbound	Between Jefferson Boulevard and I-5	1	1310	97%	1241	3%	69	-	-	65/60

Roadway		Number of Lanes	Total Volume PM Peak Hour Traffic Volume	Auto		Medium Trucks		Heavy Trucks		Speed (A/MT/HT) (mph)
Direction	Segment			%	Volume	%	Volume	%	Volume	
HOV										
I-80 Eastbound	Between I-80 and W El Camino Avenue	1	1500	89.2%	1427	5.3%	73	-	-	65/60
I-80 Westbound	Between I-80 and W El Camino Avenue	1	1500	89.2%	1427	5.3%	73	-	-	65/60

Table A-4. Traffic Data for 2049 Alt 2b Build Conditions

Roadway		Number of Lanes	Total Volume PM Peak Hour Traffic Volume	Auto		Medium Trucks		Heavy Trucks		Speed (A/MT/HT) (mph)
Direction	Segment			%	Volume	%	Volume	%	Volume	
Mainline										
I-80 Westbound	Between Kidwell Road and SR-113	4	5300	89.2%	4728	5.3%	281	5.5%	292	65/60/55
I-80 Eastbound	Between Kidwell Road and SR-113	4	5080	89.2%	4522	5.3%	269	5.5%	279	65/60/55
I-80 Westbound	Between Pole Line Road and Richards Boulevard	4	7200	89.2%	6422	5.3%	382	5.5%	396	65/60/55
I-80 Eastbound	Between Pole Line Road and Richards Boulevard	4	7200	89.2%	6422	5.3%	382	5.5%	396	65/60/55
I-80 Westbound	Between Mace Boulevard and Pole Line Road	3	5400	89.2%	4817	5.3%	286	5.5%	297	65/60/55
I-80 Eastbound	Between Mace Boulevard and Pole Line Road	3	5400	89.2%	4817	5.3%	286	5.5%	297	65/60/55
I-80 Westbound	Between Mace Boulevard and Co Rd 32A	3	5400	89.2%	4817	5.3%	286	5.5%	297	65/60/55
I-80 Eastbound	Between Mace Boulevard and Co Rd 32A	3	5400	89.2%	4817	5.3%	286	5.5%	297	65/60/55
I-80 Westbound	Between Co Rd 32A and W Capitol Avenue	3	5400	89.2%	4817	5.3%	286	5.5%	297	65/60/55
I-80 Eastbound	Between Co Rd 32A and W Capitol Avenue	3	5400	89.2%	4817	5.3%	286	5.5%	297	65/60/55

Roadway		Number of Lanes	Total Volume PM Peak Hour Traffic Volume	Auto		Medium Trucks		Heavy Trucks		Speed (A/MT/HT) (mph)
Direction	Segment			%	Volume	%	Volume	%	Volume	
I-80 Westbound	Between Capitol Avenue and US-50	3	5400	89.2%	4817	5.3%	286	5.5%	297	65/60/55
I-80 Eastbound	Between Capitol Avenue and US-50	4	7200	89.2%	6422	5.3%	382	5.5%	396	65/60/55
US-50 Westbound	Between I-80 and Harbor Boulevard	4	7200	92.6%	6667	3%	216	4.4%	317	65/60/55
US-50 Eastbound	Between I-80 and Harbor Boulevard	4	7200	92.6%	6667	3%	216	4.4%	317	65/60/55
US-50 Westbound	Between Harbor Boulevard and Jefferson Boulevard	4	7200	92.6%	6667	3%	216	4.4%	317	65/60/55
US-50 Eastbound	Between Harbor Boulevard and Jefferson Boulevard	4	7200	92.6%	6667	3%	216	4.4%	317	65/60/55
US-50 Westbound	Between Jefferson Boulevard and I-5	3	5400	92.6%	5000	3%	162	4.4%	238	65/60/55
US-50 Eastbound	Between Jefferson Boulevard and I-5	3	5400	92.6%	5000	3%	162	4.4%	238	65/60/55
US-50 Westbound	Between I-5 and W Street	4	7200	92.6%	6667	3%	216	4.4%	317	65/60/55
US-50 Eastbound	Between I-5 and W Street	4	7200	92.6%	6667	3%	216	4.4%	317	65/60/55
I-80 Westbound	Between US-50 and Reed Avenue	3	5400	89.2%	4817	5.3%	286	5.5%	297	65/60/55
I-80 Eastbound	Between US-50 and Reed Avenue	3	5400	89.2%	4817	5.3%	286	5.5%	297	65/60/55
I-80 Westbound	Between Reed Avenue and W El Camino Avenue	3	5400	89.2%	4817	5.3%	286	5.5%	297	65/60/55
I-80 Eastbound	Between Reed Avenue and W El Camino Avenue	3	5400	89.2%	4817	5.3%	286	5.5%	297	65/60/55

Roadway		Number of Lanes	Total Volume PM Peak Hour Traffic Volume	Auto		Medium Trucks		Heavy Trucks		Speed (A/MT/HT) (mph)
Direction	Segment			%	Volume	%	Volume	%	Volume	
I-80 Westbound	Between W El Camino Avenue and I-5	3	5400	89.2%	4817	5.3%	286	5.5%	297	65/60/55
I-80 Eastbound	Between W El Camino Avenue and I-5	3	5400	89.2%	4817	5.3%	286	5.5%	297	65/60/55
Offramps										
I-80 Eastbound	Off to Northbound SR 113	2	1340	89.2%	1195	5.3%	71	5.5%	74	50/50/50
I-80 Eastbound	Off to Richards Boulevard	1	570	89.2%	508	5.3%	30	5.5%	31	50/50/50
I-80 Eastbound	Off to I-80 Eastbound	2	2950	89.2%	2732	5.3%	89	5.5%	130	65/60/55
I-80 Westbound	Off to Westbound US-50/I-80	2	4290	89.2%	3973	5.3%	129	5.5%	189	65/60/55
US-50 Westbound	Off to I-80 Eastbound	2	4250	92.6%	3936	3%	128	4.4%	187	50/50/50
US-50 Eastbound	Off to Tower Bridge Gateway	1	2040	92.6%	1889	3%	61	4.4%	90	65/60/55
US-50 Westbound	Off to I-5 Northbound	2	2940	92.6%	2722	3%	88	4.4%	129	45/45/45
Onramps										
I-80 Eastbound	Northbound Mace Boulevard on ramp	1-2	930	89.2%	830	5.3%	49	5.5%	51	45/45/45
I-80 Westbound	US-50 Eastbound	2	3860	89.2%	3574	5.3%	116	5.5%	170	45/45/45
I-80 Eastbound	W El Camino Avenue	1-2	670	89.2%	598	5.3%	36	5.5%	37	

Roadway		Number of Lanes	Total Volume PM Peak Hour Traffic Volume	Auto		Medium Trucks		Heavy Trucks		Speed (A/MT/HT) (mph)
Direction	Segment			%	Volume	%	Volume	%	Volume	
HOV										
I-80 Westbound	Between Start and Mace Boulevard	1	1500	94.7%	1427	5.3%	73	-	-	65/60
I-80 Eastbound	Between Start and Mace Boulevard	1	1050	94.7%	946	5.3%	50	-	-	65/60
I-80 Westbound	Between Mace Boulevard and Co Rd 32A	1	1500	94.7%	1427	5.3%	73	-	-	65/60
I-80 Eastbound	Between Mace Boulevard and Co Rd 32A	1	1500	94.7%	1427	5.3%	73	-	-	65/60
I-80 Westbound	Between Co Rd 32A and Capitol Boulevard	1	1500	94.7%	1427	5.3%	73	-	-	65/60
I-80 Eastbound	Between Co Rd 32A and Capitol Boulevard	1	1500	94.7%	1427	5.3%	73	-	-	65/60
I-80 Westbound	Between Capitol Avenue and US-50	1	1170	94.7%	1108	5.3%	62	-	-	65/60
I-80 Eastbound	Between Capitol Avenue and US-50	1	1450	94.7%	1372	5.3%	77	-	-	65/60
US-50 Westbound	Between I-80 and Harbor Boulevard	1	960	97%	909	3%	51	-	-	65/60
US-50 Eastbound	Between I-80 and Harbor Boulevard	1	1110	97%	1051	3%	59	-	-	65/60
US-50 Westbound	Between Harbor Boulevard and Jefferson Boulevard	1	1500	97%	1421	3%	80	-	-	65/60
US-50 Eastbound	Between Harbor Boulevard and Jefferson Boulevard	1	990	97%	938	3%	52	-	-	65/60
US-50 Westbound	Between Jefferson Boulevard and I-5	1	1500	97%	1421	3%	80	-	-	65/60
US-50 Eastbound	Between Jefferson Boulevard and I-5	1	1220	97%	871	3%	49	-	-	65/60

Roadway		Number of Lanes	Total Volume PM Peak Hour Traffic Volume	Auto		Medium Trucks		Heavy Trucks		Speed (A/MT/HT) (mph)
Direction	Segment			%	Volume	%	Volume	%	Volume	
HOV										
I-80 Eastbound	Between I-80 and W El Camino Avenue	1	1500	89.2%	1427	5.3%	73	-	-	65/60
I-80 Westbound	Between I-80 and W El Camino Avenue	1	1500	89.2%	1427	5.3%	73	-	-	65/60

Appendix B Predicted Future Noise Levels and Noise Barrier Analysis

Tables B-1 through B-4 summarizes the traffic noise modeling results for existing and design-year conditions with and without the project. These also compares the predicted noise reductions by barrier height for each noise barrier analyzed.

Table B-1. Predicted Future Noise and Barrier Analysis for Alternative 3a

Receptor I.D.	Area	Barrier I.D.	Land Use	Number of Dwelling Units	Address	Existing Noise Level Leq(h), dBA ²	I-80 Future Worst Hour Noise Levels - L _{eq} (h), dBA																							
							Design Year Noise Level without Project ² L _{eq} (h), dBA ²	Design Year Noise Level with Project L _{eq} (h), dBA ²	Design Year Noise Level without Project minus Existing Conditions L _{eq} (h), dBA	Design Year Noise Level with Project Minus No Project Conditions L _{eq} (h), dBA	Activity Category (NAC)	Impact Type ¹	Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefited Receptors (NBR)																	
													6 feet			8 feet			10 feet			12 feet ⁸			14 feet ⁸			16 feet ⁸		
													L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR
ST-1	1a	-	Residential	-	9010 Sparling Lane	68	68	68	0	0	B	None ⁶	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-2	1a	-	Residential	-	8991-8999 Olmo Lane	69	70	70	1	1	B	None ⁶	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-3	1a	-	School-Active Sports Area	-	UC Davis SE Corner of Equestrian Center Property	66	67	67	1	1	C	None ⁶	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-4	1a	-	School-Arboretum	-	UC Davis near Carolee Shields Gazebo	58	58	58	0	0	C	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-5	1a	-	Residential	-	9460 W Chiles Road	71	72	72	1	1	B	None ⁶	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-6	1b	-	Hotel	-	University Inn Park and Suites Pool Area	57	57	58	0	1	E	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-7	1b	-	Undeveloped	-	1100 Chiles Nachtmann Analytical Laboratory	71	71	72	0	1	G	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-8	1a	-	School	-	UC Davis Center for	69	69	69	0	0	D	None ⁷	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Receptor I.D.	Area	Barrier I.D.	Land Use	Number of Dwelling Units	Address	Existing Noise Level Leq(h), dBA ²	I-80 Future Worst Hour Noise Levels - L _{eq} (h), dBA																							
							Design Year Noise Level without Project ² L _{eq} (h), dBA ²	Design Year Noise Level with Project L _{eq} (h), dBA ²	Design Year Noise Level without Project minus Existing Conditions L _{eq} (h), dBA	Design Year Noise Level with Project Minus No Project Conditions L _{eq} (h), dBA	Activity Category (NAC)	Impact Type ¹	Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefited Receptors (NBR)																	
													6 feet			8 feet			10 feet			12 feet ⁸			14 feet ⁸			16 feet ⁸		
													L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR
					Laboratory Animal Science																									
ST-9	1b	-	Residential	-	Cesar Chavez Plaza Apartments	63	63	65	0	2	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-10	1b	-	Residential	-	The Arbors Apartments Pool Area	49	49	50	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-11	1b	-	Residential	-	The Arbors Apartments	64	64	66	0	2	B	None ⁶	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-12	1b	Evaluated Barrier 2	Hotel	1	La Quinta Inn and Suites by Wyndham Davis Pool Area	71	71	71	0	0	E(72)	A/E	70	1	0	70	1	0	69	2	0	69	2	0	69	2	0	68	3	0
ST-13	1b	-	Park	-	Toad Hollow Dog Park	54	54	55	0	1	C	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-14	1b	-	Active Sports Area	-	Play Fields Park	61	61	61	0	0	C	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-15	1b	-	Residential	-	2617 Albany Avenue	65	65	65	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-16	1b	-	Residential	-	2646 Albany Avenue	52	52	52	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-17	1b	-	Playground	-	2813 Albany Avenue	60	61	61	1	1	C	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-18	1a	-	School	-	UC Davis August A	60	61	61	1	1	D	None ⁷	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Receptor I.D.	Area	Barrier I.D.	Land Use	Number of Dwelling Units	Address	Existing Noise Level Leq(h), dBA ²	I-80 Future Worst Hour Noise Levels - L _{eq} (h), dBA																							
							Design Year Noise Level without Project ² L _{eq} (h), dBA ²	Design Year Noise Level with Project L _{eq} (h), dBA ²	Design Year Noise Level without Project minus Existing Conditions L _{eq} (h), dBA	Design Year Noise Level with Project Minus No Project Conditions L _{eq} (h), dBA	Activity Category (NAC)	Impact Type ¹	Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefited Receptors (NBR)																	
													6 feet			8 feet			10 feet			12 feet ⁸			14 feet ⁸			16 feet ⁸		
													L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR
					Busch III Brewing and Food Science Laboratory 641 Hilgard Lane																									
ST-19	1b	-	Playgro und	-	Playground at New Harmony Mutual Housing Community	55	55	56	0	1	C	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ST-20	1b	-	Residen tial	-	3212 Koso Terrace	67	67	67	0	0	B	None ⁶	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ST-21	1b	-	Residen tial	-	3720 Chiles Road	60	60	60	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ST-22	1b	-	Residen tial	-	3707 El Segundo Ave	66	66	66	0	0	B	None ⁶	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ST-23	1b	-	Prescho ol	-	Merryhill Preschool 213 La Vida Way	56	56	56	0	0	C	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ST-24	1b	-	Hotel	-	Days Inn by Wyndham Davis Near UC Davis	59	59	59	0	0	E	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ST-25	1b	-	Hotel	-	Pool Area at Motel 6 Davis, CA- Sacramento Area	65	65	65	0	0	E	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Receptor I.D.	Area	Barrier I.D.	Land Use	Number of Dwelling Units	Address	Existing Noise Level Leq(h), dBA ²	I-80 Future Worst Hour Noise Levels - L _{eq} (h), dBA																							
							Design Year Noise Level without Project ² L _{eq} (h), dBA ²	Design Year Noise Level with Project L _{eq} (h), dBA ²	Design Year Noise Level without Project minus Existing Conditions L _{eq} (h), dBA	Design Year Noise Level with Project Minus No Project Conditions L _{eq} (h), dBA	Activity Category (NAC)	Impact Type ¹	Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefited Receptors (NBR)																	
													6 feet			8 feet			10 feet			12 feet ⁸			14 feet ⁸			16 feet ⁸		
													L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR
ST-26	1b	-	Residential	-	5070 Veranda Terrace	46	46	47	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-27	1b	-	Residential	-	5093 Veranda Terrace	50	50	51	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-28	1b	-	Residential	-	Yolo Basin Foundation 45211 Country Road 32 B	60	60	60	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-29	1b	-	Active Sport Area	-	Davis Soccer Fields-26375 Country Road 105 D	58	58	58	0	0	C	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-30	1c	-	Trail	-	Yolo Bypass Wildlife Area-Bike Trail	80	80	80	0	0	E	None ³	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-31	1c	-	Trail	-	Yolo Bypass Wildlife Area	69	69	70	0	1	E	None ⁴	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-32	1c	-	Trail	-	Roland Hensley Park-4900 W Capitol Avenue	65	65	65	0	0	E	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-34	2	-	Residential	-	Valhalla Mobile Home Club Pool Area	52	53	53	1	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-35	2	-	Residential	-	10 Thor Drive	67	68	68	1	1	B	None ⁶	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Receptor I.D.	Area	Barrier I.D.	Land Use	Number of Dwelling Units	Address	Existing Noise Level Leq(h), dBA ²	I-80 Future Worst Hour Noise Levels - L _{eq} (h), dBA																							
							Design Year Noise Level without Project ² L _{eq} (h), dBA ²	Design Year Noise Level with Project L _{eq} (h), dBA ²	Design Year Noise Level without Project minus Existing Conditions L _{eq} (h), dBA	Design Year Noise Level with Project Minus No Project Conditions L _{eq} (h), dBA	Activity Category (NAC)	Impact Type ¹	Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefited Receptors (NBR)																	
													6 feet			8 feet			10 feet			12 feet ⁸			14 feet ⁸			16 feet ⁸		
													L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR
ST-36	2	-	Residential	-	43 Bragi Drive	57	57	57	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-37	2	-	Residential	-	241 Bragi Drive	61	63	63	2	2	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-38	2	Evaluated Barrier 5	Park	1	Meadowdale Park	65	67	67	2	2	C (67)	A/E	66	1	0	65	2	0	65	2	0	65	2	0	65	2	0	64	3	0
ST-39	2	Evaluated Barrier 5	Residential	1	3624 Palomar Avenue	66	68	68	2	2	B	A/E	66	2	0	65	3	0	64	4	0	64	4	0	64	4	0	63	5	2
ST-40	3a	Existing Barrier C	Residential	-	3604 Doran Avenue	64	65	65	1	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-41	3a	Existing Barrier C	Residential	-	861 Garnet Street	65	66	66	1	1	B	A/E	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-43	3a	-	Place of Worship	-	Center for Spiritual Awareness 1275 Starboard Drive	65	67	67	2	2	D	None ⁷	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-44	3a	-	Hotel	-	Motel 6 West Sacramento Pool Area	56	57	57	1	1	E	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-45	3a	-	Residential	-	2225 Hickory Way	63	65	65	2	2	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-46	3a	-	Residential	-	1089 Orchard Way	66	67	67	1	1	B	A/E	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-47	3a	-	School	-	Westmore Oaks Elementary School 1514	73	74	74	1	1	C	None ⁶	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Receptor I.D.	Area	Barrier I.D.	Land Use	Number of Dwelling Units	Address	Existing Noise Level Leq(h), dBA ²	I-80 Future Worst Hour Noise Levels - L _{eq} (h), dBA																							
							Design Year Noise Level without Project ² L _{eq} (h), dBA ²	Design Year Noise Level with Project L _{eq} (h), dBA ²	Design Year Noise Level without Project minus Existing Conditions L _{eq} (h), dBA	Design Year Noise Level with Project Minus No Project Conditions L _{eq} (h), dBA	Activity Category (NAC)	Impact Type ¹	Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefited Receptors (NBR)																	
													6 feet			8 feet			10 feet			12 feet ⁸			14 feet ⁸			16 feet ⁸		
													L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR
					Fallbrook Street																									
ST-48	3a	-	School	-	Westmore Oaks Elementary School 1514 Fallbrook Street	64	64	65	0	1	D	None ⁷	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ST-49	3a	Existing Barrier A.1, A.2, A.3	Residential	-	1905 Buckeye Drive	68	70	70	2	2	B	A/E	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ST-50	3a	-	Residential	-	1412 Norfolk Avenue	58	59	59	1	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ST-51	3a	-	Playground	-	Westacre Park	64	65	65	1	1	C	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ST-52	3a	-	Residential	-	1309 Norfolk Avenue	61	62	62	1	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ST-53	3a	-	School	-	Yolo High School 919 Westcare Road	61	63	63	2	2	C	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ST-55	3a	-	Residential	-	719 11th Street	61	63	63	2	2	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ST-56	3a	-	Residential	-	1011 Cannan Way	63	65	65	2	2	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ST-58	3a	-	Residential	-	918 Meadow Road	64	66	66	2	2	B	A/E	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Receptor I.D.	Area	Barrier I.D.	Land Use	Number of Dwelling Units	Address	Existing Noise Level Leq(h), dBA ²	I-80 Future Worst Hour Noise Levels - L _{eq} (h), dBA																							
							Design Year Noise Level without Project ² L _{eq} (h), dBA ²	Design Year Noise Level with Project L _{eq} (h), dBA ²	Design Year Noise Level without Project minus Existing Conditions L _{eq} (h), dBA	Design Year Noise Level with Project Minus No Project Conditions L _{eq} (h), dBA	Activity Category (NAC)	Impact Type ¹	Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefited Receptors (NBR)																	
													6 feet			8 feet			10 feet			12 feet ⁸			14 feet ⁸			16 feet ⁸		
													L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR
ST-59	3a	-	Office	-	Food Distribution Center for Our Lady of Grace Church	68	70	70	2	2	E	None ⁵	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-60	3b	Evaluated Barriers 4.1 and 4.2	Residential	1	2214 4 th Street	72	72	72	0	0	B (67)	A/E	69	3	0	69	3	0	68	4	0	68	4	0	68	4	0	67	5	1
ST-62	3	Evaluated Barriers 6 and 7	Residential	1	NW of 2197 Garden Highway	64	64	66	0	2	B (67)	A/E	63	3	0	62	4	0	62	4	0	61	5	1	61	5	1	61	5	1
ST-63	2	-	Residential	-	2184 Garden Highway	65	65	66	0	1	B	None ⁶	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-64	2	-	Residential	-	2125 Garden Highway	70	70	72	0	2	B	None ⁶	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-65	2	Evaluated Barrier 8	Residential	1	3814 W River Drive	69	69	71	0	2	B (67)	None	69	2	0	68	3	0	67	4	0	66	5	1	66	5	1	66	5	1
ST-66	2	Evaluated Barrier 8	Residential	1	3760 W River Drive	59	59	60	0	1	B (67)	None	59	1	0	59	1	0	59	1	0	58	2	0	58	2	0	58	2	0
ST-67	2	-	Residential	-	6 Rivulet Court	61	61	63	0	2	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-68	2	Existing Barrier D	Residential	-	3638 W River Drive	64	64	66	0	2	B	A/E	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-70	2	Existing Barrier D	Residential	-	5 Cool Fountain Court	65	65	67	0	2	B	A/E	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-71	2	Existing Barrier D	Park	-	River Otter Park	63	63	65	0	2	C	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Receptor I.D.	Area	Barrier I.D.	Land Use	Number of Dwelling Units	Address	Existing Noise Level Leq(h), dBA ²	I-80 Future Worst Hour Noise Levels - L _{eq} (h), dBA																							
							Design Year Noise Level without Project ² L _{eq} (h), dBA ²	Design Year Noise Level with Project L _{eq} (h), dBA ²	Design Year Noise Level without Project minus Existing Conditions L _{eq} (h), dBA	Design Year Noise Level with Project Minus No Project Conditions L _{eq} (h), dBA	Activity Category (NAC)	Impact Type ¹	Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefited Receptors (NBR)																	
													6 feet			8 feet			10 feet			12 feet ⁸			14 feet ⁸			16 feet ⁸		
													L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR
ST-72	2	Existing Barrier D	Residential	-	3451 Delphinium Way	57	57	58	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-73	2	Existing Barrier D	Residential	-	40 White Lilly Court	59	59	60	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-74	2	Existing Barrier D	Residential	-	52 Blue Fern Court	61	61	62	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-75	2	Existing Barrier D	Residential	-	11 Swinging Bridge Court	54	54	55	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R1	1a	-	Active Sports Area	-	1 Equestrian Lane	62	63	63	1	1	C	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R4	1a	-	Residential	-	7826 Hamel Lane	57	57	57	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R5	1b	-	School	-	UC Davis Center for Neuroscience 1544 Newton Court	71	71	71	0	0	D	None ⁷	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R7	1b	-	Residential	-	1100 Olive Drive	55	55	56	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R8	1b	-	Residential	-	1100 Olive Drive	59	59	60	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R9	1b	-	Residential	-	1200 Olive Drive	52	52	53	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R10	1b	-	Residential	-	1200 Olive Drive	59	59	61	0	2	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R11	1b	-	Residential	-	1200 Olive Drive	54	55	55	1	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Receptor I.D.	Area	Barrier I.D.	Land Use	Number of Dwelling Units	Address	Existing Noise Level Leq(h), dBA ²	I-80 Future Worst Hour Noise Levels - L _{eq} (h), dBA																							
							Design Year Noise Level without Project ² L _{eq} (h), dBA ²	Design Year Noise Level with Project L _{eq} (h), dBA ²	Design Year Noise Level without Project minus Existing Conditions L _{eq} (h), dBA	Design Year Noise Level with Project Minus No Project Conditions L _{eq} (h), dBA	Activity Category (NAC)	Impact Type ¹	Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefited Receptors (NBR)																	
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													L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR
R12	1b	-	Residential	-	1280 Olive Drive	62	63	63	1	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R13	1b	-	Residential	-	1414 Olive Drive	63	63	65	0	2	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R14	1b	-	Residential	-	1414 Olive Drive	63	63	65	0	2	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R15	1b	-	Residential	-	Research Park Drive	53	53	53	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R17	1b	-	Office	-	1445 Drew Avenue	65	65	65	0	0	E	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R18	1b	-	Residential	-	Cowell Drive	57	57	57	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R19	1b	-	Residential	-	Cowell Drive	56	56	56	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R20	1b	-	Residential	-	Cowell Drive	52	53	53	1	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R21	1b	-	Residential	-	2601 Albany Avenue	64	64	64	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R22	1b	-	Residential	-	2611 Albany Avenue	65	65	65	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R23	1b	-	Residential	-	2643 Albany Avenue	64	64	64	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R24	1b	-	Residential	-	2721 Albany Avenue	59	59	59	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R25	1b	-	Residential	-	2745 Albany Avenue	60	60	60	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R26	1b	-	Residential	-	2817 Albany Avenue	61	61	61	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Receptor I.D.	Area	Barrier I.D.	Land Use	Number of Dwelling Units	Address	Existing Noise Level Leq(h), dBA ²	I-80 Future Worst Hour Noise Levels - L _{eq} (h), dBA																							
							Design Year Noise Level without Project ² L _{eq} (h), dBA ²	Design Year Noise Level with Project L _{eq} (h), dBA ²	Design Year Noise Level without Project minus Existing Conditions L _{eq} (h), dBA	Design Year Noise Level with Project Minus No Project Conditions L _{eq} (h), dBA	Activity Category (NAC)	Impact Type ¹	Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefited Receptors (NBR)																	
													6 feet			8 feet			10 feet			12 feet ⁸			14 feet ⁸			16 feet ⁸		
													L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR
R27	1b	-	Residential	-	613 Benbow Court	62	62	62	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R28	1b	-	Residential	-	601 Benbow Court	60	60	60	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R29	1b	-	Residential	-	612 Benbow Court	59	59	59	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R30	1b	-	School	-	University of California Agriculture and Natural Resources 2801 2 nd Street	71	71	71	0	0	D	None ⁷	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R31	1b	-	Residential	-	3030 Cowell Boulevard	58	58	59	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R32	1b	-	Residential	-	3030 Cowell Boulevard	58	58	59	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R33	1b	-	Residential	-	3030 Cowell Boulevard	54	54	54	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R34	1b	-	Residential	-	3641 El Segundo Avenue	65	65	65	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R35	1b	-	Residential	-	3665 El Segundo Avenue	64	64	64	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R36	1b	-	Residential	-	3714 Chiles Road	59	59	59	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Receptor I.D.	Area	Barrier I.D.	Land Use	Number of Dwelling Units	Address	Existing Noise Level Leq(h), dBA ²	I-80 Future Worst Hour Noise Levels - L _{eq} (h), dBA																							
							Design Year Noise Level without Project ² L _{eq} (h), dBA ²	Design Year Noise Level with Project L _{eq} (h), dBA ²	Design Year Noise Level without Project minus Existing Conditions L _{eq} (h), dBA	Design Year Noise Level with Project Minus No Project Conditions L _{eq} (h), dBA	Activity Category (NAC)	Impact Type ¹	Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefited Receptors (NBR)																	
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													L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR
R37	1b	-	Residen- tial	-	3650 El Segundo Avenue	48	48	48	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
R38	1b	-	Residen- tial	-	3704 El Segundo Avenue	48	48	49	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
R39	1b	-	Residen- tial	-	3730 El Segundo Avenue	59	59	59	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
R40	1b	-	Residen- tial	-	3820 Chiles Road	49	50	50	1	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
R41	1b	-	Residen- tial	-	3820 Chiles Road	44	45	45	1	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
R42	1b	-	Residen- tial	-	3820 Chiles Road	51	51	51	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
R43	1b	-	Residen- tial	-	3820 Chiles Road	48	49	49	1	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
R44	1b	-	Hotel	-	Days Inn Wyndham Davis Nearby UC Davis	47	47	47	0	0	E	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
R45	1b	-	Medical Facility	-	Davis Urgent Care 4515 Fermi Place	70	70	70	0	0	D	None ⁷	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
R46	1b	-	Residen- tial	-	5063 Veranda Terrace	52	52	52	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
R47	1b	-	Residen- tial	-	5069 Veranda Terrace	54	54	54	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Receptor I.D.	Area	Barrier I.D.	Land Use	Number of Dwelling Units	Address	Existing Noise Level Leq(h), dBA ²	I-80 Future Worst Hour Noise Levels - L _{eq} (h), dBA																							
							Design Year Noise Level without Project ² L _{eq} (h), dBA ²	Design Year Noise Level with Project L _{eq} (h), dBA ²	Design Year Noise Level without Project minus Existing Conditions L _{eq} (h), dBA	Design Year Noise Level with Project Minus No Project Conditions L _{eq} (h), dBA	Activity Category (NAC)	Impact Type ¹	Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefited Receptors (NBR)																	
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													L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR
R48	1b	-	Residential	-	5077 Veranda Terrace	54	54	55	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R49	2	-	Residential	-	3951 Lake Road	61	61	61	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R50	2	-	Residential	-	3901 Lake Road	62	62	62	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R51	2	-	Residential	-	3901 Lake Road	62	62	63	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R52	2	-	Residential	-	3901 Lake Road	58	58	58	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R53	2	-	Residential	-	3901 Lake Road	58	58	58	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R54	2	-	Residential	-	3901 Lake Road	61	61	62	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R55	2	-	Residential	-	3901 Lake Road	64	64	64	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R56	2	-	Residential	-	3901 Lake Road	59	59	60	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R57	2	-	Residential	-	3901 Lake Road	63	63	63	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R58	2	-	Medical Facility	-	Concentra Urgent Care 3680 Industrial Boulevard	59	59	61	0	1	D	None ⁷	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R59	3a	-	Medical Facility	-	DaVita West 3450 Industrial Boulevard	70	70	72	0	2	D	None ⁷	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Receptor I.D.	Area	Barrier I.D.	Land Use	Number of Dwelling Units	Address	Existing Noise Level Leq(h), dBA ²	I-80 Future Worst Hour Noise Levels - L _{eq} (h), dBA																							
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													L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR
R60	3a	Existing Barrier C	Residential	-	829 Marigold Street	61	61	61	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R61	3a	Existing Barrier C	Residential	-	844 Morning Glory Street	62	62	63	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R62	3a	Existing Barrier C	Residential	-	832 Garnet Street	61	61	62	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R63	3a	Existing Barrier C	Residential	-	3524 Doran Avenue	60	60	61	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R64	3a	Existing Barrier C	Residential	-	857 Garnet Street	57	57	58	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R65	3a	Existing Barrier C	Residential	-	3427 Evergreen Circle	64	64	66	0	2	B	A/E	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R66	3a	Existing Barrier C	Residential	-	3427 Evergreen Circle	55	55	56	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R67	3a	-	Hotel	-	Ramada by Wyndham West Sacramento Hotel & Suites	55	55	57	0	2	E	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R68	3a	Existing Barriers A.1, A.2, A.3	School	-	Sacramento Valley Charter School 2399 Sellers Way	66	66	68	0	2	D	None ⁷	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R69	3a	Existing Barriers A.1, A.2, A.3	Medical Facility	-	River Bend Nursing Center 2215 Oakmont Way	61	61	62	0	1	C	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Receptor I.D.	Area	Barrier I.D.	Land Use	Number of Dwelling Units	Address	I-80 Future Worst Hour Noise Levels - L _{eq} (h), dBA																								
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													L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR
R70	3a	Existing Barriers A.1, A.2, A.3	Residential	-	2205 Hickory Way	68	68	70	0	2	B	A/E	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R71	3a	Existing Barriers A.1, A.2, A.3	Residential	-	2143 Hickory Way	69	69	70	0	1	B	A/E	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R72	3a	Existing Barriers A.1, A.2, A.3	Residential	-	2105 Hickory Way	65	65	67	0	2	B	A/E	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R73	3a	Existing Barriers A.1, A.2, A.3	Residential	-	1049 Orchard Way	64	64	66	0	2	B	A/E	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R74	3a	Existing Barriers A.1, A.2, A.3	Residential	-	959 Orchard Way	62	62	63	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R75	3a	Existing Barriers A.1, A.2, A.3	Residential	-	2019 Buckeye Drive	67	67	69	0	2	B	A/E	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R76	3a	Existing Barriers A.1, A.2, A.3	Residential	-	1020 Sycamore Avenue	58	58	59	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

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													L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR
R77	3a	Existing Barriers A.1, A.2, A.3	Residential	-	1009 Sycamore Avenue	57	57	59	0	2	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R78	3a	Existing Barriers A.1, A.2, A.3	Residential	-	1021 Hemlock Street	59	59	60	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R79	3a	Existing Barriers A.1, A.2, A.3	Residential	-	1933 Buckeye Drive	66	66	68	0	2	B	A/E	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R80	3a	Existing Barriers A.1, A.2, A.3	Residential	-	1913 Buckeye Drive	66	66	68	0	2	B	A/E	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R81	3a	Existing Barriers A.1, A.2, A.3	Residential	-	1012 Poplar Avenue	58	58	60	0	2	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R82	3a	Existing Barriers B.1, B.2	Residential	-	1608 Norfolk Avenue	69	69	71	0	2	B	A/E	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R83	3a	Existing Barriers B.1, B.2	Residential	-	1504 Norfolk Avenue	68	68	70	0	2	B	A/E	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R84	3a	Existing Barriers B.1, B.2	Residential	-	1404 Norfolk Avenue	69	69	71	0	2	B	A/E	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Receptor I.D.	Area	Barrier I.D.	Land Use	Number of Dwelling Units	Address	Existing Noise Level Leq(h), dBA ²	I-80 Future Worst Hour Noise Levels - L _{eq} (h), dBA																							
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													L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR
R85	3a	Existing Barriers B.1, B.2	Residential	-	1204 Norfolk Avenue	70	70	72	0	2	B	A/E	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R86	3a	Existing Barriers B.1, B.2	Residential	-	1604 Meadow Road	58	58	60	0	2	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R87	3a	Existing Barriers B.1, B.2	Residential	-	1601 Norfolk Avenue	59	59	60	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R88	3a	Existing Barriers B.1, B.2	Residential	-	1024 Haverhill Street	60	60	62	0	2	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R89	3a	Existing Barriers B.1, B.2	Residential	-	1305 Norfolk Avenue	60	60	62	0	2	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R90	3a	Existing Barriers B.1, B.2	Residential	-	1104 Westacre Road	60	60	62	0	2	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R91	3a	Existing Barriers B.1, B.2	Residential	-	1101 Westacre Road	62	62	64	0	2	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R92	3a	Existing Barriers B.1, B.2	Residential	-	727 11th Street	69	69	71	0	2	B	A/E	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R93	3a	Existing Barriers B.1, B.2	Residential	-	715 Webster Street	64	64	66	0	2	B	A/E	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Receptor I.D.	Area	Barrier I.D.	Land Use	Number of Dwelling Units	Address	Existing Noise Level Leq(h), dBA ²	I-80 Future Worst Hour Noise Levels - L _{eq} (h), dBA																							
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													L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR
R94	3a	Existing Barriers B.1, B.2	Residential	-	1020 Meadow Road	62	62	64	0	2	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R95	3a	Existing Barriers B.1, B.2	Residential	-	609 Webster Street	62	62	64	0	2	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R96	3a	Existing Barriers B.1, B.2	Residential	-	504 Webster Street	64	64	66	0	2	B	A/E	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R97	3a	Existing Barriers B.1, B.2	Residential	-	911 Meadow Road	65	65	67	0	2	B	A/E	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R98	3b	-	Park	-	Levia Park	65	65	65	0	0	C	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R99	3b	Evaluated Barriers 4.1 and 4.2	Residential	1	316 V Street	72	72	72	0	0	B (67)	A/E	70	2	0	69	3	0	69	3	0	68	4	0	68	4	0	67	5	1
R100	3b	Evaluated Barriers 4.1 and 4.2	Residential	1	2209 4 th Street	65	65	65	0	0	B (67)	None	64	1	0	64	1	0	63	2	0	63	2	0	63	2	0	63	2	0
R101	3a	-	Residential	-	846 Marigold Street	63	63	65	0	2	B	None																		
R102	2	Evaluated Barrier 5	Residential	3	828 Marigold Street	64	64	65	0	1	B (67)	None	63	2	0	62	3	0	62	3	0	61	4	0	61	4	0	60	5	3
R103	2	Evaluated Barrier 5	Residential	11	812 Morning Glory Street	60	60	61	0	1	B (67)	None	61	1	0	60	2	0	60	2	0	59	3	0	59	3	0	59	3	0
R104	2	Evaluated Barrier 5	Residential	4	3600 Palomar Avenue	64	64	64	0	0	B (67)	None	63	2	0	63	2	0	62	3	0	61	4	0	61	4	0	61	4	0

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													L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR
R105	2	Evaluated Barrier 5	Residential	1	3624 Palomar Avenue	67	67	69	0	2	B (67)	A/E	67	2	0	66	3	0	65	4	0	65	4	0	64	5	1	64	5	1
R106	3	Evaluated Barriers 6 and 7	Residential	1	2125 Garden Highway	69	69	71	0	2	B (67)	A/E	71	0	0	70	1	0	70	1	0	70	1	0	70	1	0	70	1	0
R107	3	Evaluated Barriers 6 and 7	Residential	1	2145 Garden Highway	68	68	70	0	2	B (67)	A/E	69	1	0	69	1	0	69	1	0	69	1	0	69	1	0	69	1	0
R108	3	Evaluated Barriers 6 and 7	Residential	1	2181 Garden Highway	65	65	66	0	1	B (67)	A/E	62	4	0	62	4	0	62	4	0	61	5	1	61	5	1	61	5	1
R109	3	Evaluated Barriers 6 and 7	Residential	1	2197 Garden Highway	65	65	67	0	2	B (67)	A/E	65	2	0	63	4	0	63	4	0	63	4	0	63	4	0	63	4	0
R110	3	Evaluated Barriers 6 and 7	Residential	1	2184 Garden Highway	64	64	66	0	2	B (67)	A/E	64	2	0	64	2	0	64	2	0	64	2	0	64	2	0	64	2	0
R111	3	Evaluated Barrier 8	Residential	8	3796 W River Drive	64	64	66	0	2	B (67)	A/E	62	4	0	61	5	8	60	6	8	60	6	8	60	6	8	60	6	8
R112	3	Evaluated Barrier 8	Residential	4	3778 W River Drive	60	60	62	0	2	B (67)	None	60	2	0	58	4	0	58	4	0	57	5	4	57	5	4	57	5	4
R113	3	Evaluated Barrier 8	Residential	8	3575 Wheelhouse Avenue	65	65	67	0	2	B (67)	A/E	64	3	0	63	4	0	62	5	8	61	6	8	61	6	8	61	6	8
R114	2	-	Residential	-	2106 Sternwheeler Way	60	60	62	0	2	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R115	2	-	Residential	-	3742 W River Drive	57	57	59	0	2	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

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R116	2	-	Residential	-	3724 W River Drive	60	60	62	0	2	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R117	2	-	Residential	-	21116 Smokestack Way	60	60	61	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R118	2	-	Residential	-	3542 Delta Queen Avenue	60	60	61	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R119	2	-	Residential	-	3517 Delta Queen Avenue	62	62	64	0	2	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R120	2	-	Residential	-	3682 W River Drive	61	61	62	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R121	2	-	Residential	-	3494 Delta Queen Avenue	54	54	55	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R122	2	-	Residential	-	3481 Delta Queen Avenue	60	60	62	0	2	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R123	2	-	Residential	-	3441 River Shoal Avenue	55	55	57	0	2	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R124	2	-	Residential	-	3451 Delta Queen Avenue	58	58	60	0	2	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R125	2	Existing Barrier D	Residential	-	3633 West River Drive	65	65	67	0	2	B	A/E	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R126	2	Existing Barrier D	Residential	-	2215 Shady Arbor Drive	64	64	66	0	2	B	A/E	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

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R127	2	Existing Barrier D	Residential	-	2171 Shady Arbor Drive	58	58	59	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R128	2	Existing Barrier D	Residential	-	3569 W River Drive	58	58	60	0	2	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R129	2	Existing Barrier D	Residential	-	3527 W River Drive	54	54	56	0	2	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R130	2	Existing Barrier D	Residential	-	5 Cool Fountain Court	63	63	64	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R131	2	Existing Barrier D	Residential	-	3447 Sweet Pea Way	57	57	58	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R132	2	Existing Barrier D	Residential	-	3439 W River Drive	52	52	54	0	2	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R133	2	Existing Barrier D	Residential	-	3407 W River Drive	51	51	52	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R134	2	Existing Barrier D	Residential	-	40 Shady Arbor Court	59	59	60	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R135	2	Existing Barrier D	Residential	-	22 Calla Lily Court	53	53	54	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R136	2	Existing Barrier D	Residential	-	2318 Barandas Drive	55	55	56	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R137	2	Existing Barrier D	Residential	-	3428 Delphinium Way	53	53	54	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R138	2	Existing Barrier D	Residential	-	27 White Lily Court	54	54	55	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R139	2	Existing Barrier D	Residential	-	40 White Lily Court	59	59	61	0	2	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

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													L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR
R140	2	Existing Barrier D	Residential	-	3235 Spinning Rod Way	53	53	54	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R141	2	Existing Barrier D	Residential	-	27 Blue Fern Court	65	65	66	0	1	B	A/E	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R142	2	Existing Barrier D	Residential	-	3259 Spinning Rod Way	54	54	55	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R143	2	Existing Barrier D	Residential	-	3175 Boathouse Way	51	51	52	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R144	2	Existing Barrier D	Residential	-	18 Spinning Rod Court	61	61	63	0	2	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R145	2	-	Residential	-	Olive Drive	64	64	65	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R146	2	-	Residential	-	Olive Drive	64	64	65	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R147	2	-	Residential	-	Olive Drive	62	63	63	1	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R148	1a	-	Residential	-	9010 Sparling Lane	56	57	57	1	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R149	1a	-	Residential	-	8991-8999 Olmo Lane	63	63	63	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R150	1b	Evaluated Barrier 1	Residential	1	9460 W Chiles Road	71	71	72	0	1	B(67)	A/E	67	5	1	66	6	1	65	7	1	64	8	1	64	8	1	64	8	1
R151	2-3a	Evaluated Barrier 3	School	1	Westmore Oaks Elementary School	70	70	70	0	0	C (67)	A/E	66	4	0	66	4	0	66	4	0	64	6	1	64	6	1	64	6	1
R152	2	Evaluated Barrier 5	Residential	2	3620 Palomar Avenue	66	66	66	0	0	B (67)	A/E	65	2	0	65	2	0	64	3	0	63	4	0	63	4	0	63	4	0

Receptor I.D.	Area	Barrier I.D.	Land Use	Number of Dwelling Units	Address	Existing Noise Level Leq(h), dBA ²	I-80 Future Worst Hour Noise Levels - L _{eq} (h), dBA																							
							Design Year Noise Level without Project ² L _{eq} (h), dBA ²	Design Year Noise Level with Project L _{eq} (h), dBA ²	Design Year Noise Level without Project minus Existing Conditions L _{eq} (h), dBA	Design Year Noise Level with Project Minus No Project Conditions L _{eq} (h), dBA	Activity Category (NAC)	Impact Type ¹	Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefited Receptors (NBR)																	
													6 feet			8 feet			10 feet			12 feet ⁸			14 feet ⁸			16 feet ⁸		
													L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR
R153	2	Evaluated Barrier 5	Residential	3	3612 Palomar Avenue	65	65	65	0	0	B (67)	None	64	2	0	63	3	0	62	4	0	62	4	0	62	4	0	62	4	0
R154	2	Evaluated Barrier 5	Residential	3	812 Marigold Street	65	65	65	0	0	B (67)	None	63	2	0	62	3	0	62	3	0	61	4	0	61	4	0	61	4	0
R155	2	Evaluated Barrier 5	Residential	2	820 Marigold Street	65	65	66	0	1	B (67)	A/E	64	3	0	63	4	0	63	4	0	62	5	2	62	5	2	62	5	2
R156	1a	-	Undeveloped	-	Olmo Lane	67	67	68	0	1	G	None																		
R157	1a	-	Undeveloped	-	Sparling Lane	65	65	66	0	1	G	None																		
R158	1a	-	Undeveloped	-	EB I-80 Old Davis Road Exit	67	68	68	1	0	G	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R159	1a	-	Undeveloped	-	EB I-80 Old Davis Road Exit	69	69	69	0	0	G	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R160	1a	-	Undeveloped	-	WB I-80 Old Davis Road Exit	62	62	63	0	1	G	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R161	1a	-	Undeveloped	-	W Chiles Road	64	66	66	2	0	G	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R162	1b	-	Undeveloped	-	2 nd Street	67	67	67	0	0	G	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R163	1b	-	Undeveloped	-	Cowell Boulevard	73	73	73	0	0	G	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R164	1b	-	Undeveloped	-	2 nd Street	71	71	71	0	0	G	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R165	1b	-	Undeveloped	-	Chiles Road	71	71	71	0	0	G	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Receptor I.D.	Area	Barrier I.D.	Land Use	Number of Dwelling Units	Address	Existing Noise Level Leq(h), dBA ²	I-80 Future Worst Hour Noise Levels - L _{eq} (h), dBA																							
							Design Year Noise Level without Project ² L _{eq} (h), dBA ²	Design Year Noise Level with Project L _{eq} (h), dBA ²	Design Year Noise Level without Project minus Existing Conditions L _{eq} (h), dBA	Design Year Noise Level with Project Minus No Project Conditions L _{eq} (h), dBA	Activity Category (NAC)	Impact Type ¹	Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefited Receptors (NBR)																	
													6 feet			8 feet			10 feet			12 feet ⁸			14 feet ⁸			16 feet ⁸		
													L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR
R166	1b	-	Undeveloped	-	3808 Faraday Avenue	71	71	71	0	0	G	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R167	1b	-	Undeveloped	-	32A	71	71	71	0	0	G	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R168	1b	-	Undeveloped	-	32A	56	56	56	0	0	G	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R169	1b	-	Undeveloped	-	Howat	57	57	57	0	0	G	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R170	1b	-	Undeveloped	-	32A	75	75	75	0	0	G	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R171	1b	-	Undeveloped	-	WB I-80 32A onramp	74	74	75	0	1	G	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R172	1b	-	Undeveloped	-	Chiles Road	77	77	77	0	0	G	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R173	1c	-	Undeveloped	-	East of 32A	67	67	70	0	3	G	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R174	1c	-	Undeveloped	-	WB I-80	67	67	67	0	0	G	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R175	1c	-	Undeveloped	-	WB I-80	66	66	66	0	0	G	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R176	1c	-	Undeveloped	-	3980 Lake Road	71	71	71	0	0	G	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R177	2	-	Undeveloped	-	3951 Lake Road	65	65	66	0	1	G	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R178	2	-	Undeveloped	-	West Capitol Avenue	78	78	79	0	1	G	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R179	3a	-	Undeveloped	-	Harbor Boulevard	72	72	75	0	3	G	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Receptor I.D.	Area	Barrier I.D.	Land Use	Number of Dwelling Units	Address	Existing Noise Level Leq(h), dBA ²	I-80 Future Worst Hour Noise Levels - L _{eq} (h), dBA																							
							Design Year Noise Level without Project ² L _{eq} (h), dBA ²	Design Year Noise Level with Project L _{eq} (h), dBA ²	Design Year Noise Level without Project minus Existing Conditions L _{eq} (h), dBA	Design Year Noise Level with Project Minus No Project Conditions L _{eq} (h), dBA	Activity Category (NAC)	Impact Type ¹	Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefited Receptors (NBR)																	
													6 feet			8 feet			10 feet			12 feet ⁸			14 feet ⁸			16 feet ⁸		
													L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR
R180	3b	-	Undeveloped	-	531 Drever Street	71	71	73	0	2	G	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R181	3b	-	Undeveloped	-	1301 South River Road	69	69	71	0	2	G	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R182	3b	-	Undeveloped	-	Mill Street	69	69	71	0	2	G	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R183	2	-	Undeveloped	-	600 Sutter Street	66	66	68	0	2	G	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R184	2	-	Undeveloped	-	Reed Avenue	70	70	72	0	2	G	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R185	2	-	Undeveloped	-	Reed Avenue	70	70	73	0	3	G	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R186	2	-	Undeveloped	-	North Harbor Boulevard	69	69	72	0	3	G	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R187	2	-	Undeveloped	-	2126 Garden Highway	70	70	72	0	2	G	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R188	2	-	Undeveloped	-	El Centro Road	68	68	69	0	1	G	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R189	2	-	Undeveloped	-	El Centro Road	74	74	75	0	1	G	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R190	2	-	Undeveloped	-	El Centro Road	76	76	76	0	0	G	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R191	2	-	Undeveloped	-	Willow Creek	76	76	78	0	2	G	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R192	1b	-	Undeveloped	-	2 nd Street	71	71	71	0	0	G	None																		

Receptor I.D.	Area	Barrier I.D.	Land Use	Number of Dwelling Units	Address	Existing Noise Level Leq(h), dBA ²	I-80 Future Worst Hour Noise Levels - L _{eq} (h), dBA																							
							Design Year Noise Level without Project ² L _{eq} (h), dBA ²	Design Year Noise Level with Project L _{eq} (h), dBA ²	Design Year Noise Level without Project minus Existing Conditions L _{eq} (h), dBA	Design Year Noise Level with Project Minus No Project Conditions L _{eq} (h), dBA	Activity Category (NAC)	Impact Type ¹	Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefited Receptors (NBR)																	
													6 feet			8 feet			10 feet			12 feet ⁸			14 feet ⁸			16 feet ⁸		
													L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR

¹ Impact Type: S = Substantial Increase (12 dBA or more), A/E = Approach or Exceed NAC, None = Increase is less than 12 decibels and noise levels do not approach or exceed the NAC.

² As stated in the TeNS, modeling results are rounded to the nearest decibel before comparisons are made.

³ As stated in the Traffic Noise Protocol (TNAP) April 2020, bike baths that serve primarily as a transportation facility are not evaluated as recreational trails.

⁴ As stated in the Traffic Noise Protocol (TNAP) April 2020, recreational trails that primarily involve the use of motorized vehicles are not evaluated as recreational trails.

⁵ This location does not include any exterior noise sensitive land uses; exterior noise levels are provided for reference only.

⁶ This location is not representative of the area of frequent human use, exterior noise levels are provided for TNM model validation only. An additional modeled receiver was placed in the area of frequent human use.⁷ This location does not include any exterior noise sensitive land uses, so would be considered a Category D land use only. Exterior noise levels are presented in the Table.

⁸ Minimum height needed to break the line of sight between 11.5 foot truck stack and first row receptors.

Table B-2. Predicted Future Noise and Barrier Analysis for Alternative 2b

Receptor I.D.	Area	Barrier I.D.	Land Use	Number of Dwelling Units	Address	Existing Noise Level Leq(h), dBA	I-80 Future Worst Hour Noise Levels - L _{eq} (h), dBA																							
							Design Year Noise Level without Project L _{eq} (h), dBA	Design Year Noise Level with Project L _{eq} (h), dBA	Design Year Noise Level without Project minus Existing Conditions L _{eq} (h), dBA	Design Year Noise Level with Project Minus No Project Conditions L _{eq} (h), dBA	Activity Category (NAC)	Impact Type	Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefited Receptors (NBR)																	
													6 feet			8 feet			10 feet			12 feet ⁷			14 feet ⁷			16 feet ⁷		
													L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR
ST-1	1a	-	Residential	-	9010 Sparling Lane	68	68	68	0	0	B	None ⁶	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-2	1a	-	Residential	-	8991-8999 Olmo Lane	69	70	70	1	1	B	None ⁶	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-3	1a	-	School-Active Sports Area	-	UC Davis SE Corner of Equestrian Center Property	66	67	67	1	2	C	None ⁶	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-4	1a	-	School-Arboretum	-	UC Davis near Carolee Shields Gazebo	58	58	58	0	0	C	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-5	1a	-	Residential	-	9460 W Chiles Road	71	72	72	1	1	B	None ⁵	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-6	1b	-	Hotel	-	University Inn Park and Suites Pool Area	57	57	58	0	1	E	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-7	1b	-	Office	-	1100 Chiles Nachtmann Analytical Laboratory	71	71	72	0	1	E	None ⁵	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-8	1a	-	School	-	UC Davis Center for Laboratory	69	69	69	0	0	D	None ⁷	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Receptor I.D.	Area	Barrier I.D.	Land Use	Number of Dwelling Units	Address	Existing Noise Level Leq(h), dBA	I-80 Future Worst Hour Noise Levels - L _{eq} (h), dBA																							
							Design Year Noise Level without Project L _{eq} (h), dBA	Design Year Noise Level with Project L _{eq} (h), dBA	Design Year Noise Level without Project minus Existing Conditions L _{eq} (h), dBA	Design Year Noise Level with Project Minus No Project Conditions L _{eq} (h), dBA	Activity Category (NAC)	Impact Type	Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefited Receptors (NBR)																	
													6 feet			8 feet			10 feet			12 feet ⁷			14 feet ⁷			16 feet ⁷		
													L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR
					Animal Science																									
ST-9	1b	-	Residential	-	Cesar Chavez Plaza Apartments	63	63	64	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ST-10	1b	-	Residential	-	The Arbors Apartments Pool Area	49	49	50	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ST-11	1b	-	Residential	-	The Arbors Apartments	64	64	66	0	2	B	None ⁵	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ST-12	1b	Evaluated Barrier 2	Hotel	1	La Quinta Inn and Suites by Wyndham Davis Pool Area	71	71	71	0	0	E(72)	A/E	70	1	0	70	1	0	69	2	0	69	2	0	69	2	0	68	3	0
ST-13	1b	-	Park	-	Toad Hollow Dog Park	54	54	55	0	1	C	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ST-14	1b	-	Active Sports Area	-	Play Fields Park	61	61	61	0	0	C	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ST-15	1b	-	Residential	-	2617 Albany Avenue	65	65	65	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ST-16	1b	-	Residential	-	2646 Albany Avenue	52	52	52	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ST-17	1b	-	Playground	-	2813 Albany Avenue	60	61	61	1	1	C	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ST-18	1a	-	School	-	UC Davis August A Busch III	60	61	61	1	1	D	None ⁷	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Receptor I.D.	Area	Barrier I.D.	Land Use	Number of Dwelling Units	Address	I-80 Future Worst Hour Noise Levels - L _{eq} (h), dBA																								
						Existing Noise Level Leq(h), dBA	Design Year Noise Level without Project L _{eq} (h), dBA	Design Year Noise Level with Project L _{eq} (h), dBA	Design Year Noise Level without Project minus Existing Conditions L _{eq} (h), dBA	Design Year Noise Level with Project Minus No Project Conditions L _{eq} (h), dBA	Activity Category (NAC)	Impact Type	Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefited Receptors (NBR)																	
													6 feet			8 feet			10 feet			12 feet ⁷			14 feet ⁷			16 feet ⁷		
													L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR
					Brewing and Food Science Laboratory 641 Hilgard Lane																									
ST-19	1b	-	Playground	-	Playground at New Harmony Mutual Housing Community	55	55	55	0	0	C	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-20	1b	-	Residential	-	3212 Koso Terrace	67	67	67	0	0	B	None ⁶	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-21	1b	-	Residential	-	3720 Chiles Road	60	60	60	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-22	1b	-	Residential	-	3707 El Segundo Ave	66	66	66	0	0	B	None ⁶	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-23	1b	-	Preschool	-	Merryhill Preschool 213 La Vida Way	56	56	56	0	0	C	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-24	1b	-	Hotel	-	Days Inn by Wyndham Davis Near UC Davis	59	59	59	0	0	E	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-25	1b	-	Hotel	-	Pool Area at Motel 6 Davis, CA-Sacramento Area	65	65	65	0	0	E	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Receptor I.D.	Area	Barrier I.D.	Land Use	Number of Dwelling Units	Address	Existing Noise Level Leq(h), dBA	I-80 Future Worst Hour Noise Levels - L _{eq} (h), dBA																							
							Design Year Noise Level without Project L _{eq} (h), dBA	Design Year Noise Level with Project L _{eq} (h), dBA	Design Year Noise Level without Project minus Existing Conditions L _{eq} (h), dBA	Design Year Noise Level with Project Minus No Project Conditions L _{eq} (h), dBA	Activity Category (NAC)	Impact Type	Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefited Receptors (NBR)																	
													6 feet			8 feet			10 feet			12 feet ⁷			14 feet ⁷			16 feet ⁷		
													L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR
ST-26	1b	-	Residential	-	5070 Veranda Terrace	46	46	47	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-27	1b	-	Residential	-	5093 Veranda Terrace	50	50	51	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-28	1b	-	Residential	-	Yolo Basin Foundation 45211 Country Road 32 B	60	60	60	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-29	1b	-	Active Sport Area	-	Davis Soccer Fields-26375 Country Road 105 D	58	58	58	0	0	C	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-30	1c	-	Trail	-	Yolo Bypass Wildlife Area-Bike Trail	80	80	80	0	0	E	None ³	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-31	1c	-	Trail	-	Yolo Bypass Wildlife Area	69	69	70	0	1	E	None ⁴	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-32	1c	-	Trail	-	Roland Hensley Park-4900 W Capitol Avenue	65	65	65	0	0	E	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-34	2	-	Residential	-	Valhalla Mobile Home Club Pool Area	52	53	53	1	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-35	2	-	Residential	-	10 Thor Drive	67	68	68	1	1	B	None ⁶	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Receptor I.D.	Area	Barrier I.D.	Land Use	Number of Dwelling Units	Address	Existing Noise Level Leq(h), dBA	I-80 Future Worst Hour Noise Levels - L _{eq} (h), dBA																							
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													6 feet			8 feet			10 feet			12 feet ⁷			14 feet ⁷			16 feet ⁷		
													L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR
ST-36	2	-	Residential	-	43 Bragi Drive	57	57	57	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-37	2	-	Residential	-	241 Bragi Drive	61	63	63	2	2	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-38	2	Evaluated Barrier 5	Park	1	Meadowdale Park	65	67	68	2	3	C (67)	A/E	66	1	0	65	2	0	65	2	0	65	2	0	65	2	0	64	3	0
ST-39	2	Evaluated Barrier 5	Residential	-	3624 Palomar Avenue	66	68	68	2	2	B	A/E	66	2	0	65	3	0	64	4	0	64	4	0	64	4	0	63	5	2
ST-40	3a	Existing Barrier C	Residential	-	3604 Doran Avenue	64	65	65	1	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-41	3a	Existing Barrier C	Residential	-	861 Garnet Street	65	66	66	1	1	B	A/E	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-43	3a	-	Place of Worship	-	Center for Spiritual Awareness 1275 Starboard Drive	65	67	67	2	2	D	None ⁶	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-44	3a	-	Hotel	-	Motel 6 West Sacramento Pool Area	56	57	57	1	1	E	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-45	3a	-	Residential	-	2225 Hickory Way	63	65	65	2	2	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-46	3a	-	Residential	-	1089 Orchard Way	66	67	67	1	1	B	A/E	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-47	3a	-	School	-	Westmore Oaks Elementary School 1514	73	74	74	1	1	C	None ⁵	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Receptor I.D.	Area	Barrier I.D.	Land Use	Number of Dwelling Units	Address	Existing Noise Level Leq(h), dBA	I-80 Future Worst Hour Noise Levels - L _{eq} (h), dBA																							
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													6 feet			8 feet			10 feet			12 feet ⁷			14 feet ⁷			16 feet ⁷		
													L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR
					Fallbrook Street																									
ST-48	3a	-	School	-	Westmore Oaks Elementary School 1514 Fallbrook Street	64	64	65	0	1	D	None ⁶	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ST-49	3a	Existing Barrier A.1, A.2, A.3	Residential	-	1905 Buckeye Drive	68	70	70	2	2	B	A/E	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ST-50	3a	-	Residential	-	1412 Norfolk Avenue	58	59	59	1	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ST-51	3a	-	Playground	-	Westacre Park	64	65	65	1	1	C	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ST-52	3a	-	Residential	-	1309 Norfolk Avenue	61	62	62	1	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ST-53	3a	-	School	-	Yolo High School 919 Westcare Road	61	63	63	2	2	C	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ST-55	3a	-	Residential	-	719 11th Street	61	63	63	2	2	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ST-56	3a	-	Residential	-	1011 Cannan Way	63	65	65	2	2	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ST-58	3a	-	Residential	-	918 Meadow Road	64	66	66	2	2	B	A/E	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Receptor I.D.	Area	Barrier I.D.	Land Use	Number of Dwelling Units	Address	Existing Noise Level Leq(h), dBA	I-80 Future Worst Hour Noise Levels - L _{eq} (h), dBA																							
							Design Year Noise Level without Project L _{eq} (h), dBA	Design Year Noise Level with Project L _{eq} (h), dBA	Design Year Noise Level without Project minus Existing Conditions L _{eq} (h), dBA	Design Year Noise Level with Project Minus No Project Conditions L _{eq} (h), dBA	Activity Category (NAC)	Impact Type	Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefited Receptors (NBR)																	
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													L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR
ST-59	3a	-	Office	-	Food Distribution Center for Our Lady of Grace Church	68	70	70	2	2	E	None ⁵	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-60	3b	Evaluated Barriers 4.1 and 4.2	Residential	1	2214 4 th Street	72	72	72	0	0	B (67)	A/E	69	3	0	69	3	0	68	4	0	68	4	0	68	4	0	67	5	1
ST-62	3	Evaluated Barriers 6 and 7	Residential	1	NW of 2197 Garden Highway	64	64	66	0	2	B (67)	A/E	63	3	0	62	4	0	62	4	0	61	5	1	61	5	1	61	5	1
ST-63	2	-	Residential	-	2184 Garden Highway	65	65	66	0	1	B	None ⁵	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-64	2	-	Residential	-	2125 Garden Highway	70	70	72	0	2	B	None ⁶	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-65	2	Evaluated Barrier 8	Residential	1	3814 W River Drive	69	69	71	0	2	B (67)	None ⁶	69	2	0	68	3	0	67	4	0	66	5	1	66	5	1	66	5	1
ST-66	2	Evaluated Barrier 8	Residential	1	3760 W River Drive	59	59	60	0	1	B (67)	None	59	1	0	59	1	0	59	1	0	58	2	0	58	2	0	58	2	0
ST-67	2	-	Residential	-	6 Rivulet Court	61	61	63	0	2	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-68	2	Existing Barrier D	Residential	-	3638 W River Drive	64	64	66	0	1	B	None ⁵	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-70	2	Existing Barrier D	Residential	-	5 Cool Fountain Court	65	65	67	0	2	B	None ⁵	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-71	2	Existing Barrier D	Park	-	River Otter Park	64	64	65	0	1	C	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Receptor I.D.	Area	Barrier I.D.	Land Use	Number of Dwelling Units	Address	Existing Noise Level Leq(h), dBA	I-80 Future Worst Hour Noise Levels - L _{eq} (h), dBA																							
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													L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR
ST-72	2	Existing Barrier D	Residential	-	3451 Delphinium Way	57	57	58	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-73	2	Existing Barrier D	Residential	-	40 White Lilly Court	59	59	60	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-74	2	Existing Barrier D	Residential	-	52 Blue Fern Court	61	61	62	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ST-75	2	Existing Barrier D	Residential	-	11 Swinging Bridge Court	54	54	55	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R1	1a	-	Active Sports Area	-	1 Equestrian Lane	62	63	63	1	1	C	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R4	1a	-	Residential	-	7826 Hamel Lane	57	57	57	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R5	1b	-	School	-	UC Davis Center for Neuroscience 1544 Newton Court	71	71	71	0	0	D	None ⁷	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R7	1b	-	Residential	-	1100 Olive Drive	55	55	56	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R8	1b	-	Residential	-	1100 Olive Drive	59	59	60	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R9	1b	-	Residential	-	1200 Olive Drive	52	52	53	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R10	1b	-	Residential	-	1200 Olive Drive	59	59	61	0	2	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R11	1b	-	Residential	-	1200 Olive Drive	54	55	55	1	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

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R12	1b	-	Residential	-	1280 Olive Drive	62	63	64	1	2	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R13	1b	-	Residential	-	1414 Olive Drive	63	63	65	0	2	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R14	1b	-	Residential	-	1414 Olive Drive	63	63	65	0	2	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R15	1b	-	Residential	-	Research Park Drive	53	53	53	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R17	1b	-	Office	-	1445 Drew Avenue	65	65	65	0	0	E	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R18	1b	-	Residential	-	Cowell Drive	57	57	57	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R19	1b	-	Residential	-	Cowell Drive	56	56	56	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R20	1b	-	Residential	-	Cowell Drive	52	53	53	1	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R21	1b	-	Residential	-	2601 Albany Avenue	64	64	64	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R22	1b	-	Residential	-	2611 Albany Avenue	65	65	65	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R23	1b	-	Residential	-	2643 Albany Avenue	64	64	64	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R24	1b	-	Residential	-	2721 Albany Avenue	59	59	59	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R25	1b	-	Residential	-	2745 Albany Avenue	60	60	60	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R26	1b	-	Residential	-	2817 Albany Avenue	61	61	61	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

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R27	1b	-	Residential	-	613 Benbow Court	62	62	62	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R28	1b	-	Residential	-	601 Benbow Court	60	60	60	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R29	1b	-	Residential	-	612 Benbow Court	59	59	59	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R30	1b	-	School	-	University of California Agriculture and Natural Resources 2801 2 nd Street	71	71	71	0	0	D	None ⁷	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R31	1b	-	Residential	-	3030 Cowell Boulevard	58	58	59	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R32	1b	-	Residential	-	3030 Cowell Boulevard	58	58	59	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R33	1b	-	Residential	-	3030 Cowell Boulevard	54	54	54	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R34	1b	-	Residential	-	3641 El Segundo Avenue	65	65	65	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R35	1b	-	Residential	-	3665 El Segundo Avenue	64	64	64	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R36	1b	-	Residential	-	3714 Chiles Road	59	59	59	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Receptor I.D.	Area	Barrier I.D.	Land Use	Number of Dwelling Units	Address	Existing Noise Level Leq(h), dBA	I-80 Future Worst Hour Noise Levels - L _{eq} (h), dBA																							
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													6 feet			8 feet			10 feet			12 feet ⁷			14 feet ⁷			16 feet ⁷		
													L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR
R37	1b	-	Residential	-	3650 El Segundo Avenue	48	48	48	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R38	1b	-	Residential	-	3704 El Segundo Avenue	48	48	48	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R39	1b	-	Residential	-	3730 El Segundo Avenue	59	59	59	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R40	1b	-	Residential	-	3820 Chiles Road	49	50	50	1	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R41	1b	-	Residential	-	3820 Chiles Road	44	45	45	1	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R42	1b	-	Residential	-	3820 Chiles Road	51	51	51	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R43	1b	-	Residential	-	3820 Chiles Road	48	49	49	1	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R44	1b	-	Hotel	-	Days Inn Wyndham Davis Nearby UC Davis	47	47	47	0	0	E	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R45	1b	-	Medical Facility	-	Davis Urgent Care 4515 Fermi Place	70	70	70	0	0	D	None ⁷	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R46	1b	-	Residential	-	5063 Veranda Terrace	52	52	52	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R47	1b	-	Residential	-	5069 Veranda Terrace	54	54	54	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Receptor I.D.	Area	Barrier I.D.	Land Use	Number of Dwelling Units	Address	Existing Noise Level Leq(h), dBA	I-80 Future Worst Hour Noise Levels - L _{eq} (h), dBA																							
							Design Year Noise Level without Project L _{eq} (h), dBA	Design Year Noise Level with Project L _{eq} (h), dBA	Design Year Noise Level without Project minus Existing Conditions L _{eq} (h), dBA	Design Year Noise Level with Project Minus No Project Conditions L _{eq} (h), dBA	Activity Category (NAC)	Impact Type	Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefited Receptors (NBR)																	
													6 feet			8 feet			10 feet			12 feet ⁷			14 feet ⁷			16 feet ⁷		
													L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR
R48	1b	-	Residential	-	5077 Veranda Terrace	54	54	55	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R49	2	-	Residential	-	3951 Lake Road	61	61	61	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R50	2	-	Residential	-	3901 Lake Road	62	62	62	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R51	2	-	Residential	-	3901 Lake Road	62	62	63	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R52	2	-	Residential	-	3901 Lake Road	58	58	58	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R53	2	-	Residential	-	3901 Lake Road	58	58	59	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R54	2	-	Residential	-	3901 Lake Road	61	61	62	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R55	2	-	Residential	-	3901 Lake Road	64	64	64	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R56	2	-	Residential	-	3901 Lake Road	59	59	60	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R57	2	-	Residential	-	3901 Lake Road	63	63	63	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R58	2	-	Medical Facility	-	Concentra Urgent Care 3680 Industrial Boulevard	59	59	61	0	2	D	None ⁷	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R59	3a	-	Medical Facility	-	DaVita West 3450 Industrial Boulevard	70	70	72	0	2	D	None ⁵	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Receptor I.D.	Area	Barrier I.D.	Land Use	Number of Dwelling Units	Address	Existing Noise Level Leq(h), dBA	I-80 Future Worst Hour Noise Levels - L _{eq} (h), dBA																							
							Design Year Noise Level without Project L _{eq} (h), dBA	Design Year Noise Level with Project L _{eq} (h), dBA	Design Year Noise Level without Project minus Existing Conditions L _{eq} (h), dBA	Design Year Noise Level with Project Minus No Project Conditions L _{eq} (h), dBA	Activity Category (NAC)	Impact Type	Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefited Receptors (NBR)																	
													6 feet			8 feet			10 feet			12 feet ⁷			14 feet ⁷			16 feet ⁷		
													L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR
R60	3a	Existing Barrier C	Residential	-	829 Marigold Street	61	61	62	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R61	3a	Existing Barrier C	Residential	-	844 Morning Glory Street	62	62	64	0	2	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R62	3a	Existing Barrier C	Residential	-	832 Garnet Street	61	61	63	0	2	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R63	3a	Existing Barrier C	Residential	-	3524 Doran Avenue	60	60	62	0	2	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R64	3a	Existing Barrier C	Residential	-	857 Garnet Street	57	57	58	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R65	3a	Existing Barrier C	Residential	-	3427 Evergreen Circle	64	64	66	0	2	B	A/E	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R66	3a	Existing Barrier C	Residential	-	3427 Evergreen Circle	55	55	56	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R67	3a	-	Hotel	-	Ramada by Wyndham West Sacramento Hotel & Suites	55	55	57	0	2	E	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R68	3a	Existing Barriers A.1, A.2, A.3	School	-	Sacramento Valley Charter School 2399 Sellers Way	66	66	68	0	2	D	None ⁷	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R69	3a	Existing Barriers A.1, A.2, A.3	Medical Facility	-	River Bend Nursing Center 2215 Oakmont Way	61	61	62	0	1	C	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Receptor I.D.	Area	Barrier I.D.	Land Use	Number of Dwelling Units	Address	I-80 Future Worst Hour Noise Levels - L _{eq} (h), dBA																								
						Existing Noise Level Leq(h), dBA	Design Year Noise Level without Project L _{eq} (h), dBA	Design Year Noise Level with Project L _{eq} (h), dBA	Design Year Noise Level without Project minus Existing Conditions L _{eq} (h), dBA	Design Year Noise Level with Project Minus No Project Conditions L _{eq} (h), dBA	Activity Category (NAC)	Impact Type	Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefited Receptors (NBR)																	
													6 feet			8 feet			10 feet			12 feet ⁷			14 feet ⁷			16 feet ⁷		
													L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR
R70	3a	Existing Barriers A.1, A.2, A.3	Residential	-	2205 Hickory Way	68	68	70	0	2	B	A/E	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R71	3a	Existing Barriers A.1, A.2, A.3	Residential	-	2143 Hickory Way	69	69	70	0	1	B	A/E	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R72	3a	Existing Barriers A.1, A.2, A.3	Residential	-	2105 Hickory Way	65	65	67	0	2	B	None ⁵	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R73	3a	Existing Barriers A.1, A.2, A.3	Residential	-	1049 Orchard Way	64	64	66	0	2	B	None ⁵	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R74	3a	Existing Barriers A.1, A.2, A.3	Residential	-	959 Orchard Way	62	62	63	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R75	3a	Existing Barriers A.1, A.2, A.3	Residential	-	2019 Buckeye Drive	67	67	69	0	2	B	A/E	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R76	3a	Existing Barriers A.1, A.2, A.3	Residential	-	1020 Sycamore Avenue	58	58	59	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Receptor I.D.	Area	Barrier I.D.	Land Use	Number of Dwelling Units	Address	Existing Noise Level Leq(h), dBA	I-80 Future Worst Hour Noise Levels - L _{eq} (h), dBA																							
							Design Year Noise Level without Project L _{eq} (h), dBA	Design Year Noise Level with Project L _{eq} (h), dBA	Design Year Noise Level without Project minus Existing Conditions L _{eq} (h), dBA	Design Year Noise Level with Project Minus No Project Conditions L _{eq} (h), dBA	Activity Category (NAC)	Impact Type	Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefited Receptors (NBR)																	
													6 feet			8 feet			10 feet			12 feet ⁷			14 feet ⁷			16 feet ⁷		
													L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR
R77	3a	Existing Barriers A.1, A.2, A.3	Residential	-	1009 Sycamore Avenue	57	57	59	0	2	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R78	3a	Existing Barriers A.1, A.2, A.3	Residential	-	1021 Hemlock Street	59	59	60	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R79	3a	Existing Barriers A.1, A.2, A.3	Residential	-	1933 Buckeye Drive	66	66	68	0	2	B	A/E	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R80	3a	Existing Barriers A.1, A.2, A.3	Residential	-	1913 Buckeye Drive	66	66	68	0	2	B	A/E	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R81	3a	Existing Barriers A.1, A.2, A.3	Residential	-	1012 Poplar Avenue	58	58	60	0	2	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R82	3a	Existing Barriers B.1, B.2	Residential	-	1608 Norfolk Avenue	69	69	71	0	2	B	A/E	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R83	3a	Existing Barriers B.1, B.2	Residential	-	1504 Norfolk Avenue	68	68	70	0	2	B	A/E	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R84	3a	Existing Barriers B.1, B.2	Residential	-	1404 Norfolk Avenue	69	69	71	0	2	B	A/E	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Receptor I.D.	Area	Barrier I.D.	Land Use	Number of Dwelling Units	Address	Existing Noise Level Leq(h), dBA	I-80 Future Worst Hour Noise Levels - L _{eq} (h), dBA																							
							Design Year Noise Level without Project L _{eq} (h), dBA	Design Year Noise Level with Project L _{eq} (h), dBA	Design Year Noise Level without Project minus Existing Conditions L _{eq} (h), dBA	Design Year Noise Level with Project Minus No Project Conditions L _{eq} (h), dBA	Activity Category (NAC)	Impact Type	Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefited Receptors (NBR)																	
													6 feet			8 feet			10 feet			12 feet ⁷			14 feet ⁷			16 feet ⁷		
													L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR
R85	3a	Existing Barriers B.1, B.2	Residential	-	1204 Norfolk Avenue	70	70	72	0	2	B	A/E	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R86	3a	Existing Barriers B.1, B.2	Residential	-	1604 Meadow Road	58	58	60	0	2	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R87	3a	Existing Barriers B.1, B.2	Residential	-	1601 Norfolk Avenue	59	59	60	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R88	3a	Existing Barriers B.1, B.2	Residential	-	1024 Haverhill Street	60	60	62	0	2	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R89	3a	Existing Barriers B.1, B.2	Residential	-	1305 Norfolk Avenue	60	60	62	0	2	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R90	3a	Existing Barriers B.1, B.2	Residential	-	1104 Westacre Road	60	60	62	0	2	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R91	3a	Existing Barriers B.1, B.2	Residential	-	1101 Westacre Road	62	62	64	0	2	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R92	3a	Existing Barriers B.1, B.2	Residential	-	727 11th Street	69	69	71	0	2	B	A/E	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R93	3a	Existing Barriers B.1, B.2	Residential	-	715 Webster Street	64	64	66	0	2	B	A/E	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Receptor I.D.	Area	Barrier I.D.	Land Use	Number of Dwelling Units	Address	Existing Noise Level Leq(h), dBA	I-80 Future Worst Hour Noise Levels - L _{eq} (h), dBA																							
							Design Year Noise Level without Project L _{eq} (h), dBA	Design Year Noise Level with Project L _{eq} (h), dBA	Design Year Noise Level without Project minus Existing Conditions L _{eq} (h), dBA	Design Year Noise Level with Project Minus No Project Conditions L _{eq} (h), dBA	Activity Category (NAC)	Impact Type	Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefited Receptors (NBR)																	
													6 feet			8 feet			10 feet			12 feet ⁷			14 feet ⁷			16 feet ⁷		
													L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR
R94	3a	Existing Barriers B.1, B.2	Residential	-	1020 Meadow Road	62	62	64	0	2	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R95	3a	Existing Barriers B.1, B.2	Residential	-	609 Webster Street	62	62	64	0	2	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R96	3a	Existing Barriers B.1, B.2	Residential	-	504 Webster Street	64	64	66	0	2	B	A/E	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R97	3a	Existing Barriers B.1, B.2	Residential	-	911 Meadow Road	65	65	67	0	2	B	A/E	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R98	3b	-	Park	-	Levia Park	65	65	65	0	0	C	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R99	3b	Evaluated Barriers 4.1 and 4.2	Residential	1	316 V Street	72	72	72	0	0	B (67)	A/E	70	2	0	69	3	0	69	3	0	68	4	0	68	4	0	67	5	1
R100	3b	Evaluated Barriers 4.1 and 4.2	Residential	1	2209 4 th Street	65	65	65	0	0	B (67)	None	64	1	0	64	1	0	63	2	0	63	2	0	63	2	0	63	2	0
R101	3a	-	Residential	-	846 Marigold Street	63	63	66	0	3	B	A/E																		
R102	2	Evaluated Barrier 5	Residential	3	828 Marigold Street	64	64	65	0	1	B (67)	None	63	2	0	62	3	0	62	3	0	61	4	0	61	4	0	60	5	3
R103	2	Evaluated Barrier 5	Residential	11	812 Morning Glory Street	60	60	62	0	2	B (67)	None	61	1	0	60	2	0	60	2	0	59	3	0	59	3	0	59	3	0
R104	2	Evaluated Barrier 5	Residential	4	3600 Palomar Avenue	64	64	65	0	1	B (67)	None	63	2	0	63	2	0	62	3	0	61	4	0	61	4	0	61	4	0

Receptor I.D.	Area	Barrier I.D.	Land Use	Number of Dwelling Units	Address	Existing Noise Level Leq(h), dBA	I-80 Future Worst Hour Noise Levels - L _{eq} (h), dBA																							
							Design Year Noise Level without Project L _{eq} (h), dBA	Design Year Noise Level with Project L _{eq} (h), dBA	Design Year Noise Level without Project minus Existing Conditions L _{eq} (h), dBA	Design Year Noise Level with Project Minus No Project Conditions L _{eq} (h), dBA	Activity Category (NAC)	Impact Type	Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefited Receptors (NBR)																	
													6 feet			8 feet			10 feet			12 feet ⁷			14 feet ⁷			16 feet ⁷		
													L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR
R105	2	Evaluated Barrier 5	Residential	1	3624 Palomar Avenue	67	67	69	0	2	B (67)	A/E	67	2	0	66	3	0	65	4	0	65	4	0	64	5	1	64	5	1
R106	3	Evaluated Barriers 6 and 7	Residential	1	2125 Garden Highway	69	69	71	0	2	B (67)	A/E	71	0	0	70	1	0	70	1	0	70	1	0	70	1	0	70	1	0
R107	3	Evaluated Barriers 6 and 7	Residential	1	2145 Garden Highway	68	68	70	0	2	B (67)	A/E	69	1	0	69	1	0	69	1	0	69	1	0	69	1	0	69	1	0
R108	3	Evaluated Barriers 6 and 7	Residential	1	2181 Garden Highway	65	65	66	0	1	B (67)	A/E	62	4	0	62	4	0	62	4	0	61	5	1	61	5	1	61	5	1
R109	3	Evaluated Barriers 6 and 7	Residential	1	2197 Garden Highway	65	65	66	0	1	B (67)	A/E	65	2	0	63	4	0	63	4	0	63	4	0	63	4	0	63	4	0
R110	3	Evaluated Barriers 6 and 7	Residential	1	2184 Garden Highway	64	64	66	0	2	B (67)	A/E	64	2	0	64	2	0	64	2	0	64	2	0	64	2	0	64	2	0
R111	3	Evaluated Barrier 8	Residential	8	3796 W River Drive	64	64	66	0	2	B (67)	A/E	62	4	0	61	5	8	60	6	8	60	6	8	60	6	8	60	6	8
R112	3	Evaluated Barrier 8	Residential	4	3778 W River Drive	60	60	62	0	2	B (67)	None	60	2	0	58	4	0	58	4	0	57	5	4	57	5	4	57	5	4
R113	3	Evaluated Barrier 8	Residential	8	3575 Wheelhouse Avenue	65	65	67	0	2	B (67)	A/E	64	3	0	63	4	0	62	5	8	61	6	8	61	6	8	61	6	8
R114	2	-	Residential	-	2106 Sternwheeler Way	60	60	62	0	2	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R115	2	-	Residential	-	3742 W River Drive	57	57	59	0	2	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Receptor I.D.	Area	Barrier I.D.	Land Use	Number of Dwelling Units	Address	Existing Noise Level Leq(h), dBA	I-80 Future Worst Hour Noise Levels - L _{eq} (h), dBA																							
							Design Year Noise Level without Project L _{eq} (h), dBA	Design Year Noise Level with Project L _{eq} (h), dBA	Design Year Noise Level without Project minus Existing Conditions L _{eq} (h), dBA	Design Year Noise Level with Project Minus No Project Conditions L _{eq} (h), dBA	Activity Category (NAC)	Impact Type	Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefited Receptors (NBR)																	
													6 feet			8 feet			10 feet			12 feet ⁷			14 feet ⁷			16 feet ⁷		
													L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR
R116	2	-	Residential	-	3724 W River Drive	60	60	62	0	2	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R117	2	-	Residential	-	21116 Smokestack Way	60	60	61	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R118	2	-	Residential	-	3542 Delta Queen Avenue	60	60	61	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R119	2	-	Residential	-	3517 Delta Queen Avenue	62	62	64	0	2	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R120	2	-	Residential	-	3682 W River Drive	61	61	62	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R121	2	-	Residential	-	3494 Delta Queen Avenue	54	54	55	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R122	2	-	Residential	-	3481 Delta Queen Avenue	60	60	62	0	2	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R123	2	-	Residential	-	3441 River Shoal Avenue	55	55	57	0	2	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R124	2	-	Residential	-	3451 Delta Queen Avenue	58	58	60	0	2	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R125	2	Existing Barrier D	Residential	-	3633 West River Drive	65	65	67	0	2	B	A/E	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R126	2	Existing Barrier D	Residential	-	2215 Shady Arbor Drive	64	64	66	0	2	B	A/E	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Receptor I.D.	Area	Barrier I.D.	Land Use	Number of Dwelling Units	Address	Existing Noise Level Leq(h), dBA	I-80 Future Worst Hour Noise Levels - L _{eq} (h), dBA																							
							Design Year Noise Level without Project L _{eq} (h), dBA	Design Year Noise Level with Project L _{eq} (h), dBA	Design Year Noise Level without Project minus Existing Conditions L _{eq} (h), dBA	Design Year Noise Level with Project Minus No Project Conditions L _{eq} (h), dBA	Activity Category (NAC)	Impact Type	Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefited Receptors (NBR)																	
													6 feet			8 feet			10 feet			12 feet ⁷			14 feet ⁷			16 feet ⁷		
													L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR
R127	2	Existing Barrier D	Residential	-	2171 Shady Arbor Drive	58	58	59	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R128	2	Existing Barrier D	Residential	-	3569 W River Drive	58	58	60	0	2	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R129	2	Existing Barrier D	Residential	-	3527 W River Drive	54	54	56	0	2	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R130	2	Existing Barrier D	Residential	-	5 Cool Fountain Court	63	63	64	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R131	2	Existing Barrier D	Residential	-	3447 Sweet Pea Way	57	57	58	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R132	2	Existing Barrier D	Residential	-	3439 W River Drive	52	52	54	0	2	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R133	2	Existing Barrier D	Residential	-	3407 W River Drive	51	51	52	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R134	2	Existing Barrier D	Residential	-	40 Shady Arbor Court	59	59	60	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R135	2	Existing Barrier D	Residential	-	22 Calla Lily Court	53	53	54	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R136	2	Existing Barrier D	Residential	-	2318 Barandas Drive	55	55	56	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R137	2	Existing Barrier D	Residential	-	3428 Delphinium Way	53	53	54	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R138	2	Existing Barrier D	Residential	-	27 White Lily Court	54	54	55	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R139	2	Existing Barrier D	Residential	-	40 White Lily Court	59	59	61	0	2	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Receptor I.D.	Area	Barrier I.D.	Land Use	Number of Dwelling Units	Address	Existing Noise Level Leq(h), dBA	I-80 Future Worst Hour Noise Levels - L _{eq} (h), dBA																							
							Design Year Noise Level without Project L _{eq} (h), dBA	Design Year Noise Level with Project L _{eq} (h), dBA	Design Year Noise Level without Project minus Existing Conditions L _{eq} (h), dBA	Design Year Noise Level with Project Minus No Project Conditions L _{eq} (h), dBA	Activity Category (NAC)	Impact Type	Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefited Receptors (NBR)																	
													6 feet			8 feet			10 feet			12 feet ⁷			14 feet ⁷			16 feet ⁷		
													L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR
R140	2	Existing Barrier D	Residential	-	3235 Spinning Rod Way	53	53	54	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R141	2	Existing Barrier D	Residential	-	27 Blue Fern Court	65	65	66	0	1	B	A/E	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R142	2	Existing Barrier D	Residential	-	3259 Spinning Rod Way	54	54	55	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R143	2	Existing Barrier D	Residential	-	3175 Boathouse Way	51	51	52	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R144	2	Existing Barrier D	Residential	-	18 Spinning Rod Court	61	61	63	0	2	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R145	2	-	Residential	-	Olive Drive	64	64	65	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R146	2	-	Residential	-	Olive Drive	64	64	65	0	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R147	2	-	Residential	-	Olive Drive	62	63	63	1	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R148	1a	-	Residential	-	9010 Sparling Lane	56	57	57	1	1	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R149	1a	-	Residential	-	8991-8999 Olmo Lane	63	63	63	0	0	B	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R150	1b	Evaluated Barrier 1	Residential	1	9460 W Chiles Road	71	71	72	0	1	B(67)	A/E	67	5	1	66	6	1	65	7	1	64	8	1	64	8	1	64	8	1
R151	2-3a	Evaluated Barrier 3	School	1	Westmore Oaks Elementary School	70	70	70	0	0	C (67)	A/E	66	4	0	66	4	0	66	4	0	64	6	1	64	6	1	64	6	1
R152	2	Evaluated Barrier 5	Residential	2	3620 Palomar Avenue	66	66	67	0	1	B (67)	A/E	65	2	0	65	2	0	64	3	0	63	4	0	63	4	0	63	4	0

Receptor I.D.	Area	Barrier I.D.	Land Use	Number of Dwelling Units	Address	Existing Noise Level Leq(h), dBA	I-80 Future Worst Hour Noise Levels - L _{eq} (h), dBA																							
							Design Year Noise Level without Project L _{eq} (h), dBA	Design Year Noise Level with Project L _{eq} (h), dBA	Design Year Noise Level without Project minus Existing Conditions L _{eq} (h), dBA	Design Year Noise Level with Project Minus No Project Conditions L _{eq} (h), dBA	Activity Category (NAC)	Impact Type	Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefited Receptors (NBR)																	
													6 feet			8 feet			10 feet			12 feet ⁷			14 feet ⁷			16 feet ⁷		
													L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR	L _{eq} (h)	I.L.	NBR
R153	2	Evaluated Barrier 5	Residential	3	3612 Palomar Avenue	65	65	66	0	1	B (67)	A/E	64	2	0	63	3	0	62	4	0	62	4	0	62	4	0			
R154	2	Evaluated Barrier 5	Residential	3	812 Marigold Street	65	65	65	0	0	B (67)	None	63	2	0	62	3	0	62	3	0	61	4	0	61	4	0			
R155	2	Evaluated Barrier 5	Residential	2	820 Marigold Street	65	65	67	0	2	B (67)	A/E	64	3	0	63	4	0	63	4	0	62	5	2	62	5	2			

¹ Impact Type: S = Substantial Increase (12 dBA or more), A/E = Approach or Exceed NAC, None = Increase is less than 12 decibels and noise levels do not approach or exceed the NAC.

² As stated in the TeNS, modeling results are rounded to the nearest decibel before comparisons are made.

³ As stated in the Traffic Noise Protocol (TNAP) April 2020, bike paths that serve primarily as a transportation facility are not evaluated as recreational trails.

⁴ As stated in the Traffic Noise Protocol (TNAP) April 2020, recreational trails that primarily involve the use of motorized vehicles are not evaluated as recreational trails.

⁵ This location does not include any exterior noise sensitive land uses; exterior noise levels are provided for reference only.

⁶ This location is not representative of the area of frequent human use, exterior noise levels are provided for TNM model validation only. An additional modeled receiver was placed in the area of frequent human use.⁷ This location does not include any exterior noise sensitive land uses, so would be considered a Category D land use only. Exterior noise levels are presented in the Table.

⁸ Minimum height needed to break the line of sight between 11.5 foot truck stack and first row receptors.

Appendix C Noise Barrier Analysis

Tables C-1 through C-4 compare the predicted noise reductions by barrier height for each noise barrier analyzed.

Table C-1. Analysis of Evaluated Barrier 1

	Position	Total Number of Benefited Receptors
	R150	1
Number of Units Represented	1	
Existing Traffic Noise Level (dBA L _{eq} [h])	71	
Design Year with Project Traffic Noise Level (dBA L _{eq} [h])	71	
Design Year with Project minus Existing Traffic Noise Level (dBA L _{eq} [h])	0	
6-Foot Barrier		
Design Year with Project Traffic Noise Level (dBA L _{eq} [h])	67	
Predicted Noise Reduction (dB)	-5	
Number of Benefited Receptors	1	1
8-Foot Barrier		
Design Year with Project Traffic Noise Level (dBA L _{eq} [h])	66	
Predicted Noise Reduction (dB)	-6	
Number of Benefited Receptors	1	1
10-Foot Barrier		
Design Year with Project Traffic Noise Level (dBA L _{eq} [h])	65	
Predicted Noise Reduction (dB)	-7	
Number of Benefited Receptors	1	1
12-Foot Barrier		
Design Year with Project Traffic Noise Level (dBA L _{eq} [h])	64	
Predicted Noise Reduction (dB)	-8	
Number of Benefited Receptors	1	1
14-Foot Barrier		
Design Year with Project Traffic Noise Level (dBA L _{eq} [h])	64	
Predicted Noise Reduction (dB)	-8	
Number of Benefited Receptors	1	1
16-Foot Barrier		
Design Year with Project Traffic Noise Level (dBA L _{eq} [h])	64	
Predicted Noise Reduction (dB)	-8	
Number of Benefited Receptors	1	1

Table C-2. Analysis of Evaluated Barrier 2

	Position	Total Number of Benefited Receptors
	ST-12	0
Number of Units Represented	1	
Existing Traffic Noise Level (dBA L _{eq} [h])	71	
Design Year with Project Traffic Noise Level (dBA L _{eq} [h])	71	
Design Year with Project minus Existing Traffic Noise Level (dBA L _{eq} [h])	0	
6-Foot Barrier		
Design Year with Project Traffic Noise Level (dBA L _{eq} [h])	70	
Predicted Noise Reduction (dB)	-1	
Number of Benefited Receptors	0	0
8-Foot Barrier		
Design Year with Project Traffic Noise Level (dBA L _{eq} [h])	70	
Predicted Noise Reduction (dB)	-1	
Number of Benefited Receptors	0	0
10-Foot Barrier		
Design Year with Project Traffic Noise Level (dBA L _{eq} [h])	69	
Predicted Noise Reduction (dB)	-2	
Number of Benefited Receptors	0	0
12-Foot Barrier		
Design Year with Project Traffic Noise Level (dBA L _{eq} [h])	69	
Predicted Noise Reduction (dB)	-2	
Number of Benefited Receptors	0	0
14-Foot Barrier		
Design Year with Project Traffic Noise Level (dBA L _{eq} [h])	69	
Predicted Noise Reduction (dB)	-2	
Number of Benefited Receptors	0	0
16-Foot Barrier		
Design Year with Project Traffic Noise Level (dBA L _{eq} [h])	68	
Predicted Noise Reduction (dB)	-3	
Number of Benefited Receptors	0	0

Table C-3. Analysis of Evaluated Barrier 3

	Position	Total Number of Benefited Receptors
	R151	1
Number of Units Represented	1	
Existing Traffic Noise Level (dBA $L_{eq}[h]$)	70	
Design Year with Project Traffic Noise Level (dBA $L_{eq}[h]$)	70	
Design Year with Project minus Existing Traffic Noise Level (dBA $L_{eq}[h]$)	0	
6-Foot Barrier		
Design Year with Project Traffic Noise Level (dBA $L_{eq}[h]$)	66	
Predicted Noise Reduction (dB)	-4	
Number of Benefited Receptors	0	0
8-Foot Barrier		
Design Year with Project Traffic Noise Level (dBA $L_{eq}[h]$)	66	
Predicted Noise Reduction (dB)	-4	
Number of Benefited Receptors	0	0
10-Foot Barrier		
Design Year with Project Traffic Noise Level (dBA $L_{eq}[h]$)	66	
Predicted Noise Reduction (dB)	-4	
Number of Benefited Receptors	0	0
12-Foot Barrier		
Design Year with Project Traffic Noise Level (dBA $L_{eq}[h]$)	64	
Predicted Noise Reduction (dB)	-6	
Number of Benefited Receptors	0	1
14-Foot Barrier		
Design Year with Project Traffic Noise Level (dBA $L_{eq}[h]$)	64	
Predicted Noise Reduction (dB)	-6	
Number of Benefited Receptors	0	1
16-Foot Barrier		
Design Year with Project Traffic Noise Level (dBA $L_{eq}[h]$)	64	
Predicted Noise Reduction (dB)	-6	
Number of Benefited Receptors	0	1

Table C-4. Analysis of Evaluated Barriers 4.1 and 4.2

	Position				Total Number of Benefited Receptors
	ST-60	R99	R100		
Number of Units Represented	1	1	1		
Existing Traffic Noise Level (dBA L _{eq} [h])	72	72	65		
Design Year with Project Traffic Noise Level (dBA L _{eq} [h])	72	72	65		
Design Year with Project minus Existing Traffic Noise Level (dBA L _{eq} [h])	0	0	0		
6-Foot Barrier					
Design Year with Project Traffic Noise Level (dBA L _{eq} [h])	69	70	64		
Predicted Noise Reduction (dB)	-3	-2	-1		
Number of Benefited Receptors	0	0	0		0
8-Foot Barrier					
Design Year with Project Traffic Noise Level (dBA L _{eq} [h])	69	69	64		
Predicted Noise Reduction (dB)	-3	-3	-1		
Number of Benefited Receptors	0	0	0		0
10-Foot Barrier					
Design Year with Project Traffic Noise Level (dBA L _{eq} [h])	68	69	64		
Predicted Noise Reduction (dB)	-4	-3	-1		
Number of Benefited Receptors	0	0	0		0
12-Foot Barrier					
Design Year with Project Traffic Noise Level (dBA L _{eq} [h])	68	68	63		
Predicted Noise Reduction (dB)	-4	-4	-2		
Number of Benefited Receptors	0	0	0		0
14-Foot Barrier					
Design Year with Project Traffic Noise Level (dBA L _{eq} [h])	68	68	63		
Predicted Noise Reduction (dB)	-4	-4	-2		
Number of Benefited Receptors	0	0	0		0
16-Foot Barrier					
Design Year with Project Traffic Noise Level (dBA L _{eq} [h])	67	67	63		
Predicted Noise Reduction (dB)	-5	-5	-2		
Number of Benefited Receptors	1	1	0		2

Table C-5. Analysis of Evaluated Barrier 5

	Position									Total Number of Benefited Receptors
	R102	R103	R104	R105	R152	R153	R54	R155	ST-38	
Number of Units Represented	3	11	4	1	2	3	3	2	1	
Existing Traffic Noise Level (dBA L _{eq} [h])	64	60	64	67	66	65	65	65	65	
Design Year with Project Traffic Noise Level (dBA L _{eq} [h])	65	61	64	69	66	65	65	66	67	
Design Year with Project minus Existing Traffic Noise Level (dBA L _{eq} [h])	+1	+1	0	+2	0	0	0	+1	+2	
6-Foot Barrier										
Design Year with Project Traffic Noise Level (dBA L _{eq} [h])	63	61	63	67	65	64	63	64	66	
Predicted Noise Reduction (dB)	-2	-1	-2	-2	-2	-2	-2	-3	-1	
Number of Benefited Receptors	0	0	0	0	0	0	0	0	0	0
8-Foot Barrier										
Design Year with Project Traffic Noise Level (dBA L _{eq} [h])	62	60	63	66	65	63	62	63	65	
Predicted Noise Reduction (dB)	-3	-2	-2	-3	-2	-3	-3	-4	-2	
Number of Benefited Receptors	0	0	0	0	0	0	0	0	0	0
10-Foot Barrier										
Design Year with Project Traffic Noise Level (dBA L _{eq} [h])	62	60	62	65	64	62	62	63	65	
Predicted Noise Reduction (dB)	-3	-2	-3	-4	-3	-4	-3	-4	-2	
Number of Benefited Receptors	0	0	0	0	0	0	0	0	0	0
12-Foot Barrier										
Design Year with Project Traffic Noise Level (dBA L _{eq} [h])	61	59	61	65	63	62	61	62	65	
Predicted Noise Reduction (dB)	-4	-3	-4	-4	-4	-4	-4	-5	-2	
Number of Benefited Receptors	0	0	0	0	0	0	0	2	0	2
14-Foot Barrier										
Design Year with Project Traffic Noise Level (dBA L _{eq} [h])	61	59	61	64	63	62	61	62	65	
Predicted Noise Reduction (dB)	-4	-3	-4	-5	-4	-4	-4	-5	-2	
Number of Benefited Receptors	0	0	0	1	0	0	0	2	0	3
16-Foot Barrier										
Design Year with Project Traffic Noise Level (dBA L _{eq} [h])	60	59	61	64	63	62	61	62	64	
Predicted Noise Reduction (dB)	-5	-3	-4	-5	-4	-4	-4	-5	-3	
Number of Benefited Receptors	3	0	0	1	0	0	0	2	0	6

Table C-6. Analysis of Evaluated Barriers 6 and 7

	Position						Total Number of Benefited Receptors
	ST-62	R106	R107	R108	R109	R110	
Number of Units Represented	1	1	1	1	1	1	
Existing Traffic Noise Level (dBA L _{eq} [h])	64	69	68	65	65	64	
Design Year with Project Traffic Noise Level (dBA L _{eq} [h])	66	71	70	66	67	66	
Design Year with Project minus Existing Traffic Noise Level (dBA L _{eq} [h])	+2	+2	+2	+1	+2	+2	
6-Foot Barrier							
Design Year with Project Traffic Noise Level (dBA L _{eq} [h])	63	71	69	62	65	64	
Predicted Noise Reduction (dB)	-3	0	-1	-4	-2	-2	
Number of Benefited Receptors	0	0	0	0	0	0	0
8-Foot Barrier							
Design Year with Project Traffic Noise Level (dBA L _{eq} [h])	62	70	69	62	63	64	
Predicted Noise Reduction (dB)	-4	-1	-1	-4	-4	-2	
Number of Benefited Receptors	0	0	0	0	0	0	0
10-Foot Barrier							
Design Year with Project Traffic Noise Level (dBA L _{eq} [h])	62	70	69	62	63	64	
Predicted Noise Reduction (dB)	-4	-1	-1	-4	-4	-2	
Number of Benefited Receptors	0	0	0	0	0	0	0
12-Foot Barrier							
Design Year with Project Traffic Noise Level (dBA L _{eq} [h])	61	70	69	61	63	64	
Predicted Noise Reduction (dB)	-5	-1	-1	-5	-4	-2	
Number of Benefited Receptors	1	0	0	1	0	0	2
14-Foot Barrier							
Design Year with Project Traffic Noise Level (dBA L _{eq} [h])	61	70	69	61	63	64	
Predicted Noise Reduction (dB)	-5	-1	-1	-5	-4	-2	
Number of Benefited Receptors	1	0	0	1	0	0	2
16-Foot Barrier							
Design Year with Project Traffic Noise Level (dBA L _{eq} [h])	61	70	69	61	63	64	
Predicted Noise Reduction (dB)	-5	-1	-1	-5	-4	-2	
Number of Benefited Receptors	1	0	0	1	0	0	2

Table C-7. Analysis of Evaluated Barrier 8

	Position					Total Number of Benefited Receptors
	ST-65	ST-66	R111	R112	R113	
Number of Units Represented	1	1	8	4	8	
Existing Traffic Noise Level (dBA L _{eq} [h])	69	59	64	60	65	
Design Year with Project Traffic Noise Level (dBA L _{eq} [h])	71	60	66	62	67	
Design Year with Project minus Existing Traffic Noise Level (dBA L _{eq} [h])	+2	+1	+2	+2	+2	
6-Foot Barrier						
Design Year with Project Traffic Noise Level (dBA L _{eq} [h])	69	59	62	60	64	
Predicted Noise Reduction (dB)	-2	-1	-4	-2	-3	
Number of Benefited Receptors	0	0	0	0	0	0
8-Foot Barrier						
Design Year with Project Traffic Noise Level (dBA L _{eq} [h])	68	59	61	58	63	
Predicted Noise Reduction (dB)	-3	-1	-5	-4	-4	
Number of Benefited Receptors	0	0	0	0	0	0
10-Foot Barrier						
Design Year with Project Traffic Noise Level (dBA L _{eq} [h])	67	59	60	58	62	
Predicted Noise Reduction (dB)	-4	-1	-6	-4	-5	
Number of Benefited Receptors	0	0	8	0	8	16
12-Foot Barrier						
Design Year with Project Traffic Noise Level (dBA L _{eq} [h])	66	58	60	57	61	
Predicted Noise Reduction (dB)	-5	-2	-6	-5	-6	
Number of Benefited Receptors	1	0	8	4	8	21
14-Foot Barrier						
Design Year with Project Traffic Noise Level (dBA L _{eq} [h])	66	58	60	57	61	
Predicted Noise Reduction (dB)	-5	-2	-6	-5	-6	
Number of Benefited Receptors	1	0	8	4	8	21
16-Foot Barrier						
Design Year with Project Traffic Noise Level (dBA L _{eq} [h])	66	58	60	57	61	
Predicted Noise Reduction (dB)	-5	-2	-6	-5	-6	
Number of Benefited Receptors	1	0	8	4	8	21

Appendix D Definition of Technical Terms

Term	Definition
Decibel, dB	A unit describing, the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure. The reference pressure for air is 20 micro-Pascals.
Sound Pressure Level	Sound pressure is the sound force per unit area, usually expressed in micro Pascals (or 20 micro Newtons per square meter), where 1 Pascal is the pressure resulting from a force of 1 Newton exerted over an area of 1 square meter. The sound pressure level is expressed in decibels as 20 times the logarithm to the base 10 of the ratio between the pressures exerted by the sound to a reference sound pressure (e.g., 20 micro Pascals). Sound pressure level is the quantity that is directly measured by a sound level meter.
Frequency, Hz	The number of complete pressure fluctuations per second above and below atmospheric pressure. Normal human hearing is between 20 Hz and 20,000 Hz. Infrasonic sound are below 20 Hz and Ultrasonic sounds are above 20,000 Hz.
A-Weighted Sound Level, dBA	The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise.
Equivalent Noise Level, L_{eq}	The average A-weighted noise level during the measurement period.
L_{max} , L_{min}	The maximum and minimum A-weighted noise level during the measurement period.
L_{01} , L_{10} , L_{50} , L_{90}	The A-weighted noise levels that are exceeded 1%, 10%, 50%, and 90% of the time during the measurement period.
Day/Night Noise Level, L_{dn}	The average A-weighted noise level during a 24-hour day, obtained after addition of 10 decibels to levels measured in the night between 10:00 p.m. and 7:00 a.m.
Community Noise Equivalent Level, CNEL	The average A-weighted noise level during a 24-hour day, obtained after addition of 5 decibels in the evening from 7:00 p.m. to 10:00 p.m. and after addition of 10 decibels to sound levels measured in the night between 10:00 p.m. and 7:00 a.m.
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Intrusive	That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.

Appendix E Site Photographs



L1: UC Davis - South
Davis



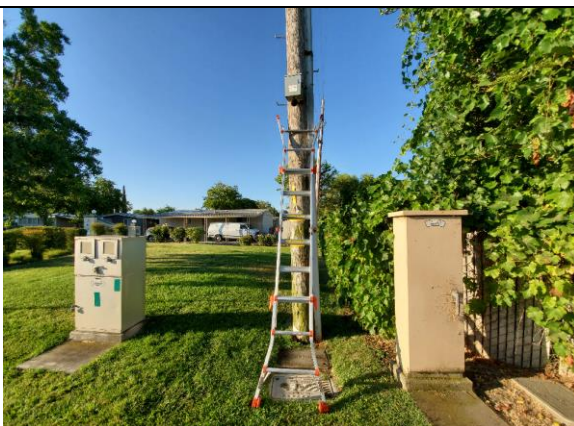
L2: 1220 Olive Drive
Davis



L3: 3015 Cowell Boulevard
Davis



L4: E Chiles Road, near 26375 County RD
105D Davis



L5: 3901 Odin Drive
West Sacramento



L6: 3625 W Capitol Avenue
West Sacramento



L7: 3524 Doran Avenue
West Sacramento



L9: 1755 Evergreen Avenue
West Sacramento



L10: 2226 5th Street
Sacramento



L11: 2303 Barandas Drive
Sacramento



S1: 9010 Sparling Lane
Dixon



S2: 9113 Olmo Lane
Davis



S3: UC Davis - South
Davis



S4: UC Davis - South
Davis



S5: 9460 W Chiles Road
Davis



S6: 1121 Richards Boulevard
Davis



S7: 1002 Research Park Drive
Davis



S8: 880 Old Davis Road
Davis



S9: 1220 Olive Drive
Davis



S10: 1280 Olive Drive - Pool
Davis



S11: 1280 Olive Drive - SE
Davis



S12: 1771 Research Park Drive
Davis



S13: 1919 2nd Street
Davis



S14: 2500 Research Park Drive
Davis



S15: 2605 Albany Drive
Davis



S16: 2646 Albany Avenue
Davis



S17: Benbow Mini Playground
Davis



S18: UC Davis Building 631
Davis



S19: 3030 Cowell Boulevard
Davis



S20: 32312 Cowell Boulevard
Davis



S21: 3732 Chiles Road – Backyard
Davis



S22: 3731 El Segundo Avenue
Davis



S23: 222 La Vida Way
Davis



S24: 4100 Chiles Road
Davis



S25: 4835 Chiles Road
Davis



S26: 5070 Veranda Terrace
Davis



S27: 5093 Veranda Terrace
Davis



S28: 45211 County Road 32B
Davis



S29: 26375 County RD 105D
Davis



S30: I-80 North Side
Davis



S31: I-80 South Side
Davis



S32: 4940 W Capitol Avenue
West Sacramento



S34: 3901 Lake Road # 154
West Sacramento



S35: 4243 Thor Drive
West Sacramento



S36: 43 Bragi Drive
West Sacramento



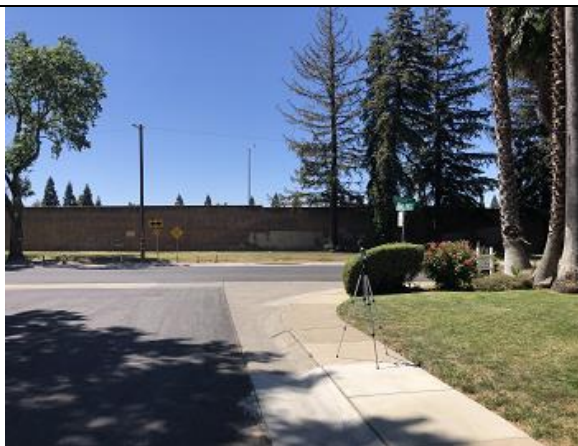
S37: 231 Thor Drive
West Sacramento



S38: 3625 W Capitol Avenue
West Sacramento



S39: 3625 Palomar Avenue
West Sacramento



S40: 3604 Doran Avenue
West Sacramento



S41: 861 Garnet Street
West Sacramento



S43: 1275 Starboard Drive
West Sacramento



S44: 1250 Halyard Drive
West Sacramento



S45: 2225 Hickory Way
West Sacramento



S46: 1089 Orchard Way
West Sacramento



S47: 1100 Clarendon Street
West Sacramento



S48: 1100 Clarendon Street
West Sacramento



S49: 1755 Evergreen Avenue
West Sacramento



S50: 1412 Norfolk Avenue
West Sacramento



S51: 1755 Evergreen Avenue
West Sacramento



S52: 1309 Norfolk Avenue
West Sacramento



S53: 919 Westacre Road
West Sacramento



S55: 719 11th Street
West Sacramento



S56: 1011 Canna Way
West Sacramento



S58: 919 Meadow Road
West Sacramento



S59: 911 Park Boulevard
West Sacramento



S60: 2214 4th Street
Sacramento



S61: 2216 6th Street
Sacramento



S62: 2211 Garden Highway
Sacramento



S63: 2180 Garden Highway
Sacramento



S64: 2145 Garden Highway
Sacramento



S65: 3814 W River Drive
Sacramento



S66: 3760 W River Drive
Sacramento



S67: 6 Rivulet Court
Sacramento



S68: 3638 W River Drive
Sacramento



S70: 5 Cool Fountain Court
Sacramento



S71: 2303 Barandas Drive
Sacramento



S72: 3451 Delphinium Way
Sacramento



S73: 51 White Lily Court
Sacramento



S74: 52 Blue Fern Court
Sacramento



S75: 11 Swinging Bridge Court
Sacramento



S1: Elkhorn Rest Area
Sacramento County



S2A: 3680 Bayou Way
Sacramento



S2A2: 3680 Bayou Way
Sacramento



S2B: 3400 Callison Drive
Sacramento



S2B2: 3420 Callison Drive
Sacramento



**S2C: 3470 Bayou Way
Sacramento**



**S3: 3021 Advantage Way
Sacramento**



**S4: 4470 Duckhorn Drive
Sacramento**



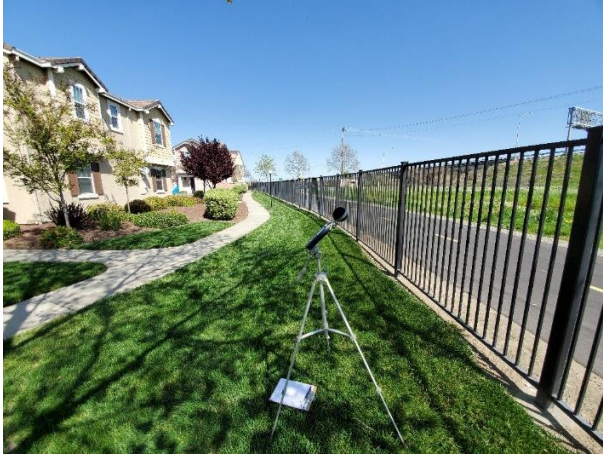
**S5: 4400 Duckhorn Drive
Sacramento**



**S6: 20 Advantage Court
Sacramento**



**S7: 4100 Duckhorn Drive
Sacramento**



**S10: 2508 Aimonetti Avenue
Sacramento**



**S11: 2227 Maricopa Way
Sacramento**



**S12: 2860 Gateway Oaks Drive
Sacramento**



**S13: 2025 W El Camino Avenue
Sacramento**



**S14: 2700 Gateway Oaks Drive
Sacramento**



**S15: 2618 Gateway Oaks Drive
Sacramento**



S16: 2535 Capitol Oaks Drive #205
Sacramento



S17: 2540 Venture Oaks Way
Sacramento



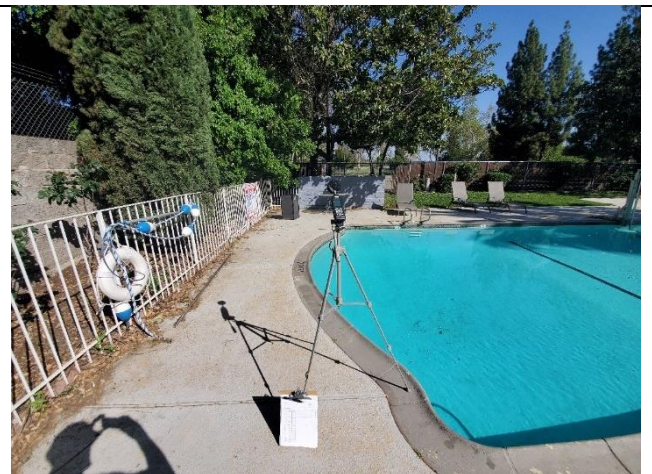
S18: 2450 Venture Oaks Way
Sacramento



S19: 1600 Garden Highway
Sacramento



S20: American River Bike Trail
Sacramento



S21: 350 Bercut Drive
Sacramento



S22: 227 Jibboom Street
Sacramento



S23: 100 Jibboom Street
Sacramento



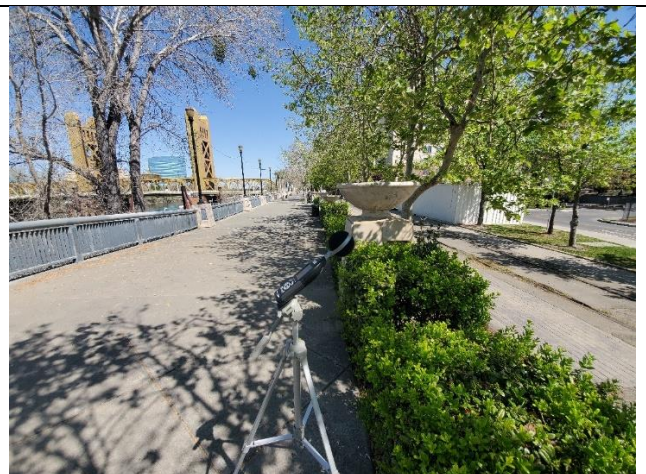
S24: 2nd Street & J Street
Sacramento



S25: 909 3rd Street
Sacramento



S26: 324 K Street
Sacramento



S27: Sacramento River Bike Trail
Sacramento



S28: 211 O Street
Sacramento



S30: 302 V Street
Sacramento

Appendix F Long-Term Noise Measurement Data

Figure F-1. Daily Noise Trends at LT-1, Wednesday March 24, 2021

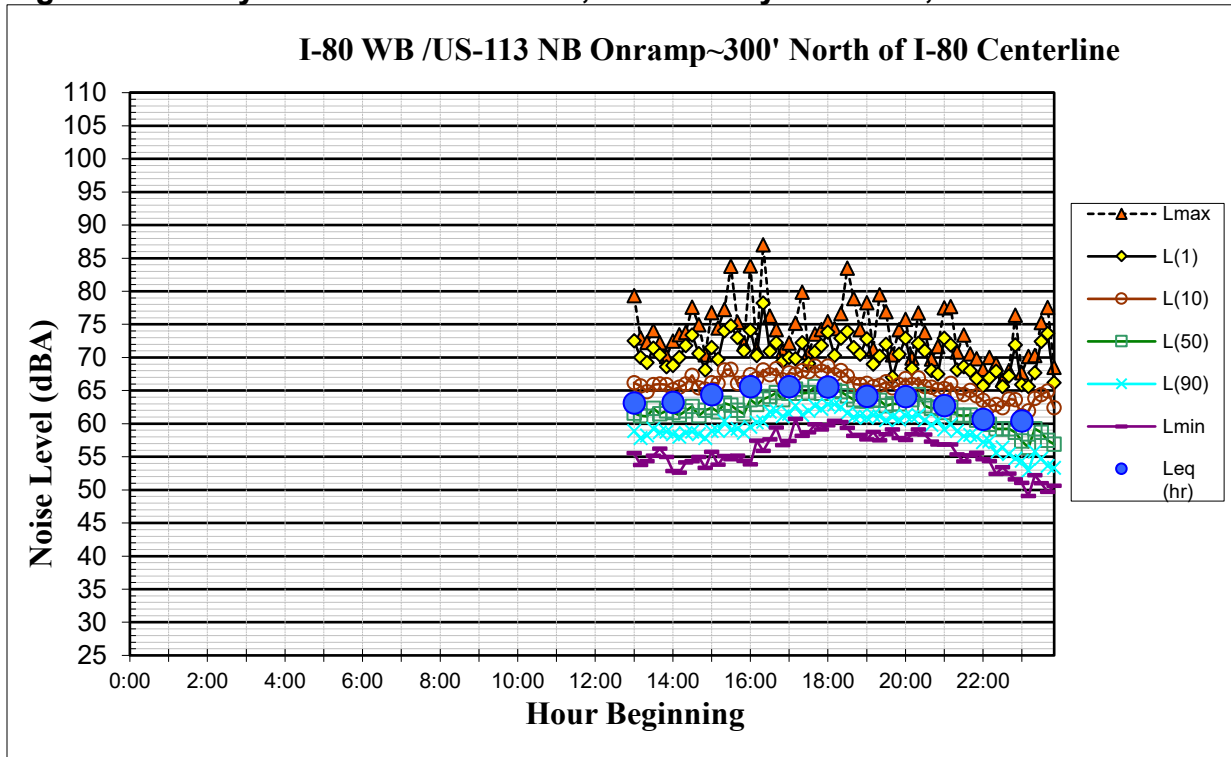


Figure F-2. Daily Noise Trends at LT-1, Thursday March 25, 2021

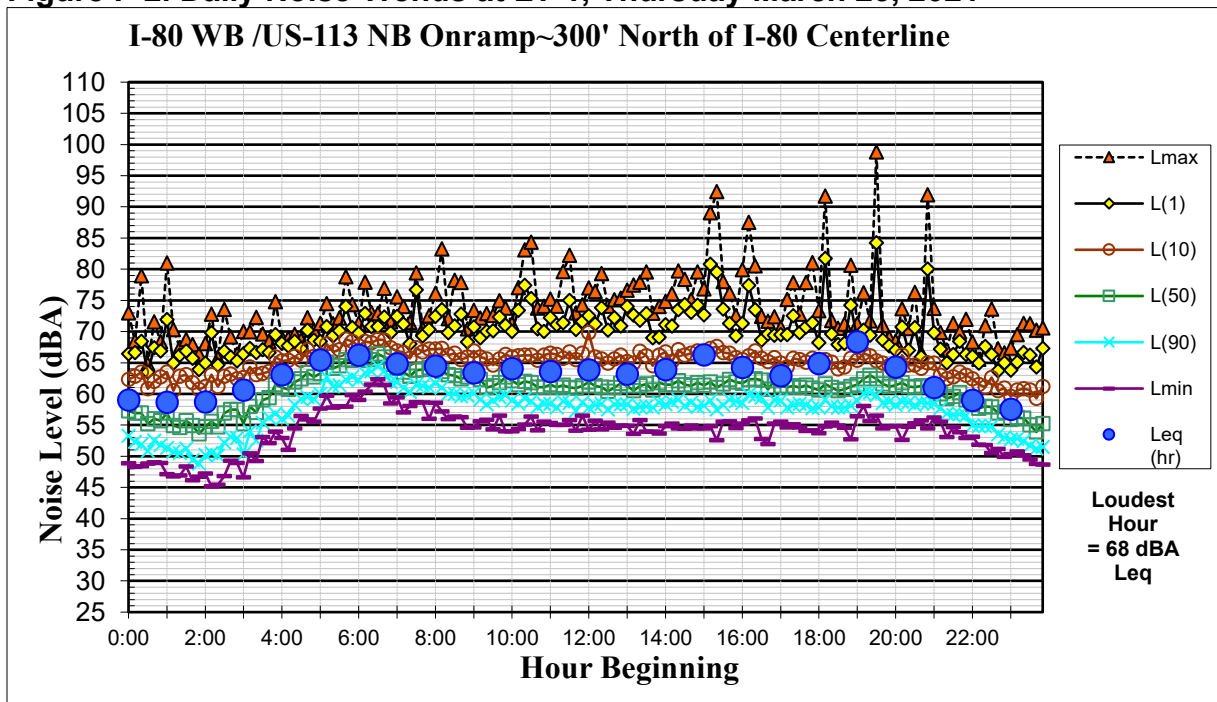


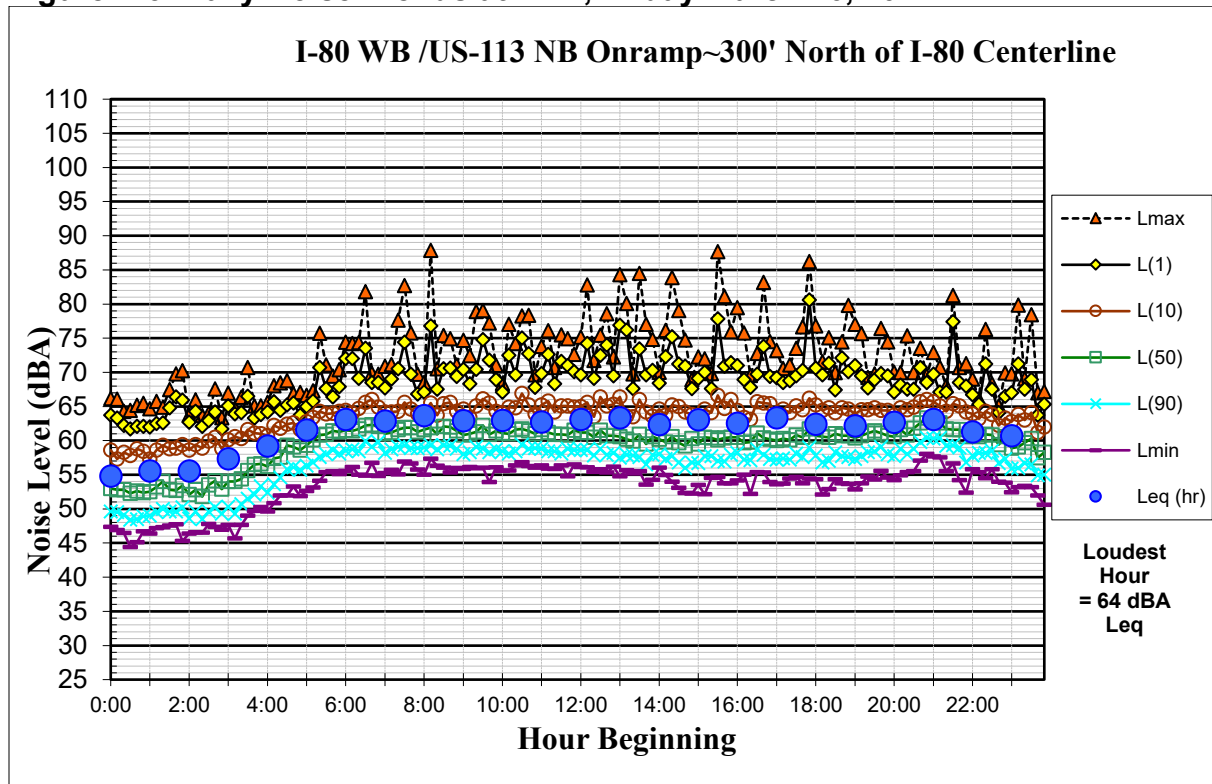
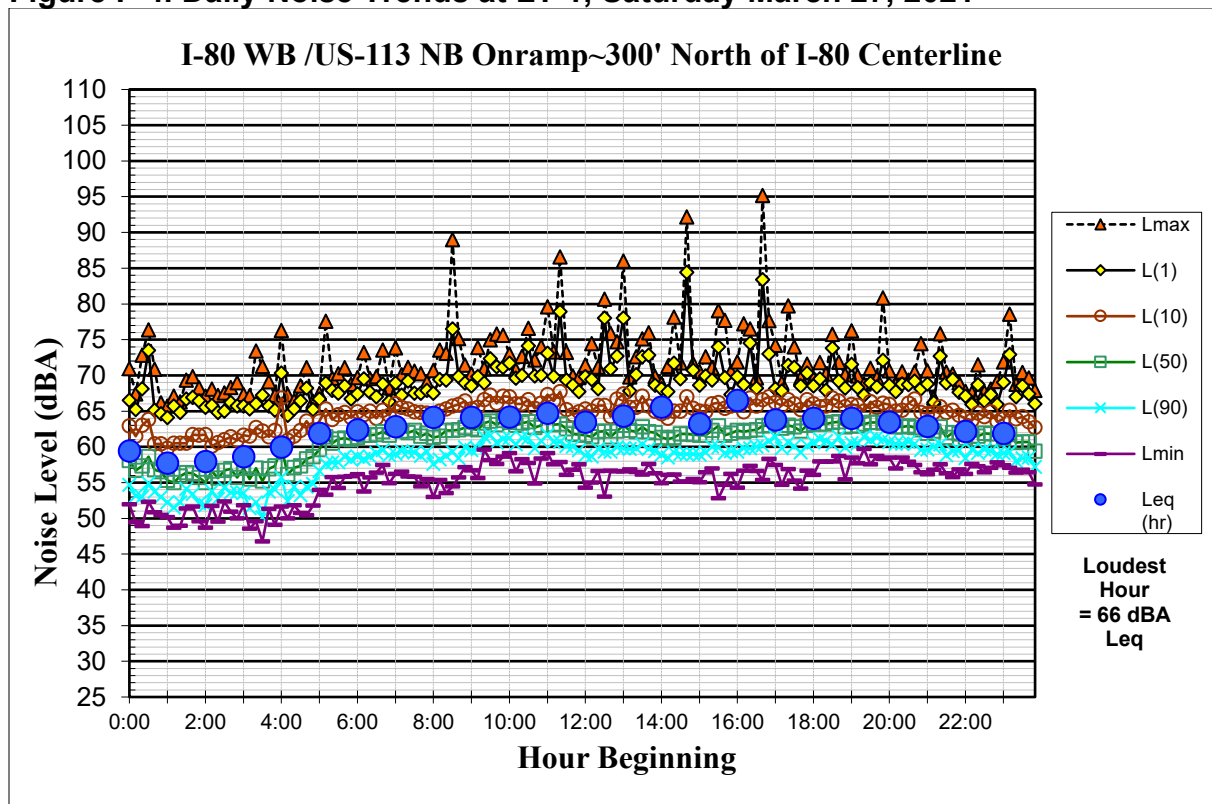
Figure F-3. Daily Noise Trends at LT-1, Friday March 26, 2021**Figure F-4. Daily Noise Trends at LT-1, Saturday March 27, 2021**

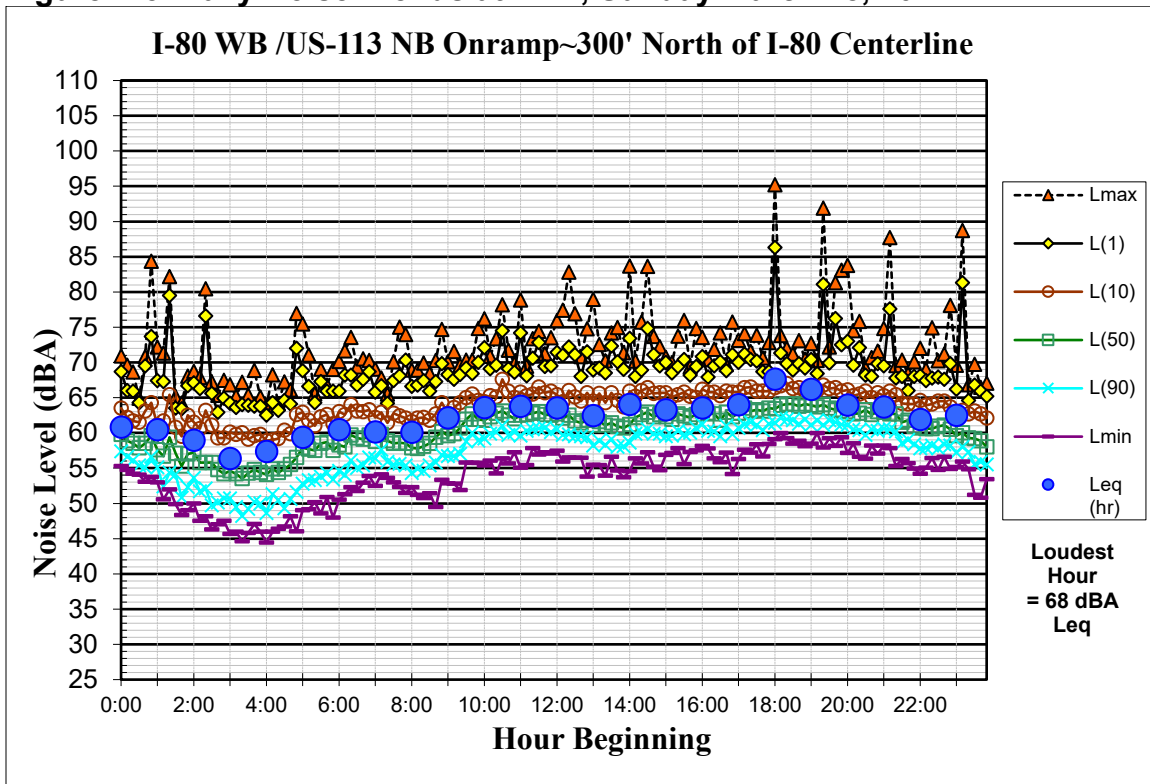
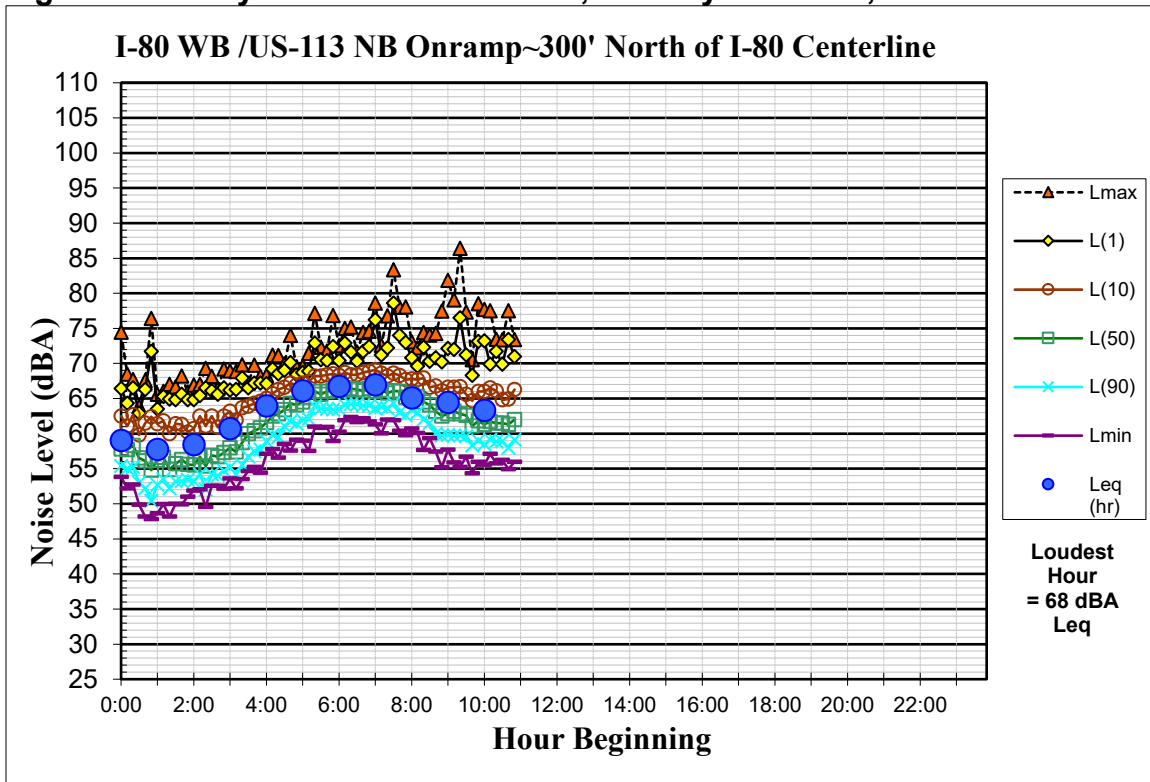
Figure F-5. Daily Noise Trends at LT-1, Sunday March 28, 2021**Figure F-6. Daily Noise Trends at LT-1, Monday March 29, 2021**

Figure F-7. Daily Noise Trends at LT-2, Wednesday March 24, 2021

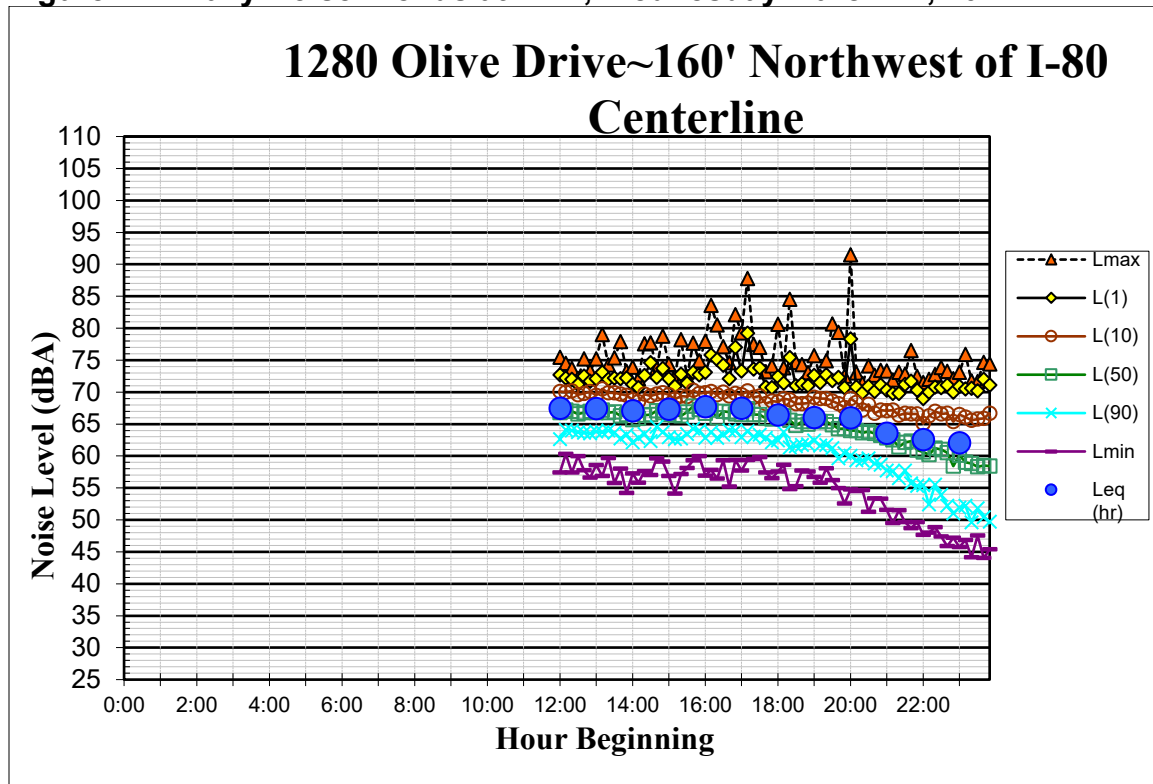


Figure F-8. Daily Noise Trends at LT-2, Thursday March 25, 2021

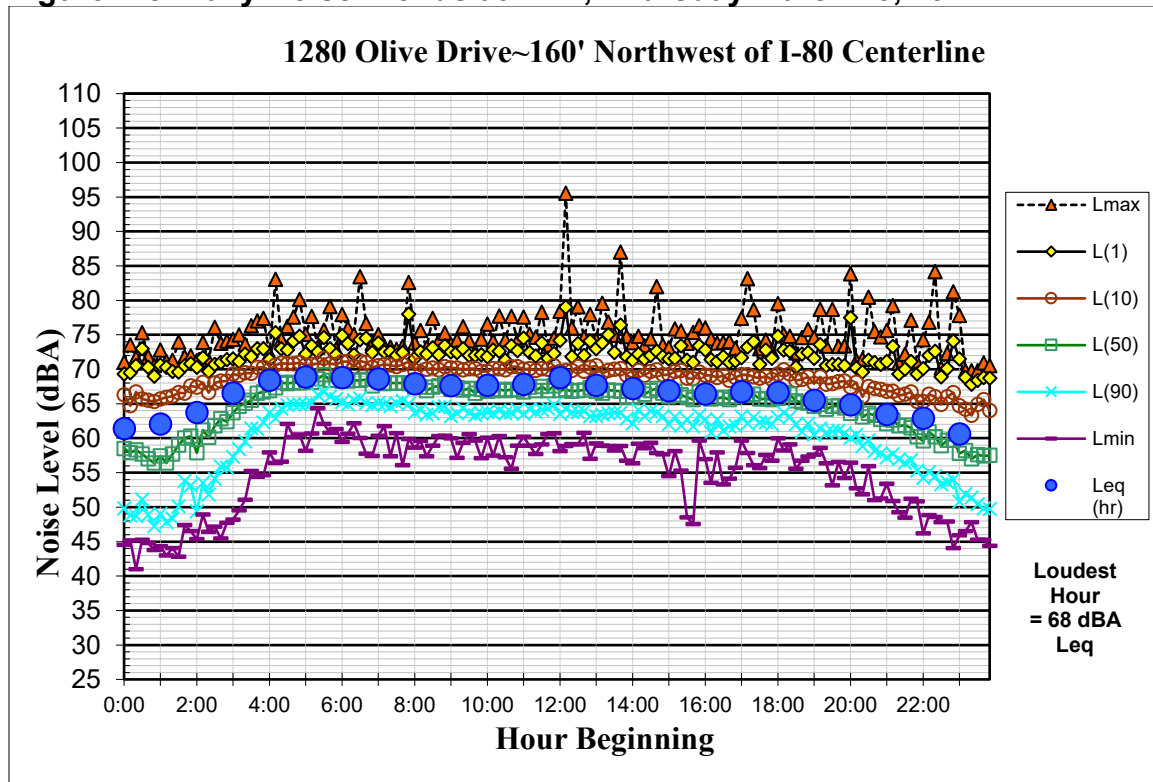


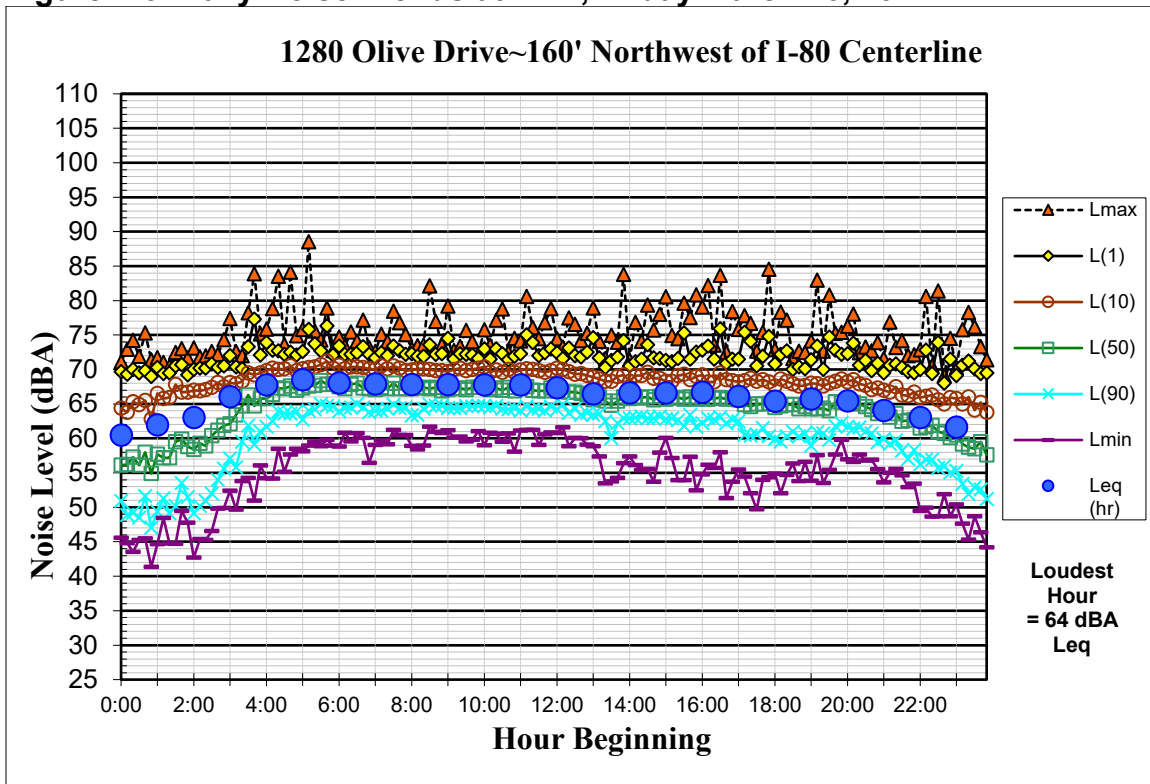
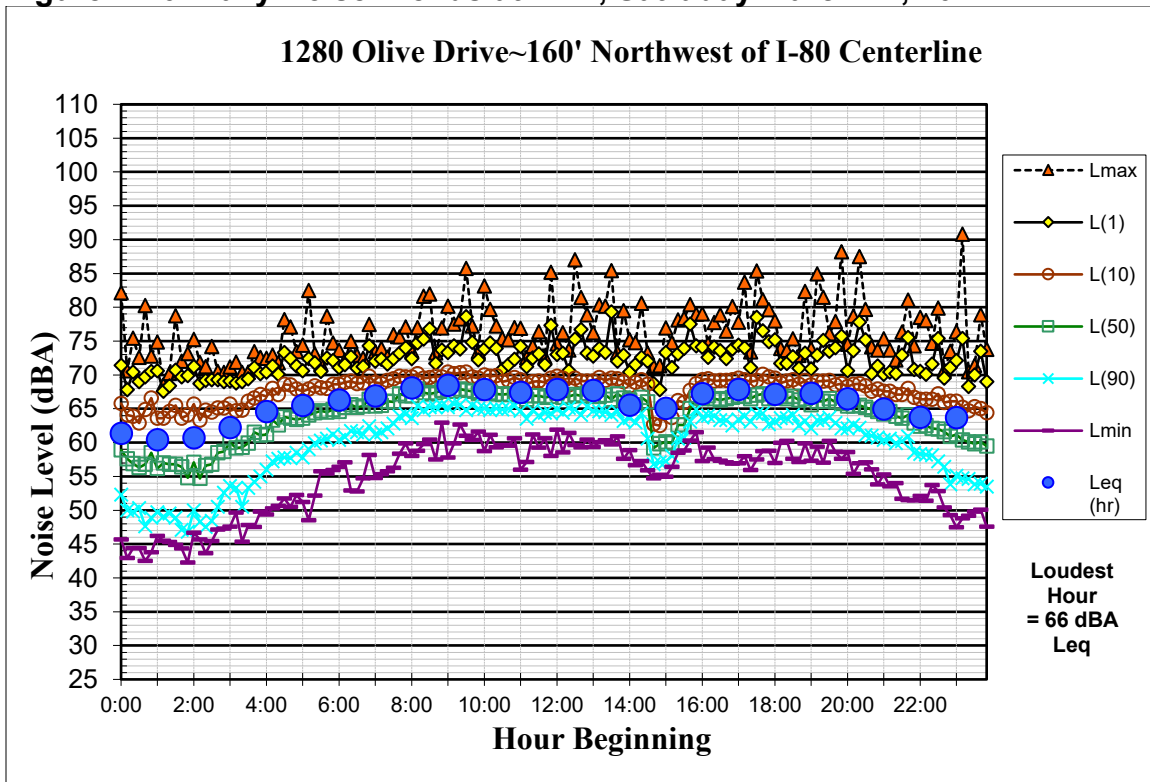
Figure F-9. Daily Noise Trends at LT-2, Friday March 26, 2021**Figure F-10. Daily Noise Trends at LT-2, Saturday March 27, 2021**

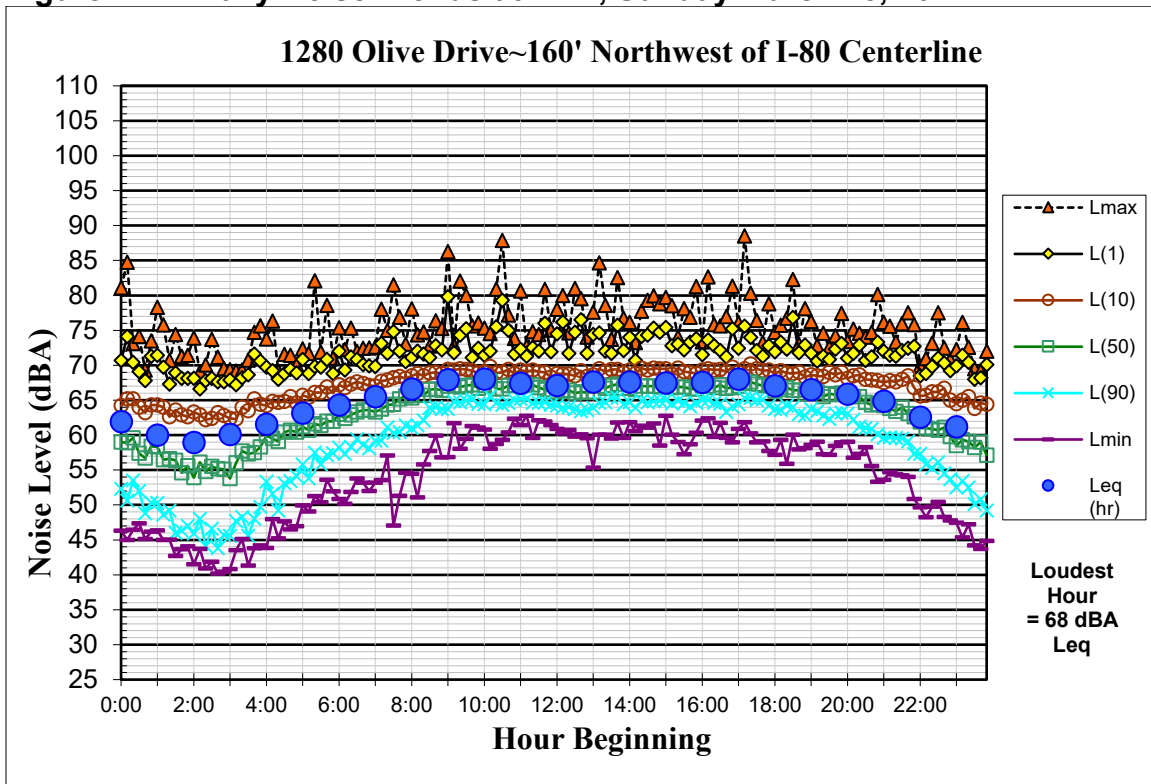
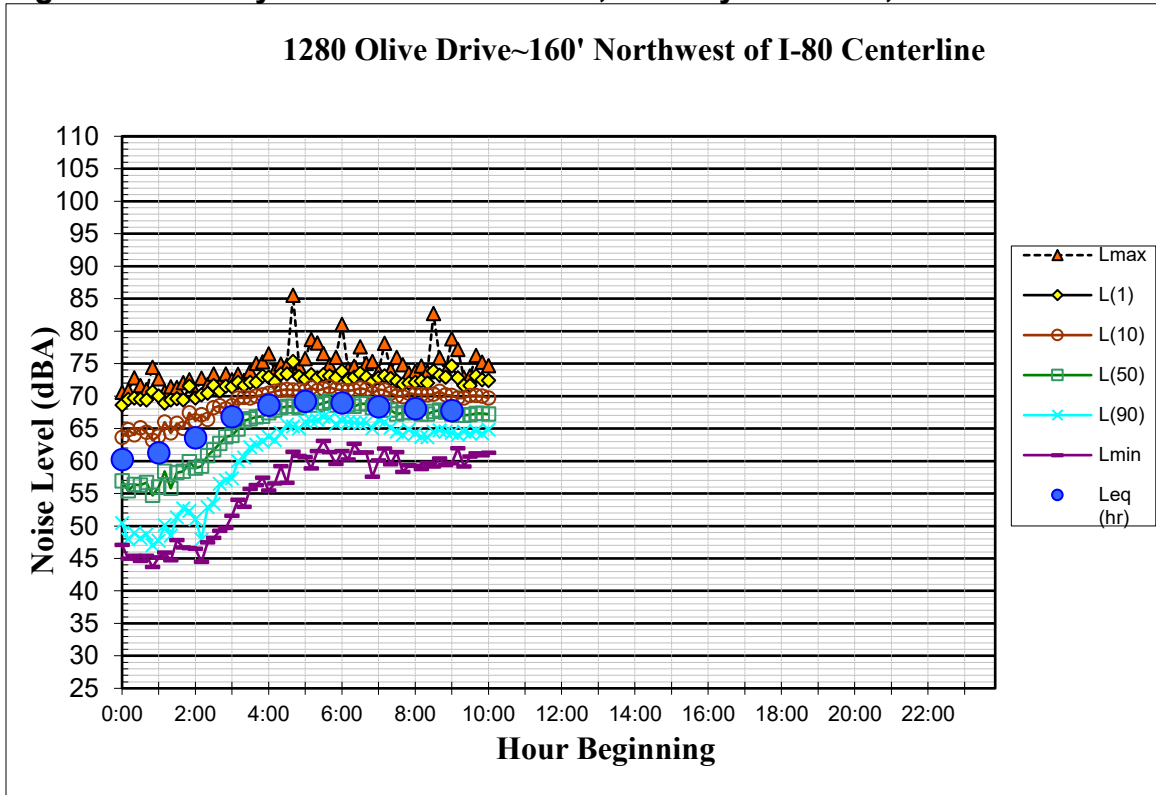
Figure F-11. Daily Noise Trends at LT-2, Sunday March 28, 2021**Figure F-12. Daily Noise Trends at LT-2, Monday March 29, 2021**

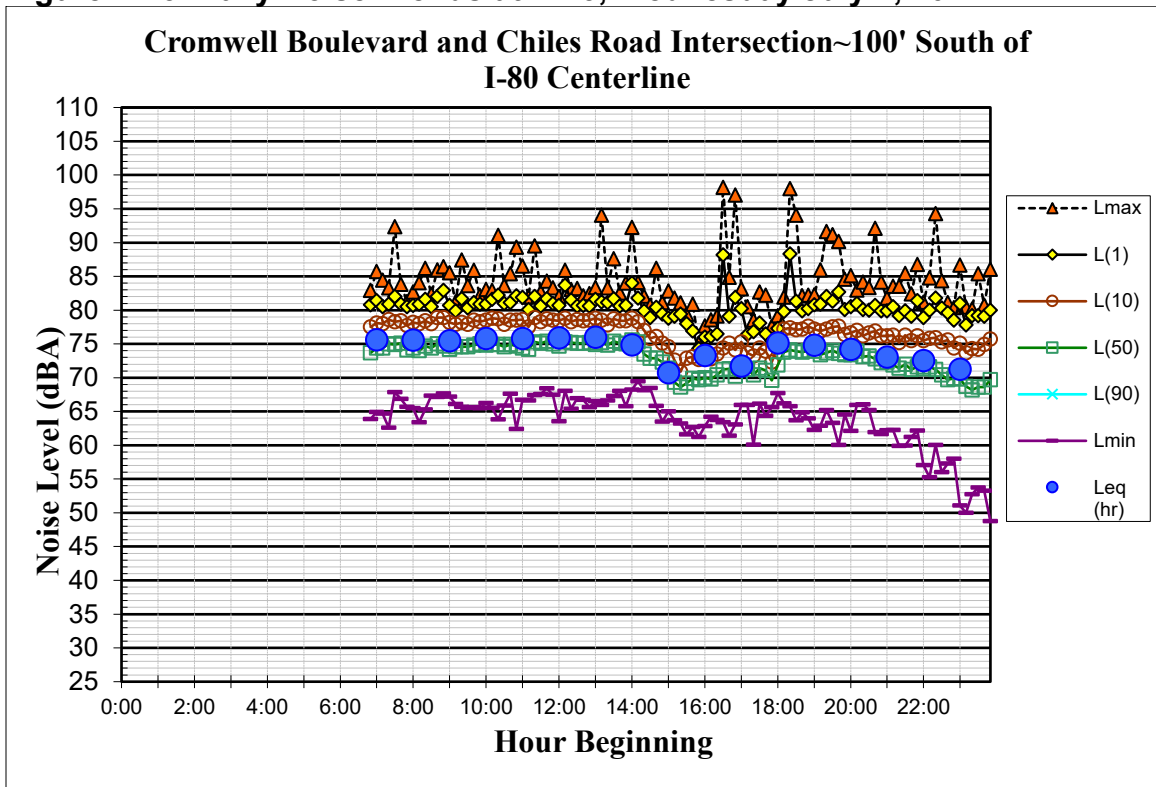
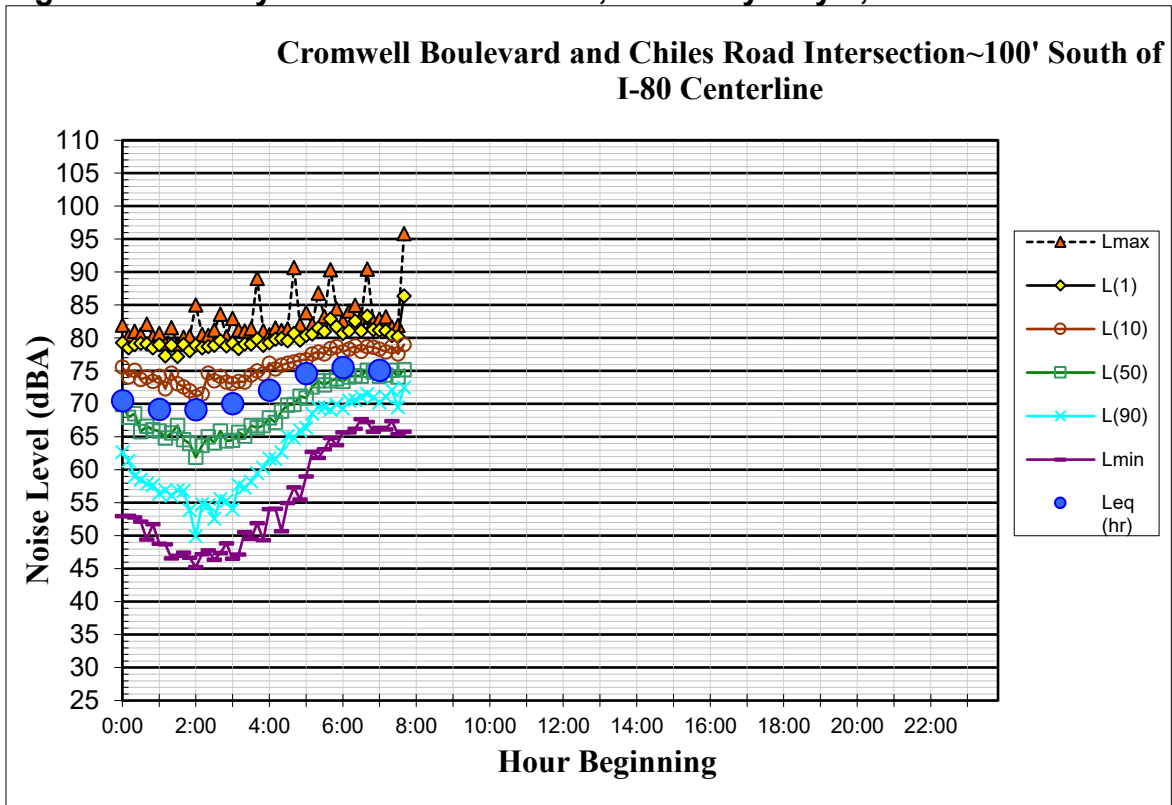
Figure F-13. Daily Noise Trends at LT-3, Wednesday July 7, 2021**Figure F-14. Daily Noise Trends at LT-3, Thursday July 8, 2021**

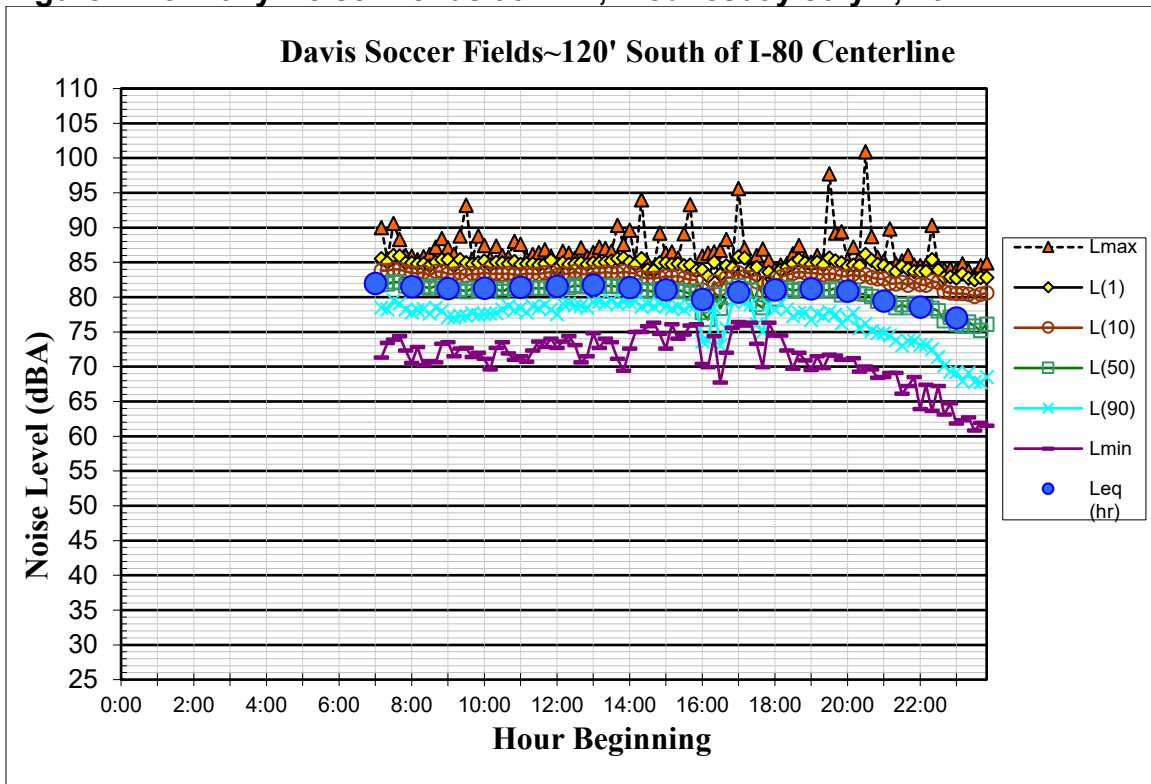
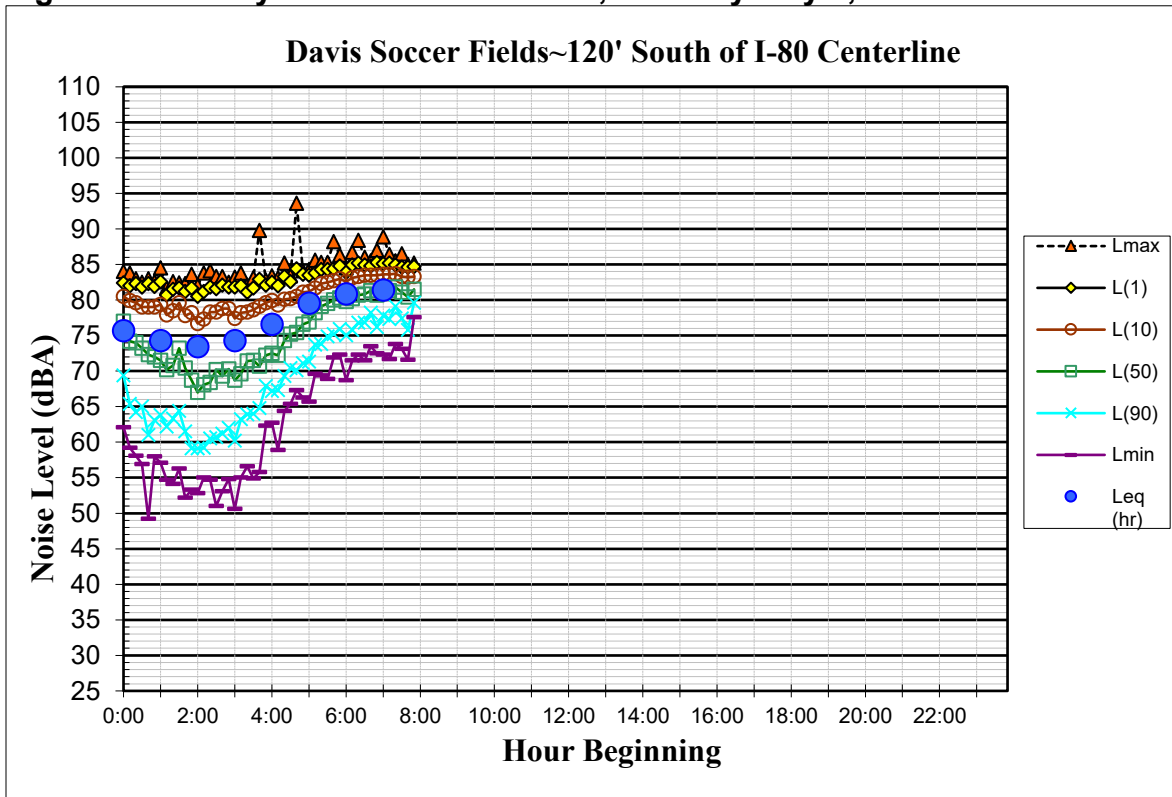
Figure F-15. Daily Noise Trends at LT-4, Wednesday July 7, 2021**Figure F-16. Daily Noise Trends at LT-4, Thursday July 8, 2021**

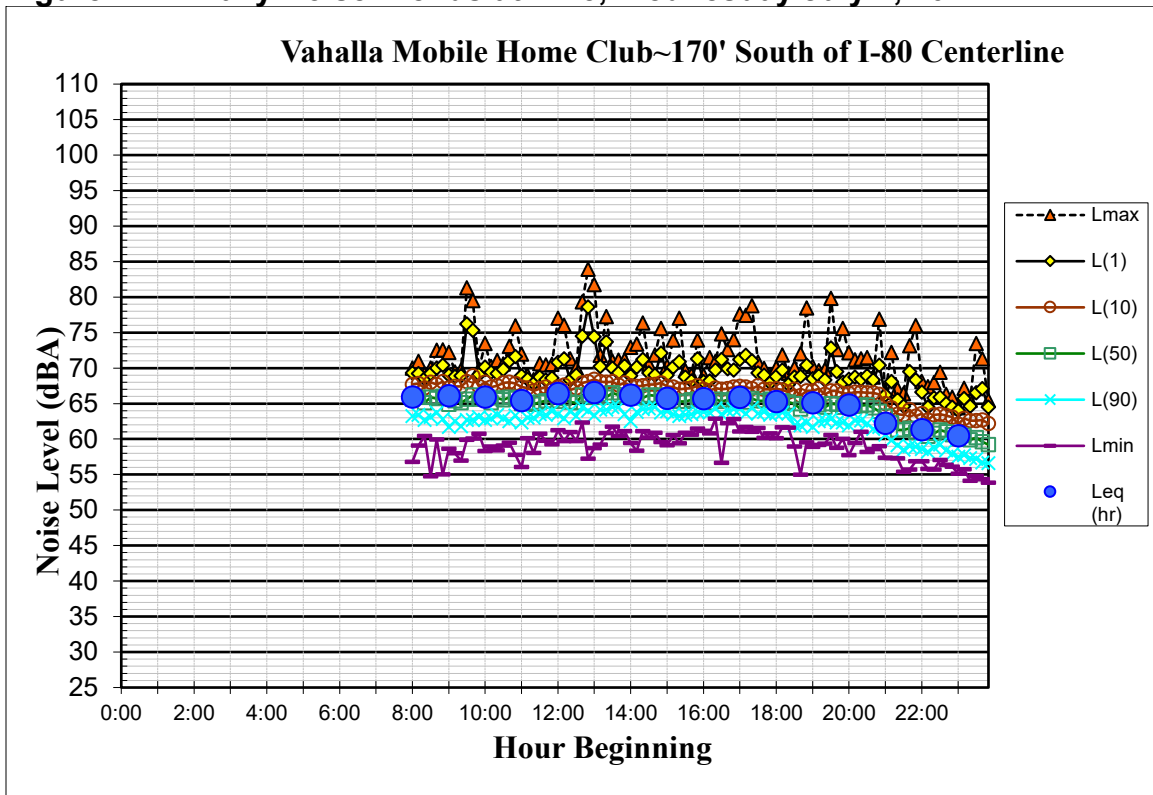
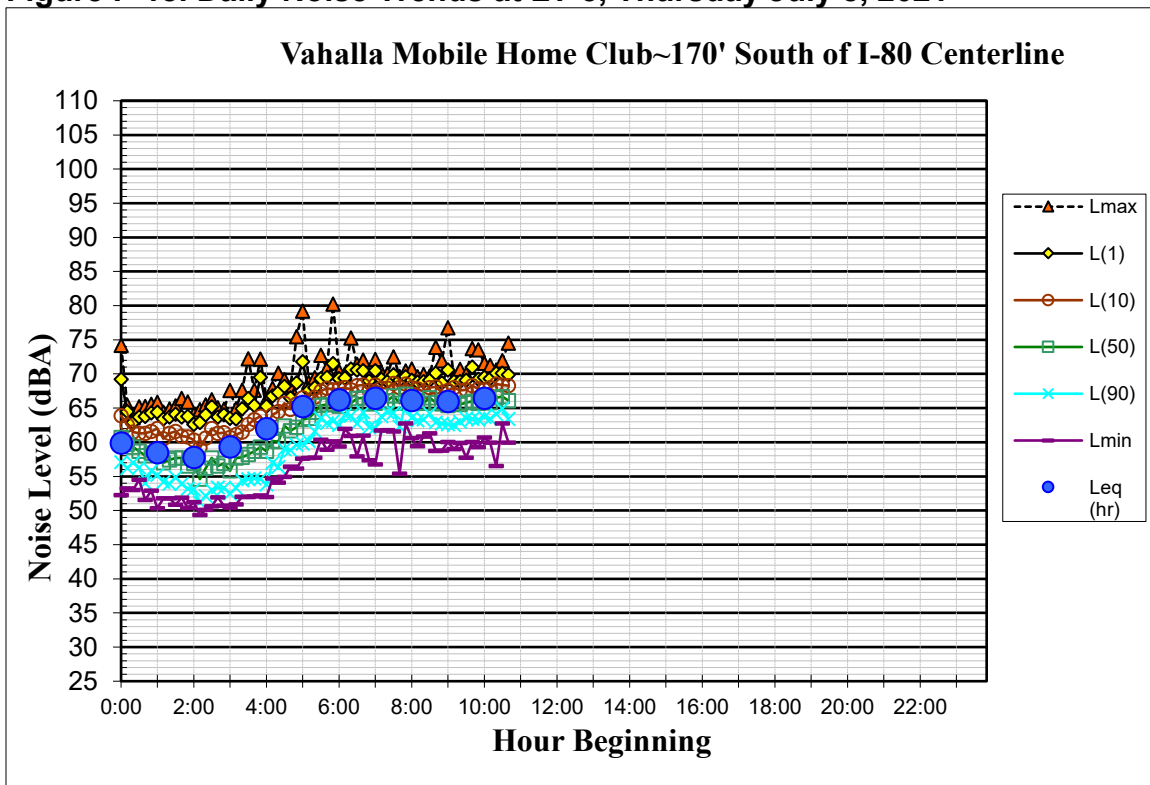
Figure F-17. Daily Noise Trends at LT-5, Wednesday July 7, 2021**Figure F-18. Daily Noise Trends at LT-5, Thursday July 8, 2021**

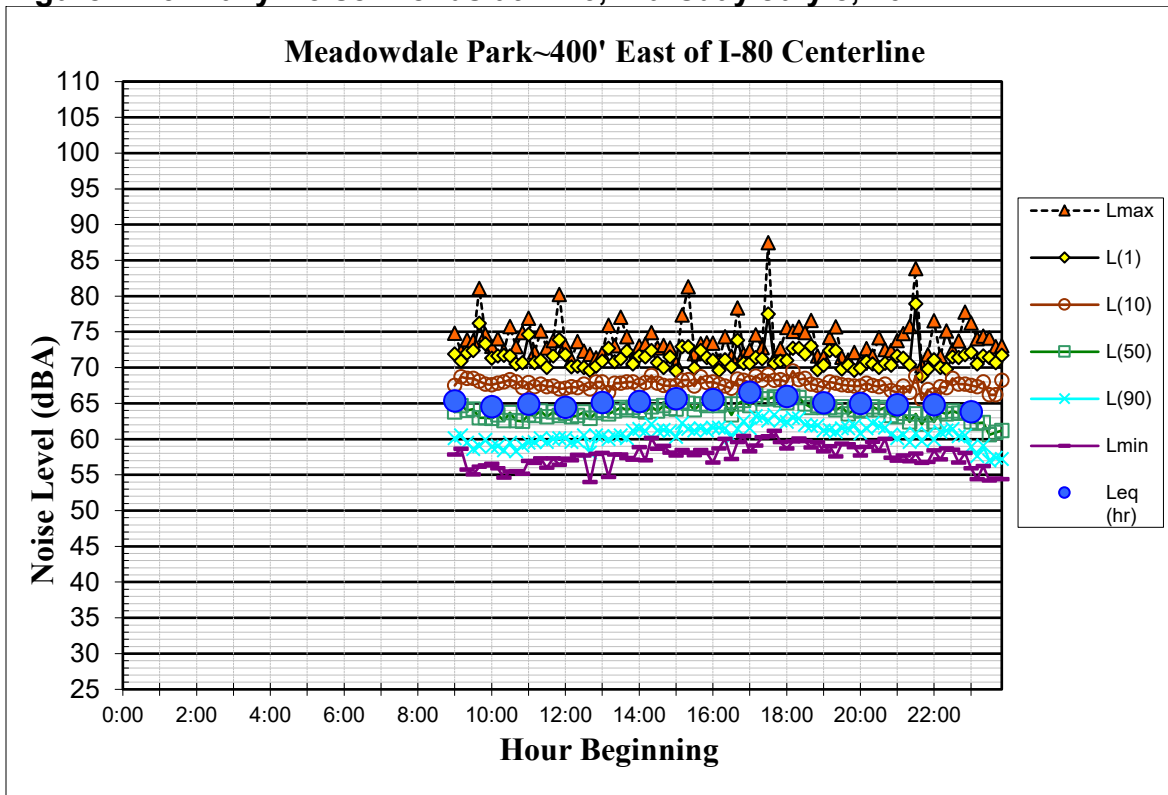
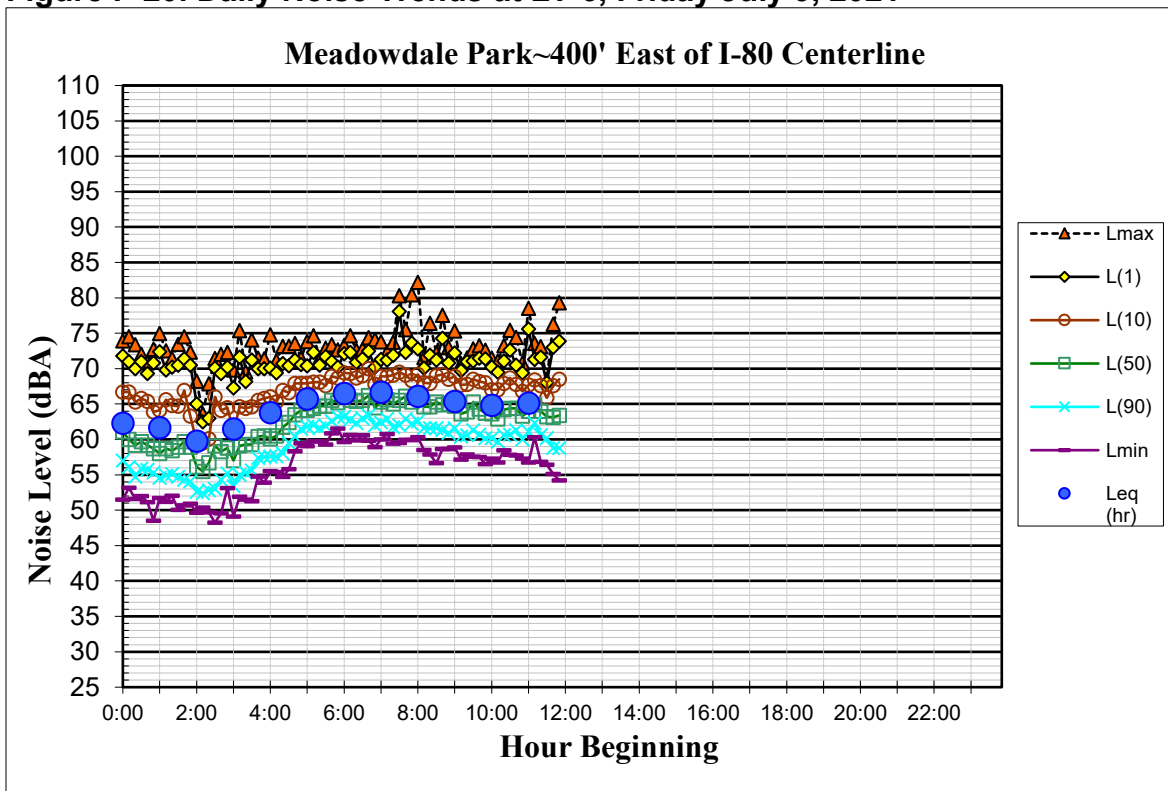
Figure F-19. Daily Noise Trends at LT-6, Thursday July 8, 2021**Figure F-20. Daily Noise Trends at LT-6, Friday July 9, 2021**

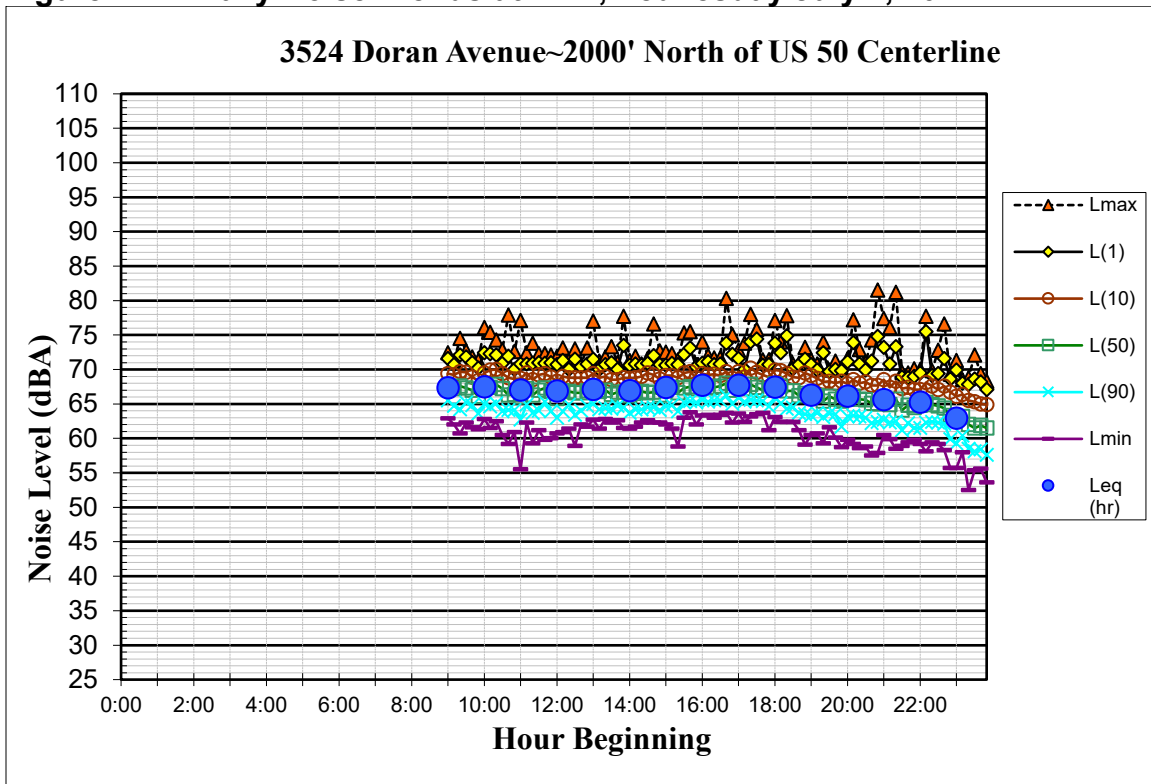
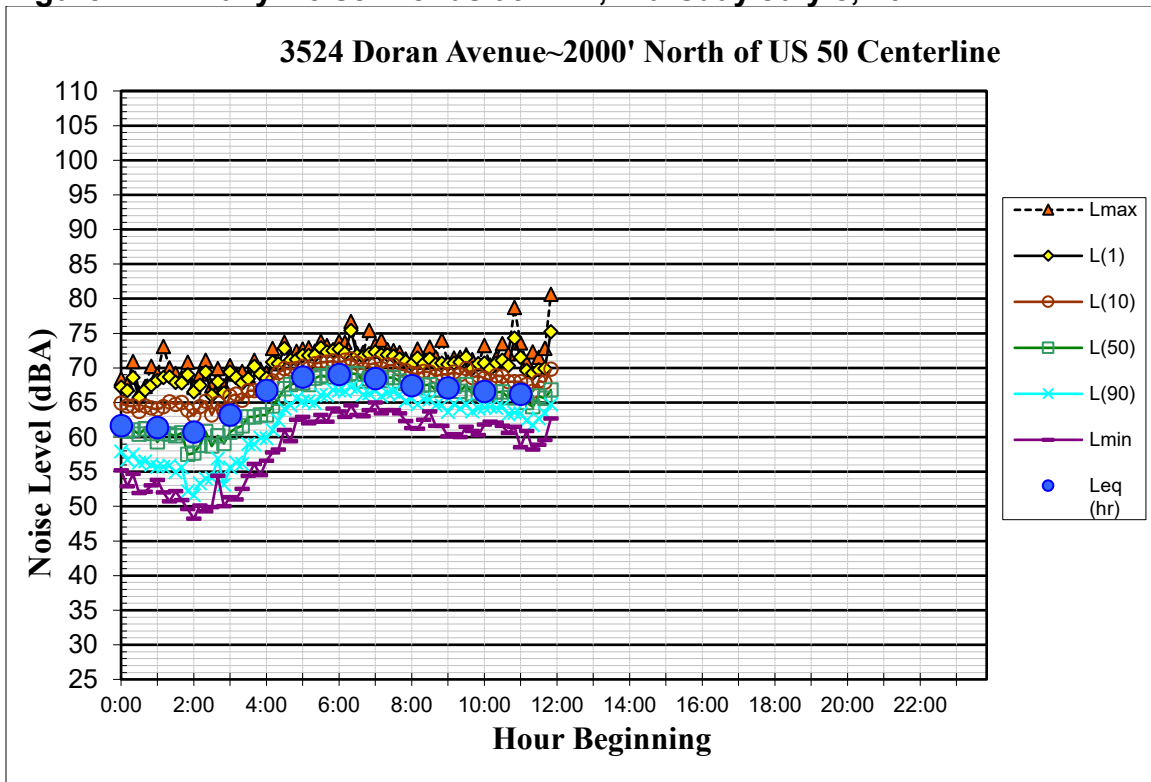
Figure F-21. Daily Noise Trends at LT-7, Wednesday July 7, 2021**Figure F-22. Daily Noise Trends at LT-7, Thursday July 8, 2021**

Figure F-23. Daily Noise Trends at LT-9, Wednesday July 7, 2021

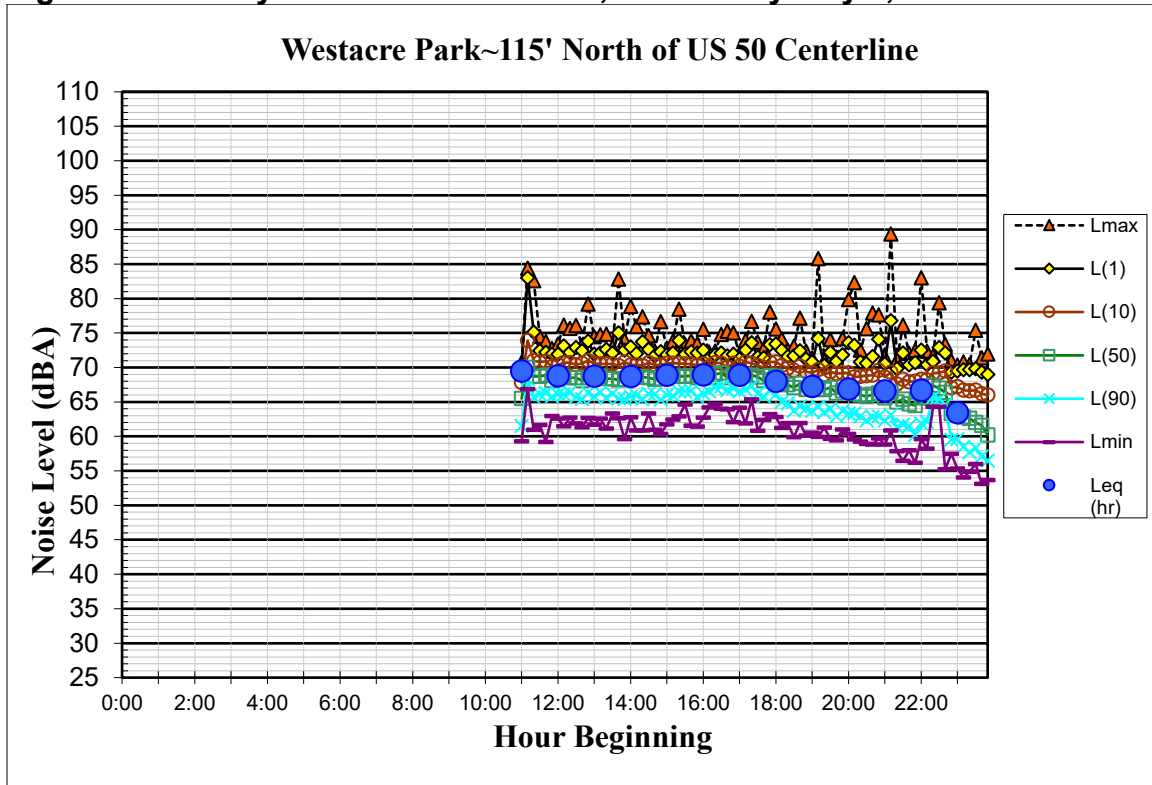


Figure F-24. Daily Noise Trends at LT-9, Thursday July 8, 2021

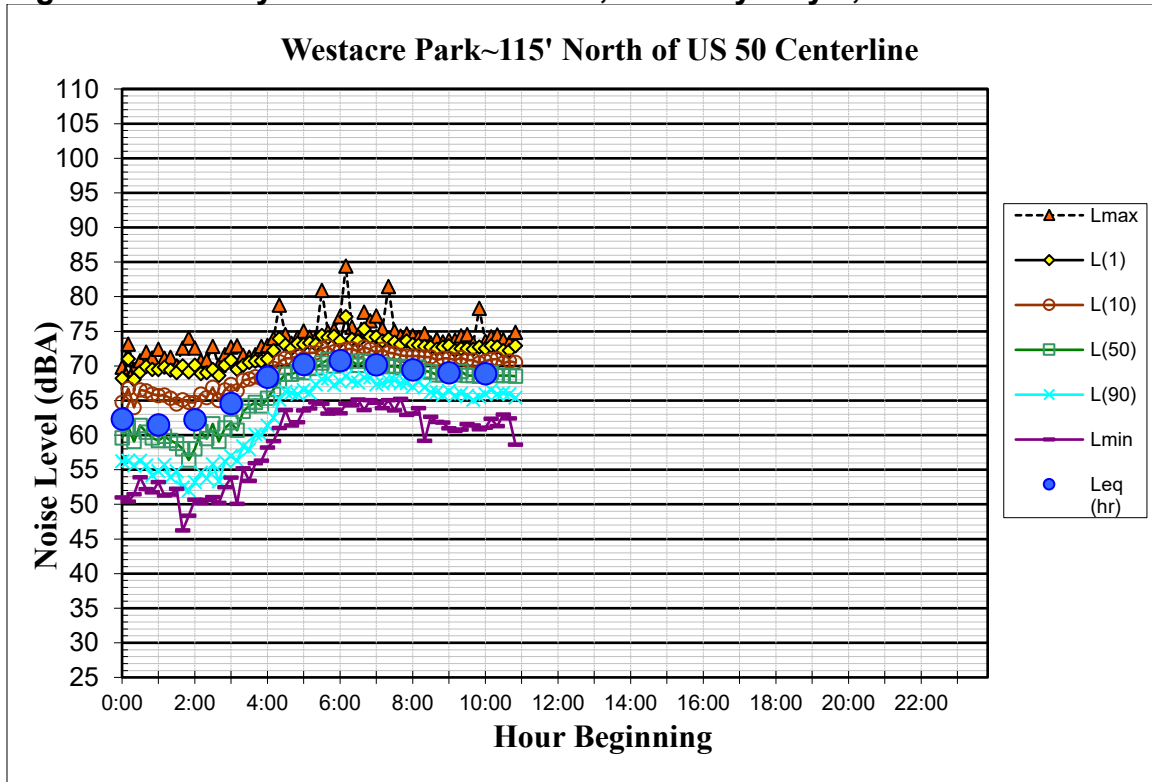


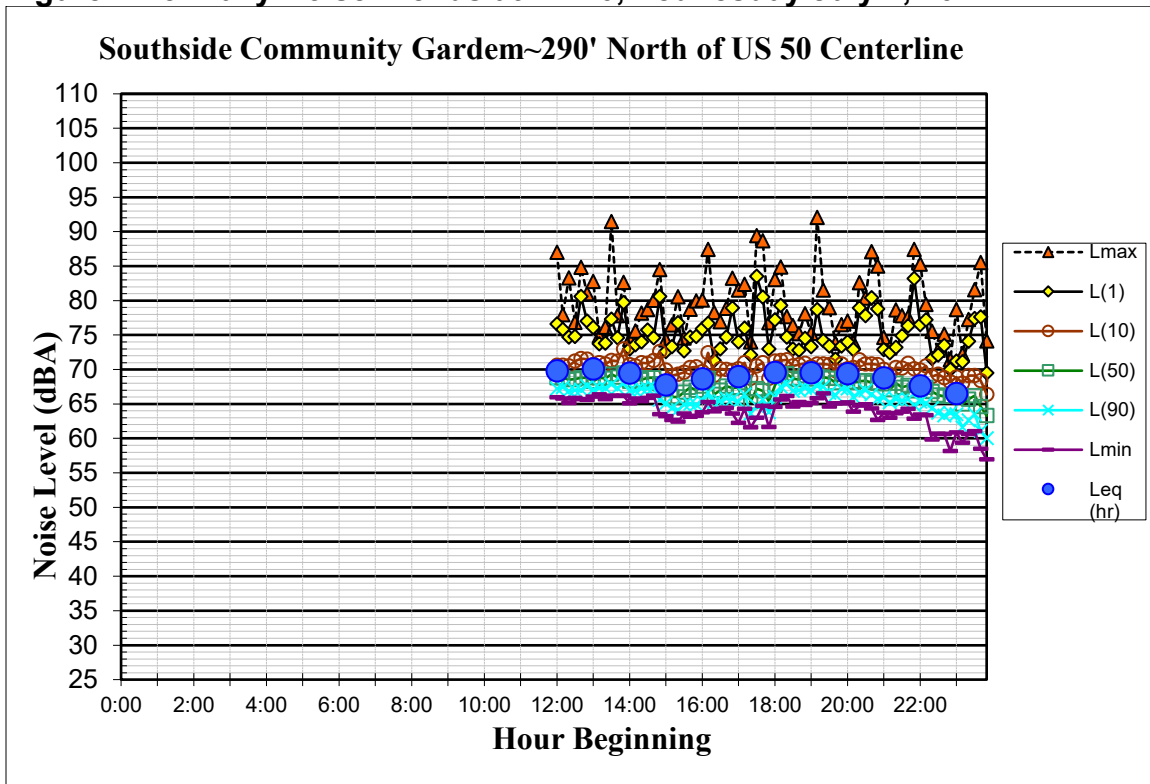
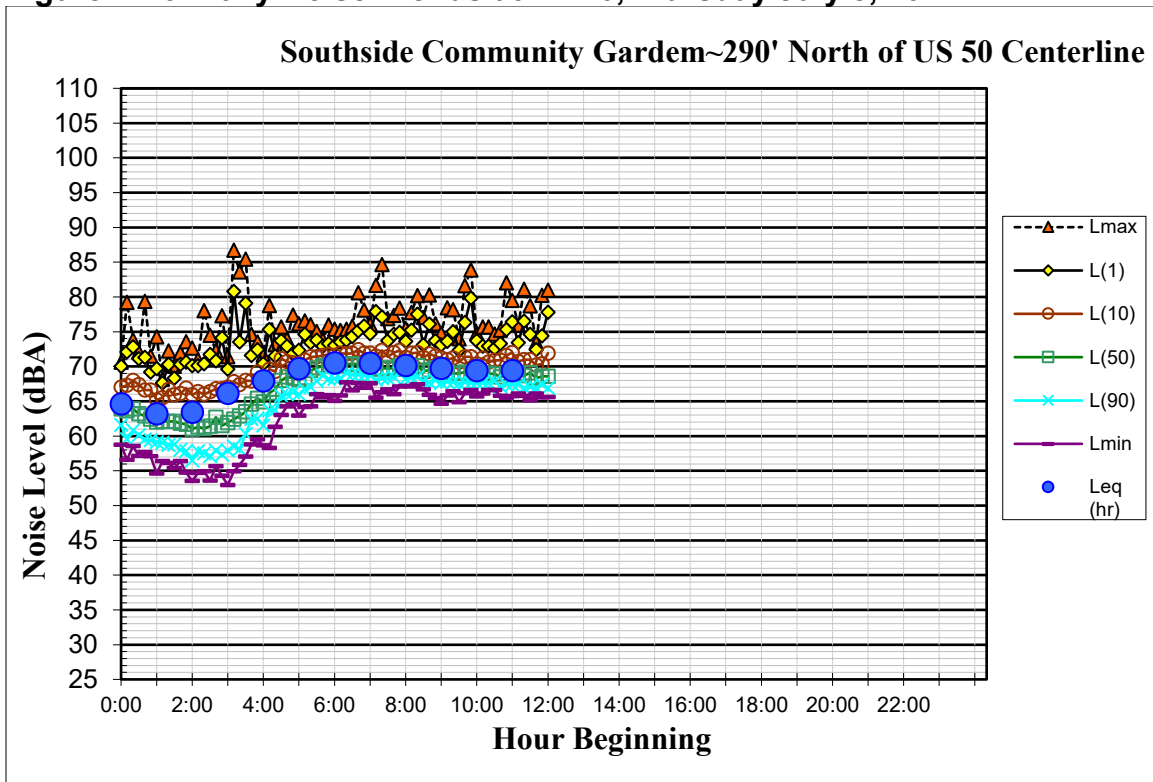
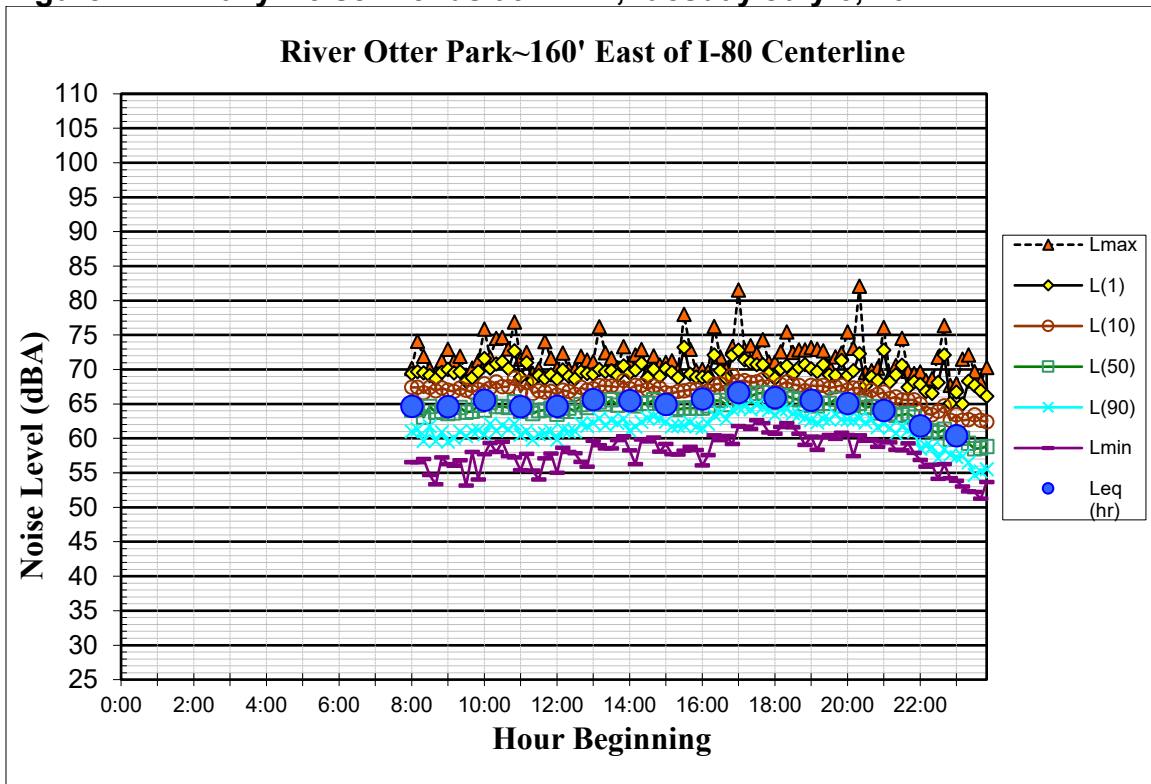
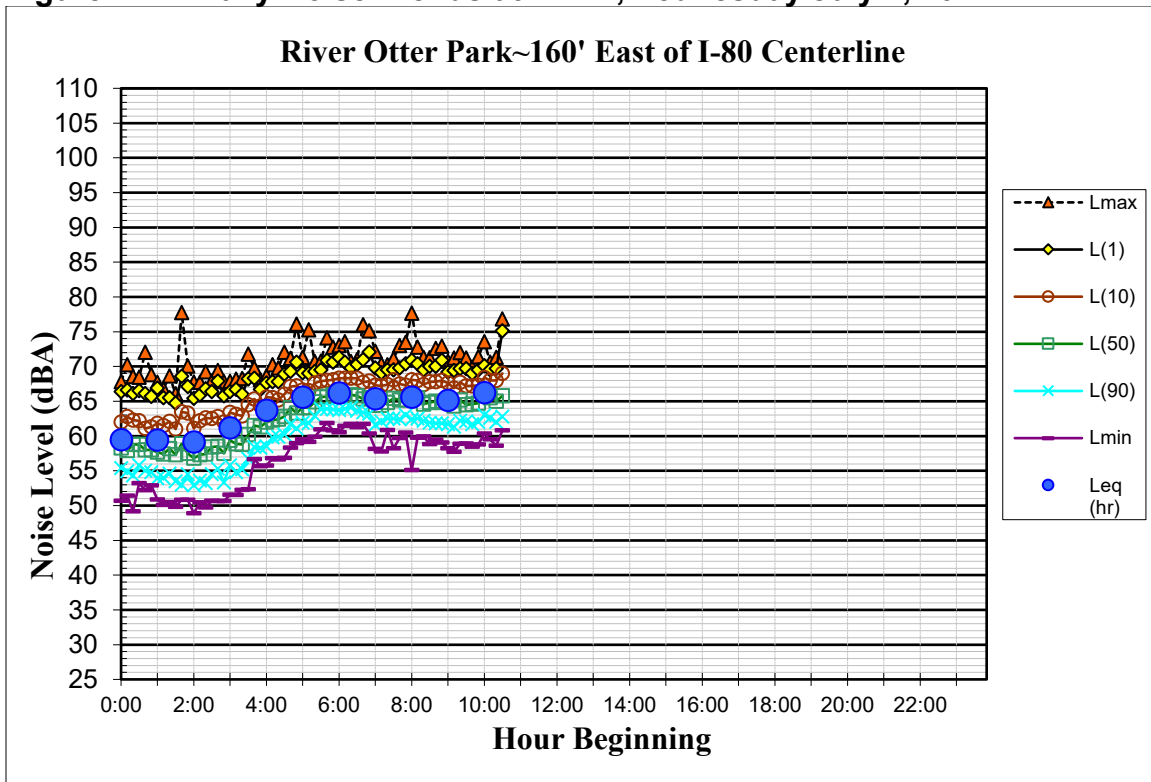
Figure F-25. Daily Noise Trends at LT-10, Wednesday July 7, 2021**Figure F-26. Daily Noise Trends at LT-10, Thursday July 8, 2021**

Figure F-27. Daily Noise Trends at LT-11, Tuesday July 6, 2021**Figure F-27. Daily Noise Trends at LT-11, Wednesday July 7, 2021**

Appendix G Traffic Volumes Used for TNM Model Validation

Table G-1. I-5 Traffic Volumes Used for TNM Model Validation

Date	Start Time	Eastbound					Westbound				
		A	M	H	B	X	A	M	H	B	X
3/25/2021	9:40 a.m.	2830	120	240	6	0	3576	204	372	0	0
	9:50 a.m.	3060	168	294	0	0	3360	222	378	0	0
	10:00 a.m.	2904	114	234	0	0	3072	150	324	6	6
	10:10 a.m.	3000	84	198	6	6	3108	114	306	0	0
	10:20 a.m.	3012	132	318	0	6	2808	198	228	6	18
	10:30 a.m.	3018	162	210	6	6	3240	120	312	18	0
	10:40 a.m.	3294	174	252	0	12	3240	150	258	0	6
	10:50 a.m.	3234	174	246	0	0	3822	138	360	6	12
	11:00 a.m.	2256	144	168	0	0	2358	144	192	0	0
	11:40 a.m.	3498	168	252	0	12	3618	72	240	0	0
	11:50 a.m.	3378	282	282	0	0	3402	156	288	0	6
	12:10 p.m.	3576	216	306	0	24	3522	168	294	6	6
	12:20 p.m.	3534	192	288	0	12	3510	180	198	6	18
	12:40 p.m.	3834	210	216	6	12	3378	156	282	6	12
	12:50 p.m.	3954	234	282	0	24	3306	162	210	0	0
	1:00 p.m.	4149	126	264	6	6	3666	198	156	6	0
	1:20 p.m.	4260	192	318	0	18	3390	168	210	0	12

Date	Start Time	Northbound					Southbound				
		A	M	H	B	X	A	M	H	B	X
3/25/2021	1:30 p.m.	4260	288	252	0	12	3744	150	258	6	12
	1:40 p.m.	4068	258	276	6	6	3222	138	186	6	0
	1:50 p.m.	4488	168	252	0	24	3108	102	192	6	6
	2:00 p.m.	4674	180	138	6	6	3744	144	210	0	12
	2:10 p.m.	3948	252	204	0	6	3648	186	234	0	6
7/6/2021	9:50 a.m.	2958	168	270	0	6	3594	150	294	0	18
	10:00 a.m.	2628	210	174	0	0	3576	180	300	0	0
	10:30 a.m.	3234	192	264	6	18	3846	96	306	12	6
	10:40 a.m.	3084	246	258	0	30	3498	144	240	0	12
	10:50 a.m.	3180	210	216	12	6	3528	192	234	0	0
	11:00 a.m.	3084	180	228	0	6	3216	144	168	0	0
	11:10 a.m.	2994	210	162	0	12	3606	174	252	0	6
	11:20 a.m.	3594	228	264	30	12	3774	174	246	12	0
	11:30 a.m.	3732	210	258	0	6	3774	156	228	0	0
	11:40 a.m.	3774	168	252	0	0	3750	138	186	12	0
	11:50 a.m.	3708	156	222	6	6	3918	102	228	0	12
	12:00 p.m.	3636	66	234	0	0	3510	90	318	0	18
	12:10 p.m.	3894	156	252	0	6	3558	72	324	0	24
	12:20 p.m.	1938	54	108	0	0	1788	24	150	0	6
	12:50 p.m.	2742	54	270	0	0	1854	54	174	0	6
	1:00 p.m.	2538	30	270	0	6	2106	54	174	0	18

Date	Start Time	Northbound					Southbound				
		A	M	H	B	X	A	M	H	B	X
7/6/2021	1:10 p.m.	2346	90	174	0	18	2190	42	198	0	0
	1:20 p.m.	1902	84	168	6	12	1932	60	108	6	12
	1:30 p.m.	2610	84	180	0	12	2244	54	120	0	0
	1:40 p.m.	3480	138	198	6	12	2388	108	114	6	0
	1:50 p.m.	2226	96	150	0	12	1488	48	84	6	0
7/7/2021	9:30 a.m.	1842	48	204	0	0	2592	90	234	24	0
	9:40 a.m.	1854	102	204	6	24	2640	60	210	12	0
	9:50 a.m.	1620	84	252	0	24	2892	84	228	0	0
	10:00 a.m.	1752	132	306	0	0	2478	66	168	0	0
	10:10 a.m.	1788	84	276	0	6	2628	102	186	6	0
	10:20 a.m.	1842	108	294	6	6	2484	36	288	0	0
	11:10 a.m.	2340	102	132	0	0	2862	90	270	6	12
	11:20 a.m.	2454	78	150	0	18	3126	84	192	6	6
	11:30 a.m.	2910	66	102	24	12	3048	72	162	0	0
	11:40 a.m.	3048	54	162	6	12	2952	66	192	0	6
	11:50 a.m.	2778	42	216	6	12	2748	96	252	6	6
	12:00 p.m.	2772	126	168	6	18	3096	84	174	6	12
	12:10 p.m.	2992	96	150	12	6	2820	114	162	12	6
	12:30 p.m.	2808	72	126	6	6	2532	72	120	6	30
	12:40 p.m.	3834	210	216	0	0	3378	156	282	0	0
	12:50 p.m.	3348	144	276	0	18	2580	108	192	0	6

Date	Start Time	Northbound					Southbound				
		A	M	H	B	X	A	M	H	B	X
7/7/2021	1:00 p.m.	3366	78	267	6	6	2886	126	165	6	12
	1:10 p.m.	2346	90	174	0	12	2190	42	198	0	0
	1:20 p.m.	3081	141	246	6	18	2790	105	204	6	12
	1:30 p.m.	3339	186	210	0	18	2838	105	183	6	12
	1:40 p.m.	3984	204	225	6	12	2979	111	159	6	0
	1:50 p.m.	4674	168	252	0	18	3108	102	192	6	6
7/8/2021	9:20 a.m.	2028	72	132	18	12	2544	48	114	6	24
	9:30 a.m.	2214	60	114	12	0	2790	72	210	6	18
	9:50 a.m.	2166	60	126	12	0	2430	54	168	0	12
	10:00 a.m.	2148	108	132	6	0	2604	60	96	0	6
	11:50 a.m.	3618	150	408	0	30	3420	96	276	6	0
	12:00 p.m.	3582	108	342	0	6	3954	96	258	0	6

Appendix H Comparison of Noise Levels Between Alternatives 3a and 2b

Table H-1. Comparison of Noise Levels Between Alternatives 3a and 2b

Receptor ID	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA		Change from Alt 3a to Alt 2b (Alt3a-Alt2b)
	2049 Build (Alt 3a)	2049 Build (Alt 2b)	
ST-1	68	68	0
ST-2	70	70	0
ST-3	67	67	0
ST-4	58	58	0
ST-5	72	72	0
ST-6	58	58	0
ST-7	72	72	0
ST-8	69	69	0
ST-9	65	64	1
ST-10	50	50	0
ST-11	66	66	0
ST-12	71	71	0
ST-13	55	55	0
ST-14	61	61	0
ST-15	65	65	0
ST-16	52	52	0
ST-17	61	61	0
ST-18	61	61	0
ST-19	56	55	1
ST-20	67	67	0
ST-21	60	60	0
ST-22	66	66	0
ST-23	56	56	0
ST-24	59	59	0
ST-25	65	65	0
ST-26	47	47	0
ST-27	51	51	0
ST-28	60	60	0
ST-29	58	58	0
ST-30	80	80	0
ST-31	70	70	0
ST-32	65	65	0
ST-34	53	53	0
ST-35	68	68	0

Receptor ID	Loudest-Hour Exterior Noise Levels, Leq _[h] dBA		Change from Alt 3a to Alt 2b (Alt3a-Alt2b)
	2049 Build (Alt 3a)	2049 Build (Alt 2b)	
ST-36	57	57	0
ST-37	63	63	0
ST-38	67	68	-1
ST-39	68	68	0
ST-40	65	65	0
ST-41	66	66	0
ST-43	67	67	0
ST-44	57	57	0
ST-45	65	65	0
ST-46	67	67	0
ST-47	74	74	0
ST-48	65	65	0
ST-49	70	70	0
ST-50	59	59	0
ST-51	65	65	0
ST-52	62	62	0
ST-53	63	63	0
ST-55	63	63	0
ST-56	65	65	0
ST-58	66	66	0
ST-59	70	70	0
ST-60	72	72	0
ST-62	66	66	0
ST-63	66	66	0
ST-64	72	72	0
ST-65	71	71	0
ST-66	60	60	0
ST-67	63	63	0
ST-68	66	66	0
ST-70	67	67	0
ST-71	65	65	0
ST-72	58	58	0
ST-73	60	60	0
ST-74	62	62	0
ST-75	55	55	0
R1	63	63	0
R4	57	57	0
R5	71	71	0
R6	69	69	0
R7	56	56	0

Receptor ID	Loudest-Hour Exterior Noise Levels, Leq _[h] dBA		Change from Alt 3a to Alt 2b (Alt3a-Alt2b)
	2049 Build (Alt 3a)	2049 Build (Alt 2b)	
R8	60	60	0
R9	53	53	0
R10	61	61	0
R11	55	55	0
R12	63	63	0
R13	65	65	0
R14	65	65	0
R15	53	53	0
R17	65	65	0
R18	57	57	0
R19	56	56	0
R20	53	53	0
R21	64	64	0
R22	65	65	0
R23	64	64	0
R24	59	59	0
R25	60	60	0
R26	61	61	0
R27	62	62	0
R28	60	60	0
R29	59	59	0
R30	71	71	0
R31	59	59	0
R32	59	59	0
R33	54	54	0
R34	65	65	0
R35	64	64	0
R36	59	59	0
R37	48	48	0
R38	49	48	1
R39	59	59	0
R40	50	50	0
R41	45	45	0
R42	51	51	0
R43	49	49	0
R44	47	47	0
R45	70	70	0
R46	52	52	0
R47	54	54	0
R48	55	55	0

Receptor ID	Loudest-Hour Exterior Noise Levels, Leq _[h] dBA		Change from Alt 3a to Alt 2b (Alt3a-Alt2b)
	2049 Build (Alt 3a)	2049 Build (Alt 2b)	
R49	61	61	0
R50	62	62	0
R51	63	63	0
R52	58	58	0
R53	58	59	0
R54	62	62	0
R55	64	64	0
R56	60	60	0
R57	63	63	0
R58	61	61	0
R59	72	72	0
R60	61	62	-1
R61	63	64	-1
R62	62	63	-1
R63	61	62	-1
R64	58	58	0
R65	66	66	0
R66	56	56	0
R67	57	57	0
R68	68	68	0
R69	62	62	0
R70	70	70	0
R71	70	70	0
R72	67	67	0
R73	66	66	0
R74	63	63	0
R75	69	69	0
R76	59	59	0
R77	59	59	0
R78	60	60	0
R79	68	68	0
R80	68	68	0
R81	60	60	0
R82	71	71	0
R83	70	70	0
R84	71	71	0
R85	72	72	0
R86	60	60	0
R87	60	60	0
R88	62	62	0

Receptor ID	Loudest-Hour Exterior Noise Levels, Leq _[h] dBA		Change from Alt 3a to Alt 2b (Alt3a-Alt2b)
	2049 Build (Alt 3a)	2049 Build (Alt 2b)	
R89	62	62	0
R90	62	62	0
R91	64	64	0
R92	71	71	0
R93	66	66	0
R94	64	64	0
R95	64	64	0
R96	66	66	0
R97	67	67	0
R98	65	65	0
R99	72	72	0
R100	65	65	0
R101	65	66	0
R102	65	65	0
R103	61	62	-1
R104	64	65	-1
R105	69	69	0
R106	71	71	0
R107	70	70	0
R108	66	66	0
R109	67	66	1
R110	66	66	0
R111	66	66	0
R112	62	62	0
R113	67	67	0
R114	62	62	0
R115	59	59	0
R116	62	62	0
R117	61	61	0
R118	61	61	0
R119	64	64	0
R120	62	62	0
R121	55	55	0
R122	62	62	0
R123	57	57	0
R124	60	60	0
R125	67	67	0
R126	66	66	0
R127	59	59	0
R128	60	60	0

Receptor ID	Loudest-Hour Exterior Noise Levels, Leq _[h] dBA		Change from Alt 3a to Alt 2b (Alt3a-Alt2b)
	2049 Build (Alt 3a)	2049 Build (Alt 2b)	
R129	56	56	0
R130	64	64	0
R131	58	58	0
R132	54	54	0
R133	52	52	0
R134	60	60	0
R135	54	54	0
R136	56	56	0
R137	54	54	0
R138	55	55	0
R139	61	61	0
R140	54	54	0
R141	66	66	0
R142	55	55	0
R143	52	52	0
R144	63	63	0
R145	65	65	0
R146	65	65	0
R147	63	63	0
R148	57	57	0
R149	63	63	0
R150	72	72	0
R151	70	70	0
R152	66	67	-1
R153	65	66	-1
R154	65	65	-1
R155	66	67	-1
R156	68	67	1
R157	66	65	1
R158	68	68	0
R159	69	69	0
R160	63	62	1
R161	66	66	0
R162	67	67	0
R163	73	73	0
R164	71	71	0
R165	71	71	0
R166	71	71	0
R167	71	71	0
R168	56	56	0

Receptor ID	Loudest-Hour Exterior Noise Levels, Leq _[h] dBA		Change from Alt 3a to Alt 2b (Alt3a-Alt2b)
	2049 Build (Alt 3a)	2049 Build (Alt 2b)	
R169	57	57	0
R170	75	75	0
R171	75	75	0
R172	77	77	0
R173	70	70	0
R174	67	67	0
R175	66	66	0
R176	71	71	0
R177	66	67	-1
R178	79	79	0
R179	75	75	0
R180	73	73	0
R181	71	71	0
R182	71	71	0
R183	68	68	0
R184	72	72	0
R185	73	72	1
R186	72	71	1
R187	72	72	0
R188	69	69	0
R189	75	75	0
R190	76	76	0
R191	78	78	0
R192	71	71	0

Appendix I Calculated Interior Noise Levels

Table I-1. Calculated Interior Noise Levels Alternatives 3a and 2b

Receptor ID	Loudest-Hour Exterior Noise Levels, Leq _[h] dBA ²			Calculated Interior Noise Level	Land Use	Impact ¹
	Existing	2049 No Build (Alt 1)	2049 Build (Alt 3a)	2049 Build (Alt 3a)		
ST-8	69	69	69	39	School	None
ST-18	60	61	61	31	School	None
ST-23	56	56	56	26	Preschool	None
ST-43	65	67	67	37	Place of Worship	None
ST-48	64	64	65	35	School	None
ST-53	61	63	63	33	School	None
R5	71	71	71	41	School	None
R30	71	71	71	41	School	None
R45	70	70	70	40	Medical Facility	None
R58	59	59	61	31	Medical Facility	None
R59	70	70	72	42	Medical Facility	None
R68	66	66	68	38	School	None
R69	61	61	62	32	Medical Facility	None

Appendix J RCNM Output Files

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 09/13/2021
Case Description: Road - Drainage/Utilities/Sub-Grade

**** Receptor #1 ****

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
100 feet	Residential	60.0	60.0	55.0

Equipment

Description	Impact Device	Usage (%)	Spec	Actual	Receptor	Estimated
			Lmax (dBA)	Lmax (dBA)	Distance (feet)	Shielding (dBA)
Compressor (air)	No	40		77.7	100.0	0.0
Generator	No	50		80.6	100.0	0.0
Grader	No	40	85.0		100.0	0.0
Compactor (ground)	No	20		83.2	100.0	0.0
Pumps	No	50		80.9	100.0	0.0
Scraper	No	40		83.6	100.0	0.0
Backhoe	No	40		77.6	100.0	0.0
Front End Loader	No	40		79.1	100.0	0.0
Grader	No	40	85.0		100.0	0.0
Scraper	No	40		83.6	100.0	0.0
Scraper	No	40		83.6	100.0	0.0
Scraper	No	40		83.6	100.0	0.0

Results

				Noise Limits (dBA)				Noise Limit			
Exceedance (dBA)											

		Calculated (dBA)		Day		Evening		Night		Day	
Evening		Night									
-----		-----		-----		-----		-----		-----	
Equipment		Lmax		Leq		Lmax		Leq		Lmax	
Leq		Lmax		Leq		Lmax		Leq		Lmax	
-----		-----		-----		-----		-----		-----	

Compressor (air)		71.6	67.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A								

Generator			74.6	71.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A									
Grader			79.0	75.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A									
Compactor (ground)			77.2	70.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A									
Pumps			74.9	71.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A									
Scraper			77.6	73.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A									
Backhoe			71.5	67.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A									
Front End Loader			73.1	69.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A									
Grader			79.0	75.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A									
Scraper			77.6	73.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A									
Scraper			77.6	73.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A									
Scraper			77.6	73.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A									
Total			79.0	83.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A										

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 09/13/2021
Case Description: Bridge - Grading /Excavation

**** Receptor #1 ****

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
100 feet	Residential	60.0	60.0	55.0

		Equipment				
		Spec	Actual	Receptor	Estimated	
Description	Impact Usage Device (%)	Lmax (dBA)	Lmax (dBA)	Distance (feet)	Shielding (dBA)	
Tractor	No 40	84.0		100.0	0.0	
Excavator	No 40		80.7	100.0	0.0	
Excavator	No 40		80.7	100.0	0.0	
Excavator	No 40		80.7	100.0	0.0	
Grader	No 40	85.0		100.0	0.0	
Roller	No 20		80.0	100.0	0.0	
Roller	No 20		80.0	100.0	0.0	
Scraper	No 40		83.6	100.0	0.0	

Scraper	No	40	83.6	100.0	0.0
Front End Loader	No	40	79.1	100.0	0.0
Backhoe	No	40	77.6	100.0	0.0
Backhoe	No	40	77.6	100.0	0.0
Backhoe	No	40	77.6	100.0	0.0
Backhoe	No	40	77.6	100.0	0.0
Crane	No	16	80.6	100.0	0.0
Tractor	No	40	84.0	100.0	0.0
Excavator	No	40	80.7	100.0	0.0
Roller	No	20	80.0	100.0	0.0
Scraper	No	40	83.6	100.0	0.0
Scraper	No	40	83.6	100.0	0.0

Results

			Noise Limits (dBA)						Noise Limit			
Exceedance (dBA)												

Backhoe			71.5	67.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A									
Backhoe			71.5	67.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A									
Crane			74.5	66.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A										
Tractor			78.0	74.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A										
Excavator			74.7	70.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A									
Roller			74.0	67.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A										
Scraper			77.6	73.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A									
Scraper			77.6	73.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A									
Total			79.0	84.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A										

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 09/13/2021

Case Description: Roadway - Grubbing/Land Clearing

**** Receptor #1 ****

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
100 feet	Residential	60.0	60.0	55.0

Equipment						

	Spec	Actual	Receptor	Estimated		
	Impact	Usage	Lmax	Lmax	Distance	Shielding
Description	Device	(%)	(dBA)	(dBA)	(feet)	(dBA)
Tractor	No	40	84.0		100.0	0.0
Excavator	No	40		80.7	100.0	0.0
Excavator	No	40		80.7	100.0	0.0

Results						

		Noise Limits (dBA)			Noise Limit	
Exceedance (dBA)		-----			-----	

Evening	Calculated (dBA)	Day	Evening	Night	Day	
	Night	-----	-----	-----	-----	-----

Equipment	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

Tractor			78.0	74.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A										
Excavator			74.7	70.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A									
Excavator			74.7	70.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A									
Total			78.0	76.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A										

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 09/13/2021
Case Description: Bridge- Paving

**** Receptor #1 ****

Description	Land Use	Baselines (dBA)	Daytime	Evening	Night
-----	-----	-----	-----	-----	-----
100 feet	Residential	60.0	60.0	55.0	

Description	Equipment	Impact	Spec Usage (%)	Actual Lmax (dBA)	Receptor Lmax (dBA)	Estimated Distance (feet)	Shielding (dBA)
-----	-----	-----	-----	-----	-----	-----	-----
Paver	No	50		77.2	100.0	0.0	
Concrete Pump Truck	No	20		81.4	100.0	0.0	
Roller	No	20		80.0	100.0	0.0	
Slurry Trenching Machine	No	50		80.4	100.0	0.0	
Slurry Trenching Machine	No	50		80.4	100.0	0.0	

Results										
Noise Limits (dBA)										
Noise Limit										
Exceedance (dBA)										

**** Receptor #1 ****

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
100 feet	Residential	60.0	60.0	55.0

Equipment						

		Spec	Actual	Receptor	Estimated	
		Usage	Lmax	Lmax	Distance	Shielding
Description	Impact Device	(%)	(dBA)	(dBA)	(feet)	(dBA)

Compressor (air)	No	40		77.7	100.0	0.0
Generator	No	50		80.6	100.0	0.0
Grader	No	40	85.0		100.0	0.0
Compactor (ground)	No	20		83.2	100.0	0.0
Pumps	No	50		80.9	100.0	0.0
Scraper	No	40		83.6	100.0	0.0
Backhoe	No	40		77.6	100.0	0.0
Front End Loader	No	40		79.1	100.0	0.0
Tractor	No	40	84.0		100.0	0.0

Results											
				Noise Limits (dBA)				Noise Limit			
Exceedance (dBA)											

Front End Loader	73.1	69.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A								
Tractor	78.0	74.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A									
Total	79.0	81.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A									

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 09/13/2021
Case Description: Road - Grading /Excavation

**** Receptor #1 ****

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
100 feet	Residential	60.0	60.0	55.0

Description	Impact	Usage Device	Equipment			
			Spec Usage (%)	Actual Lmax (dBA)	Receptor Lmax (dBA)	Estimated Distance (feet)
Tractor	No	40	84.0		100.0	0.0
Excavator	No	40		80.7	100.0	0.0
Excavator	No	40		80.7	100.0	0.0
Excavator	No	40		80.7	100.0	0.0
Grader	No	40	85.0		100.0	0.0
Roller	No	20		80.0	100.0	0.0
Roller	No	20		80.0	100.0	0.0
Scraper	No	40		83.6	100.0	0.0
Scraper	No	40		83.6	100.0	0.0
Front End Loader	No	40		79.1	100.0	0.0
Backhoe	No	40		77.6	100.0	0.0
Backhoe	No	40		77.6	100.0	0.0
Backhoe	No	40		77.6	100.0	0.0
Backhoe	No	40		77.6	100.0	0.0

Results

Exceedance (dBA)	Noise Limits (dBA)			Noise Limit	
	Calculated (dBA)	Day	Evening	Night	Day
Evening	Night				

Equipment	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Tractor			78.0	74.0		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A											
Excavator			74.7	70.7		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A										
Excavator			74.7	70.7		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A										
Excavator			74.7	70.7		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A										
Grader			79.0	75.0		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A										
Roller			74.0	67.0		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A											
Roller			74.0	67.0		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A											
Scraper			77.6	73.6		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A										
Scraper			77.6	73.6		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A										
Front End Loader			73.1	69.1		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A										
Backhoe			71.5	67.6		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A										
Backhoe			71.5	67.6		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A										
Backhoe			71.5	67.6		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A										
Backhoe			71.5	67.6		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A										
Total			79.0	82.5		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A											

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 09/13/2021
Case Description: Roadway - Grubbing/Land Clearing

**** Receptor #1 ****

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
-----	-----	-----	-----	-----
100 feet	Residential	60.0	60.0	55.0

Equipment

Spec	Actual	Receptor	Estimated
Impact	Usage	Lmax	Lmax
Distance	Shielding		

Description	Device	(%)	(dBA)	(dBA)	(feet)	(dBA)
Tractor	No	40	84.0		100.0	0.0
Excavator	No	40		80.7	100.0	0.0
Excavator	No	40		80.7	100.0	0.0

Results

Exceedance (dBA)			Noise Limits (dBA)						Noise Limit			
									</			

Tractor	No	40	84.0	100.0	0.0
Roller	No	20	80.0	100.0	0.0
Backhoe	No	40	77.6	100.0	0.0

Results

Exceedance (dBA)			Noise Limits (dBA)						Noise Limit				
			-----			-----			-----		-----		
-----			-----			-----			-----		-----		
Evening			Calculated (dBA)			Day		Evening		Night		Day	
-----			-----			-----		-----		-----		-----	
Equipment			Lmax		Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	
Leq	Lmax	Leq	Lmax	Leq									
-----			-----		-----	-----	-----	-----	-----	-----	-----	-----	-----
-----			-----		-----	-----	-----	-----	-----	-----	-----	-----	-----
Paver			71.2	68.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A											
Concrete Pump Truck			75.4	68.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A										
Roller			74.0	67.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A											
Front End Loader			73.1	69.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A										
Tractor			78.0	74.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A											
Roller			74.0	67.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A											
Backhoe			71.5	67.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
N/A	N/A	N/A	N/A										
Total			78.0	78.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Appendix K TNM Alternative Modeling Results

Table K-1. Alternative 2a TNM Modeling Results

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 2a)	2049 No Build (Alt 1)	2049 Build (Alt 2a)	2049 Build (Alt 2a)			
ST-1	9010 Sparling Lane	68	68	68	0	0	0	B	Residential	None ⁶
ST-2	8991-8999 Olmo Lane	69	70	70	1	1	0	B	Residential	None ⁶
ST-3	UC Davis SE Corner of Equestrian Center Property	66	67	67	1	1	0	C	School-Active Sports Area	None ⁶
ST-4	UC Davis near Carolee Shields Gazebo	58	58	58	0	0	0	C	School-Arboretum	None
ST-5	9460 W Chiles Road	71	72	72	1	1	0	B	Residential	None ⁶
ST-6	University Inn Park and Suites Pool Area	57	57	58	0	1	1	E	Hotel	None
ST-7	1100 Chiles Nachtman Analytical Laboratory	71	71	72	0	1	1	E	Office	None ⁵
ST-8	UC Davis Center for Laboratory Animal Science	69	69	69	0	0	0	D	School	None ⁵
ST-9	Cesar Chavez Plaza Apartments	63	63	65	0	2	2	B	Residential	None
ST-10	The Arbors Apartments Pool Area	49	49	50	0	1	1	B	Residential	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 2a)	2049 No Build (Alt 1)	2049 Build (Alt 2a)	2049 Build (Alt 2a)			
ST-11	The Arbors Apartments	64	64	66	0	2	2	B	Residential	None ⁶
ST-12	La Quinta Inn and Suites by Wyndham Davis Pool Area	71	71	71	0	0	0	E	Hotel	A/E
ST-13	Toad Hollow Dog Park	54	54	55	0	1	1	C	Park	None
ST-14	Play Fields Park	61	61	61	0	0	0	C	Active Sports Area	None
ST-15	2617 Albany Avenue	65	65	65	0	0	0	B	Residential	None
ST-16	2646 Albany Avenue	52	52	52	0	0	0	B	Residential	None
ST-17	2813 Albany Avenue	60	61	61	1	1	0	C	Playground	None
ST-18	UC Davis Building 641 Hillgard Lane	60	61	61	1	1	0	D	School	None ⁵
ST-19	Playground at New Harmony Mutual Housing Community	55	55	56	0	1	1	C	Playground	None
ST-20	3212 Koso Terrace	67	67	67	0	0	0	B	Residential	None ⁶
ST-21	3720 Chiles Road	60	60	60	0	0	0	B	Residential	None
ST-22	3707 El Segundo Ave	66	66	66	0	0	0	B	Residential	None ⁶
ST-23	213 La Vida Way	56	56	56	0	0	0	C	Preschool	None
ST-24	Days Inn by Wyndham Davis Near UC Davis	59	59	59	0	0	0	E	Hotel	None
ST-25	Pool Area at Motel 6 Davis, CA-Sacramento Area	65	65	65	0	0	0	E	Hotel	None
ST-26	5070 Veranda Terrace	46	46	47	0	1	1	B	Residential	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 2a)	2049 No Build (Alt 1)	2049 Build (Alt 2a)	2049 Build (Alt 2a)			
ST-27	5093 Veranda Terrace	50	50	51	0	1	1	B	Residential	None
ST-28	Yolo Basin Foundation 45211 Country Road 32 B	60	60	60	0	0	0	B	Residential	None
ST-29	Davis Soccer Fields- 26375 Country Road 105 D	58	58	58	0	0	0	C	Active Sport Area	None
ST-30	Yolo Bypass Wildlife Area- Bike Trail	80	80	80	0	0	0	E	Trail	None ³
ST-31	Yolo Bypass Wildlife Area	69	69	70	0	1	1	E	Trail	None ⁴
ST-32	Roland Hensley Park- 4900 W Capitol Avenue	65	65	65	0	0	0	E	Trail	None
ST-34	Valhalla Mobile Home Club Pool Area	52	53	53	1	1	0	B	Residential	None
ST-35	10 Thor Drive	67	68	68	1	1	0	B	Residential	None ⁶
ST-36	43 Bragi Drive	57	57	58	0	1	1	B	Residential	None
ST-37	241 Bragi Drive	61	63	63	2	2	0	B	Residential	None/
ST-38	Meadowdale Park	65	67	67	2	2	0	C	Park	A/E
ST-39	3624 Palomar Avenue	66	68	68	2	2	0	B	Residential	None ⁶
ST-40	3604 Doran Avenue	64	65	65	1	1	0	B	Residential	None
ST-41	861 Garnet Street	65	66	66	1	1	0	B	Residential	None ⁶
ST-43	Center for Spiritual Awareness	65	67	67	2	2	0	D	Place of Worship	None ⁵
ST-44	Motel 6 West Sacramento Pool Area	56	57	57	1	1	0	E	Hotel	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 2a)	2049 No Build (Alt 1)	2049 Build (Alt 2a)	2049 Build (Alt 2a)			
ST-45	2225 Hickory Way	63	65	65	2	2	0	B	Residential	None
ST-46	1089 Orchard Way	66	67	67	1	1	0	B	Residential	A/E
ST-47	Westmore Oaks Elementary School	73	74	74	1	1	0	C	School	None ⁵
ST-48	Westmore Oaks Elementary School	64	64	65	0	1	1	D	School	None
ST-49	1905 Buckeye Drive	68	70	70	2	2	0	B	Residential	A/E
ST-50	1412 Norfolk Avenue	58	59	59	1	1	0	B	Residential	None
ST-51	Westacre Park	64	65	65	1	1	0	C	Playground	None
ST-52	1309 Norfolk Avenue	61	62	62	1	1	0	B	Residential	None
ST-53	Yolo High School	61	63	63	2	2	0	C	School	None
ST-55	719 11th Street	61	63	63	2	2	0	B	Residential	None
ST-56	1011 Canna Way	63	65	65	2	2	0	B	Residential	None
ST-58	918 Meadow Road	64	66	66	2	2	0	B	Residential	A/E
ST-59	Food Distribution Center for Our Lady of Grace Church	68	70	70	2	2	0	E	Office	None ⁵
ST-60	2214 4th Street	72	72	72	0	0	0	B	Residential	A/E
ST-62	NW of 2197 Garden Highway	64	64	66	0	2	2	B	Residential	A/E
ST-63	2184 Garden Highway	65	65	66	0	1	1	B	Residential	None ⁵
ST-64	2125 Garden Highway	70	70	72	0	2	2	B	Residential	None ⁶
ST-65	3814 W River Drive	69	69	70	0	1	1	B	Residential	None ⁶
ST-66	3760 W River Drive	59	59	60	0	1	1	B	Residential	None
ST-67	6 Rivulet Court	61	61	63	0	2	2	B	Residential	None
ST-68	3638 W River Drive	64	64	66	0	2	2	B	Residential	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _h dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ¹
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 2a)	2049 No Build (Alt 1)	2049 Build (Alt 2a)	2049 Build (Alt 2a)			
ST-70	5 Cool Fountain Court	65	65	67	0	2	2	B	Residential	None
ST-71	River Otter Park	63	63	64	0	1	1	C	Park	None
ST-72	3451 Delphinium Way	57	57	58	0	1	1	B	Residential	None
ST-73	40 White Lilly Court	59	59	60	0	1	1	B	Residential	None
ST-74	52 Blue Fern Court	61	61	62	0	1	1	B	Residential	None
ST-75	11 Swinging Bridge Court	54	54	55	0	1	1	B	Residential	None
R1	1 Equestrian Lane	62	63	63	1	1	0	C	Active Sports Area	None
R4	7826 Hamel Lane	57	57	57	0	0	0	B	Residential	None
R5	1544 Newton Court	71	71	71	0	0	0	D	School	None ⁵
R6	1100 Olive Drive	68	69	69	1	1	0	B	Residential	None ⁵
R7	1100 Olive Drive	55	55	56	0	1	1	B	Residential	None
R8	1100 Olive Drive	59	59	60	0	1	1	B	Residential	None
R9	1200 Olive Drive	52	52	53	0	1	1	B	Residential	None
R10	1200 Olive Drive	59	59	61	0	2	2	B	Residential	None
R11	1200 Olive Drive	54	55	55	1	1	0	B	Residential	None
R12	1280 Olive Drive	62	63	64	1	2	1	B	Residential	None
R13	1414 Olive Drive	63	63	65	0	2	2	B	Residential	None
R14	1414 Olive Drive	63	63	65	0	2	2	B	Residential	None
R15	Research Park Drive	53	53	53	0	0	0	B	Residential	None
R17	1445 Drew Avenue	65	65	65	0	0	0	E	Office	None
R18	Cowell Drive	57	57	57	0	0	0	B	Residential	None
R19	Cowell Drive	56	56	56	0	0	0	B	Residential	None
R20	Cowell Drive	52	53	53	1	1	0	B	Residential	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _h dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 2a)	2049 No Build (Alt 1)	2049 Build (Alt 2a)	2049 Build (Alt 2a)			
R21	2601 Albany Avenue	64	64	64	0	0	0	B	Residential	None
R22	2611 Albany Avenue	65	65	65	0	0	0	B	Residential	None
R23	2643 Albany Avenue	64	64	64	0	0	0	B	Residential	None
R24	2721 Albany Avenue	59	59	59	0	0	0	B	Residential	None
R25	2745 Albany Avenue	60	60	60	0	0	0	B	Residential	None
R26	2817 Albany Avenue	61	61	61	0	0	0	B	Residential	None
R27	613 Benbow Court	62	62	62	0	0	0	B	Residential	None
R28	601 Benbow Court	60	60	60	0	0	0	B	Residential	None
R29	612 Benbow Court	59	59	59	0	0	0	B	Residential	None
R30	University of California Agriculture and Natural Resources 2801 2nd Street	71	71	71	0	0	0	D	School	None ⁵
R31	3030 Cowell Boulevard	58	58	59	0	1	1	B	Residential	None
R32	3030 Cowell Boulevard	58	58	59	0	1	1	B	Residential	None
R33	3030 Cowell Boulevard	54	54	54	0	0	0	B	Residential	None
R34	3641 El Segundo Avenue	65	65	65	0	0	0	B	Residential	None
R35	3665 El Segundo Avenue	64	64	64	0	0	0	B	Residential	None
R36	3714 Chiles Road	59	59	59	0	0	0	B	Residential	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 2a)	2049 No Build (Alt 1)	2049 Build (Alt 2a)	2049 Build (Alt 2a)			
R37	3650 El Segundo Avenue	48	48	48	0	0	0	B	Residential	None
R38	3704 El Segundo Avenue	48	48	49	0	1	1	B	Residential	None
R39	3730 El Segundo Avenue	59	59	59	0	0	0	B	Residential	None
R40	3820 Chiles Road	49	50	50	1	1	0	B	Residential	None
R41	3820 Chiles Road	44	45	45	1	1	0	B	Residential	None
R42	3820 Chiles Road	51	51	51	0	0	0	B	Residential	None
R43	3820 Chiles Road	48	49	49	1	1	0	B	Residential	None
R44	Days Inn Wyndham Davis Nearby UC Davis	47	47	47	0	0	0	E	Hotel	None
R45	Davis Urgent Care 4515 Fermi Place	70	70	70	0	0	0	D	Medical Facility	None ⁵
R46	5063 Veranda Terrace	52	52	52	0	0	0	B	Residential	None
R47	5069 Veranda Terrace	54	54	54	0	0	0	B	Residential	None
R48	5077 Veranda Terrace	54	54	55	0	1	1	B	Residential	None
R49	3951 Lake Road	61	61	61	0	0	0	B	Residential	None
R50	3901 Lake Road	62	62	62	0	0	0	B	Residential	None
R51	3901 Lake Road	62	62	63	0	1	1	B	Residential	None
R52	3901 Lake Road	58	58	58	0	0	0	B	Residential	None
R53	3901 Lake Road	58	58	58	0	0	0	B	Residential	None
R54	3901 Lake Road	61	61	62	0	1	1	B	Residential	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 2a)	2049 No Build (Alt 1)	2049 Build (Alt 2a)	2049 Build (Alt 2a)			
R55	3901 Lake Road	64	64	64	0	0	0	B	Residential	None
R56	3901 Lake Road	59	59	60	0	1	1	B	Residential	None
R57	3901 Lake Road	63	63	63	0	0	0	B	Residential	None
R58	3680 Industrial Boulevard	59	59	61	0	2	2	D	Medical Facility	None ⁵
R59	DaVita West-3450 Industrial Boulevard	70	70	72	0	2	2	D	Medical Facility	None ⁵
R60	829 Marigold Street	61	61	61	0	0	0	B	Residential	None
R61	844 Morning Glory Street	62	62	63	0	1	1	B	Residential	None
R62	832 Garnet Street	61	61	62	0	1	1	B	Residential	None
R63	3524 Doran Avenue	60	60	61	0	1	1	B	Residential	None
R64	857 Garnet Street	57	57	58	0	1	1	B	Residential	None
R65	3427 Evergreen Circle	64	64	66	0	2	2	B	Residential	None
R66	3427 Evergreen Circle	55	55	56	0	1	1	B	Residential	None
R67	Ramada by Wyndham West Sacramento Hotel & Suites	55	55	57	0	2	2	E	Hotel	None
R68	Sacramento Valley Charter School	66	66	68	0	2	2	D	School	None ⁵
R69	River Bend Nursing Center	61	61	62	0	1	1	C	Medical Facility	None
R70	2205 Hickory Way	68	68	70	0	2	2	B	Residential	A/E
R71	2143 Hickory Way	69	69	70	0	1	1	B	Residential	A/E
R72	2105 Hickory Way	65	65	67	0	2	2	B	Residential	None
R73	1049 Orchard Way	64	64	66	0	2	2	B	Residential	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 2a)	2049 No Build (Alt 1)	2049 Build (Alt 2a)	2049 Build (Alt 2a)			
R74	959 Orchard Way	62	62	63	0	1	1	B	Residential	None
R75	2019 Buckeye Drive	67	67	69	0	2	2	B	Residential	A/E
R76	1020 Sycamore Avenue	58	58	59	0	1	1	B	Residential	None
R77	1009 Sycamore Avenue	57	57	59	0	2	2	B	Residential	None
R78	1021 Hemlock Street	59	59	60	0	1	1	B	Residential	None
R79	1933 Buckeye Drive	66	66	68	0	2	2	B	Residential	A/E
R80	1913 Buckeye Drive	66	66	68	0	2	2	B	Residential	A/E
R81	1012 Poplar Avenue	58	58	60	0	2	2	B	Residential	None
R82	1608 Norfolk Avenue	69	69	71	0	2	2	B	Residential	A/E
R83	1504 Norfolk Avenue	68	68	70	0	2	2	B	Residential	A/E
R84	1404 Norfolk Avenue	69	69	71	0	2	2	B	Residential	A/E
R85	1204 Norfolk Avenue	70	70	72	0	2	2	B	Residential	A/E
R86	1604 Meadow Road	58	58	60	0	2	2	B	Residential	None
R87	1601 Norfolk Avenue	59	59	60	0	1	1	B	Residential	None
R88	1024 Haverhill Street	60	60	62	0	2	2	B	Residential	None
R89	1305 Norfolk Avenue	60	60	62	0	2	2	B	Residential	None
R90	1104 Westacre Road	60	60	62	0	2	2	B	Residential	None
R91	1101 Westacre Road	62	62	64	0	2	2	B	Residential	None
R92	727 11th Street	69	69	71	0	2	2	B	Residential	A/E
R93	715 Webster Street	64	64	66	0	2	2	B	Residential	None
R94	1020 Meadow Road	62	62	64	0	2	2	B	Residential	None
R95	609 Webster Street	62	62	64	0	2	2	B	Residential	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 2a)	2049 No Build (Alt 1)	2049 Build (Alt 2a)	2049 Build (Alt 2a)			
R96	504 Webster Street	64	64	66	0	2	2	B	Residential	A/E
R97	911 Meadow Road	65	65	67	0	2	2	B	Residential	A/E
R98	Levia Park	65	65	65	0	0	0	C	Park	None
R99	316 V Street	72	72	72	0	0	0	B	Residential	A/E
R100	2209 4th Street	65	65	65	0	0	0	B	Residential	A/E
R101	846 Marigold Street	63	63	65	0	2	2	B	Residential	None
R102	828 Marigold Street	64	64	65	0	1	1	B	Residential	None
R103	812 Morning Glory Street	60	60	61	0	1	1	B	Residential	None
R104	3600 Palomar Avenue	64	64	64	0	0	0	B	Residential	None
R105	3624 Palomar Avenue	67	67	69	0	2	2	B	Residential	A/E
R106	2125 Garden Highway	69	69	71	0	2	2	B	Residential	A/E
R107	2145 Garden Highway	68	68	70	0	2	2	B	Residential	A/E
R108	2181 Garden Highway	65	65	66	0	1	1	B	Residential	A/E
R109	2197 Garden Highway	65	65	67	0	2	2	B	Residential	A/E
R110	2184 Garden Highway	64	64	66	0	2	2	B	Residential	None
R111	3796 W River Drive	64	64	65	0	1	1	B	Residential	None
R112	3778 W River Drive	60	60	62	0	2	2	B	Residential	None
R113	3575 Wheelhouse Avenue	65	65	67	0	2	2	B	Residential	None
R114	2106 Sternwheeler Way	60	60	62	0	2	2	B	Residential	None
R115	3742 W River Drive	57	57	59	0	2	2	B	Residential	None
R116	3724 W River Drive	60	60	62	0	2	2	B	Residential	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 2a)	2049 No Build (Alt 1)	2049 Build (Alt 2a)	2049 Build (Alt 2a)			
R117	21116 Smokestack Way	60	60	61	0	1	1	B	Residential	None
R118	3542 Delta Queen Avenue	60	60	61	0	1	1	B	Residential	None
R119	3517 Delta Queen Avenue	62	62	64	0	2	2	B	Residential	None
R120	3682 W River Drive	61	61	62	0	1	1	B	Residential	None
R121	3494 Delta Queen Avenue	54	54	55	0	1	1	B	Residential	None
R122	3481 Delta Queen Avenue	60	60	62	0	2	2	B	Residential	None
R123	3441 River Shoal Avenue	55	55	57	0	2	2	B	Residential	None
R124	3451 Delta Queen Avenue	58	58	60	0	2	2	B	Residential	None
R125	3633 W River Drive	65	65	67	0	2	2	B	Residential	None
R126	2215 Shady Arbor Drive	64	64	66	0	2	2	B	Residential	None
R127	2171 Shady Arbor Drive	58	58	59	0	1	1	B	Residential	None
R128	3569 W River Drive	58	58	60	0	2	2	B	Residential	None
R129	3527 W River Drive	54	54	56	0	2	2	B	Residential	None
R130	5 Cool Fountain Court	63	63	64	0	1	1	B	Residential	None
R131	3447 Sweet Pea Way	57	57	58	0	1	1	B	Residential	None
R132	3439 W River Drive	52	52	54	0	2	2	B	Residential	None
R133	3407 W River Drive	51	51	52	0	1	1	B	Residential	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _h dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 2a)	2049 No Build (Alt 1)	2049 Build (Alt 2a)	2049 Build (Alt 2a)			
R134	40 Shady Arbor Court	59	59	60	0	1	1	B	Residential	None
R135	22 Calla Lily Court	53	53	54	0	1	1	B	Residential	None
R136	2318 Barandas Drive	55	55	56	0	1	1	B	Residential	None
R137	3428 Delphinium Way	53	53	54	0	1	1	B	Residential	None
R138	27 White Lily Court	54	54	55	0	1	1	B	Residential	None
R139	40 White Lily Court	59	59	61	0	2	2	B	Residential	None
R140	3235 Spinning Rod Way	53	53	54	0	1	1	B	Residential	None
R141	27 Blue Fern Court	65	65	66	0	1	1	B	Residential	A/E
R142	3259 Spinning Rod Way	54	54	55	0	1	1	B	Residential	None
R143	3175 Boathouse Way	51	51	52	0	1	1	B	Residential	None
R144	18 Spinning Rod Court	61	61	63	0	2	2	B	Residential	None
R145	Olive Drive	64	64	65	0	1	1	B	Residential	None
R146	Olive Drive	64	64	65	0	1	1	B	Residential	None
R147	Olive Drive	62	63	63	1	1	1	B	Residential	None
R148	9010 Sparling Lane	56	57	57	1	1	1	B	Residential	None
R149	8991-8999 Olmo Lane	63	63	64	0	1	1	B	Residential	None
R150	9460 W Chiles Road	71	71	72	0	1	1	B	Residential	A/E
R151	Westmore Oaks Elementary School	70	70	70	0	0	0	C	School	A/E
R152	3620 Palomar Avenue	66	66	66	0	0	0	B	Residential	A/E
R153	3612 Palomar Avenue	65	65	65	0	0	0	B	Residential	None
R154	812 Marigold Street	65	65	65	0	0	0	B	Residential	None
R155	820 Marigold Street	65	65	66	0	1	1	B	Residential	A/E

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 2a)	2049 No Build (Alt 1)	2049 Build (Alt 2a)	2049 Build (Alt 2a)			
R156	Olmo Lane	67	67	67	0	0	0	G	Undeveloped	None
R157	Sparling Lane	65	65	65	0	0	0	G	Undeveloped	None
R158	EB I-80 Old Davis Road Exit	67	68	68	1	1	0	G	Undeveloped	None
R159	EB I-80 Old Davis Road Exit	69	69	69	0	0	0	G	Undeveloped	None
R160	WB I-80 Old Davis Road Exit	62	62	62	0	0	0	G	Undeveloped	None
R161	W Chiles Road	64	66	66	2	2	0	G	Undeveloped	None
R162	2 nd Street	67	67	67	0	0	0	G	Undeveloped	None
R163	Cowell Boulevard	73	73	73	0	0	0	G	Undeveloped	None
R164	2 nd Street	71	71	71	0	0	0	G	Undeveloped	None
R165	Chiles Road	71	71	71	0	0	0	G	Undeveloped	None
R166	3808 Faraday Avenue	71	71	71	0	0	0	G	Undeveloped	None
R167	32A	71	71	71	0	0	0	G	Undeveloped	None
R168	32A	56	56	56	0	0	0	G	Undeveloped	None
R169	Howat	57	57	57	0	0	0	G	Undeveloped	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 2a)	2049 No Build (Alt 1)	2049 Build (Alt 2a)	2049 Build (Alt 2a)			
									d	
R170	32A	75	75	75	0	0	0	G	Undeveloped	None
R171	WB I-80 32A onramp	74	74	75	0	1	1	G	Undeveloped	None
R172	Chiles Road	77	77	77	0	0	0	G	Undeveloped	None
R173	East of 32A	67	67	70	0	3	3	G	Undeveloped	None
R174	WB I-80	67	67	67	0	0	0	G	Undeveloped	None
R175	WB I-80	66	66	66	0	0	0	G	Undeveloped	None
R176	3980 Lake Road	71	71	71	0	0	0	G	Undeveloped	None
R177	3951 Lake Road	65	65	67	0	2	2	G	Undeveloped	None
R178	West Capitol Avenue	78	78	79	0	1	1	G	Undeveloped	None
R179	Harbor Boulevard	72	72	75	0	3	3	G	Undeveloped	None
R180	531 Drever Street	71	71	73	0	2	2	G	Undeveloped	None
R181	1301 South River Road	69	69	71	0	2	2	G	Undeveloped	None
R182	Mill Street	69	69	71	0	2	2	G	Undeveloped	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ¹
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 2a)	2049 No Build (Alt 1)	2049 Build (Alt 2a)	2049 Build (Alt 2a)			
R183	600 Sutter Street	66	66	68	0	2	2	G	Undeveloped	None
R184	Reed Avenue	70	70	72	0	2	2	G	Undeveloped	None
R185	Reed Avenue	70	70	72	0	2	2	G	Undeveloped	None
R186	North Harbor Boulevard	69	69	71	0	2	2	G	Undeveloped	None
R187	2126 Garden Highway	70	70	72	0	2	2	G	Undeveloped	None
R188	El Centro Road	68	68	69	0	1	1	G	Undeveloped	None
R189	El Centro Road	74	74	75	0	1	1	G	Undeveloped	None
R190	El Centro Road	76	76	76	0	0	0	G	Undeveloped	None
R191	Willow Creek	76	76	78	0	2	2	G	Undeveloped	None
R192	2 nd Street	71	71	71	0	0	0	G	Undeveloped	None

¹ Impact Type: S = Substantial Increase (12 dBA or more), A/E = Approach or Exceed NAC, None = Increase is less than 12 decibels and noise levels do not approach or exceed the NAC.

² As stated in the TeNS, modeling results are rounded to the nearest decibel before comparisons are made.

³ As stated in the Traffic Noise Protocol (TNAP) April 2020, bike paths that serve primarily as a transportation facility are not evaluated as recreational trails.

⁴ As stated in the Traffic Noise Protocol (TNAP) April 2020, recreational trails that primarily involve the use of motorized vehicles are not evaluated as recreational trails.

⁵ This location does not include any exterior noise sensitive land uses; exterior noise levels are provided for reference only.

⁶ This location is not considered an area of frequent human use where people are exposed to traffic for an extended period of time on a regular basis. Where applicable, additional receivers have been placed in areas of frequent human use.

⁷ This location does not include any exterior noise sensitive land uses, so would be considered a Category D land use only. Exterior noise levels are presented in the Table.

Table K-2. Alternative 3a TNM Modeling Results

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA ²			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ¹
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 3a)	2049 No Build (Alt 1)	2049 Build (Alt 3a)	2049 Build (Alt 3a)			
ST-1	9010 Sparling Lane	68	68	68	0	0	0	B	Residential	None ⁶
ST-2	8991-8999 Olmo Lane	69	70	70	1	1	0	B	Residential	None ⁶
ST-3	UC Davis SE Corner of Equestrian Center Property	66	67	67	1	1	0	C	School-Active Sports Area	None ⁶
ST-4	UC Davis near Carolee Shields Gazebo	58	58	58	0	0	0	C	School-Arboretum	None
ST-5	9460 W Chiles Road	71	72	72	1	1	0	B	Residential	None ⁶
ST-6	University Inn Park and Suites Pool Area	57	57	58	0	1	1	E	Hotel	None
ST-7	1100 Chiles Nachtmann Analytical Laboratory	71	71	72	0	1	1	E	Office	None ⁵
ST-8	UC Davis Center for Laboratory Animal Science	69	69	69	0	0	0	D	School	None ⁷
ST-9	Cesar Chavez Plaza Apartments	63	63	65	0	2	2	B	Residential	None
ST-10	The Arbors Apartments Pool Area	49	49	50	0	1	1	B	Residential	None
ST-11	The Arbors Apartments	64	64	66	0	2	2	B	Residential	None ⁶

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA ²			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ¹
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 3a)	2049 No Build (Alt 1)	2049 Build (Alt 3a)	2049 Build (Alt 3a)			
ST-12	La Quinta Inn and Suites by Wyndham Davis Pool Area	71	71	71	0	0	0	E	Hotel	A/E
ST-13	Toad Hollow Dog Park	54	54	55	0	1	1	C	Park	None
ST-14	Play Fields Park	61	61	61	0	0	0	C	Active Sports Area	None
ST-15	2617 Albany Avenue	65	65	65	0	0	0	B	Residential	None
ST-16	2646 Albany Avenue	52	52	52	0	0	0	B	Residential	None
ST-17	2813 Albany Avenue	60	61	61	1	1	0	C	Playground	None
ST-18	UC Davis August A Busch III Brewing and Food Science Laboratory 641 Hilgard Lane	60	61	61	1	1	0	D	School	None ⁷
ST-19	Playground at New Harmony Mutual Housing Community	55	55	56	0	1	1	C	Playground	None
ST-20	3212 Koso Terrace	67	67	67	0	0	0	B	Residential	None ⁶
ST-21	3720 Chiles Road	60	60	60	0	0	0	B	Residential	None
ST-22	3707 El Segundo Ave	66	66	66	0	0	0	B	Residential	None ⁶
ST-23	Merryhill Preschool 213 La Vida Way	56	56	56	0	0	0	C	Preschool	None
ST-24	Days Inn by Wyndham Davis Near UC Davis	59	59	59	0	0	0	E	Hotel	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA ²			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ¹
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 3a)	2049 No Build (Alt 1)	2049 Build (Alt 3a)	2049 Build (Alt 3a)			
ST-25	Pool Area at Motel 6 Davis, CA-Sacramento Area	65	65	65	0	0	0	E	Hotel	None
ST-26	5070 Veranda Terrace	46	46	47	0	1	1	B	Residential	None
ST-27	5093 Veranda Terrace	50	50	51	0	1	1	B	Residential	None
ST-28	Yolo Basin Foundation 45211 Country Road 32 B	60	60	60	0	0	0	B	Residential	None
ST-29	Davis Soccer Fields- 26375 Country Road 105 D	58	58	58	0	0	0	C	Active Sport Area	None
ST-30	Yolo Bypass Wildlife Area- Bike Trail	80	80	80	0	0	0	E	Trail	None ³
ST-31	Yolo Bypass Wildlife Area	69	69	70	0	1	1	E	Trail	None ⁴
ST-32	Roland Hensley Park- 4900 W Capitol Avenue	65	65	65	0	0	0	E	Trail	None
ST-34	Valhalla Mobile Home Club Pool Area	52	53	53	1	1	0	B	Residential	None
ST-35	10 Thor Drive	67	68	68	1	1	0	B	Residential	None ⁶
ST-36	43 Bragi Drive	57	57	57	0	0	0	B	Residential	None
ST-37	241 Bragi Drive	61	63	63	2	2	0	B	Residential	None/
ST-38	Meadowdale Park	65	67	67	2	2	0	C	Park	A/E
ST-39	3624 Palomar Avenue	66	68	68	2	2	0	B	Residential	None ⁶
ST-40	3604 Doran Avenue	64	65	65	1	1	0	B	Residential	None
ST-41	861 Garnet Street	65	66	66	1	1	0	B	Residential	None ⁶

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA ²			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ¹
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 3a)	2049 No Build (Alt 1)	2049 Build (Alt 3a)	2049 Build (Alt 3a)			
ST-43	Center for Spiritual Awareness 1275 Starboard Drive	65	67	67	2	2	0	D	Place of Worship	None ⁷
ST-44	Motel 6 West Sacramento Pool Area	56	57	57	1	1	0	E	Hotel	None
ST-45	2225 Hickory Way	63	65	65	2	2	0	B	Residential	None
ST-46	1089 Orchard Way	66	67	67	1	1	0	B	Residential	A/E
ST-47	Westmore Oaks Elementary School 1514 Fallbrook Street	73	74	74	1	1	0	C	School	None ⁵
ST-48	Westmore Oaks Elementary School 1514 Fallbrook Street	64	64	65	0	1	1	D	School	None ⁷
ST-49	1905 Buckeye Drive	68	70	70	2	2	0	B	Residential	A/E
ST-50	1412 Norfolk Avenue	58	59	59	1	1	0	B	Residential	None
ST-51	Westacre Park	64	65	65	1	1	0	C	Playground	None
ST-52	1309 Norfolk Avenue	61	62	62	1	1	0	B	Residential	None
ST-53	Yolo High School 919 Westcare Road	61	63	63	2	2	0	C	School	None
ST-55	719 11th Street	61	63	63	2	2	0	B	Residential	None
ST-56	1011 Canna Way	63	65	65	2	2	0	B	Residential	None
ST-58	918 Meadow Road	64	66	66	2	2	0	B	Residential	A/E
ST-59	Food Distribution Center for Our Lady of Grace Church	68	70	70	2	2	0	E	Office	None ⁵
ST-60	2214 4th Street	72	72	72	0	0	0	B	Residential	A/E

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA ²			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ¹
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 3a)	2049 No Build (Alt 1)	2049 Build (Alt 3a)	2049 Build (Alt 3a)			
ST-62	NW of 2197 Garden Highway	64	64	66	0	2	2	B	Residential	A/E
ST-63	2184 Garden Highway	65	65	66	0	1	1	B	Residential	None ⁵
ST-64	2125 Garden Highway	70	70	72	0	2	2	B	Residential	None ⁶
ST-65	3814 W River Drive	69	69	71	0	2	2	B	Residential	None ⁶
ST-66	3760 W River Drive	59	59	60	0	1	1	B	Residential	None
ST-67	6 Rivulet Court	61	61	63	0	2	2	B	Residential	None
ST-68	3638 W River Drive	64	64	66	0	2	2	B	Residential	None ⁵
ST-70	5 Cool Fountain Court	65	65	67	0	2	2	B	Residential	None ⁵
ST-71	River Otter Park	63	63	65	0	2	2	C	Park	None
ST-72	3451 Delphinium Way	57	57	58	0	1	1	B	Residential	None
ST-73	40 White Lilly Court	59	59	60	0	1	1	B	Residential	None
ST-74	52 Blue Fern Court	61	61	62	0	1	1	B	Residential	None
ST-75	11 Swinging Bridge Court	54	54	55	0	1	1	B	Residential	None
R1	1 Equestrian Lane	62	63	63	1	1	0	C	Active Sports Area	None
R4	7826 Hamel Lane	57	57	57	0	0	0	B	Residential	None
R5	UC Davis Center for Neuroscience 1544 Newton Court	71	71	71	0	0	0	D	School	None ⁷
R6	1100 Olive Drive	68	69	69	1	1	0	B	Residential	None ⁵
R7	1100 Olive Drive	55	55	56	0	1	1	B	Residential	None
R8	1100 Olive Drive	59	59	60	0	1	1	B	Residential	None
R9	1200 Olive Drive	52	52	53	0	1	1	B	Residential	None
R10	1200 Olive Drive	59	59	61	0	2	2	B	Residential	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA ²			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ¹
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 3a)	2049 No Build (Alt 1)	2049 Build (Alt 3a)	2049 Build (Alt 3a)			
R11	1200 Olive Drive	54	55	55	1	1	0	B	Residential	None
R12	1280 Olive Drive	62	63	63	1	1	0	B	Residential	None
R13	1414 Olive Drive	63	63	65	0	2	2	B	Residential	None
R14	1414 Olive Drive	63	63	65	0	2	2	B	Residential	None
R15	Research Park Drive	53	53	53	0	0	0	B	Residential	None
R17	1445 Drew Avenue	65	65	65	0	0	0	E	Office	None
R18	Cowell Drive	57	57	57	0	0	0	B	Residential	None
R19	Cowell Drive	56	56	56	0	0	0	B	Residential	None
R20	Cowell Drive	52	53	53	1	1	0	B	Residential	None
R21	2601 Albany Avenue	64	64	64	0	0	0	B	Residential	None
R22	2611 Albany Avenue	65	65	65	0	0	0	B	Residential	None
R23	2643 Albany Avenue	64	64	64	0	0	0	B	Residential	None
R24	2721 Albany Avenue	59	59	59	0	0	0	B	Residential	None
R25	2745 Albany Avenue	60	60	60	0	0	0	B	Residential	None
R26	2817 Albany Avenue	61	61	61	0	0	0	B	Residential	None
R27	613 Benbow Court	62	62	62	0	0	0	B	Residential	None
R28	601 Benbow Court	60	60	60	0	0	0	B	Residential	None
R29	612 Benbow Court	59	59	59	0	0	0	B	Residential	None
R30	University of California Agriculture and Natural Resources 2801 2 nd Street	71	71	71	0	0	0	D	School	None ⁷
R31	3030 Cowell Boulevard	58	58	59	0	1	1	B	Residential	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA ²			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ¹
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 3a)	2049 No Build (Alt 1)	2049 Build (Alt 3a)	2049 Build (Alt 3a)			
R32	3030 Cowell Boulevard	58	58	59	0	1	1	B	Residential	None
R33	3030 Cowell Boulevard	54	54	54	0	0	0	B	Residential	None
R34	3641 El Segundo Avenue	65	65	65	0	0	0	B	Residential	None
R35	3665 El Segundo Avenue	64	64	64	0	0	0	B	Residential	None
R36	3714 Chiles Road	59	59	59	0	0	0	B	Residential	None
R37	3650 El Segundo Avenue	48	48	48	0	0	0	B	Residential	None
R38	3704 El Segundo Avenue	48	48	49	0	1	1	B	Residential	None
R39	3730 El Segundo Avenue	59	59	59	0	0	0	B	Residential	None
R40	3820 Chiles Road	49	50	50	1	1	0	B	Residential	None
R41	3820 Chiles Road	44	45	45	1	1	0	B	Residential	None
R42	3820 Chiles Road	51	51	51	0	0	0	B	Residential	None
R43	3820 Chiles Road	48	49	49	1	1	0	B	Residential	None
R44	Days Inn Wyndham Davis Nearby UC Davis	47	47	47	0	0	0	E	Hotel	None
R45	Davis Urgent Care 4515 Fermi Place	70	70	70	0	0	0	D	Medical Facility	None ⁷
R46	5063 Veranda Terrace	52	52	52	0	0	0	B	Residential	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA ²			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ¹
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 3a)	2049 No Build (Alt 1)	2049 Build (Alt 3a)	2049 Build (Alt 3a)			
R47	5069 Veranda Terrace	54	54	54	0	0	0	B	Residential	None
R48	5077 Veranda Terrace	54	54	55	0	1	1	B	Residential	None
R49	3951 Lake Road	61	61	61	0	0	0	B	Residential	None
R50	3901 Lake Road	62	62	62	0	0	0	B	Residential	None
R51	3901 Lake Road	62	62	63	0	1	1	B	Residential	None
R52	3901 Lake Road	58	58	58	0	0	0	B	Residential	None
R53	3901 Lake Road	58	58	58	0	0	0	B	Residential	None
R54	3901 Lake Road	61	61	62	0	1	1	B	Residential	None
R55	3901 Lake Road	64	64	64	0	0	0	B	Residential	None
R56	3901 Lake Road	59	59	60	0	1	1	B	Residential	None
R57	3901 Lake Road	63	63	63	0	0	0	B	Residential	None
R58	Concentra Urgent Care 3680 Industrial Boulevard	59	59	61	0	1	1	D	Medical Facility	None ⁷
R59	DaVita West 3450 Industrial Boulevard	70	70	72	0	2	2	D	Medical Facility	None ⁷
R60	829 Marigold Street	61	61	61	0	0	0	B	Residential	None
R61	844 Morning Glory Street	62	62	63	0	1	1	B	Residential	None
R62	832 Garnet Street	61	61	62	0	1	1	B	Residential	None
R63	3524 Doran Avenue	60	60	61	0	1	1	B	Residential	None
R64	857 Garnet Street	57	57	58	0	1	1	B	Residential	None
R65	3427 Evergreen Circle	64	64	66	0	2	2	B	Residential	A/E
R66	3427 Evergreen Circle	55	55	56	0	1	1	B	Residential	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA ²			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ¹
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 3a)	2049 No Build (Alt 1)	2049 Build (Alt 3a)	2049 Build (Alt 3a)			
R67	Ramada by Wyndham West Sacramento Hotel & Suites	55	55	57	0	2	2	E	Hotel	None
R68	Sacramento Valley Charter School 2399 Sellers Way	66	66	68	0	2	2	D	School	None ⁷
R69	River Bend Nursing Center 2215 Oakmont Way	61	61	62	0	1	1	C	Medical Facility	None
R70	2205 Hickory Way	68	68	70	0	2	2	B	Residential	A/E
R71	2143 Hickory Way	69	69	70	0	1	1	B	Residential	A/E
R72	2105 Hickory Way	65	65	67	0	2	2	B	Residential	None ⁵
R73	1049 Orchard Way	64	64	66	0	2	2	B	Residential	None ⁵
R74	959 Orchard Way	62	62	63	0	1	1	B	Residential	None
R75	2019 Buckeye Drive	67	67	69	0	2	2	B	Residential	A/E
R76	1020 Sycamore Avenue	58	58	59	0	1	1	B	Residential	None
R77	1009 Sycamore Avenue	57	57	59	0	2	2	B	Residential	None
R78	1021 Hemlock Street	59	59	60	0	1	1	B	Residential	None
R79	1933 Buckeye Drive	66	66	68	0	2	2	B	Residential	A/E
R80	1913 Buckeye Drive	66	66	68	0	2	2	B	Residential	A/E
R81	1012 Poplar Avenue	58	58	60	0	2	2	B	Residential	None
R82	1608 Norfolk Avenue	69	69	71	0	2	2	B	Residential	A/E
R83	1504 Norfolk Avenue	68	68	70	0	2	2	B	Residential	A/E
R84	1404 Norfolk Avenue	69	69	71	0	2	2	B	Residential	A/E

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA ²			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ¹
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 3a)	2049 No Build (Alt 1)	2049 Build (Alt 3a)	2049 Build (Alt 3a)			
R85	1204 Norfolk Avenue	70	70	72	0	2	2	B	Residential	A/E
R86	1604 Meadow Road	58	58	60	0	2	2	B	Residential	None
R87	1601 Norfolk Avenue	59	59	60	0	1	1	B	Residential	None
R88	1024 Haverhill Street	60	60	62	0	2	2	B	Residential	None
R89	1305 Norfolk Avenue	60	60	62	0	2	2	B	Residential	None
R90	1104 Westacre Road	60	60	62	0	2	2	B	Residential	None
R91	1101 Westacre Road	62	62	64	0	2	2	B	Residential	None
R92	727 11th Street	69	69	71	0	2	2	B	Residential	A/E
R93	715 Webster Street	64	64	66	0	2	2	B	Residential	A/E
R94	1020 Meadow Road	62	62	64	0	2	2	B	Residential	None
R95	609 Webster Street	62	62	64	0	2	2	B	Residential	None
R96	504 Webster Street	64	64	66	0	2	2	B	Residential	A/E
R97	911 Meadow Road	65	65	67	0	2	2	B	Residential	A/E
R98	Levia Park	65	65	65	0	0	0	C	Park	None
R99	316 V Street	72	72	72	0	0	0	B	Residential	A/E
R100	2209 4th Street	65	65	65	0	0	0	B	Residential	None
R101	846 Marigold Street	63	63	65	0	2	2	B	Residential	None
R102	828 Marigold Street	64	64	65	0	1	1	B	Residential	None
R103	812 Morning Glory Street	60	60	61	0	1	1	B	Residential	None
R104	3600 Palomar Avenue	64	64	64	0	0	0	B	Residential	None
R105	3624 Palomar Avenue	67	67	69	0	2	2	B	Residential	A/E
R106	2125 Garden Highway	69	69	71	0	2	2	B	Residential	A/E
R107	2145 Garden Highway	68	68	70	0	2	2	B	Residential	A/E

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA ²			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ¹
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 3a)	2049 No Build (Alt 1)	2049 Build (Alt 3a)	2049 Build (Alt 3a)			
R108	2181 Garden Highway	65	65	66	0	1	1	B	Residential	A/E
R109	2197 Garden Highway	65	65	67	0	2	2	B	Residential	A/E
R110	2184 Garden Highway	64	64	66	0	2	2	B	Residential	A/E
R111	3796 W River Drive	64	64	66	0	2	2	B	Residential	A/E
R112	3778 W River Drive	60	60	62	0	2	2	B	Residential	None
R113	3575 Wheelhouse Avenue	65	65	67	0	2	2	B	Residential	A/E
R114	2106 Sternwheeler Way	60	60	62	0	2	2	B	Residential	None
R115	3742 W River Drive	57	57	59	0	2	2	B	Residential	None
R116	3724 W River Drive	60	60	62	0	2	2	B	Residential	None
R117	21116 Smokestack Way	60	60	61	0	1	1	B	Residential	None
R118	3542 Delta Queen Avenue	60	60	61	0	1	1	B	Residential	None
R119	3517 Delta Queen Avenue	62	62	64	0	2	2	B	Residential	None
R120	3682 W River Drive	61	61	62	0	1	1	B	Residential	None
R121	3494 Delta Queen Avenue	54	54	55	0	1	1	B	Residential	None
R122	3481 Delta Queen Avenue	60	60	62	0	2	2	B	Residential	None
R123	3441 River Shoal Avenue	55	55	57	0	2	2	B	Residential	None
R124	3451 Delta Queen Avenue	58	58	60	0	2	2	B	Residential	None
R125	3633 West River	65	65	67	0	2	2	B	Residential	A/E

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA ²			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ¹
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 3a)	2049 No Build (Alt 1)	2049 Build (Alt 3a)	2049 Build (Alt 3a)			
	Drive									
R126	2215 Shady Arbor Drive	64	64	66	0	2	2	B	Residential	A/E
R127	2171 Shady Arbor Drive	58	58	59	0	1	1	B	Residential	None
R128	3569 W River Drive	58	58	60	0	2	2	B	Residential	None
R129	3527 W River Drive	54	54	56	0	2	2	B	Residential	None
R130	5 Cool Fountain Court	63	63	64	0	1	1	B	Residential	None
R131	3447 Sweet Pea Way	57	57	58	0	1	1	B	Residential	None
R132	3439 W River Drive	52	52	54	0	2	2	B	Residential	None
R133	3407 W River Drive	51	51	52	0	1	1	B	Residential	None
R134	40 Shady Arbor Court	59	59	60	0	1	1	B	Residential	None
R135	22 Calla Lily Court	53	53	54	0	1	1	B	Residential	None
R136	2318 Barandas Drive	55	55	56	0	1	1	B	Residential	None
R137	3428 Delphinium Way	53	53	54	0	1	1	B	Residential	None
R138	27 White Lily Court	54	54	55	0	1	1	B	Residential	None
R139	40 White Lily Court	59	59	61	0	2	2	B	Residential	None
R140	3235 Spinning Rod Way	53	53	54	0	1	1	B	Residential	None
R141	27 Blue Fern Court	65	65	66	0	1	1	B	Residential	A/E
R142	3259 Spinning Rod Way	54	54	55	0	1	1	B	Residential	None
R143	3175 Boathouse Way	51	51	52	0	1	1	B	Residential	None
R144	18 Spinning Rod Court	61	61	63	0	2	2	B	Residential	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA ²			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ¹
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 3a)	2049 No Build (Alt 1)	2049 Build (Alt 3a)	2049 Build (Alt 3a)			
R145	Olive Drive	64	64	65	0	1	1	B	Residential	None
R146	Olive Drive	64	64	65	0	1	1	B	Residential	None
R147	Olive Drive	62	63	63	1	1	0	B	Residential	None
R148	9010 Sparling Lane	56	57	57	1	1	0	B	Residential	None
R149	8991-8999 Olmo Lane	63	63	63	0	0	0	B	Residential	None
R150	9460 W Chiles Road	71	71	72	0	1	1	B	Residential	A/E
R151	Westmore Oaks Elementary School	70	70	70	0	0	0	C	School	A/E
R152	3620 Palomar Avenue	66	66	66	0	0	0	B	Residential	A/E
R153	3612 Palomar Avenue	65	65	65	0	0	0	B	Residential	None
R154	812 Marigold Street	65	65	65	0	0	0	B	Residential	None
R155	820 Marigold Street	65	65	66	0	1	1	B	Residential	A/E
R156	Olmo Lane	67	67	68	0	1	1	G	Undeveloped	None
R157	Sparling Lane	65	65	66	0	1	1	G	Undeveloped	None
R158	EB I-80 Old Davis Road Exit	67	68	68	1	1	0	G	Undeveloped	None
R159	EB I-80 Old Davis Road Exit	69	69	69	0	0	0	G	Undeveloped	None
R160	WB I-80 Old Davis Road Exit	62	62	63	0	1	1	G	Undeveloped	None
R161	W Chiles Road	64	66	66	2	2	0	G	Undeveloped	None
R162	2 nd Street	67	67	67	0	0	0	G	Undeveloped	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA ²			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ¹
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 3a)	2049 No Build (Alt 1)	2049 Build (Alt 3a)	2049 Build (Alt 3a)			
R163	Cowell Boulevard	73	73	73	0	0	0	G	Undeveloped	None
R164	2 nd Street	71	71	71	0	0	0	G	Undeveloped	None
R165	Chiles Road	71	71	71	0	0	0	G	Undeveloped	None
R166	3808 Faraday Avenue	71	71	71	0	0	0	G	Undeveloped	None
R167	32A	71	71	71	0	0	0	G	Undeveloped	None
R168	32A	56	56	56	0	0	0	G	Undeveloped	None
R169	Howat	57	57	57	0	0	0	G	Undeveloped	None
R170	32A	75	75	75	0	0	0	G	Undeveloped	None
R171	WB I-80 32A onramp	74	74	75	0	1	1	G	Undeveloped	None
R172	Chiles Road	77	77	77	0	0	9	G	Undeveloped	None
R173	East of 32A	67	67	70	0	3	3	G	Undeveloped	None
R174	WB I-80	67	67	67	0	9	0	G	Undeveloped	None
R175	WB I-80	66	66	66	0	9	0	G	Undeveloped	None
R176	3980 Lake Road	71	71	71	0	9	0	G	Undeveloped	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA ²			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ¹
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 3a)	2049 No Build (Alt 1)	2049 Build (Alt 3a)	2049 Build (Alt 3a)			
									d	
R177	3951 Lake Road	65	65	66	0	1	1	G	Undeveloped	None
R178	West Capitol Avenue	78	78	79	0	1	1	G	Undeveloped	None
R179	Harbor Boulevard	72	72	75	0	3	3	G	Undeveloped	None
R180	531 Drever Street	71	71	73	0	2	2	G	Undeveloped	None
R181	1301 South River Road	69	69	71	0	2	2	G	Undeveloped	None
R182	Mill Street	69	69	71	0	2	2	G	Undeveloped	None
R183	600 Sutter Street	66	66	68	0	2	2	G	Undeveloped	None
R184	Reed Avenue	70	70	72	0	2	2	G	Undeveloped	None
R185	Reed Avenue	70	70	73	0	3	3	G	Undeveloped	None
R186	North Harbor Boulevard	69	69	72	0	3	3	G	Undeveloped	None
R187	2126 Garden Highway	70	70	72	0	2	2	G	Undeveloped	None
R188	El Centro Road	68	68	69	0	1	1	G	Undeveloped	None
R189	El Centro Road	74	74	75	0	1	1	G	Undeveloped	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA ²			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ¹
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 3a)	2049 No Build (Alt 1)	2049 Build (Alt 3a)	2049 Build (Alt 3a)			
R190	El Centro Road	76	76	76	0	0	0	G	Undeveloped	None
R191	Willow Creek	76	76	78	0	2	2	G	Undeveloped	None
R192	2 nd Street	71	71	71	0	0	0	G	Undeveloped	None

¹ Impact Type: S = Substantial Increase (12 dBA or more), A/E = Approach or Exceed NAC, None = Increase is less than 12 decibels and noise levels do not approach or exceed the NAC.

² As stated in the TeNS, modeling results are rounded to the nearest decibel before comparisons are made.

³ As stated in the Traffic Noise Protocol (TNAP) April 2020, bike paths that serve primarily as a transportation facility are not evaluated as recreational trails.

⁴ As stated in the Traffic Noise Protocol (TNAP) April 2020, recreational trails that primarily involve the use of motorized vehicles are not evaluated as recreational trails.

⁵ This location does not include any exterior noise sensitive land uses; exterior noise levels are provided for reference only.

⁶ This location is not considered an area of frequent human use where people are exposed to traffic for an extended period of time on a regular basis. Where applicable, additional receivers have been placed in areas of frequent human use.

⁷ This location does not include any exterior noise sensitive land uses, so would be considered a Category D land use only. Exterior noise levels are presented in the Table.

Table K-3. Alternative 4a TNM Modeling Results

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ¹
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 4a)	2049 No Build (Alt 1)	2049 Build (Alt 4a)	2049 Build (Alt 4a)			
ST-1	9010 Sparling Lane	68	68	68	0	0	0	B	Residential	None ⁶
ST-2	8991-8999 Olmo Lane	69	70	70	1	1	0	B	Residential	None ⁶
ST-3	UC Davis SE Corner of Equestrian Center Property	66	67	67	1	1	0	C	School-Active Sports	None ⁶

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 4a)	2049 No Build (Alt 1)	2049 Build (Alt 4a)	2049 Build (Alt 4a)			
									Area	
ST-4	UC Davis near Carolee Shields Gazebo	58	58	58	0	0	0	C	School-Arboretum	None
ST-5	9460 W Chiles Road	71	72	72	1	1	0	B	Residential	None ⁶
ST-6	University Inn Park and Suites Pool Area	57	57	58	0	1	1	E	Hotel	None
ST-7	1100 Chiles Nachtmann Analytical Laboratory	71	71	72	0	1	1	E	Office	None ⁵
ST-8	UC Davis Center for Laboratory Animal Science	69	69	69	0	0	0	D	School	None ⁵
ST-9	Cesar Chavez Plaza Apartments	63	63	65	0	2	2	B	Residential	None
ST-10	The Arbors Apartments Pool Area	49	49	50	0	1	1	B	Residential	None
ST-11	The Arbors Apartments	64	64	66	0	2	2	B	Residential	None ⁶
ST-12	La Quinta Inn and Suites by Wyndham Davis Pool Area	71	71	71	0	0	0	E	Hotel	A/E
ST-13	Toad Hollow Dog Park	54	54	55	0	1	1	C	Park	None
ST-14	Play Fields Park	61	61	61	0	0	0	C	Active Sports Area	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 4a)	2049 No Build (Alt 1)	2049 Build (Alt 4a)	2049 Build (Alt 4a)			
ST-15	2617 Albany Avenue	65	65	65	0	0	0	B	Residential	None
ST-16	2646 Albany Avenue	52	52	52	0	0	0	B	Residential	None
ST-17	2813 Albany Avenue	60	61	61	1	1	0	C	Playground	None
ST-18	UC Davis Building 641 Hillgard Lane	60	61	61	1	1	0	D	School	None ⁵
ST-19	Playground at New Harmony Mutual Housing Community	55	55	56	0	1	1	C	Playground	None
ST-20	3212 Koso Terrace	67	67	67	0	0	0	B	Residential	None ⁶
ST-21	3720 Chiles Road	60	60	60	0	0	0	B	Residential	None
ST-22	3707 El Segundo Ave	66	66	66	0	0	0	B	Residential	None ⁶
ST-23	213 La Vida Way	56	56	56	0	0	0	C	Preschool	None
ST-24	Days Inn by Wyndham Davis Near UC Davis	59	59	59	0	0	0	E	Hotel	None
ST-25	Pool Area at Motel 6 Davis, CA-Sacramento Area	65	65	65	0	0	0	E	Hotel	None
ST-26	5070 Veranda Terrace	46	46	47	0	1	1	B	Residential	None
ST-27	5093 Veranda Terrace	50	50	51	0	1	1	B	Residential	None
ST-28	Yolo Basin Foundation 45211 Country Road 32 B	60	60	60	0	0	0	B	Residential	None
ST-29	Davis Soccer Fields- 26375 Country Road 105 D	58	58	58	0	0	0	C	Active Sport Area	None
ST-30	Yolo Bypass Wildlife Area- Bike Trail	80	80	80	0	0	0	E	Trail	None ³

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 4a)	2049 No Build (Alt 1)	2049 Build (Alt 4a)	2049 Build (Alt 4a)			
ST-31	Yolo Bypass Wildlife Area	69	69	70	0	1	1	E	Trail	None ⁴
ST-32	Roland Hensley Park-4900 W Capitol Avenue	65	65	65	0	0	0	E	Trail	None
ST-34	Valhalla Mobile Home Club Pool Area	52	53	53	1	1	0	B	Residential	None
ST-35	10 Thor Drive	67	68	68	1	1	0	B	Residential	None ⁶
ST-36	43 Bragi Drive	57	57	58	0	1	1	B	Residential	None
ST-37	241 Bragi Drive	61	63	63	2	2	0	B	Residential	None/
ST-38	Meadowdale Park	65	67	67	2	2	0	C	Park	A/E
ST-39	3624 Palomar Avenue	66	68	68	2	2	0	B	Residential	None ⁶
ST-40	3604 Doran Avenue	64	65	65	1	1	0	B	Residential	None
ST-41	861 Garnet Street	65	66	66	1	1	0	B	Residential	None ⁶
ST-43	Center for Spiritual Awareness	65	67	67	2	2	0	D	Place of Worship	None ⁵
ST-44	Motel 6 West Sacramento Pool Area	56	57	57	1	1	0	E	Hotel	None
ST-45	2225 Hickory Way	63	65	65	2	2	0	B	Residential	None
ST-46	1089 Orchard Way	66	67	67	1	1	0	B	Residential	A/E
ST-47	Westmore Oaks Elementary School	73	74	74	1	1	0	C	School	None ⁵
ST-48	Westmore Oaks Elementary School	64	64	65	0	1	1	D	School	None
ST-49	1905 Buckeye Drive	68	70	70	2	2	0	B	Residential	A/E
ST-50	1412 Norfolk Avenue	58	59	59	1	1	0	B	Residential	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _h dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 4a)	2049 No Build (Alt 1)	2049 Build (Alt 4a)	2049 Build (Alt 4a)			
ST-51	Westacre Park	64	65	65	1	1	0	C	Playground	None
ST-52	1309 Norfolk Avenue	61	62	62	1	1	0	B	Residential	None
ST-53	Yolo High School	61	63	63	2	2	0	C	School	None
ST-55	719 11th Street	61	63	63	2	2	0	B	Residential	None
ST-56	1011 Canna Way	63	65	65	2	2	0	B	Residential	None
ST-58	918 Meadow Road	64	66	66	2	2	0	B	Residential	A/E
ST-59	Food Distribution Center for Our Lady of Grace Church	68	70	70	2	2	0	E	Office	None ⁵
ST-60	2214 4th Street	72	72	72	0	0	0	B	Residential	A/E
ST-62	NW of 2197 Garden Highway	64	64	66	0	2	2	B	Residential	A/E
ST-63	2184 Garden Highway	65	65	66	0	1	1	B	Residential	None ⁵
ST-64	2125 Garden Highway	70	70	72	0	2	2	B	Residential	None ⁶
ST-65	3814 W River Drive	69	69	71	0	2	2	B	Residential	None ⁶
ST-66	3760 W River Drive	59	59	60	0	1	1	B	Residential	None
ST-67	6 Rivulet Court	61	61	63	0	2	2	B	Residential	None
ST-68	3638 W River Drive	64	64	66	0	2	2	B	Residential	None
ST-70	5 Cool Fountain Court	65	65	67	0	2	2	B	Residential	None
ST-71	River Otter Park	63	63	64	0	1	1	C	Park	None
ST-72	3451 Delphinium Way	57	57	58	0	1	1	B	Residential	None
ST-73	40 White Lilly Court	59	59	60	0	1	1	B	Residential	None
ST-74	52 Blue Fern Court	61	61	62	0	1	1	B	Residential	None
ST-75	11 Swinging Bridge Court	54	54	55	0	1	1	B	Residential	None
R1	1 Equestrian Lane	62	63	63	1	1	0	C	Active	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 4a)	2049 No Build (Alt 1)	2049 Build (Alt 4a)	2049 Build (Alt 4a)			
									Sports Area	
R4	7826 Hamel Lane	57	57	57	0	0	0	B	Residential	None
R5	1544 Newton Court	71	71	71	0	0	0	D	School	None ⁵
R6	1100 Olive Drive	68	69	69	1	1	0	B	Residential	None ⁵
R7	1100 Olive Drive	55	55	56	0	1	1	B	Residential	None
R8	1100 Olive Drive	59	59	60	0	1	1	B	Residential	None
R9	1200 Olive Drive	52	52	53	0	1	1	B	Residential	None
R10	1200 Olive Drive	59	59	61	0	2	2	B	Residential	None
R11	1200 Olive Drive	54	55	55	1	1	0	B	Residential	None
R12	1280 Olive Drive	62	63	64	1	2	1	B	Residential	None
R13	1414 Olive Drive	63	63	65	0	2	2	B	Residential	None
R14	1414 Olive Drive	63	63	65	0	2	2	B	Residential	None
R15	Research Park Drive	53	53	53	0	0	0	B	Residential	None
R17	1445 Drew Avenue	65	65	65	0	0	0	E	Office	None
R18	Cowell Drive	57	57	57	0	0	0	B	Residential	None
R19	Cowell Drive	56	56	56	0	0	0	B	Residential	None
R20	Cowell Drive	52	53	53	1	1	0	B	Residential	None
R21	2601 Albany Avenue	64	64	64	0	0	0	B	Residential	None
R22	2611 Albany Avenue	65	65	65	0	0	0	B	Residential	None
R23	2643 Albany Avenue	64	64	64	0	0	0	B	Residential	None
R24	2721 Albany Avenue	59	59	59	0	0	0	B	Residential	None
R25	2745 Albany Avenue	60	60	60	0	0	0	B	Residential	None
R26	2817 Albany Avenue	61	61	61	0	0	0	B	Residential	None
R27	613 Benbow Court	62	62	62	0	0	0	B	Residential	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 4a)	2049 No Build (Alt 1)	2049 Build (Alt 4a)	2049 Build (Alt 4a)			
R28	601 Benbow Court	60	60	60	0	0	0	B	Residential	None
R29	612 Benbow Court	59	59	59	0	0	0	B	Residential	None
R30	University of California Agriculture and Natural Resources 2801 2nd Street	71	71	71	0	0	0	D	School	None ⁵
R31	3030 Cowell Boulevard	58	58	59	0	1	1	B	Residential	None
R32	3030 Cowell Boulevard	58	58	59	0	1	1	B	Residential	None
R33	3030 Cowell Boulevard	54	54	54	0	0	0	B	Residential	None
R34	3641 El Segundo Avenue	65	65	65	0	0	0	B	Residential	None
R35	3665 El Segundo Avenue	64	64	64	0	0	0	B	Residential	None
R36	3714 Chiles Road	59	59	59	0	0	0	B	Residential	None
R37	3650 El Segundo Avenue	48	48	48	0	0	0	B	Residential	None
R38	3704 El Segundo Avenue	48	48	49	0	1	1	B	Residential	None
R39	3730 El Segundo Avenue	59	59	59	0	0	0	B	Residential	None
R40	3820 Chiles Road	49	50	50	1	1	0	B	Residential	None
R41	3820 Chiles Road	44	45	45	1	1	0	B	Residential	None
R42	3820 Chiles Road	51	51	51	0	0	0	B	Residential	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 4a)	2049 No Build (Alt 1)	2049 Build (Alt 4a)	2049 Build (Alt 4a)			
R43	3820 Chiles Road	48	49	49	1	1	0	B	Residential	None
R44	Days Inn Wyndham Davis Nearby UC Davis	47	47	47	0	0	0	E	Hotel	None
R45	Davis Urgent Care 4515 Fermi Place	70	70	70	0	0	0	D	Medical Facility	None ⁵
R46	5063 Veranda Terrace	52	52	52	0	0	0	B	Residential	None
R47	5069 Veranda Terrace	54	54	54	0	0	0	B	Residential	None
R48	5077 Veranda Terrace	54	54	54	0	0	0	B	Residential	None
R49	3951 Lake Road	61	61	61	0	0	0	B	Residential	None
R50	3901 Lake Road	62	62	62	0	0	0	B	Residential	None
R51	3901 Lake Road	62	62	63	0	1	1	B	Residential	None
R52	3901 Lake Road	58	58	58	0	0	0	B	Residential	None
R53	3901 Lake Road	58	58	58	0	0	0	B	Residential	None
R54	3901 Lake Road	61	61	62	0	1	1	B	Residential	None
R55	3901 Lake Road	64	64	64	0	0	0	B	Residential	None
R56	3901 Lake Road	59	59	60	0	1	1	B	Residential	None
R57	3901 Lake Road	63	63	63	0	0	0	B	Residential	None
R58	3680 Industrial Boulevard	59	59	61	0	2	2	D	Medical Facility	None ⁵
R59	DaVita West-3450 Industrial Boulevard	70	70	72	0	2	2	D	Medical Facility	None ⁵
R60	829 Marigold Street	61	61	61	0	0	0	B	Residential	None
R61	844 Morning Glory	62	62	63	0	1	1	B	Residential	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _h dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 4a)	2049 No Build (Alt 1)	2049 Build (Alt 4a)	2049 Build (Alt 4a)			
	Street									
R62	832 Garnet Street	61	61	62	0	1	1	B	Residential	None
R63	3524 Doran Avenue	60	60	61	0	1	1	B	Residential	None
R64	857 Garnet Street	57	57	58	0	1	1	B	Residential	None
R65	3427 Evergreen Circle	64	64	66	0	2	2	B	Residential	None
R66	3427 Evergreen Circle	55	55	56	0	1	1	B	Residential	None
R67	Ramada by Wyndham West Sacramento Hotel & Suites	55	55	57	0	2	2	E	Hotel	None
R68	Sacramento Valley Charter School	66	66	68	0	2	2	D	School	None ⁵
R69	River Bend Nursing Center	61	61	62	0	1	1	C	Medical Facility	None
R70	2205 Hickory Way	68	68	70	0	2	2	B	Residential	A/E
R71	2143 Hickory Way	69	69	70	0	1	1	B	Residential	A/E
R72	2105 Hickory Way	65	65	67	0	2	2	B	Residential	None
R73	1049 Orchard Way	64	64	66	0	2	2	B	Residential	None
R74	959 Orchard Way	62	62	63	0	1	1	B	Residential	None
R75	2019 Buckeye Drive	67	67	69	0	2	2	B	Residential	A/E
R76	1020 Sycamore Avenue	58	58	59	0	1	1	B	Residential	None
R77	1009 Sycamore Avenue	57	57	59	0	2	2	B	Residential	None
R78	1021 Hemlock Street	59	59	60	0	1	1	B	Residential	None
R79	1933 Buckeye Drive	66	66	68	0	2	2	B	Residential	A/E

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _h dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 4a)	2049 No Build (Alt 1)	2049 Build (Alt 4a)	2049 Build (Alt 4a)			
R80	1913 Buckeye Drive	66	66	68	0	2	2	B	Residential	A/E
R81	1012 Poplar Avenue	58	58	60	0	2	2	B	Residential	None
R82	1608 Norfolk Avenue	69	69	71	0	2	2	B	Residential	A/E
R83	1504 Norfolk Avenue	68	68	70	0	2	2	B	Residential	A/E
R84	1404 Norfolk Avenue	69	69	71	0	2	2	B	Residential	A/E
R85	1204 Norfolk Avenue	70	70	72	0	2	2	B	Residential	A/E
R86	1604 Meadow Road	58	58	60	0	2	2	B	Residential	None
R87	1601 Norfolk Avenue	59	59	60	0	1	1	B	Residential	None
R88	1024 Haverhill Street	60	60	62	0	2	2	B	Residential	None
R89	1305 Norfolk Avenue	60	60	62	0	2	2	B	Residential	None
R90	1104 Westacre Road	60	60	62	0	2	2	B	Residential	None
R91	1101 Westacre Road	62	62	64	0	2	2	B	Residential	None
R92	727 11th Street	69	69	71	0	2	2	B	Residential	A/E
R93	715 Webster Street	64	64	66	0	2	2	B	Residential	None
R94	1020 Meadow Road	62	62	64	0	2	2	B	Residential	None
R95	609 Webster Street	62	62	64	0	2	2	B	Residential	None
R96	504 Webster Street	64	64	66	0	2	2	B	Residential	A/E
R97	911 Meadow Road	65	65	67	0	2	2	B	Residential	A/E
R98	Levia Park	65	65	65	0	0	0	C	Park	None
R99	316 V Street	72	72	72	0	0	0	B	Residential	A/E
R100	2209 4th Street	65	65	65	0	0	0	B	Residential	A/E
R101	846 Marigold Street	63	63	65	0	2	2	B	Residential	None
R102	828 Marigold Street	64	64	65	0	1	1	B	Residential	None
R103	812 Morning Glory	60	60	61	0	1	1	B	Residential	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 4a)	2049 No Build (Alt 1)	2049 Build (Alt 4a)	2049 Build (Alt 4a)			
	Street									
R104	3600 Palomar Avenue	64	64	64	0	0	0	B	Residential	None
R105	3624 Palomar Avenue	67	67	68	0	1	1	B	Residential	A/E
R106	2125 Garden Highway	69	69	71	0	2	2	B	Residential	A/E
R107	2145 Garden Highway	68	68	70	0	2	2	B	Residential	A/E
R108	2181 Garden Highway	65	65	66	0	1	1	B	Residential	A/E
R109	2197 Garden Highway	65	65	67	0	2	2	B	Residential	A/E
R110	2184 Garden Highway	64	64	66	0	2	2	B	Residential	None
R111	3796 W River Drive	64	64	65	0	1	1	B	Residential	None
R112	3778 W River Drive	60	60	62	0	2	2	B	Residential	None
R113	3575 Wheelhouse Avenue	65	65	67	0	2	2	B	Residential	None
R114	2106 Sternwheeler Way	60	60	62	0	2	2	B	Residential	None
R115	3742 W River Drive	57	57	59	0	2	2	B	Residential	None
R116	3724 W River Drive	60	60	62	0	2	2	B	Residential	None
R117	21116 Smokestack Way	60	60	61	0	1	1	B	Residential	None
R118	3542 Delta Queen Avenue	60	60	61	0	1	1	B	Residential	None
R119	3517 Delta Queen Avenue	62	62	64	0	2	2	B	Residential	None
R120	3682 W River Drive	61	61	62	0	1	1	B	Residential	None
R121	3494 Delta Queen Avenue	54	54	55	0	1	1	B	Residential	None
R122	3481 Delta Queen	60	60	62	0	2	2	B	Residential	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 4a)	2049 No Build (Alt 1)	2049 Build (Alt 4a)	2049 Build (Alt 4a)			
	Avenue									
R123	3441 River Shoal Avenue	55	55	57	0	2	2	B	Residential	None
R124	3451 Delta Queen Avenue	58	58	60	0	2	2	B	Residential	None
R125	3633 W River Drive	65	65	67	0	2	2	B	Residential	None
R126	2215 Shady Arbor Drive	64	64	66	0	2	2	B	Residential	None
R127	2171 Shady Arbor Drive	58	58	59	0	1	1	B	Residential	None
R128	3569 W River Drive	58	58	60	0	2	2	B	Residential	None
R129	3527 W River Drive	54	54	56	0	2	2	B	Residential	None
R130	5 Cool Fountain Court	63	63	64	0	1	1	B	Residential	None
R131	3447 Sweet Pea Way	57	57	58	0	1	1	B	Residential	None
R132	3439 W River Drive	52	52	54	0	2	2	B	Residential	None
R133	3407 W River Drive	51	51	52	0	1	1	B	Residential	None
R134	40 Shady Arbor Court	59	59	60	0	1	1	B	Residential	None
R135	22 Calla Lily Court	53	53	54	0	1	1	B	Residential	None
R136	2318 Barandas Drive	55	55	56	0	1	1	B	Residential	None
R137	3428 Delphinium Way	53	53	54	0	1	1	B	Residential	None
R138	27 White Lily Court	54	54	55	0	1	1	B	Residential	None
R139	40 White Lily Court	59	59	61	0	2	2	B	Residential	None
R140	3235 Spinning Rod Way	53	53	54	0	1	1	B	Residential	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 4a)	2049 No Build (Alt 1)	2049 Build (Alt 4a)	2049 Build (Alt 4a)			
R141	27 Blue Fern Court	65	65	66	0	1	1	B	Residential	A/E
R142	3259 Spinning Rod Way	54	54	55	0	1	1	B	Residential	None
R143	3175 Boathouse Way	51	51	52	0	1	1	B	Residential	None
R144	18 Spinning Rod Court	61	61	63	0	2	2	B	Residential	None
R145	Olive Drive	64	64	65	0	1	1	B	Residential	None
R146	Olive Drive	64	64	65	0	1	1	B	Residential	None
R147	Olive Drive	62	63	63	1	1	1	B	Residential	None
R148	9010 Sparling Lane	56	57	57	1	1	1	B	Residential	None
R149	8991-8999 Olmo Lane	63	63	64	0	1	1	B	Residential	None
R150	9460 W Chiles Road	71	71	72	0	1	1	B	Residential	A/E
R151	Westmore Oaks Elementary School	70	70	70	0	0	0	C	School	A/E
R152	3620 Palomar Avenue	66	66	66	0	0	0	B	Residential	A/E
R153	3612 Palomar Avenue	65	65	65	0	0	0	B	Residential	None
R154	812 Marigold Street	65	65	65	0	0	0	B	Residential	None
R155	820 Marigold Street	65	65	66	0	1	1	B	Residential	A/E
R156	Olmo Lane	67	67	67	0	0	0	G	Undeveloped	None
R157	Sparling Lane	65	65	65	0	0	0	G	Undeveloped	None
R158	EB I-80 Old Davis Road Exit	67	68	68	1	1	0	G	Undeveloped	None
R159	EB I-80 Old Davis Road Exit	69	69	69	0	0	0	G	Undeveloped	None
R160	WB I-80 Old Davis	62	62	62	0	0	0	G	Undeveloped	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 4a)	2049 No Build (Alt 1)	2049 Build (Alt 4a)	2049 Build (Alt 4a)			
	Road Exit								ed	
R161	W Chiles Road	64	66	66	2	2	0	G	Undeveloped	None
R162	2 nd Street	67	67	67	0	0	0	G	Undeveloped	None
R163	Cowell Boulevard	73	73	73	0	0	0	G	Undeveloped	None
R164	2 nd Street	71	71	71	0	0	0	G	Undeveloped	None
R165	Chiles Road	71	71	71	0	0	0	G	Undeveloped	None
R166	3808 Faraday Avenue	71	71	71	0	0	0	G	Undeveloped	None
R167	32A	71	71	71	0	0	0	G	Undeveloped	None
R168	32A	56	56	56	0	0	0	G	Undeveloped	None
R169	Howat	57	57	57	0	0	0	G	Undeveloped	None
R170	32A	75	75	75	0	0	0	G	Undeveloped	None
R171	WB I-80 32A onramp	74	74	75	0	1	1	G	Undeveloped	None
R172	Chiles Road	77	77	77	0	0	0	G	Undeveloped	None
R173	East of 32A	67	67	70	0	3	3	G	Undeveloped	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 4a)	2049 No Build (Alt 1)	2049 Build (Alt 4a)	2049 Build (Alt 4a)			
R174	WB I-80	67	67	67	0	0	0	G	Undeveloped	None
R175	WB I-80	66	66	66	0	0	0	G	Undeveloped	None
R176	3980 Lake Road	71	71	71	0	0	0	G	Undeveloped	None
R177	3951 Lake Road	65	65	66	0	1	1	G	Undeveloped	None
R178	West Capitol Avenue	78	78	79	0	1	1	G	Undeveloped	None
R179	Harbor Boulevard	72	72	75	0	3	3	G	Undeveloped	None
R180	531 Drever Street	71	71	73	0	2	2	G	Undeveloped	None
R181	1301 South River Road	69	69	71	0	2	2	G	Undeveloped	None
R182	Mill Street	69	69	71	0	2	2	G	Undeveloped	None
R183	600 Sutter Street	66	66	68	0	2	2	G	Undeveloped	None
R184	Reed Avenue	70	70	72	0	2	2	G	Undeveloped	None
R185	Reed Avenue	70	70	72	0	2	2	G	Undeveloped	None
R186	North Harbor Boulevard	69	69	71	0	2	2	G	Undeveloped	None
R187	2126 Garden Highway	70	70	72	0	2	2	G	Undeveloped	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 4a)	2049 No Build (Alt 1)	2049 Build (Alt 4a)	2049 Build (Alt 4a)			
									69ed	
R188	El Centro Road	68	68	69	0	1	1	G	Undeveloped	None
R189	El Centro Road	74	74	75	0	1	1	G	Undeveloped	None
R190	El Centro Road	76	76	76	0	0	0	G	Undeveloped	None
R191	Willow Creek	76	76	78	0	2	2	G	Undeveloped	None
R192	2 nd Street	71	71	71	0	0	0	G	Undeveloped	None

¹ Impact Type: S = Substantial Increase (12 dBA or more), A/E = Approach or Exceed NAC, None = Increase is less than 12 decibels and noise levels do not approach or exceed the NAC.

² As stated in the TeNS, modeling results are rounded to the nearest decibel before comparisons are made.

³ As stated in the Traffic Noise Protocol (TNAP) April 2020, bike paths that serve primarily as a transportation facility are not evaluated as recreational trails.

⁴ As stated in the Traffic Noise Protocol (TNAP) April 2020, recreational trails that primarily involve the use of motorized vehicles are not evaluated as recreational trails.

⁵ This location does not include any exterior noise sensitive land uses; exterior noise levels are provided for reference only.

⁶ This location is not considered an area of frequent human use where people are exposed to traffic for an extended period of time on a regular basis. Where applicable, additional receivers have been placed in areas of frequent human use.

⁷ This location does not include any exterior noise sensitive land uses, so would be considered a Category D land use only. Exterior noise levels are presented in the Table.

Table K-4. Alternative 5a TNM Modeling Results

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 5a)	2049 No Build (Alt 1)	2049 Build (Alt 5a)	2049 Build (Alt 5a)			
ST-1	9010 Sparling Lane	68	68	68	0	0	0	B	Residential	None ⁶

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 5a)	2049 No Build (Alt 1)	2049 Build (Alt 5a)	2049 Build (Alt 5a)			
ST-2	8991-8999 Olmo Lane	69	70	70	1	1	0	B	Residential	None ⁶
ST-3	UC Davis SE Corner of Equestrian Center Property	66	67	67	1	1	0	C	School-Active Sports Area	None ⁶
ST-4	UC Davis near Carolee Shields Gazebo	58	58	58	0	0	0	C	School-Arboretum	None
ST-5	9460 W Chiles Road	71	72	72	1	1	0	B	Residential	None ⁶
ST-6	University Inn Park and Suites Pool Area	57	57	58	0	1	1	E	Hotel	None
ST-7	1100 Chiles Nachtmann Analytical Laboratory	71	71	72	0	1	1	E	Office	None ⁵
ST-8	UC Davis Center for Laboratory Animal Science	69	69	69	0	0	0	D	School	None ⁵
ST-9	Cesar Chavez Plaza Apartments	63	63	65	0	2	2	B	Residential	None
ST-10	The Arbors Apartments Pool Area	49	49	50	0	1	1	B	Residential	None
ST-11	The Arbors Apartments	64	64	66	0	2	2	B	Residential	None ⁶
ST-12	La Quinta Inn and Suites by Wyndham Davis Pool Area	71	71	71	0	0	0	E	Hotel	A/E

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 5a)	2049 No Build (Alt 1)	2049 Build (Alt 5a)	2049 Build (Alt 5a)			
ST-13	Toad Hollow Dog Park	54	54	55	0	1	1	C	Park	None
ST-14	Play Fields Park	61	61	61	0	0	0	C	Active Sports Area	None
ST-15	2617 Albany Avenue	65	65	65	0	0	0	B	Residential	None
ST-16	2646 Albany Avenue	52	52	52	0	0	0	B	Residential	None
ST-17	2813 Albany Avenue	60	61	61	1	1	0	C	Playground	None
ST-18	UC Davis Building 641 Hillgard Lane	60	61	61	1	1	0	D	School	None ⁵
ST-19	Playground at New Harmony Mutual Housing Community	55	55	56	0	1	1	C	Playground	None
ST-20	3212 Koso Terrace	67	67	67	0	0	0	B	Residential	None ⁶
ST-21	3720 Chiles Road	60	60	60	0	0	0	B	Residential	None
ST-22	3707 El Segundo Ave	66	66	66	0	0	0	B	Residential	None ⁶
ST-23	213 La Vida Way	56	56	56	0	0	0	C	Preschool	None
ST-24	Days Inn by Wyndham Davis Near UC Davis	59	59	59	0	0	0	E	Hotel	None
ST-25	Pool Area at Motel 6 Davis, CA-Sacramento Area	65	65	65	0	0	0	E	Hotel	None
ST-26	5070 Veranda Terrace	46	46	47	0	1	1	B	Residential	None
ST-27	5093 Veranda Terrace	50	50	51	0	1	1	B	Residential	None
ST-28	Yolo Basin Foundation 45211 Country Road 32 B	60	60	60	0	0	0	B	Residential	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 5a)	2049 No Build (Alt 1)	2049 Build (Alt 5a)	2049 Build (Alt 5a)			
ST-29	Davis Soccer Fields-26375 Country Road 105 D	58	58	58	0	0	0	C	Active Sport Area	None
ST-30	Yolo Bypass Wildlife Area- Bike Trail	80	80	80	0	0	0	E	Trail	None ³
ST-31	Yolo Bypass Wildlife Area	69	69	70	0	1	1	E	Trail	None ⁴
ST-32	Roland Hensley Park-4900 W Capitol Avenue	65	65	65	0	0	0	E	Trail	None
ST-34	Valhalla Mobile Home Club Pool Area	52	53	53	1	1	0	B	Residential	None
ST-35	10 Thor Drive	67	68	68	1	1	0	B	Residential	None ⁶
ST-36	43 Bragi Drive	57	57	58	0	1	1	B	Residential	None
ST-37	241 Bragi Drive	61	63	63	2	2	0	B	Residential	None/
ST-38	Meadowdale Park	65	67	67	2	2	0	C	Park	A/E
ST-39	3624 Palomar Avenue	66	68	68	2	2	0	B	Residential	None ⁶
ST-40	3604 Doran Avenue	64	65	65	1	1	0	B	Residential	None
ST-41	861 Garnet Street	65	66	66	1	1	0	B	Residential	None ⁶
ST-43	Center for Spiritual Awareness	65	67	67	2	2	0	D	Place of Worship	None ⁵
ST-44	Motel 6 West Sacramento Pool Area	56	57	57	1	1	0	E	Hotel	None
ST-45	2225 Hickory Way	63	65	65	2	2	0	B	Residential	None
ST-46	1089 Orchard Way	66	67	67	1	1	0	B	Residential	A/E
ST-47	Westmore Oaks Elementary School	73	74	74	1	1	0	C	School	None ⁵

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 5a)	2049 No Build (Alt 1)	2049 Build (Alt 5a)	2049 Build (Alt 5a)			
ST-48	Westmore Oaks Elementary School	64	64	65	0	1	1	D	School	None
ST-49	1905 Buckeye Drive	68	70	70	2	2	0	B	Residential	A/E
ST-50	1412 Norfolk Avenue	58	59	59	1	1	0	B	Residential	None
ST-51	Westacre Park	64	65	65	1	1	0	C	Playground	None
ST-52	1309 Norfolk Avenue	61	62	62	1	1	0	B	Residential	None
ST-53	Yolo High School	61	63	63	2	2	0	C	School	None
ST-55	719 11th Street	61	63	63	2	2	0	B	Residential	None
ST-56	1011 Canna Way	63	65	65	2	2	0	B	Residential	None
ST-58	918 Meadow Road	64	66	66	2	2	0	B	Residential	A/E
ST-59	Food Distribution Center for Our Lady of Grace Church	68	70	70	2	2	0	E	Office	None ⁵
ST-60	2214 4th Street	72	72	72	0	0	0	B	Residential	A/E
ST-62	NW of 2197 Garden Highway	64	64	66	0	2	2	B	Residential	A/E
ST-63	2184 Garden Highway	65	65	66	0	1	1	B	Residential	None ⁵
ST-64	2125 Garden Highway	70	70	72	0	2	2	B	Residential	None ⁶
ST-65	3814 W River Drive	69	69	71	0	2	2	B	Residential	None ⁶
ST-66	3760 W River Drive	59	59	60	0	1	1	B	Residential	None
ST-67	6 Rivulet Court	61	61	63	0	2	2	B	Residential	None
ST-68	3638 W River Drive	64	64	66	0	2	2	B	Residential	None
ST-70	5 Cool Fountain Court	65	65	670	0	2	2	B	Residential	None
ST-71	River Otter Park	63	63	646	0	1	1	C	Park	None
ST-72	3451 Delphinium Way	57	57	58	0	1	1	B	Residential	None
ST-73	40 White Lilly Court	59	59	60	0	1	1	B	Residential	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 5a)	2049 No Build (Alt 1)	2049 Build (Alt 5a)	2049 Build (Alt 5a)			
ST-74	52 Blue Fern Court	61	61	62	0	1	1	B	Residential	None
ST-75	11 Swinging Bridge Court	54	54	55	0	1	1	B	Residential	None
R1	1 Equestrian Lane	62	63	63	1	1	0	C	Active Sports Area	None
R4	7826 Hamel Lane	57	57	57	0	0	0	B	Residential	None
R5	1544 Newton Court	71	71	71	0	0	0	D	School	None ⁵
R6	1100 Olive Drive	68	69	69	1	1	0	B	Residential	None ⁵
R7	1100 Olive Drive	55	55	56	0	1	1	B	Residential	None
R8	1100 Olive Drive	59	59	60	0	1	1	B	Residential	None
R9	1200 Olive Drive	52	52	53	0	1	1	B	Residential	None
R10	1200 Olive Drive	59	59	61	0	2	2	B	Residential	None
R11	1200 Olive Drive	54	55	55	1	1	0	B	Residential	None
R12	1280 Olive Drive	62	63	64	1	2	1	B	Residential	None
R13	1414 Olive Drive	63	63	65	0	2	2	B	Residential	None
R14	1414 Olive Drive	63	63	65	0	2	2	B	Residential	None
R15	Research Park Drive	53	53	53	0	0	0	B	Residential	None
R17	1445 Drew Avenue	65	65	65	0	0	0	E	Office	None
R18	Cowell Drive	57	57	57	0	0	0	B	Residential	None
R19	Cowell Drive	56	56	56	0	0	0	B	Residential	None
R20	Cowell Drive	52	53	53	1	1	0	B	Residential	None
R21	2601 Albany Avenue	64	64	64	0	0	0	B	Residential	None
R22	2611 Albany Avenue	65	65	65	0	0	0	B	Residential	None
R23	2643 Albany Avenue	64	64	64	0	0	0	B	Residential	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 5a)	2049 No Build (Alt 1)	2049 Build (Alt 5a)	2049 Build (Alt 5a)			
R24	2721 Albany Avenue	59	59	59	0	0	0	B	Residential	None
R25	2745 Albany Avenue	60	60	60	0	0	0	B	Residential	None
R26	2817 Albany Avenue	61	61	61	0	0	0	B	Residential	None
R27	613 Benbow Court	62	62	62	0	0	0	B	Residential	None
R28	601 Benbow Court	60	60	60	0	0	0	B	Residential	None
R29	612 Benbow Court	59	59	59	0	0	0	B	Residential	None
R30	University of California Agriculture and Natural Resources 2801 2nd Street	71	71	71	0	0	0	D	School	None ⁵
R31	3030 Cowell Boulevard	58	58	59	0	1	1	B	Residential	None
R32	3030 Cowell Boulevard	58	58	59	0	1	1	B	Residential	None
R33	3030 Cowell Boulevard	54	54	54	0	0	0	B	Residential	None
R34	3641 El Segundo Avenue	65	65	65	0	0	0	B	Residential	None
R35	3665 El Segundo Avenue	64	64	64	0	0	0	B	Residential	None
R36	3714 Chiles Road	59	59	59	0	0	0	B	Residential	None
R37	3650 El Segundo Avenue	48	48	48	0	0	0	B	Residential	None
R38	3704 El Segundo Avenue	48	48	49	0	1	1	B	Residential	None
R39	3730 El Segundo	59	59	59	0	0	0	B	Residential	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _h dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 5a)	2049 No Build (Alt 1)	2049 Build (Alt 5a)	2049 Build (Alt 5a)			
	Avenue									
R40	3820 Chiles Road	49	50	50	1	1	0	B	Residential	None
R41	3820 Chiles Road	44	45	45	1	1	0	B	Residential	None
R42	3820 Chiles Road	51	51	51	0	0	0	B	Residential	None
R43	3820 Chiles Road	48	49	49	1	1	0	B	Residential	None
R44	Days Inn Wyndham Davis Nearby UC Davis	47	47	47	0	0	0	E	Hotel	None
R45	Davis Urgent Care 4515 Fermi Place	70	70	70	0	0	0	D	Medical Facility	None ⁵
R46	5063 Veranda Terrace	52	52	52	0	0	0	B	Residential	None
R47	5069 Veranda Terrace	54	54	54	0	0	0	B	Residential	None
R48	5077 Veranda Terrace	54	54	55	0	1	1	B	Residential	None
R49	3951 Lake Road	61	61	61	0	0	0	B	Residential	None
R50	3901 Lake Road	62	62	62	0	0	0	B	Residential	None
R51	3901 Lake Road	62	62	63	0	1	1	B	Residential	None
R52	3901 Lake Road	58	58	58	0	0	0	B	Residential	None
R53	3901 Lake Road	58	58	58	0	0	0	B	Residential	None
R54	3901 Lake Road	61	61	62	0	1	1	B	Residential	None
R55	3901 Lake Road	64	64	64	0	0	0	B	Residential	None
R56	3901 Lake Road	59	59	60	0	1	1	B	Residential	None
R57	3901 Lake Road	63	63	63	0	0	0	B	Residential	None
R58	3680 Industrial Boulevard	59	59	61	0	2	2	D	Medical Facility	None ⁵

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _h dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 5a)	2049 No Build (Alt 1)	2049 Build (Alt 5a)	2049 Build (Alt 5a)			
R59	DaVita West-3450 Industrial Boulevard	70	70	72	0	2	2	D	Medical Facility	None ⁵
R60	829 Marigold Street	61	61	61	0	0	0	B	Residential	None
R61	844 Morning Glory Street	62	62	63	0	1	1	B	Residential	None
R62	832 Garnet Street	61	61	62	0	1	1	B	Residential	None
R63	3524 Doran Avenue	60	60	61	0	1	1	B	Residential	None
R64	857 Garnet Street	57	57	58	0	1	1	B	Residential	None
R65	3427 Evergreen Circle	64	64	66	0	2	2	B	Residential	None
R66	3427 Evergreen Circle	55	55	56	0	1	1	B	Residential	None
R67	Ramada by Wyndham West Sacramento Hotel & Suites	55	55	57	0	2	2	E	Hotel	None
R68	Sacramento Valley Charter School	66	66	68	0	2	2	D	School	None ⁵
R69	River Bend Nursing Center	61	61	62	0	1	1	C	Medical Facility	None
R70	2205 Hickory Way	68	68	70	0	2	2	B	Residential	A/E
R71	2143 Hickory Way	69	69	70	0	1	1	B	Residential	A/E
R72	2105 Hickory Way	65	65	67	0	2	2	B	Residential	None
R73	1049 Orchard Way	64	64	66	0	2	2	B	Residential	None
R74	959 Orchard Way	62	62	63	0	1	1	B	Residential	None
R75	2019 Buckeye Drive	67	67	69	0	2	2	B	Residential	A/E
R76	1020 Sycamore Avenue	58	58	59	0	1	1	B	Residential	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 5a)	2049 No Build (Alt 1)	2049 Build (Alt 5a)	2049 Build (Alt 5a)			
R77	1009 Sycamore Avenue	57	57	59	0	2	2	B	Residential	None
R78	1021 Hemlock Street	59	59	60	0	1	1	B	Residential	None
R79	1933 Buckeye Drive	66	66	68	0	2	2	B	Residential	A/E
R80	1913 Buckeye Drive	66	66	68	0	2	2	B	Residential	A/E
R81	1012 Poplar Avenue	58	58	60	0	2	2	B	Residential	None
R82	1608 Norfolk Avenue	69	69	71	0	2	2	B	Residential	A/E
R83	1504 Norfolk Avenue	68	68	70	0	2	2	B	Residential	A/E
R84	1404 Norfolk Avenue	69	69	71	0	2	2	B	Residential	A/E
R85	1204 Norfolk Avenue	70	70	72	0	2	2	B	Residential	A/E
R86	1604 Meadow Road	58	58	60	0	2	2	B	Residential	None
R87	1601 Norfolk Avenue	59	59	60	0	1	1	B	Residential	None
R88	1024 Haverhill Street	60	60	62	0	2	2	B	Residential	None
R89	1305 Norfolk Avenue	60	60	62	0	2	2	B	Residential	None
R90	1104 Westacre Road	60	60	62	0	2	2	B	Residential	None
R91	1101 Westacre Road	62	62	64	0	2	2	B	Residential	None
R92	727 11th Street	69	69	71	0	2	2	B	Residential	A/E
R93	715 Webster Street	64	64	66	0	2	2	B	Residential	None
R94	1020 Meadow Road	62	62	64	0	2	2	B	Residential	None
R95	609 Webster Street	62	62	65	0	3	3	B	Residential	None
R96	504 Webster Street	64	64	66	0	2	2	B	Residential	A/E
R97	911 Meadow Road	65	65	67	0	2	2	B	Residential	A/E
R98	Levia Park	65	65	65	0	0	0	C	Park	None
R99	316 V Street	72	72	72	0	0	0	B	Residential	A/E

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 5a)	2049 No Build (Alt 1)	2049 Build (Alt 5a)	2049 Build (Alt 5a)			
R100	2209 4th Street	65	65	65	0	0	0	B	Residential	A/E
R101	846 Marigold Street	63	63	65	0	2	2	B	Residential	None
R102	828 Marigold Street	64	64	65	0	1	1	B	Residential	None
R103	812 Morning Glory Street	60	60	61	0	1	1	B	Residential	None
R104	3600 Palomar Avenue	64	64	64	0	0	0	B	Residential	None
R105	3624 Palomar Avenue	67	67	68	0	1	1	B	Residential	A/E
R106	2125 Garden Highway	69	69	71	0	2	2	B	Residential	A/E
R107	2145 Garden Highway	68	68	70	0	2	2	B	Residential	A/E
R108	2181 Garden Highway	65	65	66	0	1	1	B	Residential	A/E
R109	2197 Garden Highway	65	65	67	0	2	2	B	Residential	A/E
R110	2184 Garden Highway	64	64	66	0	2	2	B	Residential	None
R111	3796 W River Drive	64	64	65	0	1	1	B	Residential	None
R112	3778 W River Drive	60	60	62	0	2	2	B	Residential	None
R113	3575 Wheelhouse Avenue	65	65	67	0	2	2	B	Residential	None
R114	2106 Sternwheeler Way	60	60	62	0	2	2	B	Residential	None
R115	3742 W River Drive	57	57	59	0	2	2	B	Residential	None
R116	3724 W River Drive	60	60	62	0	2	2	B	Residential	None
R117	21116 Smokestack Way	60	60	61	0	1	1	B	Residential	None
R118	3542 Delta Queen Avenue	60	60	61	0	1	1	B	Residential	None
R119	3517 Delta Queen Avenue	62	62	64	0	2	2	B	Residential	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 5a)	2049 No Build (Alt 1)	2049 Build (Alt 5a)	2049 Build (Alt 5a)			
R120	3682 W River Drive	61	61	62	0	1	1	B	Residential	None
R121	3494 Delta Queen Avenue	54	54	55	0	1	1	B	Residential	None
R122	3481 Delta Queen Avenue	60	60	62	0	2	2	B	Residential	None
R123	3441 River Shoal Avenue	55	55	57	0	2	2	B	Residential	None
R124	3451 Delta Queen Avenue	58	58	60	0	2	2	B	Residential	None
R125	3633 W River Drive	65	65	67	0	2	2	B	Residential	None
R126	2215 Shady Arbor Drive	64	64	66	0	2	2	B	Residential	None
R127	2171 Shady Arbor Drive	58	58	59	0	1	1	B	Residential	None
R128	3569 W River Drive	58	58	60	0	2	2	B	Residential	None
R129	3527 W River Drive	54	54	56	0	2	2	B	Residential	None
R130	5 Cool Fountain Court	63	63	64	0	1	1	B	Residential	None
R131	3447 Sweet Pea Way	57	57	58	0	1	1	B	Residential	None
R132	3439 W River Drive	52	52	54	0	2	2	B	Residential	None
R133	3407 W River Drive	51	51	52	0	1	1	B	Residential	None
R134	40 Shady Arbor Court	59	59	60	0	1	1	B	Residential	None
R135	22 Calla Lily Court	53	53	54	0	1	1	B	Residential	None
R136	2318 Barandas Drive	55	55	56	0	1	1	B	Residential	None
R137	3428 Delphinium Way	53	53	54	0	1	1	B	Residential	None
R138	27 White Lily Court	54	54	55	0	1	1	B	Residential	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 5a)	2049 No Build (Alt 1)	2049 Build (Alt 5a)	2049 Build (Alt 5a)			
R139	40 White Lily Court	59	59	61	0	2	2	B	Residential	None
R140	3235 Spinning Rod Way	53	53	54	0	1	1	B	Residential	None
R141	27 Blue Fern Court	65	65	66	0	1	1	B	Residential	A/E
R142	3259 Spinning Rod Way	54	54	55	0	1	1	B	Residential	None
R143	3175 Boathouse Way	51	51	52	0	1	1	B	Residential	None
R144	18 Spinning Rod Court	61	61	63	0	2	2	B	Residential	None
R145	Olive Drive	64	64	65	0	1	1	B	Residential	None
R146	Olive Drive	64	64	65	0	1	1	B	Residential	None
R147	Olive Drive	62	63	63	1	1	0	B	Residential	None
R148	9010 Sparling Lane	56	57	57	1	1	0	B	Residential	None
R149	8991-8999 Olmo Lane	63	63	64	0	1	1	B	Residential	None
R150	9460 W Chiles Road	71	71	72	0	1	1	B	Residential	A/E
R151	Westmore Oaks Elementary School	70	70	70	0	0	0	C	School	A/E
R152	3620 Palomar Avenue	66	66	66	0	0	0	B	Residential	A/E
R153	3612 Palomar Avenue	65	65	65	0	0	0	B	Residential	None
R154	812 Marigold Street	65	65	65	0	0	0	B	Residential	None
R155	820 Marigold Street	65	65	66	0	1	1	B	Residential	A/E
R156	Olmo Lane	67	67	67	0	0	0	G	Undeveloped	None
R157	Sparling Lane	65	65	65	0	0	0	G	Undeveloped	None
R158	EB I-80 Old Davis Road Exit	67	68	68	1	1	0	G	Undeveloped	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 5a)	2049 No Build (Alt 1)	2049 Build (Alt 5a)	2049 Build (Alt 5a)			
R159	EB I-80 Old Davis Road Exit	69	69	69	0	0	0	G	Undeveloped	None
R160	WB I-80 Old Davis Road Exit	62	62	62	0	0	0	G	Undeveloped	None
R161	W Chiles Road	64	66	66	2	2	0	G	Undeveloped	None
R162	2 nd Street	67	67	67	0	0	0	G	Undeveloped	None
R163	Cowell Boulevard	73	73	73	0	0	0	G	Undeveloped	None
R164	2 nd Street	71	71	71	0	0	0	G	Undeveloped	None
R165	Chiles Road	71	71	71	0	0	0	G	Undeveloped	None
R166	3808 Faraday Avenue	71	71	71	0	0	0	G	Undeveloped	None
R167	32A	71	71	71	0	0	0	G	Undeveloped	None
R168	32A	56	56	56	0	0	0	G	Undeveloped	None
R169	Howat	57	57	57	0	0	0	G	Undeveloped	None
R170	32A	75	75	75	0	0	0	G	Undeveloped	None
R171	WB I-80 32A onramp	74	74	75	0	1	1	G	Undeveloped	None
R172	Chiles Road	77	77	77	0	0	0	G	Undeveloped	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 5a)	2049 No Build (Alt 1)	2049 Build (Alt 5a)	2049 Build (Alt 5a)			
									70ed	
R173	East of 32A	67	67	70	0	3	3	G	Undeveloped	None
R174	WB I-80	67	67	67	0	0	0	G	Undeveloped	None
R175	WB I-80	66	66	66	0	0	0	G	Undeveloped	None
R176	3980 Lake Road	71	71	71	0	0	0	G	Undeveloped	None
R177	3951 Lake Road	65	65	66	0	1	1	G	Undeveloped	None
R178	West Capitol Avenue	78	78	79	0	1	1	G	Undeveloped	None
R179	Harbor Boulevard	72	72	75	0	3	3	G	Undeveloped	None
R180	531 Drever Street	71	71	73	0	2	2	G	Undeveloped	None
R181	1301 South River Road	69	69	71	0	2	2	G	Undeveloped	None
R182	Mill Street	69	69	71	0	2	2	G	Undeveloped	None
R183	600 Sutter Street	66	66	68	0	2	2	G	Undeveloped	None
R184	Reed Avenue	70	70	72	0	2	2	G	Undeveloped	None
R185	Reed Avenue	70	70	72	0	2	2	G	Undeveloped	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ¹
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 5a)	2049 No Build (Alt 1)	2049 Build (Alt 5a)	2049 Build (Alt 5a)			
R186	North Harbor Boulevard	69	69	71	0	2	2	G	Undeveloped	None
R187	2126 Garden Highway	70	70	73	0	3	3	G	Undeveloped	None
R188	El Centro Road	68	68	69	0	1	1	G	Undeveloped	None
R189	El Centro Road	74	74	75	0	1	1	G	Undeveloped	None
R190	El Centro Road	76	76	76	0	0	0	G	Undeveloped	None
R191	Willow Creek	76	76	78	0	2	2	G	Undeveloped	None
R192	2 nd Street	71	71	71	0	0	0	G	Undeveloped	None

¹ Impact Type: S = Substantial Increase (12 dBA or more), A/E = Approach or Exceed NAC, None = Increase is less than 12 decibels and noise levels do not approach or exceed the NAC.

² As stated in the TeNS, modeling results are rounded to the nearest decibel before comparisons are made.

³ As stated in the Traffic Noise Protocol (TNAP) April 2020, bike paths that serve primarily as a transportation facility are not evaluated as recreational trails.

⁴ As stated in the Traffic Noise Protocol (TNAP) April 2020, recreational trails that primarily involve the use of motorized vehicles are not evaluated as recreational trails.

⁵ This location does not include any exterior noise sensitive land uses; exterior noise levels are provided for reference only.

⁶ This location is not considered an area of frequent human use where people are exposed to traffic for an extended period of time on a regular basis. Where applicable, additional receivers have been placed in areas of frequent human use.

⁷ This location does not include any exterior noise sensitive land uses, so would be considered a Category D land use only. Exterior noise levels are presented in the Table.

Table K-5. Alternative 6a TNM Modeling Results

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 6a)	2049 No Build (Alt 1)	2049 Build (Alt 6a)	2049 Build (Alt 6a)			
ST-1	9010 Sparling Lane	68	68	68	0	0	0	B	Residential	None ⁶
ST-2	8991-8999 Olmo Lane	69	70	70	1	1	0	B	Residential	None ⁶
ST-3	UC Davis SE Corner of Equestrian Center Property	66	67	67	1	1	0	C	School-Active Sports Area	None ⁶
ST-4	UC Davis near Carolee Shields Gazebo	58	58	58	0	0	0	C	School-Arboretum	None
ST-5	9460 W Chiles Road	71	72	72	1	1	0	B	Residential	None ⁶
ST-6	University Inn Park and Suites Pool Area	57	57	58	0	1	1	E	Hotel	None
ST-7	1100 Chiles Nachtmann Analytical Laboratory	71	71	72	0	1	1	E	Office	None ⁵
ST-8	UC Davis Center for Laboratory Animal Science	69	69	69	0	0	0	D	School	None ⁵
ST-9	Cesar Chavez Plaza Apartments	63	63	65	0	2	2	B	Residential	None
ST-10	The Arbors Apartments Pool Area	49	49	50	0	1	1	B	Residential	None
ST-11	The Arbors Apartments	64	64	66	0	2	2	B	Residential	None ⁶

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 6a)	2049 No Build (Alt 1)	2049 Build (Alt 6a)	2049 Build (Alt 6a)			
ST-12	La Quinta Inn and Suites by Wyndham Davis Pool Area	71	71	71	0	0	0	E	Hotel	A/E
ST-13	Toad Hollow Dog Park	54	54	55	0	1	1	C	Park	None
ST-14	Play Fields Park	61	61	61	0	0	0	C	Active Sports Area	None
ST-15	2617 Albany Avenue	65	65	65	0	0	0	B	Residential	None
ST-16	2646 Albany Avenue	52	52	52	0	0	0	B	Residential	None
ST-17	2813 Albany Avenue	60	61	61	1	1	0	C	Playground	None
ST-18	UC Davis Building 641 Hillgard Lane	60	61	61	1	1	0	D	School	None ⁵
ST-19	Playground at New Harmony Mutual Housing Community	55	55	56	0	1	1	C	Playground	None
ST-20	3212 Koso Terrace	67	67	67	0	0	0	B	Residential	None ⁶
ST-21	3720 Chiles Road	60	60	60	0	0	0	B	Residential	None
ST-22	3707 El Segundo Ave	66	66	66	0	0	0	B	Residential	None ⁶
ST-23	213 La Vida Way	56	56	56	0	0	0	C	Preschool	None
ST-24	Days Inn by Wyndham Davis Near UC Davis	59	59	59	0	0	0	E	Hotel	None
ST-25	Pool Area at Motel 6 Davis, CA-Sacramento Area	65	65	65	0	0	0	E	Hotel	None
ST-26	5070 Veranda Terrace	46	46	47	0	1	1	B	Residential	None
ST-27	5093 Veranda Terrace	50	50	51	0	1	1	B	Residential	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 6a)	2049 No Build (Alt 1)	2049 Build (Alt 6a)	2049 Build (Alt 6a)			
ST-28	Yolo Basin Foundation 45211 Country Road 32 B	60	60	60	0	0	0	B	Residential	None
ST-29	Davis Soccer Fields- 26375 Country Road 105 D	58	58	58	0	0	0	C	Active Sport Area	None
ST-30	Yolo Bypass Wildlife Area- Bike Trail	80	80	80	0	0	0	E	Trail	None ³
ST-31	Yolo Bypass Wildlife Area	69	69	70	0	1	1	E	Trail	None ⁴
ST-32	Roland Hensley Park- 4900 W Capitol Avenue	65	65	65	0	0	0	E	Trail	None
ST-34	Valhalla Mobile Home Club Pool Area	52	53	53	1	1	0	B	Residential	None
ST-35	10 Thor Drive	67	68	68	1	1	0	B	Residential	None ⁶
ST-36	43 Bragi Drive	57	57	58	0	1	1	B	Residential	None
ST-37	241 Bragi Drive	61	63	63	2	2	0	B	Residential	None/
ST-38	Meadowdale Park	65	67	67	2	2	0	C	Park	A/E
ST-39	3624 Palomar Avenue	66	68	68	2	2	0	B	Residential	None ⁶
ST-40	3604 Doran Avenue	64	65	65	1	1	0	B	Residential	None
ST-41	861 Garnet Street	65	66	66	1	1	0	B	Residential	None ⁶
ST-43	Center for Spiritual Awareness	65	67	67	2	2	0	D	Place of Worship	None ⁵
ST-44	Motel 6 West Sacramento Pool Area	56	57	57	1	1	0	E	Hotel	None
ST-45	2225 Hickory Way	63	65	65	2	2	0	B	Residential	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 6a)	2049 No Build (Alt 1)	2049 Build (Alt 6a)	2049 Build (Alt 6a)			
ST-46	1089 Orchard Way	66	67	67	1	1	0	B	Residential	A/E
ST-47	Westmore Oaks Elementary School	73	74	74	1	1	0	C	School	None ⁵
ST-48	Westmore Oaks Elementary School	64	64	65	0	1	1	D	School	None
ST-49	1905 Buckeye Drive	68	70	70	2	2	0	B	Residential	A/E
ST-50	1412 Norfolk Avenue	58	59	59	1	1	0	B	Residential	None
ST-51	Westacre Park	64	65	65	1	1	0	C	Playground	None
ST-52	1309 Norfolk Avenue	61	62	62	1	1	0	B	Residential	None
ST-53	Yolo High School	61	63	63	2	2	0	C	School	None
ST-55	719 11th Street	61	63	63	2	2	0	B	Residential	None
ST-56	1011 Canna Way	63	65	65	2	2	0	B	Residential	None
ST-58	918 Meadow Road	64	66	66	2	2	0	B	Residential	A/E
ST-59	Food Distribution Center for Our Lady of Grace Church	68	70	70	2	2	0	E	Office	None ⁵
ST-60	2214 4th Street	72	72	72	0	0	0	B	Residential	A/E
ST-62	NW of 2197 Garden Highway	64	64	66	0	2	2	B	Residential	A/E
ST-63	2184 Garden Highway	65	65	66	0	1	1	B	Residential	None ⁵
ST-64	2125 Garden Highway	70	70	72	0	2	2	B	Residential	None ⁶
ST-65	3814 W River Drive	69	69	71	0	2	2	B	Residential	None ⁶
ST-66	3760 W River Drive	59	59	60	0	1	1	B	Residential	None
ST-67	6 Rivulet Court	61	61	63	0	2	2	B	Residential	None
ST-68	3638 W River Drive	64	64	66	0	2	2	B	Residential	None
ST-70	5 Cool Fountain Court	65	65	67	0	2	2	B	Residential	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _h dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 6a)	2049 No Build (Alt 1)	2049 Build (Alt 6a)	2049 Build (Alt 6a)			
ST-71	River Otter Park	63	63	64	0	1	1	C	Park	None
ST-72	3451 Delphinium Way	57	57	58	0	1	1	B	Residential	None
ST-73	40 White Lilly Court	59	59	60	0	1	1	B	Residential	None
ST-74	52 Blue Fern Court	61	61	62	0	1	1	B	Residential	None
ST-75	11 Swinging Bridge Court	54	54	55	0	1	1	B	Residential	None
R1	1 Equestrian Lane	62	63	63	1	1	0	C	Active Sports Area	None
R4	7826 Hamel Lane	57	57	57	0	0	0	B	Residential	None
R5	1544 Newton Court	71	71	71	0	0	0	D	School	None ⁵
R6	1100 Olive Drive	68	69	69	1	1	0	B	Residential	None ⁵
R7	1100 Olive Drive	55	55	56	0	1	1	B	Residential	None
R8	1100 Olive Drive	59	59	60	0	1	1	B	Residential	None
R9	1200 Olive Drive	52	52	53	0	1	1	B	Residential	None
R10	1200 Olive Drive	59	59	61	0	2	2	B	Residential	None
R11	1200 Olive Drive	54	55	55	1	1	0	B	Residential	None
R12	1280 Olive Drive	62	63	64	1	2	1	B	Residential	None
R13	1414 Olive Drive	63	63	65	0	2	2	B	Residential	None
R14	1414 Olive Drive	63	63	65	0	2	2	B	Residential	None
R15	Research Park Drive	53	53	53	0	0	0	B	Residential	None
R17	1445 Drew Avenue	65	65	65	0	0	0	E	Office	None
R18	Cowell Drive	57	57	57	0	0	0	B	Residential	None
R19	Cowell Drive	56	56	56	0	0	0	B	Residential	None
R20	Cowell Drive	52	53	53	1	1	0	B	Residential	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _h dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 6a)	2049 No Build (Alt 1)	2049 Build (Alt 6a)	2049 Build (Alt 6a)			
R21	2601 Albany Avenue	64	64	64	0	0	0	B	Residential	None
R22	2611 Albany Avenue	65	65	65	0	0	0	B	Residential	None
R23	2643 Albany Avenue	64	64	64	0	0	0	B	Residential	None
R24	2721 Albany Avenue	59	59	59	0	0	0	B	Residential	None
R25	2745 Albany Avenue	60	60	60	0	0	0	B	Residential	None
R26	2817 Albany Avenue	61	61	61	0	0	0	B	Residential	None
R27	613 Benbow Court	62	62	62	0	0	0	B	Residential	None
R28	601 Benbow Court	60	60	60	0	0	0	B	Residential	None
R29	612 Benbow Court	59	59	59	0	0	0	B	Residential	None
R30	University of California Agriculture and Natural Resources 2801 2nd Street	71	71	71	0	0	0	D	School	None ⁵
R31	3030 Cowell Boulevard	58	58	59	0	1	1	B	Residential	None
R32	3030 Cowell Boulevard	58	58	59	0	1	1	B	Residential	None
R33	3030 Cowell Boulevard	54	54	54	0	0	0	B	Residential	None
R34	3641 El Segundo Avenue	65	65	65	0	0	0	B	Residential	None
R35	3665 El Segundo Avenue	64	64	64	0	0	0	B	Residential	None
R36	3714 Chiles Road	59	59	59	0	0	0	B	Residential	None
R37	3650 El Segundo	48	48	48	0	0	0	B	Residential	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 6a)	2049 No Build (Alt 1)	2049 Build (Alt 6a)	2049 Build (Alt 6a)			
	Avenue									
R38	3704 El Segundo Avenue	48	48	49	0	1	1	B	Residential	None
R39	3730 El Segundo Avenue	59	59	59	0	0	0	B	Residential	None
R40	3820 Chiles Road	49	50	50	1	1	0	B	Residential	None
R41	3820 Chiles Road	44	45	45	1	1	0	B	Residential	None
R42	3820 Chiles Road	51	51	51	0	0	0	B	Residential	None
R43	3820 Chiles Road	48	49	49	1	1	0	B	Residential	None
R44	Days Inn Wyndham Davis Nearby UC Davis	47	47	47	0	0	0	E	Hotel	None
R45	Davis Urgent Care 4515 Fermi Place	70	70	70	0	0	0	D	Medical Facility	None ⁵
R46	5063 Veranda Terrace	52	52	52	0	0	0	B	Residential	None
R47	5069 Veranda Terrace	54	54	54	0	0	0	B	Residential	None
R48	5077 Veranda Terrace	54	54	55	0	1	1	B	Residential	None
R49	3951 Lake Road	61	61	61	0	0	0	B	Residential	None
R50	3901 Lake Road	62	62	62	0	0	0	B	Residential	None
R51	3901 Lake Road	62	62	63	0	1	1	B	Residential	None
R52	3901 Lake Road	58	58	58	0	0	0	B	Residential	None
R53	3901 Lake Road	58	58	58	0	0	0	B	Residential	None
R54	3901 Lake Road	61	61	62	0	1	1	B	Residential	None
R55	3901 Lake Road	64	64	64	0	0	0	B	Residential	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 6a)	2049 No Build (Alt 1)	2049 Build (Alt 6a)	2049 Build (Alt 6a)			
R56	3901 Lake Road	59	59	60	0	1	1	B	Residential	None
R57	3901 Lake Road	63	63	63	0	0	0	B	Residential	None
R58	3680 Industrial Boulevard	59	59	61	0	2	2	D	Medical Facility	None ⁵
R59	DaVita West-3450 Industrial Boulevard	70	70	72	0	2	2	D	Medical Facility	None ⁵
R60	829 Marigold Street	61	61	61	0	0	0	B	Residential	None
R61	844 Morning Glory Street	62	62	63	0	1	1	B	Residential	None
R62	832 Garnet Street	61	61	62	0	1	1	B	Residential	None
R63	3524 Doran Avenue	60	60	61	0	1	1	B	Residential	None
R64	857 Garnet Street	57	57	58	0	1	1	B	Residential	None
R65	3427 Evergreen Circle	64	64	66	0	2	2	B	Residential	None
R66	3427 Evergreen Circle	55	55	56	0	1	1	B	Residential	None
R67	Ramada by Wyndham West Sacramento Hotel & Suites	55	55	57	0	2	2	E	Hotel	None
R68	Sacramento Valley Charter School	66	66	68	0	2	2	D	School	None ⁵
R69	River Bend Nursing Center	61	61	62	0	1	1	C	Medical Facility	None
R70	2205 Hickory Way	68	68	70	0	2	2	B	Residential	A/E
R71	2143 Hickory Way	69	69	70	0	1	1	B	Residential	A/E
R72	2105 Hickory Way	65	65	67	0	2	2	B	Residential	None
R73	1049 Orchard Way	64	64	66	0	2	2	B	Residential	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 6a)	2049 No Build (Alt 1)	2049 Build (Alt 6a)	2049 Build (Alt 6a)			
R74	959 Orchard Way	62	62	63	0	1	1	B	Residential	None
R75	2019 Buckeye Drive	67	67	69	0	2	2	B	Residential	A/E
R76	1020 Sycamore Avenue	58	58	59	0	1	1	B	Residential	None
R77	1009 Sycamore Avenue	57	57	59	0	2	2	B	Residential	None
R78	1021 Hemlock Street	59	59	60	0	1	1	B	Residential	None
R79	1933 Buckeye Drive	66	66	68	0	2	2	B	Residential	A/E
R80	1913 Buckeye Drive	66	66	68	0	2	2	B	Residential	A/E
R81	1012 Poplar Avenue	58	58	60	0	2	2	B	Residential	None
R82	1608 Norfolk Avenue	69	69	71	0	2	2	B	Residential	A/E
R83	1504 Norfolk Avenue	68	68	70	0	2	2	B	Residential	A/E
R84	1404 Norfolk Avenue	69	69	71	0	2	2	B	Residential	A/E
R85	1204 Norfolk Avenue	70	70	72	0	2	2	B	Residential	A/E
R86	1604 Meadow Road	58	58	60	0	2	2	B	Residential	None
R87	1601 Norfolk Avenue	59	59	60	0	1	1	B	Residential	None
R88	1024 Haverhill Street	60	60	62	0	2	2	B	Residential	None
R89	1305 Norfolk Avenue	60	60	62	0	2	2	B	Residential	None
R90	1104 Westacre Road	60	60	62	0	2	2	B	Residential	None
R91	1101 Westacre Road	62	62	64	0	2	2	B	Residential	None
R92	727 11th Street	69	69	71	0	2	2	B	Residential	A/E
R93	715 Webster Street	64	64	66	0	2	2	B	Residential	None
R94	1020 Meadow Road	62	62	64	0	2	2	B	Residential	None
R95	609 Webster Street	62	62	65	0	3	3	B	Residential	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _h dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 6a)	2049 No Build (Alt 1)	2049 Build (Alt 6a)	2049 Build (Alt 6a)			
R96	504 Webster Street	64	64	66	0	2	2	B	Residential	A/E
R97	911 Meadow Road	65	65	67	0	2	2	B	Residential	A/E
R98	Levia Park	65	65	65	0	0	0	C	Park	None
R99	316 V Street	72	72	72	0	0	0	B	Residential	A/E
R100	2209 4th Street	65	65	65	0	0	0	B	Residential	A/E
R101	846 Marigold Street	63	63	65	0	2	2	B	Residential	None
R102	828 Marigold Street	64	64	65	0	1	1	B	Residential	None
R103	812 Morning Glory Street	60	60	61	0	1	1	B	Residential	None
R104	3600 Palomar Avenue	64	64	64	0	0	0	B	Residential	None
R105	3624 Palomar Avenue	67	67	69	0	2	2	B	Residential	A/E
R106	2125 Garden Highway	69	69	71	0	2	2	B	Residential	A/E
R107	2145 Garden Highway	68	68	70	0	2	2	B	Residential	A/E
R108	2181 Garden Highway	65	65	66	0	1	1	B	Residential	A/E
R109	2197 Garden Highway	65	65	67	0	2	2	B	Residential	A/E
R110	2184 Garden Highway	64	64	66	0	2	2	B	Residential	None
R111	3796 W River Drive	64	64	66	0	2	2	B	Residential	None
R112	3778 W River Drive	60	60	62	0	2	2	B	Residential	None
R113	3575 Wheelhouse Avenue	65	65	67	0	2	2	B	Residential	None
R114	2106 Sternwheeler Way	60	60	62	0	2	2	B	Residential	None
R115	3742 W River Drive	57	57	59	0	2	2	B	Residential	None
R116	3724 W River Drive	60	60	62	0	2	2	B	Residential	None
R117	21116 Smokestack	60	60	61	0	1	1	B	Residential	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 6a)	2049 No Build (Alt 1)	2049 Build (Alt 6a)	2049 Build (Alt 6a)			
	Way									
R118	3542 Delta Queen Avenue	60	60	61	0	1	1	B	Residential	None
R119	3517 Delta Queen Avenue	62	62	64	0	2	2	B	Residential	None
R120	3682 W River Drive	61	61	62	0	1	1	B	Residential	None
R121	3494 Delta Queen Avenue	54	54	55	0	1	1	B	Residential	None
R122	3481 Delta Queen Avenue	60	60	62	0	2	2	B	Residential	None
R123	3441 River Shoal Avenue	55	55	57	0	2	2	B	Residential	None
R124	3451 Delta Queen Avenue	58	58	60	0	2	2	B	Residential	None
R125	3633 W River Drive	65	65	67	0	2	2	B	Residential	None
R126	2215 Shady Arbor Drive	64	64	66	0	2	2	B	Residential	None
R127	2171 Shady Arbor Drive	58	58	59	0	1	1	B	Residential	None
R128	3569 W River Drive	58	58	60	0	2	2	B	Residential	None
R129	3527 W River Drive	54	54	56	0	2	2	B	Residential	None
R130	5 Cool Fountain Court	63	63	64	0	1	1	B	Residential	None
R131	3447 Sweet Pea Way	57	57	58	0	1	1	B	Residential	None
R132	3439 W River Drive	52	52	54	0	2	2	B	Residential	None
R133	3407 W River Drive	51	51	52	0	1	1	B	Residential	None
R134	40 Shady Arbor Court	59	59	60	0	1	1	B	Residential	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _h dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 6a)	2049 No Build (Alt 1)	2049 Build (Alt 6a)	2049 Build (Alt 6a)			
R135	22 Calla Lily Court	53	53	54	0	1	1	B	Residential	None
R136	2318 Barandas Drive	55	55	56	0	1	1	B	Residential	None
R137	3428 Delphinium Way	53	53	54	0	1	1	B	Residential	None
R138	27 White Lily Court	54	54	55	0	1	1	B	Residential	None
R139	40 White Lily Court	59	59	61	0	2	2	B	Residential	None
R140	3235 Spinning Rod Way	53	53	54	0	1	1	B	Residential	None
R141	27 Blue Fern Court	65	65	66	0	1	1	B	Residential	A/E
R142	3259 Spinning Rod Way	54	54	55	0	1	1	B	Residential	None
R143	3175 Boathouse Way	51	51	52	0	1	1	B	Residential	None
R144	18 Spinning Rod Court	61	61	63	0	2	2	B	Residential	None
R145	Olive Drive	64	64	65	0	1	1	B	Residential	None
R146	Olive Drive	64	64	65	0	1	1	B	Residential	None
R147	Olive Drive	62	63	63	1	1	0	B	Residential	None
R148	9010 Sparling Lane	56	57	57	1	1	0	B	Residential	None
R149	8991-8999 Olmo Lane	63	63	63	0	0	0	B	Residential	None
R150	9460 W Chiles Road	71	71	72	0	1	1	B	Residential	A/E
R151	Westmore Oaks Elementary School	70	70	70	0	0	0	C	School	A/E
R152	3620 Palomar Avenue	66	66	66	0	0	0	B	Residential	A/E
R153	3612 Palomar Avenue	65	65	65	0	0	0	B	Residential	None
R154	812 Marigold Street	65	65	65	0	0	0	B	Residential	None
R155	820 Marigold Street	65	65	66	0	1	1	B	Residential	A/E
R156	Olmo Lane	67	67	67	0	0	0	G	Undevelop	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 6a)	2049 No Build (Alt 1)	2049 Build (Alt 6a)	2049 Build (Alt 6a)			
									ed	
R157	Sparling Lane	65	65	65	0	0	0	G	Undeveloped	None
R158	EB I-80 Old Davis Road Exit	67	68	68	1	1	0	G	Undeveloped	None
R159	EB I-80 Old Davis Road Exit	69	69	69	0	0	0	G	Undeveloped	None
R160	WB I-80 Old Davis Road Exit	62	62	62	0	0	0	G	Undeveloped	None
R161	W Chiles Road	64	66	66	2	2	0	G	Undeveloped	None
R162	2 nd Street	67	67	67	0	0	0	G	Undeveloped	None
R163	Cowell Boulevard	73	73	73	0	0	0	G	Undeveloped	None
R164	2 nd Street	71	71	71	0	0	0	G	Undeveloped	None
R165	Chiles Road	71	71	71	0	0	1	G	Undeveloped	None
R166	3808 Faraday Avenue	71	71	71	0	0	0	G	Undeveloped	None
R167	32A	71	71	72	0	1	1	G	Undeveloped	None
R168	32A	56	56	57	0	1	1	G	Undeveloped	None
R169	Howat	57	57	57	0	0	0	G	Undeveloped	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 6a)	2049 No Build (Alt 1)	2049 Build (Alt 6a)	2049 Build (Alt 6a)			
R170	32A	75	75	76	0	1	1	G	Undeveloped	None
R171	WB I-80 32A onramp	74	74	75	0	1	1	G	Undeveloped	None
R172	Chiles Road	77	77	78	0	1	1	G	Undeveloped	None
R173	East of 32A	67	67	70	0	3	3	G	Undeveloped	None
R174	WB I-80	67	67	67	0	0	0	G	Undeveloped	None
R175	WB I-80	66	66	66	0	0	0	G	Undeveloped	None
R176	3980 Lake Road	71	71	71	0	0	0	G	Undeveloped	None
R177	3951 Lake Road	65	65	67	0	2	2	G	Undeveloped	None
R178	West Capitol Avenue	78	78	79	0	1	1	G	Undeveloped	None
R179	Harbor Boulevard	72	72	75	0	3	3	G	Undeveloped	None
R180	531 Drever Street	71	71	74	0	3	3	G	Undeveloped	None
R181	1301 South River Road	69	69	72	0	3	3	G	Undeveloped	None
R182	Mill Street	69	69	72	0	3	3	G	Undeveloped	None
R183	600 Sutter Street	66	66	69	0	3	2	G	Undeveloped	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ¹
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 6a)	2049 No Build (Alt 1)	2049 Build (Alt 6a)	2049 Build (Alt 6a)			
									72ed	
R184	Reed Avenue	70	70	72	0	2	2	G	Undeveloped	None
R185	Reed Avenue	70	70	73	0	3	3	G	Undeveloped	None
R186	North Harbor Boulevard	69	69	72	0	3	3	G	Undeveloped	None
R187	2126 Garden Highway	70	70	73	0	3	3	G	Undeveloped	None
R188	El Centro Road	68	68	69	0	1	1	G	Undeveloped	None
R189	El Centro Road	74	74	75	0	1	1	G	Undeveloped	None
R190	El Centro Road	76	76	76	0	0	0	G	Undeveloped	None
R191	Willow Creek	76	76	78	0	2	2	G	Undeveloped	None
R192	2 nd Street	71	71	71	0	0	0	G	Undeveloped	None

¹ Impact Type: S = Substantial Increase (12 dBA or more), A/E = Approach or Exceed NAC, None = Increase is less than 12 decibels and noise levels do not approach or exceed the NAC.

² As stated in the TeNS, modeling results are rounded to the nearest decibel before comparisons are made.

³ As stated in the Traffic Noise Protocol (TNAP) April 2020, bike paths that serve primarily as a transportation facility are not evaluated as recreational trails.

⁴ As stated in the Traffic Noise Protocol (TNAP) April 2020, recreational trails that primarily involve the use of motorized vehicles are not evaluated as recreational trails.

⁵ This location does not include any exterior noise sensitive land uses; exterior noise levels are provided for reference only.

⁶ This location is not considered an area of frequent human use where people are exposed to traffic for an extended period of time on a regular basis. Where applicable, additional receivers have been placed in areas of frequent human use.

⁷ This location does not include any exterior noise sensitive land uses, so would be considered a Category D land use only. Exterior noise levels are presented in the Table.

Table K-6. Alternative 7a TNM Modeling Results

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 6a)	2049 No Build (Alt 1)	2049 Build (Alt 7a)	2049 Build (Alt 7a)			
ST-1	9010 Sparling Lane	68	68	68	0	0	0	B	Residential	None ⁶
ST-2	8991-8999 Olmo Lane	69	70	70	1	1	0	B	Residential	None ⁶
ST-3	UC Davis SE Corner of Equestrian Center Property	66	67	67	1	1	0	C	School-Active Sports Area	None ⁶
ST-4	UC Davis near Carolee Shields Gazebo	58	58	58	0	0	0	C	School-Arboretum	None
ST-5	9460 W Chiles Road	71	72	72	1	1	0	B	Residential	None ⁶
ST-6	University Inn Park and Suites Pool Area	57	57	57	0	0	0	E	Hotel	None
ST-7	1100 Chiles Nachtmann Analytical Laboratory	71	71	71	0	0	0	E	Office	None ⁵
ST-8	UC Davis Center for Laboratory Animal Science	69	69	69	0	0	0	D	School	None ⁵
ST-9	Cesar Chavez Plaza Apartments	63	63	63	0	0	0	B	Residential	None
ST-10	The Arbors Apartments Pool Area	49	49	49	0	0	0	B	Residential	None
ST-11	The Arbors Apartments	64	64	64	0	0	0	B	Residential	None ⁶

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 6a)	2049 No Build (Alt 1)	2049 Build (Alt 7a)	2049 Build (Alt 7a)			
ST-12	La Quinta Inn and Suites by Wyndham Davis Pool Area	71	71	71	0	0	0	E	Hotel	A/E
ST-13	Toad Hollow Dog Park	54	54	54	0	0	0	C	Park	None
ST-14	Play Fields Park	61	61	61	0	0	0	C	Active Sports Area	None
ST-15	2617 Albany Avenue	65	65	65	0	0	0	B	Residential	None
ST-16	2646 Albany Avenue	52	52	52	0	0	0	B	Residential	None
ST-17	2813 Albany Avenue	60	61	61	1	1	0	C	Playground	None
ST-18	UC Davis Building 641 Hillgard Lane	60	61	61	1	1	0	D	School	None ⁵
ST-19	Playground at New Harmony Mutual Housing Community	55	55	55	0	0	0	C	Playground	None
ST-20	3212 Koso Terrace	67	67	67	0	0	0	B	Residential	None ⁶
ST-21	3720 Chiles Road	60	60	60	0	0	0	B	Residential	None
ST-22	3707 El Segundo Ave	66	66	66	0	0	0	B	Residential	None ⁶
ST-23	213 La Vida Way	56	56	56	0	0	0	C	Preschool	None
ST-24	Days Inn by Wyndham Davis Near UC Davis	59	59	59	0	0	0	E	Hotel	None
ST-25	Pool Area at Motel 6 Davis, CA-Sacramento Area	65	65	65	0	0	0	E	Hotel	None
ST-26	5070 Veranda Terrace	46	46	46	0	0	0	B	Residential	None
ST-27	5093 Veranda Terrace	50	50	50	0	0	0	B	Residential	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 6a)	2049 No Build (Alt 1)	2049 Build (Alt 7a)	2049 Build (Alt 7a)			
ST-28	Yolo Basin Foundation 45211 Country Road 32 B	60	60	60	0	0	0	B	Residential	None
ST-29	Davis Soccer Fields- 26375 Country Road 105 D	58	58	58	0	0	0	C	Active Sport Area	None
ST-30	Yolo Bypass Wildlife Area- Bike Trail	80	80	80	0	0	0	E	Trail	None ³
ST-31	Yolo Bypass Wildlife Area	69	69	69	0	0	0	E	Trail	None ⁴
ST-32	Roland Hensley Park- 4900 W Capitol Avenue	65	65	65	0	0	0	E	Trail	None
ST-34	Valhalla Mobile Home Club Pool Area	52	53	53	1	1	0	B	Residential	None
ST-35	10 Thor Drive	67	68	68	1	1	0	B	Residential	None ⁶
ST-36	43 Bragi Drive	57	57	57	0	0	0	B	Residential	None
ST-37	241 Bragi Drive	61	63	63	2	2	0	B	Residential	None
ST-38	Meadowdale Park	65	67	67	2	2	0	C	Park	A/E
ST-39	3624 Palomar Avenue	66	68	68	2	2	0	B	Residential	None ⁶
ST-40	3604 Doran Avenue	64	65	65	1	1	0	B	Residential	None
ST-41	861 Garnet Street	65	66	66	1	1	0	B	Residential	None ⁶
ST-43	Center for Spiritual Awareness	65	67	67	2	2	0	D	Place of Worship	None ⁵
ST-44	Motel 6 West Sacramento Pool Area	56	57	57	1	1	0	E	Hotel	None
ST-45	2225 Hickory Way	63	65	65	2	2	0	B	Residential	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 6a)	2049 No Build (Alt 1)	2049 Build (Alt 7a)	2049 Build (Alt 7a)			
ST-46	1089 Orchard Way	66	67	67	1	1	0	B	Residential	A/E
ST-47	Westmore Oaks Elementary School	73	74	74	1	1	0	C	School	None ⁵
ST-48	Westmore Oaks Elementary School	64	64	64	0	0	0	D	School	None
ST-49	1905 Buckeye Drive	68	70	70	2	2	0	B	Residential	A/E
ST-50	1412 Norfolk Avenue	58	59	59	1	1	0	B	Residential	None
ST-51	Westacre Park	64	65	65	1	1	0	C	Playground	None
ST-52	1309 Norfolk Avenue	61	62	62	1	1	0	B	Residential	None
ST-53	Yolo High School	61	63	63	2	2	0	C	School	None
ST-55	719 11th Street	61	63	63	2	2	0	B	Residential	None
ST-56	1011 Canna Way	63	65	65	2	2	0	B	Residential	None
ST-58	918 Meadow Road	64	66	66	2	2	0	B	Residential	A/E
ST-59	Food Distribution Center for Our Lady of Grace Church	68	70	70	2	2	0	E	Office	None ⁵
ST-60	2214 4th Street	72	72	72	0	0	0	B	Residential	A/E
ST-62	NW of 2197 Garden Highway	64	64	64	0	0	0	B	Residential	None
ST-63	2184 Garden Highway	65	65	65	0	0	0	B	Residential	None ⁵
ST-64	2125 Garden Highway	70	70	70	0	0	0	B	Residential	None ⁶
ST-65	3814 W River Drive	69	69	69	0	0	0	B	Residential	None ⁶
ST-66	3760 W River Drive	59	59	59	0	0	0	B	Residential	None
ST-67	6 Rivulet Court	61	61	61	0	0	0	B	Residential	None
ST-68	3638 W River Drive	64	64	64	0	0	0	B	Residential	None
ST-70	5 Cool Fountain Court	65	65	65	0	0	0	B	Residential	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 6a)	2049 No Build (Alt 1)	2049 Build (Alt 7a)	2049 Build (Alt 7a)			
ST-71	River Otter Park	63	63	63	0	0	0	C	Park	None
ST-72	3451 Delphinium Way	57	57	57	0	0	0	B	Residential	None
ST-73	40 White Lilly Court	59	59	59	0	0	0	B	Residential	None
ST-74	52 Blue Fern Court	61	61	61	0	0	0	B	Residential	None
ST-75	11 Swinging Bridge Court	54	54	54	0	0	0	B	Residential	None
R1	1 Equestrian Lane	62	63	63	1	1	0	C	Active Sports Area	None
R4	7826 Hamel Lane	57	57	57	0	0	0	B	Residential	None
R5	1544 Newton Court	71	71	71	0	0	0	D	School	None ⁵
R6	1100 Olive Drive	68	69	69	1	1	0	B	Residential	None ⁵
R7	1100 Olive Drive	55	55	55	0	0	0	B	Residential	None
R8	1100 Olive Drive	59	59	59	0	0	0	B	Residential	None
R9	1200 Olive Drive	52	52	52	0	0	0	B	Residential	None
R10	1200 Olive Drive	59	59	59	0	0	0	B	Residential	None
R11	1200 Olive Drive	54	55	55	1	1	0	B	Residential	None
R12	1280 Olive Drive	62	63	63	1	1	0	B	Residential	None
R13	1414 Olive Drive	63	63	63	0	0	0	B	Residential	None
R14	1414 Olive Drive	63	63	63	0	0	0	B	Residential	None
R15	Research Park Drive	53	53	53	0	0	0	B	Residential	None
R17	1445 Drew Avenue	65	65	65	0	0	0	E	Office	None
R18	Cowell Drive	57	57	57	0	0	0	B	Residential	None
R19	Cowell Drive	56	56	56	0	0	0	B	Residential	None
R20	Cowell Drive	52	53	53	1	1	0	B	Residential	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _h dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 6a)	2049 No Build (Alt 1)	2049 Build (Alt 7a)	2049 Build (Alt 7a)			
R21	2601 Albany Avenue	64	64	64	0	0	0	B	Residential	None
R22	2611 Albany Avenue	65	65	65	0	0	0	B	Residential	None
R23	2643 Albany Avenue	64	64	64	0	0	0	B	Residential	None
R24	2721 Albany Avenue	59	59	59	0	0	0	B	Residential	None
R25	2745 Albany Avenue	60	60	60	0	0	0	B	Residential	None
R26	2817 Albany Avenue	61	61	61	0	0	0	B	Residential	None
R27	613 Benbow Court	62	62	62	0	0	0	B	Residential	None
R28	601 Benbow Court	60	60	60	0	0	0	B	Residential	None
R29	612 Benbow Court	59	59	59	0	0	0	B	Residential	None
R30	University of California Agriculture and Natural Resources 2801 2nd Street	71	71	71	0	0	0	D	School	None ⁵
R31	3030 Cowell Boulevard	58	58	58	0	0	0	B	Residential	None
R32	3030 Cowell Boulevard	58	58	58	0	0	0	B	Residential	None
R33	3030 Cowell Boulevard	54	54	54	0	0	0	B	Residential	None
R34	3641 El Segundo Avenue	65	65	65	0	0	0	B	Residential	None
R35	3665 El Segundo Avenue	64	64	64	0	0	0	B	Residential	None
R36	3714 Chiles Road	59	59	59	0	0	0	B	Residential	None
R37	3650 El Segundo	48	48	48	0	0	0	B	Residential	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 6a)	2049 No Build (Alt 1)	2049 Build (Alt 7a)	2049 Build (Alt 7a)			
	Avenue									
R38	3704 El Segundo Avenue	48	48	48	0	0	0	B	Residential	None
R39	3730 El Segundo Avenue	59	59	59	0	0	0	B	Residential	None
R40	3820 Chiles Road	49	50	50	1	1	0	B	Residential	None
R41	3820 Chiles Road	44	45	45	1	1	0	B	Residential	None
R42	3820 Chiles Road	51	51	51	0	0	0	B	Residential	None
R43	3820 Chiles Road	48	49	49	1	1	0	B	Residential	None
R44	Days Inn Wyndham Davis Nearby UC Davis	47	47	47	0	0	0	E	Hotel	None
R45	Davis Urgent Care 4515 Fermi Place	70	70	70	0	0	0	D	Medical Facility	None ⁵
R46	5063 Veranda Terrace	52	52	52	0	0	0	B	Residential	None
R47	5069 Veranda Terrace	54	54	54	0	0	0	B	Residential	None
R48	5077 Veranda Terrace	54	54	54	0	0	0	B	Residential	None
R49	3951 Lake Road	61	61	61	0	0	0	B	Residential	None
R50	3901 Lake Road	62	62	62	0	0	0	B	Residential	None
R51	3901 Lake Road	62	62	62	0	0	0	B	Residential	None
R52	3901 Lake Road	58	58	58	0	0	0	B	Residential	None
R53	3901 Lake Road	58	58	58	0	0	0	B	Residential	None
R54	3901 Lake Road	61	61	61	0	0	0	B	Residential	None
R55	3901 Lake Road	64	64	64	0	0	0	B	Residential	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 6a)	2049 No Build (Alt 1)	2049 Build (Alt 7a)	2049 Build (Alt 7a)			
R56	3901 Lake Road	59	59	59	0	0	0	B	Residential	None
R57	3901 Lake Road	63	63	63	0	0	0	B	Residential	None
R58	3680 Industrial Boulevard	59	59	59	0	0	0	D	Medical Facility	None ⁵
R59	DaVita West-3450 Industrial Boulevard	70	70	70	0	0	0	D	Medical Facility	None ⁵
R60	829 Marigold Street	61	61	61	0	0	0	B	Residential	None
R61	844 Morning Glory Street	62	62	62	0	0	0	B	Residential	None
R62	832 Garnet Street	61	61	61	0	0	0	B	Residential	None
R63	3524 Doran Avenue	60	60	60	0	0	0	B	Residential	None
R64	857 Garnet Street	57	57	57	0	0	0	B	Residential	None
R65	3427 Evergreen Circle	64	64	64	0	0	0	B	Residential	None
R66	3427 Evergreen Circle	55	55	55	0	0	0	B	Residential	None
R67	Ramada by Wyndham West Sacramento Hotel & Suites	55	55	55	0	0	0	E	Hotel	None
R68	Sacramento Valley Charter School	66	66	66	0	0	0	D	School	None ⁵
R69	River Bend Nursing Center	61	61	61	0	0	0	C	Medical Facility	None
R70	2205 Hickory Way	68	68	68	0	0	0	B	Residential	A/E
R71	2143 Hickory Way	69	69	69	0	0	0	B	Residential	A/E
R72	2105 Hickory Way	65	65	65	0	0	0	B	Residential	None
R73	1049 Orchard Way	64	64	64	0	0	0	B	Residential	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 6a)	2049 No Build (Alt 1)	2049 Build (Alt 7a)	2049 Build (Alt 7a)			
R74	959 Orchard Way	62	62	62	0	0	0	B	Residential	None
R75	2019 Buckeye Drive	67	67	67	0	0	0	B	Residential	A/E
R76	1020 Sycamore Avenue	58	58	58	0	0	0	B	Residential	None
R77	1009 Sycamore Avenue	57	57	57	0	0	0	B	Residential	None
R78	1021 Hemlock Street	59	59	59	0	0	0	B	Residential	None
R79	1933 Buckeye Drive	66	66	66	0	0	0	B	Residential	A/E
R80	1913 Buckeye Drive	66	66	66	0	0	0	B	Residential	A/E
R81	1012 Poplar Avenue	58	58	58	0	0	0	B	Residential	None
R82	1608 Norfolk Avenue	69	69	69	0	0	0	B	Residential	A/E
R83	1504 Norfolk Avenue	68	68	68	0	0	0	B	Residential	A/E
R84	1404 Norfolk Avenue	69	69	69	0	0	0	B	Residential	A/E
R85	1204 Norfolk Avenue	70	70	70	0	0	0	B	Residential	A/E
R86	1604 Meadow Road	58	58	58	0	0	0	B	Residential	None
R87	1601 Norfolk Avenue	59	59	59	0	0	0	B	Residential	None
R88	1024 Haverhill Street	60	60	60	0	0	0	B	Residential	None
R89	1305 Norfolk Avenue	60	60	60	0	0	0	B	Residential	None
R90	1104 Westacre Road	60	60	60	0	0	0	B	Residential	None
R91	1101 Westacre Road	62	62	62	0	0	0	B	Residential	None
R92	727 11th Street	69	69	69	0	0	0	B	Residential	A/E
R93	715 Webster Street	64	64	64	0	0	0	B	Residential	None
R94	1020 Meadow Road	62	62	62	0	0	0	B	Residential	None
R95	609 Webster Street	62	62	62	0	0	0	B	Residential	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 6a)	2049 No Build (Alt 1)	2049 Build (Alt 7a)	2049 Build (Alt 7a)			
R96	504 Webster Street	64	64	64	0	0	0	B	Residential	None
R97	911 Meadow Road	65	65	65	0	0	0	B	Residential	None
R98	Levia Park	65	65	65	0	0	0	C	Park	None
R99	316 V Street	72	72	72	0	0	0	B	Residential	A/E
R100	2209 4th Street	65	65	65	0	0	0	B	Residential	None
R101	846 Marigold Street	63	63	63	0	0	0	B	Residential	None
R102	828 Marigold Street	64	64	64	0	0	0	B	Residential	None
R103	812 Morning Glory Street	60	60	60	0	0	0	B	Residential	None
R104	3600 Palomar Avenue	64	64	64	0	0	0	B	Residential	None
R105	3624 Palomar Avenue	67	67	67	0	0	0	B	Residential	A/E
R106	2125 Garden Highway	69	69	69	0	0	0	B	Residential	A/E
R107	2145 Garden Highway	68	68	68	0	0	0	B	Residential	A/E
R108	2181 Garden Highway	65	65	65	0	0	0	B	Residential	None
R109	2197 Garden Highway	65	65	65	0	0	0	B	Residential	None
R110	2184 Garden Highway	64	64	64	0	0	0	B	Residential	None
R111	3796 W River Drive	64	64	64	0	0	0	B	Residential	None
R112	3778 W River Drive	60	60	60	0	0	0	B	Residential	None
R113	3575 Wheelhouse Avenue	65	65	65	0	0	0	B	Residential	None
R114	2106 Sternwheeler Way	60	60	60	0	0	0	B	Residential	None
R115	3742 W River Drive	57	57	57	0	0	0	B	Residential	None
R116	3724 W River Drive	60	60	60	0	0	0	B	Residential	None
R117	21116 Smokestack	60	60	60	0	0	0	B	Residential	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 6a)	2049 No Build (Alt 1)	2049 Build (Alt 7a)	2049 Build (Alt 7a)			
	Way									
R118	3542 Delta Queen Avenue	60	60	60	0	0	0	B	Residential	None
R119	3517 Delta Queen Avenue	62	62	62	0	0	0	B	Residential	None
R120	3682 W River Drive	61	61	61	0	0	0	B	Residential	None
R121	3494 Delta Queen Avenue	54	54	54	0	0	0	B	Residential	None
R122	3481 Delta Queen Avenue	60	60	60	0	0	0	B	Residential	None
R123	3441 River Shoal Avenue	55	55	55	0	0	0	B	Residential	None
R124	3451 Delta Queen Avenue	58	58	58	0	0	0	B	Residential	None
R125	3633 W River Drive	65	65	65	0	0	0	B	Residential	None
R126	2215 Shady Arbor Drive	64	64	64	0	0	0	B	Residential	None
R127	2171 Shady Arbor Drive	58	58	58	0	0	0	B	Residential	None
R128	3569 W River Drive	58	58	58	0	0	0	B	Residential	None
R129	3527 W River Drive	54	54	54	0	0	0	B	Residential	None
R130	5 Cool Fountain Court	63	63	63	0	0	0	B	Residential	None
R131	3447 Sweet Pea Way	57	57	57	0	0	0	B	Residential	None
R132	3439 W River Drive	52	52	52	0	0	0	B	Residential	None
R133	3407 W River Drive	51	51	51	0	0	0	B	Residential	None
R134	40 Shady Arbor Court	59	59	59	0	0	0	B	Residential	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 6a)	2049 No Build (Alt 1)	2049 Build (Alt 7a)	2049 Build (Alt 7a)			
R135	22 Calla Lily Court	53	53	53	0	0	0	B	Residential	None
R136	2318 Barandas Drive	55	55	55	0	0	0	B	Residential	None
R137	3428 Delphinium Way	53	53	53	0	0	0	B	Residential	None
R138	27 White Lily Court	54	54	54	0	0	0	B	Residential	None
R139	40 White Lily Court	59	59	59	0	0	0	B	Residential	None
R140	3235 Spinning Rod Way	53	53	53	0	0	0	B	Residential	None
R141	27 Blue Fern Court	65	65	65	0	0	0	B	Residential	None
R142	3259 Spinning Rod Way	54	54	54	0	0	0	B	Residential	None
R143	3175 Boathouse Way	51	51	51	0	0	0	B	Residential	None
R144	18 Spinning Rod Court	61	61	61	0	0	0	B	Residential	None
R145	Olive Drive	64	64	64	0	0	0	B	Residential	None
R146	Olive Drive	64	64	64	0	0	0	B	Residential	None
R147	Olive Drive	62	63	63	1	1	0	B	Residential	None
R148	9010 Sparling Lane	56	57	57	1	1	0	B	Residential	None
R149	8991-8999 Olmo Lane	63	63	63	0	0	0	B	Residential	None
R150	9460 W Chiles Road	71	71	71	0	0	0	B	Residential	A/E
R151	Westmore Oaks Elementary School	70	70	70	0	0	0	C	School	A/E
R152	3620 Palomar Avenue	66	66	66	0	0	0	B	Residential	A/E
R153	3612 Palomar Avenue	65	65	65	0	0	0	B	Residential	None
R154	812 Marigold Street	65	65	65	0	0	0	B	Residential	None
R155	820 Marigold Street	65	65	65	0	0	0	B	Residential	None
R156	Olmo Lane	67	67	67	0	0	0	G	Undevelop	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 6a)	2049 No Build (Alt 1)	2049 Build (Alt 7a)	2049 Build (Alt 7a)			
									ed	
R157	Sparling Lane	65	65	65	0	0	0	G	Undeveloped	None
R158	EB I-80 Old Davis Road Exit	67	68	68	0	0	0	G	Undeveloped	None
R159	EB I-80 Old Davis Road Exit	69	69	69	0	0	0	G	Undeveloped	None
R160	WB I-80 Old Davis Road Exit	62	62	62	0	0	0	G	Undeveloped	None
R161	W Chiles Road	64	66	66	0	0	0	G	Undeveloped	None
R162	2 nd Street	67	67	67	0	0	0	G	Undeveloped	None
R163	Cowell Boulevard	73	73	73	0	0	0	G	Undeveloped	None
R164	2 nd Street	71	71	71	0	0	0	G	Undeveloped	None
R165	Chiles Road	71	71	71	0	0	0	G	Undeveloped	None
R166	3808 Faraday Avenue	71	71	71	0	0	0	G	Undeveloped	None
R167	32A	71	71	71	0	0	0	G	Undeveloped	None
R168	32A	56	56	56	0	0	0	G	Undeveloped	None
R169	Howat	57	57	57	0	0	0	G	Undeveloped	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 6a)	2049 No Build (Alt 1)	2049 Build (Alt 7a)	2049 Build (Alt 7a)			
R170	32A	75	75	75	0	0	0	G	Undeveloped	None
R171	WB I-80 32A onramp	74	74	74	0	0	0	G	Undeveloped	None
R172	Chiles Road	77	77	77	0	0	0	G	Undeveloped	None
R173	East of 32A	67	67	67	0	0	0	G	Undeveloped	None
R174	WB I-80	67	67	67	0	0	0	G	Undeveloped	None
R175	WB I-80	66	66	66	0	0	0	G	Undeveloped	None
R176	3980 Lake Road	71	71	71	0	0	0	G	Undeveloped	None
R177	3951 Lake Road	65	65	65	0	0	0	G	Undeveloped	None
R178	West Capitol Avenue	78	78	78	0	0	0	G	Undeveloped	None
R179	Harbor Boulevard	72	72	72	0	0	0	G	Undeveloped	None
R180	531 Drever Street	71	71	71	0	0	0	G	Undeveloped	None
R181	1301 South River Road	69	69	69	0	0	0	G	Undeveloped	None
R182	Mill Street	69	69	69	0	0	0	G	Undeveloped	None
R183	600 Sutter Street	66	66	66	0	0	0	G	Undeveloped	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ¹
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 6a)	2049 No Build (Alt 1)	2049 Build (Alt 7a)	2049 Build (Alt 7a)			
									ed	
R184	Reed Avenue	70	70	70	0	0	0	G	Undeveloped	None
R185	Reed Avenue	70	70	70	0	0	0	G	Undeveloped	None
R186	North Harbor Boulevard	69	69	69	0	0	0	G	Undeveloped	None
R187	2126 Garden Highway	70	70	70	0	0	0	G	Undeveloped	None
R188	El Centro Road	68	68	68	0	0	0	G	Undeveloped	None
R189	El Centro Road	74	74	74	0	0	0	G	Undeveloped	None
R190	El Centro Road	76	76	76	0	0	0	G	Undeveloped	None
R191	Willow Creek	76	76	76	0	0	0	G	Undeveloped	None
R192	2 nd Street	71	71	71	0	0	0	G	Undeveloped	None

¹ Impact Type: S = Substantial Increase (12 dBA or more), A/E = Approach or Exceed NAC, None = Increase is less than 12 decibels and noise levels do not approach or exceed the NAC.

² As stated in the TeNS, modeling results are rounded to the nearest decibel before comparisons are made.

³ As stated in the Traffic Noise Protocol (TNAP) April 2020, bike paths that serve primarily as a transportation facility are not evaluated as recreational trails.

⁴ As stated in the Traffic Noise Protocol (TNAP) April 2020, recreational trails that primarily involve the use of motorized vehicles are not evaluated as recreational trails.

⁵ This location does not include any exterior noise sensitive land uses; exterior noise levels are provided for reference only.

⁶ This location is not considered an area of frequent human use where people are exposed to traffic for an extended period of time on a regular basis. Where applicable, additional receivers have been placed in areas of frequent human use.

⁷ This location does not include any exterior noise sensitive land uses, so would be considered a Category D land use only. Exterior noise levels are presented in the Table.

Table K-7. Alternative 2b TNM Modeling Results

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA ²			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 2b)	2049 No Build (Alt 1)	2049 Build (Alt 2b)	2049 Build (Alt 2b)			
ST-1	9010 Sparling Lane	68	68	68	0	0	0	B	Residential	None ⁶
ST-2	8991-8999 Olmo Lane	69	70	70	1	1	0	B	Residential	None ⁶
ST-3	UC Davis SE Corner of Equestrian Center Property	66	67	67	1	2	0	C	School-Active Sports Area	None ⁶
ST-4	UC Davis near Carolee Shields Gazebo	58	58	58	0	0	0	C	School-Arboretum	None
ST-5	9460 W Chiles Road	71	72	72	1	1	0	B	Residential	None ⁶
ST-6	University Inn Park and Suites Pool Area	57	57	58	0	1	0	E	Hotel	None
ST-7	1100 Chiles Nachtmann Analytical Laboratory	71	71	72	0	1	1	E	Office	None ⁵
ST-8	UC Davis Center for Laboratory Animal Science	69	69	69	0	0	0	D	School	None ⁷
ST-9	Cesar Chavez Plaza Apartments	63	63	64	0	1	1	B	Residential	None
ST-10	The Arbors Apartments Pool Area	49	49	50	0	1	1	B	Residential	None
ST-11	The Arbors	64	64	66	0	2	2	B	Residential	None ⁶

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA ²			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ¹
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 2b)	2049 No Build (Alt 1)	2049 Build (Alt 2b)	2049 Build (Alt 2b)			
	Apartments									
ST-12	La Quinta Inn and Suites by Wyndham Davis Pool Area	71	71	71	0	0	0	E	Hotel	A/E
ST-13	Toad Hollow Dog Park	54	54	55	0	1	1	C	Park	None
ST-14	Play Fields Park	61	61	61	0	0	0	C	Active Sports Area	None
ST-15	2617 Albany Avenue	65	65	65	0	0	0	B	Residential	None
ST-16	2646 Albany Avenue	52	52	52	0	0	0	B	Residential	None
ST-17	2813 Albany Avenue	60	61	61	1	1	0	C	Playground	None
ST-18	UC Davis August A Busch III Brewing and Food Science Laboratory 641 Hilgard Lane	60	61	61	1	1	0	D	School	None ⁷
ST-19	Playground at New Harmony Mutual Housing Community	55	55	55	0	0	0	C	Playground	None
ST-20	3212 Koso Terrace	67	67	67	0	0	0	B	Residential	None ⁶
ST-21	3720 Chiles Road	60	60	60	0	0	0	B	Residential	None
ST-22	3707 El Segundo Ave	66	66	66	0	0	0	B	Residential	None ⁶
ST-23	Merryhill Preschool 213 La Vida Way	56	56	56	0	0	0	C	Preschool	None
ST-24	Days Inn by Wyndham	59	59	59	0	0	0	E	Hotel	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _[h] dBA ²			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ¹
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 2b)	2049 No Build (Alt 1)	2049 Build (Alt 2b)	2049 Build (Alt 2b)			
	Davis Near UC Davis									
ST-25	Pool Area at Motel 6 Davis, CA-Sacramento Area	65	65	65	0	0	0	E	Hotel	None
ST-26	5070 Veranda Terrace	46	46	47	0	1	1	B	Residential	None
ST-27	5093 Veranda Terrace	50	50	51	0	1	1	B	Residential	None
ST-28	Yolo Basin Foundation 45211 Country Road 32 B	60	60	60	0	0	0	B	Residential	None
ST-29	Davis Soccer Fields- 26375 Country Road 105 D	58	58	58	0	0	0	C	Active Sport Area	None
ST-30	Yolo Bypass Wildlife Area- Bike Trail	80	80	80	0	0	0	E	Trail	None ³
ST-31	Yolo Bypass Wildlife Area	69	69	70	0	1	1	E	Trail	None ⁴
ST-32	Roland Hensley Park- 4900 W Capitol Avenue	65	65	65	0	0	0	E	Trail	None
ST-34	Valhalla Mobile Home Club Pool Area	52	53	53	1	1	0	B	Residential	None
ST-35	10 Thor Drive	67	68	68	1	1	0	B	Residential	None ⁶
ST-36	43 Bragi Drive	57	57	57	0	0	0	B	Residential	None
ST-37	241 Bragi Drive	61	63	63	2	2	0	B	Residential	None/
ST-38	Meadowdale Park	65	67	68	2	3	1	C	Park	A/E
ST-39	3624 Palomar Avenue	66	68	68	2	2	0	B	Residential	None ⁶
ST-40	3604 Doran Avenue	64	65	65	1	1	0	B	Residential	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA ²			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ¹
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 2b)	2049 No Build (Alt 1)	2049 Build (Alt 2b)	2049 Build (Alt 2b)			
ST-41	861 Garnet Street	65	66	66	1	1	0	B	Residential	None ⁶
ST-43	Center for Spiritual Awareness 1275 Starboard Drive	65	67	67	2	2	0	D	Place of Worship	None ⁷
ST-44	Motel 6 West Sacramento Pool Area	56	57	57	1	1	0	E	Hotel	None
ST-45	2225 Hickory Way	63	65	65	2	2	0	B	Residential	None
ST-46	1089 Orchard Way	66	67	67	1	1	0	B	Residential	A/E
ST-47	Westmore Oaks Elementary School 1514 Fallbrook Street	73	74	74	1	1	0	C	School	None ⁵
ST-48	Westmore Oaks Elementary School 1514 Fallbrook Street	64	64	65	0	1	1	D	School	None ⁷
ST-49	1905 Buckeye Drive	68	70	70	2	2	0	B	Residential	A/E
ST-50	1412 Norfolk Avenue	58	59	59	1	1	0	B	Residential	None
ST-51	Westacre Park	64	65	65	1	1	0	C	Playground	None
ST-52	1309 Norfolk Avenue	61	62	62	1	1	0	B	Residential	None
ST-53	Yolo High School 919 Westcare Road	61	63	63	2	2	0	C	School	None
ST-55	719 11th Street	61	63	63	2	2	0	B	Residential	None
ST-56	1011 Canna Way	63	65	65	2	2	0	B	Residential	None
ST-58	918 Meadow Road	64	66	66	2	2	0	B	Residential	A/E
ST-59	Food Distribution Center for Our Lady of Grace Church	68	70	70	2	2	0	E	Office	None ⁵

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA ²			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ¹
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 2b)	2049 No Build (Alt 1)	2049 Build (Alt 2b)	2049 Build (Alt 2b)			
ST-60	2214 4th Street	72	72	72	0	0	0	B	Residential	A/E
ST-62	NW of 2197 Garden Highway	64	64	66	0	2	2	B	Residential	A/E
ST-63	2184 Garden Highway	65	65	66	0	1	1	B	Residential	None ⁵
ST-64	2125 Garden Highway	70	70	72	0	2	2	B	Residential	None ⁶
ST-65	3814 W River Drive	69	69	71	0	2	2	B	Residential	None ⁶
ST-66	3760 W River Drive	59	59	60	0	1	1	B	Residential	None
ST-67	6 Rivulet Court	61	61	63	0	2	2	B	Residential	None
ST-68	3638 W River Drive	64	64	66	0	1	1	B	Residential	None ⁵
ST-70	5 Cool Fountain Court	65	65	67	0	2	2	B	Residential	None ⁵
ST-71	River Otter Park	64	64	65	0	1	1	C	Park	None
ST-72	3451 Delphinium Way	57	57	58	0	1	1	B	Residential	None
ST-73	40 White Lilly Court	59	59	60	0	1	1	B	Residential	None
ST-74	52 Blue Fern Court	61	61	62	0	1	1	B	Residential	None
ST-75	11 Swinging Bridge Court	54	54	55	0	1	1	B	Residential	None
R1	1 Equestrian Lane	62	63	63	1	1	0	C	Active Sports Area	None
R4	7826 Hamel Lane	57	57	57	0	0	0	B	Residential	None
R5	UC Davis Center for Neuroscience 1544 Newton Court	71	71	71	0	0	0	D	School	None ⁷
R6	1100 Olive Drive	68	69	69	1	1	0	B	Residential	None ⁵
R7	1100 Olive Drive	55	55	56	0	1	1	B	Residential	None
R8	1100 Olive Drive	59	59	60	0	1	1	B	Residential	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA ²			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ¹
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 2b)	2049 No Build (Alt 1)	2049 Build (Alt 2b)	2049 Build (Alt 2b)			
R9	1200 Olive Drive	52	52	53	0	1	1	B	Residential	None
R10	1200 Olive Drive	59	59	61	0	2	2	B	Residential	None
R11	1200 Olive Drive	54	55	55	1	1	0	B	Residential	None
R12	1280 Olive Drive	62	63	64	1	2	1	B	Residential	None
R13	1414 Olive Drive	63	63	65	0	2	2	B	Residential	None
R14	1414 Olive Drive	63	63	65	0	2	2	B	Residential	None
R15	Research Park Drive	53	53	53	0	1	0	B	Residential	None
R17	1445 Drew Avenue	65	65	65	0	0	0	E	Office	None
R18	Cowell Drive	57	57	57	0	0	0	B	Residential	None
R19	Cowell Drive	56	56	56	0	0	0	B	Residential	None
R20	Cowell Drive	52	53	53	1	1	0	B	Residential	None
R21	2601 Albany Avenue	64	64	64	0	0	0	B	Residential	None
R22	2611 Albany Avenue	65	65	65	0	0	0	B	Residential	None
R23	2643 Albany Avenue	64	64	64	0	0	0	B	Residential	None
R24	2721 Albany Avenue	59	59	59	0	0	0	B	Residential	None
R25	2745 Albany Avenue	60	60	60	0	0	0	B	Residential	None
R26	2817 Albany Avenue	61	61	61	0	0	0	B	Residential	None
R27	613 Benbow Court	62	62	62	0	0	0	B	Residential	None
R28	601 Benbow Court	60	60	60	0	0	0	B	Residential	None
R29	612 Benbow Court	59	59	59	0	0	0	B	Residential	None
R30	University of California Agriculture and Natural Resources	71	71	71	0	0	0	D	School	None ⁷

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA ²			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ¹
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 2b)	2049 No Build (Alt 1)	2049 Build (Alt 2b)	2049 Build (Alt 2b)			
	2801 2 nd Street									
R31	3030 Cowell Boulevard	58	58	59	0	1	1	B	Residential	None
R32	3030 Cowell Boulevard	58	58	59	0	1	1	B	Residential	None
R33	3030 Cowell Boulevard	54	54	54	0	0	0	B	Residential	None
R34	3641 El Segundo Avenue	65	65	65	0	0	0	B	Residential	None
R35	3665 El Segundo Avenue	64	64	64	0	0	0	B	Residential	None
R36	3714 Chiles Road	59	59	59	0	0	0	B	Residential	None
R37	3650 El Segundo Avenue	48	48	48	0	0	0	B	Residential	None
R38	3704 El Segundo Avenue	48	48	48	0	0	0	B	Residential	None
R39	3730 El Segundo Avenue	59	59	59	0	0	0	B	Residential	None
R40	3820 Chiles Road	49	50	50	1	1	0	B	Residential	None
R41	3820 Chiles Road	44	45	45	1	1	0	B	Residential	None
R42	3820 Chiles Road	51	51	51	0	0	0	B	Residential	None
R43	3820 Chiles Road	48	49	49	1	1	0	B	Residential	None
R44	Days Inn Wyndham Davis Nearby UC Davis	47	47	47	0	0	0	E	Hotel	None
R45	Davis Urgent Care	70	70	70	0	0	0	D	Medical	None ⁷

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA ²			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ¹
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 2b)	2049 No Build (Alt 1)	2049 Build (Alt 2b)	2049 Build (Alt 2b)			
	4515 Fermi Place								Facility	
R46	5063 Veranda Terrace	52	52	52	0	0	0	B	Residential	None
R47	5069 Veranda Terrace	54	54	54	0	0	0	B	Residential	None
R48	5077 Veranda Terrace	54	54	55	0	0	1	B	Residential	None
R49	3951 Lake Road	61	61	61	0	0	0	B	Residential	None
R50	3901 Lake Road	62	62	62	0	0	0	B	Residential	None
R51	3901 Lake Road	62	62	63	0	1	1	B	Residential	None
R52	3901 Lake Road	58	58	58	0	0	0	B	Residential	None
R53	3901 Lake Road	58	58	59	0	1	1	B	Residential	None
R54	3901 Lake Road	61	61	62	0	1	1	B	Residential	None
R55	3901 Lake Road	64	64	64	0	0	0	B	Residential	None
R56	3901 Lake Road	59	59	60	0	1	1	B	Residential	None
R57	3901 Lake Road	63	63	63	0	0	0	B	Residential	None
R58	Concentra Urgent Care 3680 Industrial Boulevard	59	59	61	0	2	2	D	Medical Facility	None ⁷
R59	DaVita West 3450 Industrial Boulevard	70	70	72	0	2	2	D	Medical Facility	None ⁵
R60	829 Marigold Street	61	61	62	0	1	1	B	Residential	None
R61	844 Morning Glory Street	62	62	64	0	2	2	B	Residential	None
R62	832 Garnet Street	61	61	63	0	2	2	B	Residential	None
R63	3524 Doran Avenue	60	60	62	0	2	2	B	Residential	None
R64	857 Garnet Street	57	57	58	0	1	1	B	Residential	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA ²			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ¹
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 2b)	2049 No Build (Alt 1)	2049 Build (Alt 2b)	2049 Build (Alt 2b)			
R65	3427 Evergreen Circle	64	64	66	0	2	2	B	Residential	A/E
R66	3427 Evergreen Circle	55	55	56	0	1	1	B	Residential	None
R67	Ramada by Wyndham West Sacramento Hotel & Suites	55	55	57	0	2	2	E	Hotel	None
R68	Sacramento Valley Charter School 2399 Sellers Way	66	66	68	0	2	2	D	School	None ⁷
R69	River Bend Nursing Center 2215 Oakmont Way	61	61	62	0	1	1	C	Medical Facility	None
R70	2205 Hickory Way	68	68	70	0	2	2	B	Residential	A/E
R71	2143 Hickory Way	69	69	70	0	1	1	B	Residential	A/E
R72	2105 Hickory Way	65	65	67	0	2	2	B	Residential	None ⁵
R73	1049 Orchard Way	64	64	66	0	2	2	B	Residential	None ⁵
R74	959 Orchard Way	62	62	63	0	1	1	B	Residential	None
R75	2019 Buckeye Drive	67	67	69	0	2	2	B	Residential	A/E
R76	1020 Sycamore Avenue	58	58	59	0	1	1	B	Residential	None
R77	1009 Sycamore Avenue	57	57	59	0	2	2	B	Residential	None
R78	1021 Hemlock Street	59	59	60	0	1	1	B	Residential	None
R79	1933 Buckeye Drive	66	66	68	0	2	2	B	Residential	A/E
R80	1913 Buckeye Drive	66	66	68	0	2	2	B	Residential	A/E
R81	1012 Poplar Avenue	58	58	60	0	2	2	B	Residential	None
R82	1608 Norfolk Avenue	69	69	71	0	2	2	B	Residential	A/E

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA ²			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ¹
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 2b)	2049 No Build (Alt 1)	2049 Build (Alt 2b)	2049 Build (Alt 2b)			
R83	1504 Norfolk Avenue	68	68	70	0	2	2	B	Residential	A/E
R84	1404 Norfolk Avenue	69	69	71	0	2	2	B	Residential	A/E
R85	1204 Norfolk Avenue	70	70	72	0	2	2	B	Residential	A/E
R86	1604 Meadow Road	58	58	60	0	2	2	B	Residential	None
R87	1601 Norfolk Avenue	59	59	60	0	1	1	B	Residential	None
R88	1024 Haverhill Street	60	60	62	0	2	2	B	Residential	None
R89	1305 Norfolk Avenue	60	60	62	0	2	2	B	Residential	None
R90	1104 Westacre Road	60	60	62	0	2	2	B	Residential	None
R91	1101 Westacre Road	62	62	64	0	2	2	B	Residential	None
R92	727 11th Street	69	69	71	0	2	2	B	Residential	A/E
R93	715 Webster Street	64	64	66	0	2	2	B	Residential	A/E
R94	1020 Meadow Road	62	62	64	0	2	2	B	Residential	None
R95	609 Webster Street	62	62	64	0	2	2	B	Residential	None
R96	504 Webster Street	64	64	66	0	2	2	B	Residential	A/E
R97	911 Meadow Road	65	65	67	0	2	2	B	Residential	A/E
R98	Levia Park	65	65	65	0	0	0	C	Park	None
R99	316 V Street	72	72	72	0	0	0	B	Residential	A/E
R100	2209 4th Street	65	65	65	0	0	0	B	Residential	None
R101	846 Marigold Street	63	63	66	0	3	3	B	Residential	A/E
R102	828 Marigold Street	64	64	65	0	1	1	B	Residential	None
R103	812 Morning Glory Street	60	60	62	0	2	2	B	Residential	None
R104	3600 Palomar Avenue	64	64	65	0	1	1	B	Residential	None
R105	3624 Palomar Avenue	67	67	69	0	2	2	B	Residential	A/E

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA ²			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 2b)	2049 No Build (Alt 1)	2049 Build (Alt 2b)	2049 Build (Alt 2b)			
R106	2125 Garden Highway	69	69	71	0	2	2	B	Residential	A/E
R107	2145 Garden Highway	68	68	70	0	2	2	B	Residential	A/E
R108	2181 Garden Highway	65	65	66	0	1	1	B	Residential	A/E
R109	2197 Garden Highway	65	65	66	0	1	1	B	Residential	A/E
R110	2184 Garden Highway	64	64	66	0	2	2	B	Residential	A/E
R111	3796 W River Drive	64	64	66	0	2	2	B	Residential	A/E
R112	3778 W River Drive	60	60	62	0	2	2	B	Residential	None
R113	3575 Wheelhouse Avenue	65	65	67	0	2	2	B	Residential	A/E
R114	2106 Sternwheeler Way	60	60	62	0	2	2	B	Residential	None
R115	3742 W River Drive	57	57	59	0	2	2	B	Residential	None
R116	3724 W River Drive	60	60	62	0	2	2	B	Residential	None
R117	21116 Smokestack Way	60	60	61	0	1	1	B	Residential	None
R118	3542 Delta Queen Avenue	60	60	61	0	1	1	B	Residential	None
R119	3517 Delta Queen Avenue	62	62	64	0	2	2	B	Residential	None
R120	3682 W River Drive	61	61	62	0	1	1	B	Residential	None
R121	3494 Delta Queen Avenue	54	54	55	0	1	1	B	Residential	None
R122	3481 Delta Queen Avenue	60	60	62	0	2	2	B	Residential	None
R123	3441 River Shoal Avenue	55	55	57	0	2	2	B	Residential	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA ²			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 2b)	2049 No Build (Alt 1)	2049 Build (Alt 2b)	2049 Build (Alt 2b)			
R124	3451 Delta Queen Avenue	58	58	60	0	2	2	B	Residential	None
R125	3633 W River Drive	65	65	67	0	2	2	B	Residential	A/E
R126	2215 Shady Arbor Drive	64	64	66	0	2	2	B	Residential	A/E
R127	2171 Shady Arbor Drive	58	58	59	0	1	1	B	Residential	None
R128	3569 W River Drive	58	58	60	0	2	2	B	Residential	None
R129	3527 W River Drive	54	54	56	0	2	2	B	Residential	None
R130	5 Cool Fountain Court	63	63	64	0	1	1	B	Residential	None
R131	3447 Sweet Pea Way	57	57	58	0	1	1	B	Residential	None
R132	3439 W River Drive	52	52	54	0	2	2	B	Residential	None
R133	3407 W River Drive	51	51	52	0	1	1	B	Residential	None
R134	40 Shady Arbor Court	59	59	60	0	1	1	B	Residential	None
R135	22 Calla Lily Court	53	53	54	0	1	1	B	Residential	None
R136	2318 Barandas Drive	55	55	56	0	1	1	B	Residential	None
R137	3428 Delphinium Way	53	53	54	0	1	1	B	Residential	None
R138	27 White Lily Court	54	54	55	0	1	1	B	Residential	None
R139	40 White Lily Court	59	59	61	0	2	2	B	Residential	None
R140	3235 Spinning Rod Way	53	53	54	0	1	1	B	Residential	None
R141	27 Blue Fern Court	65	65	66	0	1	1	B	Residential	A/E
R142	3259 Spinning Rod Way	54	54	55	0	1	1	B	Residential	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA ²			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ¹
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 2b)	2049 No Build (Alt 1)	2049 Build (Alt 2b)	2049 Build (Alt 2b)			
R143	3175 Boathouse Way	51	51	52	0	1	1	B	Residential	None
R144	18 Spinning Rod Court	61	61	63	0	2	2	B	Residential	None
R145	Olive Drive	64	64	65	0	1	1	B	Residential	None
R146	Olive Drive	64	64	65	0	1	1	B	Residential	None
R147	Olive Drive	62	63	63	1	1	0	B	Residential	None
R148	9010 Sparling Lane	56	57	57	1	1	0	B	Residential	None
R149	8991-8999 Olmo Lane	63	63	63	0	0	0	B	Residential	None
R150	9460 W Chiles Road	71	71	72	0	1	1	B	Residential	A/E
R151	Westmore Oaks Elementary School	70	70	70	0	0	0	C	School	A/E
R152	3620 Palomar Avenue	66	66	67	0	1	1	B	Residential	A/E
R153	3612 Palomar Avenue	65	65	66	0	1	1	B	Residential	A/E
R154	812 Marigold Street	65	65	65	0	0	0	B	Residential	None
R155	820 Marigold Street	65	65	67	0	2	2	B	Residential	A/E
R156	Olmo Lane	67	67	67	0	0	0	G	Undeveloped	None
R157	Sparling Lane	65	65	65	0	0	0	G	Undeveloped	None
R158	EB I-80 Old Davis Road Exit	67	68	68	1	1	0	G	Undeveloped	None
R159	EB I-80 Old Davis Road Exit	69	69	69	0	0	0	G	Undeveloped	None
R160	WB I-80 Old Davis Road Exit	62	62	62	0	0	0	G	Undeveloped	None
R161	W Chiles Road	64	66	66	2	2	0	G	Undeveloped	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA ²			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ₁
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 2b)	2049 No Build (Alt 1)	2049 Build (Alt 2b)	2049 Build (Alt 2b)			
R162	2 nd Street	67	67	67	0	0	0	G	Undeveloped	None
R163	Cowell Boulevard	73	73	73	0	0	0	G	Undeveloped	None
R164	2 nd Street	71	71	71	0	0	0	G	Undeveloped	None
R165	Chiles Road	71	71	71	0	0	0	G	Undeveloped	None
R166	3808 Faraday Avenue	71	71	71	0	0	0	G	Undeveloped	None
R167	32A	71	71	72	0	1	1	G	Undeveloped	None
R168	32A	56	56	57	0	1	1	G	Undeveloped	None
R169	Howat	57	57	57	0	0	0	G	Undeveloped	None
R170	32A	75	75	76	0	1	1	G	Undeveloped	None
R171	WB I-80 32A onramp	74	74	75	0	1	1	G	Undeveloped	None
R172	Chiles Road	77	77	78	0	1	1	G	Undeveloped	None
R173	East of 32A	67	67	70	0	3	3	G	Undeveloped	None
R174	WB I-80	67	67	67	0	0	0	G	Undeveloped	None
R175	WB I-80	66	66	66	0	0	0	G	Undeveloped	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA ²			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ¹
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 2b)	2049 No Build (Alt 1)	2049 Build (Alt 2b)	2049 Build (Alt 2b)			
									ed	
R176	3980 Lake Road	71	71	71	0	0	0	G	Undeveloped	None
R177	3951 Lake Road	65	65	67	0	2	3	G	Undeveloped	None
R178	West Capitol Avenue	78	78	79	0	1	1	G	Undeveloped	None
R179	Harbor Boulevard	72	72	76	0	4	4	G	Undeveloped	None
R180	531 Drever Street	71	71	74	0	3	3	G	Undeveloped	None
R181	1301 South River Road	69	69	73	0	4	4	G	Undeveloped	None
R182	Mill Street	69	69	73	0	4	4	G	Undeveloped	None
R183	600 Sutter Street	66	66	69	0	3	3	G	Undeveloped	None
R184	Reed Avenue	70	70	72	0	2	2	G	Undeveloped	None
R185	Reed Avenue	70	70	74	0	4	4	G	Undeveloped	None
R186	North Harbor Boulevard	69	69	73	0	4	4	G	Undeveloped	None
R187	2126 Garden Highway	70	70	73	0	3	3	G	Undeveloped	None
R188	El Centro Road	68	68	69	0	1	1	G	Undeveloped	None

Receptor ID	Location	Loudest-Hour Exterior Noise Levels, Leq _{1h} dBA ²			Increase Over Existing, dBA		Increase Over No Build (Alt 1), dBA	Activity Category (NAC)	Land Use	Impact ¹
		Existing	2049 No Build (Alt 1)	2049 Build (Alt 2b)	2049 No Build (Alt 1)	2049 Build (Alt 2b)	2049 Build (Alt 2b)			
R189	El Centro Road	74	74	75	0	1	1	G	Undeveloped	None
R190	El Centro Road	76	76	76	0	0	0	G	Undeveloped	None
R191	Willow Creek	76	76	78	0	2	2	G	Undeveloped	None
R192	2 nd Street	71	71	71	0	0	0	G	Undeveloped	None

¹ Impact Type: S = Substantial Increase (12 dBA or more), A/E = Approach or Exceed NAC, None = Increase is less than 12 decibels and noise levels do not approach or exceed the NAC.

² As stated in the TeNS, modeling results are rounded to the nearest decibel before comparisons are made.

³ As stated in the Traffic Noise Protocol (TNAP) April 2020, bike paths that serve primarily as a transportation facility are not evaluated as recreational trails.

⁴ As stated in the Traffic Noise Protocol (TNAP) April 2020, recreational trails that primarily involve the use of motorized vehicles are not evaluated as recreational trails.

⁵ This location does not include any exterior noise sensitive land uses; exterior noise levels are provided for reference only.

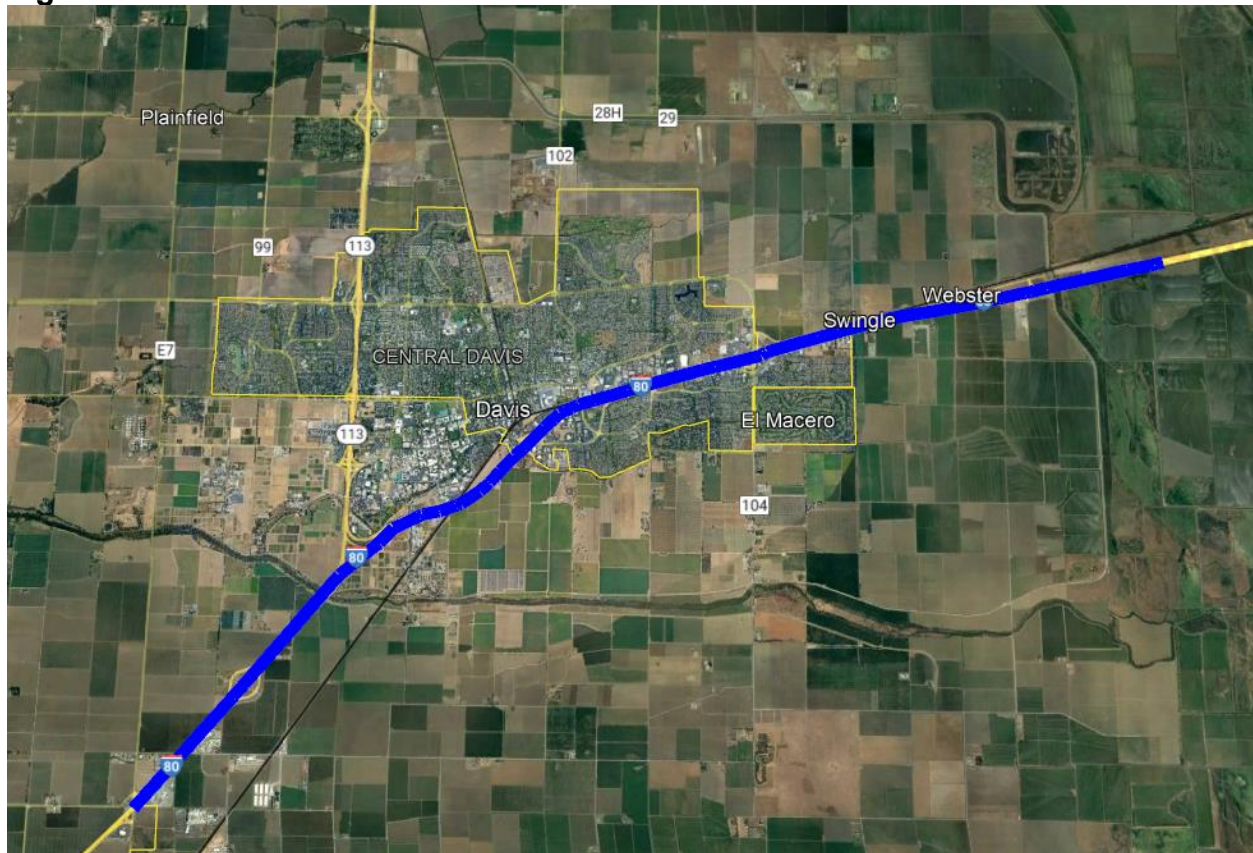
⁶ This location is not considered an area of frequent human use where people are exposed to traffic for an extended period of time on a regular basis. Where applicable, additional receivers have been placed in areas of frequent human use.

⁷ This location does not include any exterior noise sensitive land uses, so would be considered a Category D land use only. Exterior noise levels are presented in the Table.

Appendix L On-Board Sound Intensity Measurements

OBSI measurements were conducted in both the westbound and eastbound directions between Pedrick Road and Chiles Road on Yolo 80 (I-80) in Yolo County, California (Figure L-1). The ‘Standard Method of Test for Measurement of Tire/Pavement Noise Using the On-Board Sound Intensity (OBSI) Method’⁹ was used to measure sound intensity levels from Tire-Pavement interactions of a Standard Reference Test Tire (SRTT). Under this testing method, data is taken at the leading edge and trailing edge of the tire contact patch and averaged together during post-processing to determine the noise level of the sound propagating away from the tire/pavement interface towards the “wayside” or community.

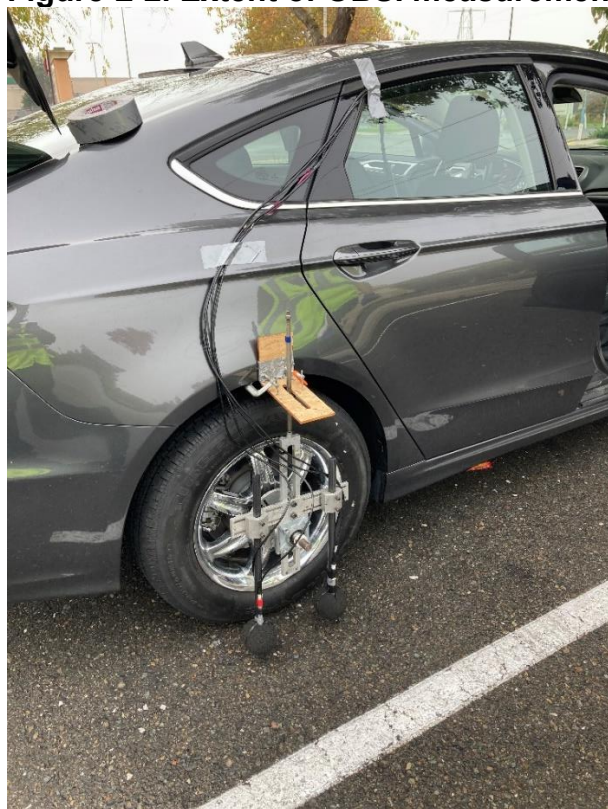
Figure L-7. Extent of OBSI measurements on Yolo I-80



⁹ AASHTO T 360-16 (2016), “Standard Method of Test for Measurement of Tire/Pavement Noise Using the On-Board Sound Intensity (OBSI) Method”

A two-probe sound intensity fixture was attached to and supported by the test vehicle, as shown in Figure L-2. The test vehicle used for these measurements conducted on November 19, 2021, was a 2020 Ford Fusion using the SRTT. Each set of two intensity probes consisted of two ½-inch G.R.A.S phase-matched condenser microphones installed on ½-inch G.R.A.S 26AK microphone preamplifiers. Each set of microphones was attached to plastic probe holders, which provided 0.6-in (16-mm) spacing between each set of microphones in a side-by-side configuration and were fitted with spherical windscreens. The two probes were then positioned 3-in (75-mm) above the pavement surface and 4-in (100-mm) from the face of the tire, at locations opposite the leading edge and the trailing edge of the tire's contact patch. The probes were oriented so that the sensitive axis was positioned toward the tire. National Instruments LabVIEW was used for data acquisition. The data collected was analyzed in real time and stored on a laptop for post-processing. A previous study for NCHRP found a linear air temperature correction used for normalizing the overall OBSI levels to a standardized temperature of 68°F (20°C)¹⁰. During post-processing, the updated temperature correction calculations are applied to the results.

Figure L-2. Extent of OBSI measurements on Yolo I-80



¹⁰ Donavan, P.R. and Lodico, D.M., “Measuring Tire-Pavement Noise at the Source: Precision and Bias Statement,” NCHRP Transportation Research Board of The National Academies, 2011.
Interstate 80 Corridor Improvements Project, Noise Study Report

Table L-1 below summarizes the results of the average five-second measurements taken in westbound and eastbound directions at different sections of the Yolo I-80 freeway.

Table L-1. Summary of results from the OBSI measurements

Section	Temperature (Avg)	Overall Averaged OBSI Levels, dBA		Temp. correction	Corrected OBSI levels, dBA	
		WB	EB		WB	EB
Causeway/Chiles Rd to Mace Blvd	60.5 °F (15.8 °C)	105.8	104.0	-0.30	105.5	103.7
Mace Blvd to Pole Line Rd		102.3	101.7		102.0	101.4
Pole Line Rd to Richard Blvd		103.1	103.0		102.8	102.7
Richard Blvd to Old Davis Rd		104.5	104.5		104.2	104.2
Old Davis Rd to Kidwell Rd		103.1	103.1		102.8	102.8
Kidwell Rd to Pedrick Rd		103.8	103.0		103.5	102.7

The average 1/3rd octave band spectra measured in the westbound direction is shown in Figure L-3. The average 1/3rd octave band spectra measured in the eastbound direction is shown in Figure L-4. There is a slight “dip” at the 1,600 Hz frequency band, which is often seen with open-graded asphalt concrete (OGAC) pavements in California suspected to have more porosity due to varying aggregate size in the pavement mix.¹¹ Photos of the measured I-80 Pavement are shown in Figure L-6. There could be up to a 3 dB of sound level reduction due to porosity of pavement.¹²

¹¹ Donavan, P.R., “The Effect of Porous Pavement on Wayside Traffic Noise Levels,” Transportation Research Record: Journal of the Transportation Research Board, Issue 2403, 2014, pp 28–36.

¹² Donavan, P.R., “The Effect of Porous Pavement on Wayside Traffic Noise Levels,” March 15, 2014.

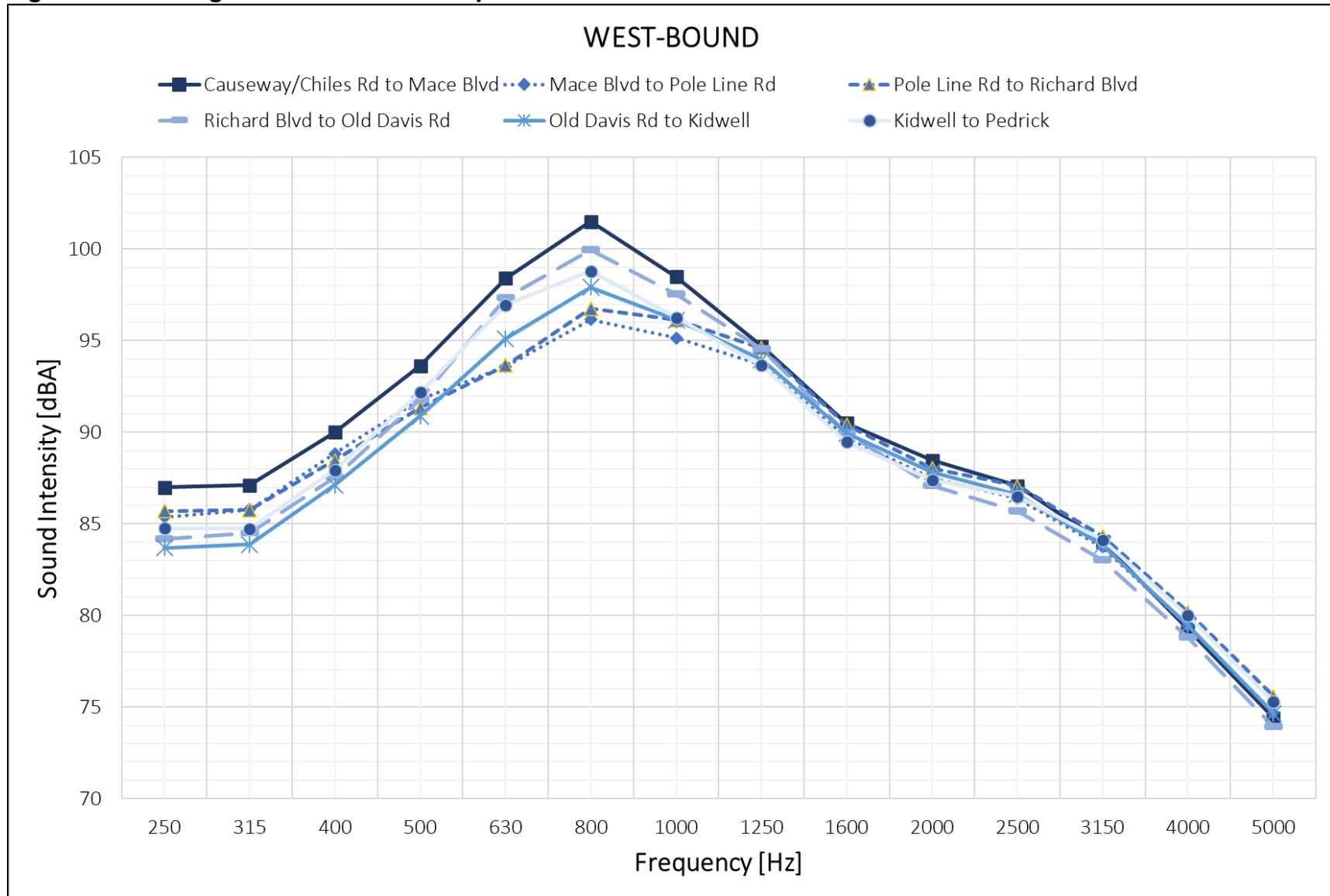
Figure L-3. Average 1/3 Octoave Band Spectra Measured in the Westbound Direction

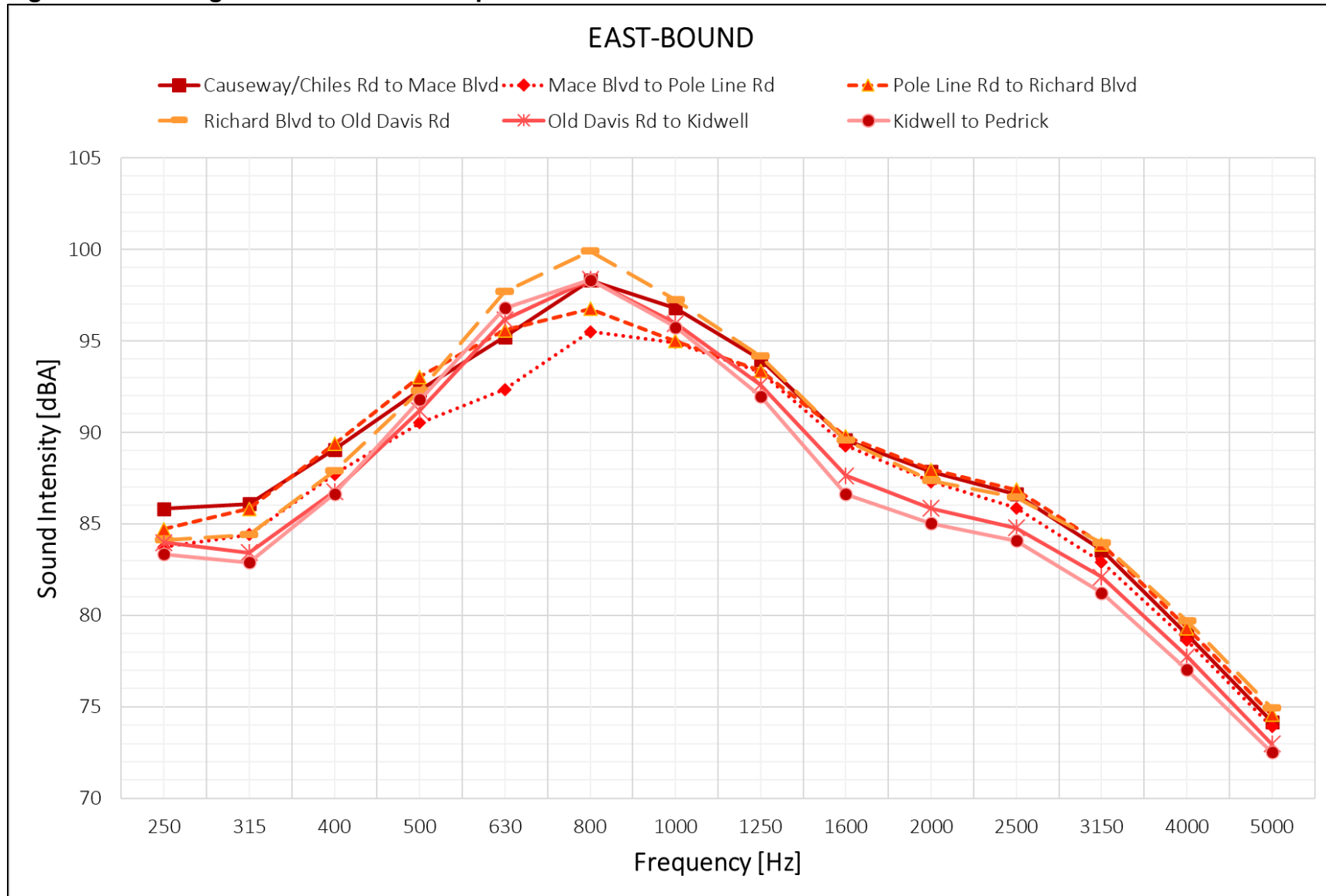
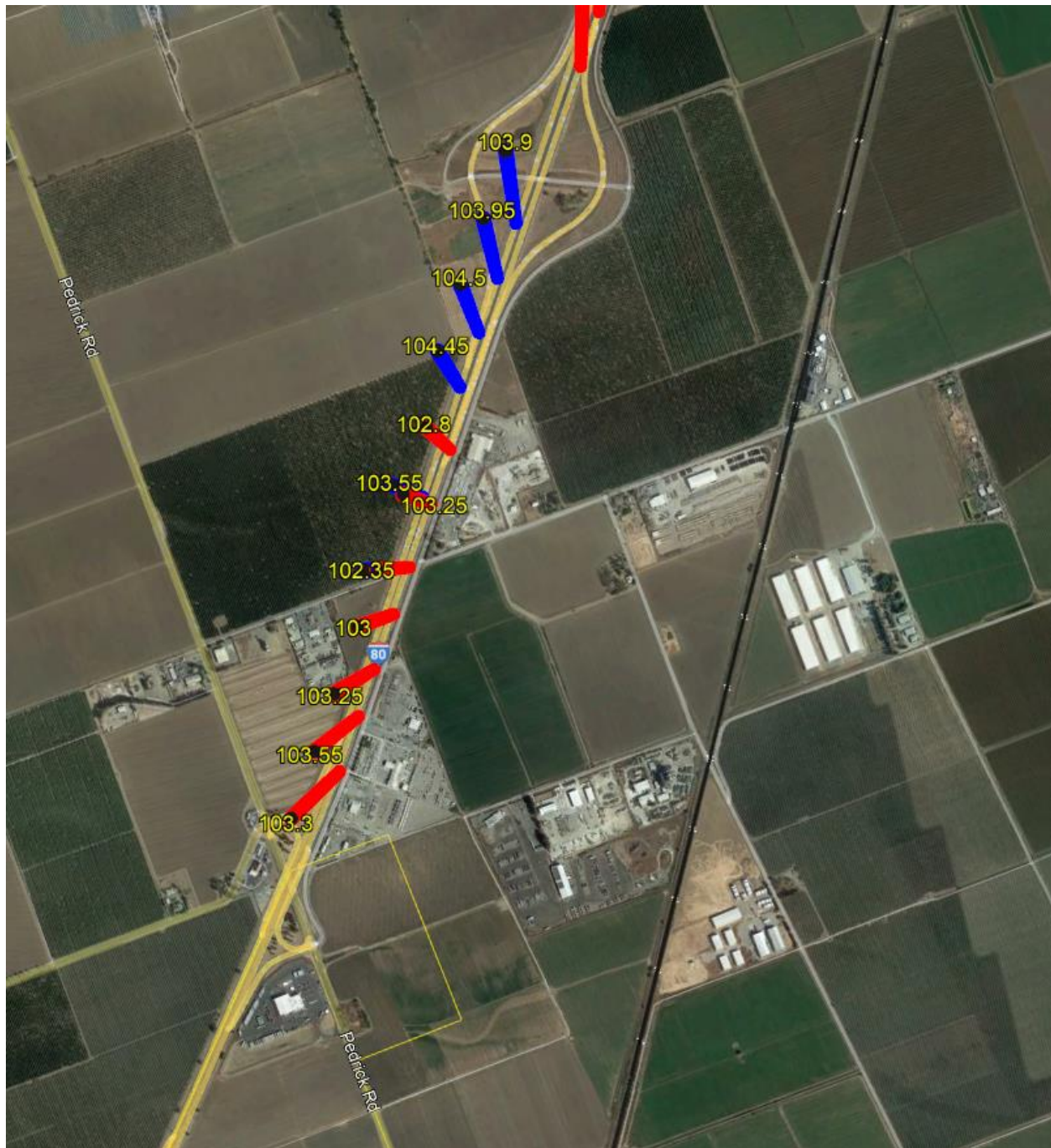
Figure L-4. Average 1/3 Octoave Band Spectra Measured in the Eastbound Direction

Figure L-5. Photos of Yolo 80 pavement

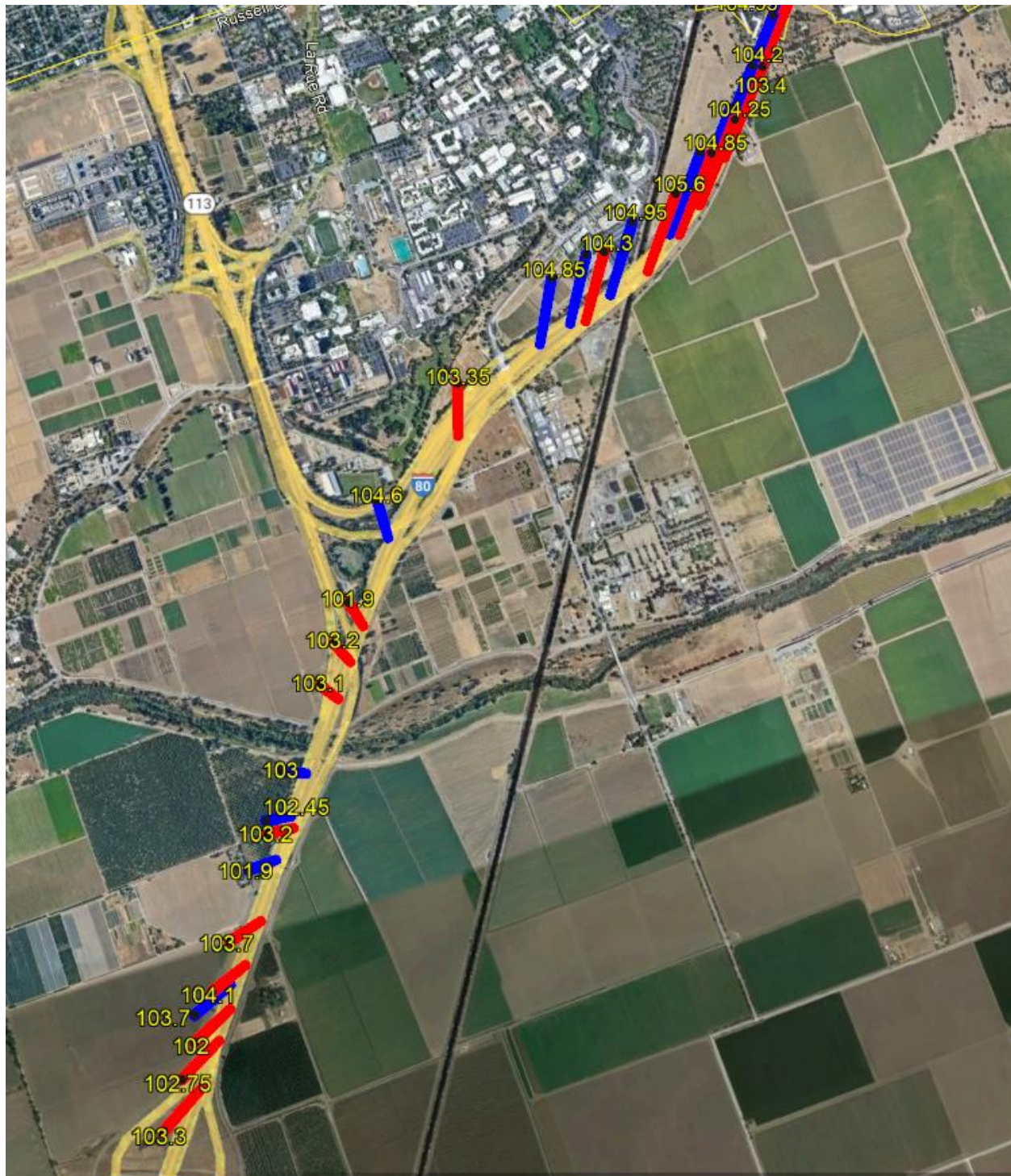
OBSI levels measured along the I-80 corridor are shown on aerial photos in Figures L-6 through L-7. The results of the OBSI measurements indicate a pavement consistent with the average pavement used for noise modelling using FHWA's TNM 2.5 software which uses a sound intensity level of 103 dB as compared to the 104 dB westbound and 104 dB eastbound measured using the OBSI method. Therefore, no sound intensity level reduction needs to be applied while modelling the noise levels propagating from the area of interest on I-80.

Figure L-6. OBSI measured levels Yolo 80 segment between Pedrick Rd and Kidwell Rd



Red=Eastbound Yolo 80, Blue=Westbound Yolo 80.

Figure L-7. OBSI measured levels Yolo 80 segment between Kidwell Rd and Richards Blvd



Red=Eastbound Yolo 80, Blue=Westbound Yolo 80.

Figure L-8. OBSI measured levels Yolo 80 segment between Richards Blvd and Pole Line Rd



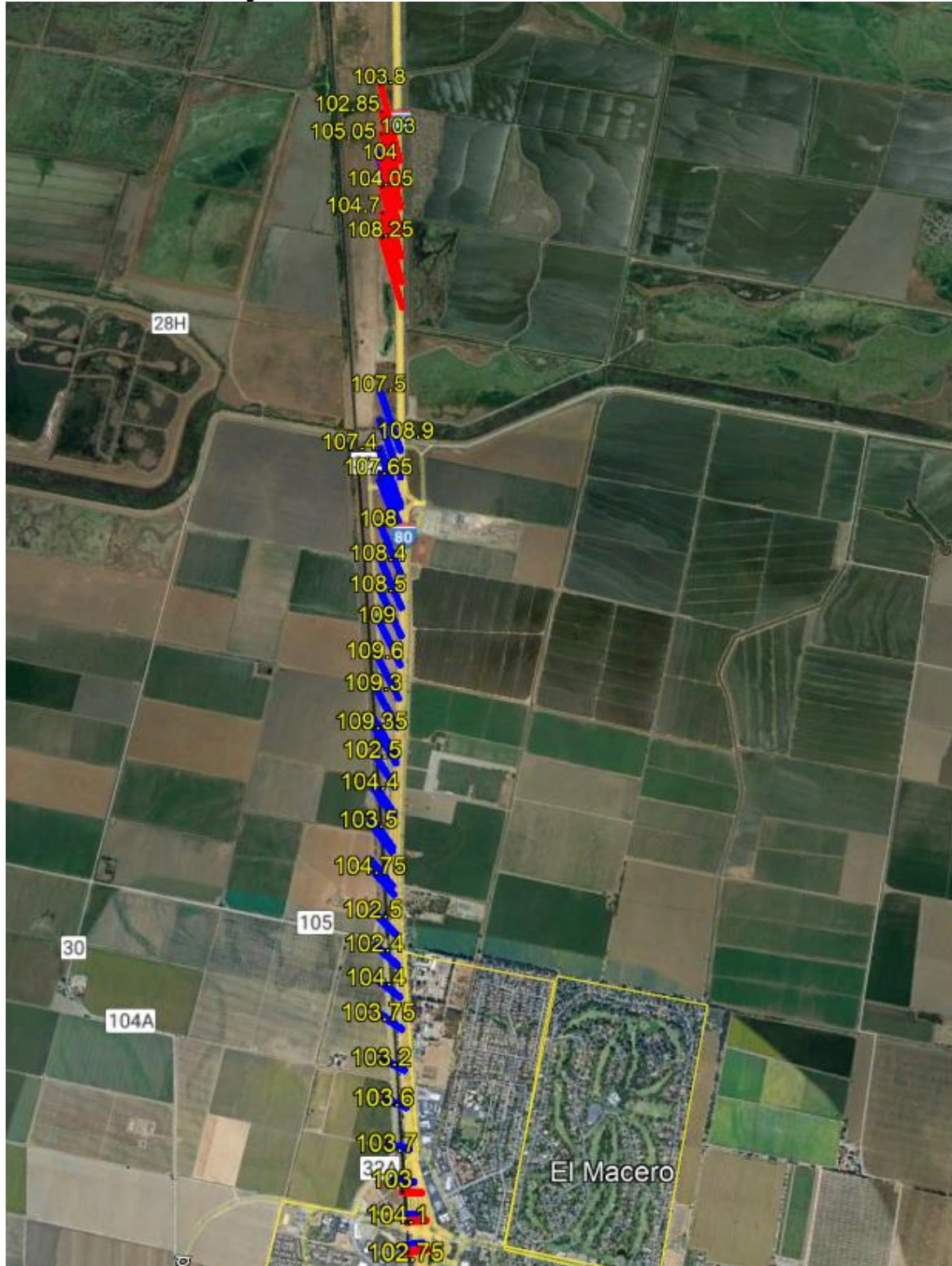
Red=Eastbound Yolo 80, Blue=Westbound Yolo 80.

Figure L-9. OBSI measured levels Yolo 80 segment between Pole Line Rd and Mace Blvd



Red=Eastbound Yolo 80, Blue=Westbound Yolo 80.

Figure L-10. OBSI measured levels Yolo 80 segment between Mace Blvd and Chiles Rd/Causeway



Red=Eastbound Yolo 80, Blue=Westbound Yolo 80.

Appendix M Construction Vibration

Construction activities are described in Chapter 2 and would include grubbing/land cleaning, grading/excavation, drainage/utilities, and paving. Pile driving could be used as a method of construction for structure foundation. Traffic, including heavy trucks traveling on a highway, rarely generates vibration amplitudes high enough to cause structural or cosmetic damage.

Due to the short-term nature of construction, the primary concern is the potential for vibration to damage a structure. Demolition and construction activities required for construction often generate perceptible vibration levels and levels that could affect nearby structures when heavy equipment or impact tools (e.g., jackhammers, hoe rams) are used in the vicinity of nearby sensitive land uses. Building damage generally falls into three categories:

- Cosmetic damage (also known as threshold damage) is defined as hairline cracking in plaster, the opening of old cracks, the loosening of paint or the dislodging of loose objects.
- Minor damage is defined as hairline cracking in masonry or the loosening of plaster.
- Major structural damage is defined as wide cracking or the shifting of foundation or bearing walls.

Critical factors pertaining to the impact of construction vibration on sensitive receptors include the proximity of the existing structures to the Project site, soil conditions, the soundness of the structures, and the methods of construction used.

M.1. Regulatory Criteria

Caltrans identifies a vibration limit of 0.5 in/sec Peak Particle Velocity (PPV) as the threshold at which there is a potential risk of damage to new residential and modern commercial/industrial structures, 0.3 in/sec PPV for older residential structures, and a conservative limit of 0.25 in/sec PPV for historic and some old buildings (see Table M-1, below).

Table M-1. Reaction of People and Damage to Buildings from Continuous or Frequent Intermittent Vibration Levels

Velocity Level, PPV (in/sec)	Human Reaction	Effect on Buildings
0.01	Barely perceptible	No effect
0.04	Distinctly perceptible	Vibration unlikely to cause damage of any type to any structure
0.08	Distinctly perceptible to strongly perceptible	Recommended upper level of the vibration to which ruins and ancient monuments should be subjected
0.1	Strongly perceptible	Threshold at which there is a risk of damage to fragile buildings with no risk of damage to most buildings
0.25	Strongly perceptible to severe	Threshold at which there is a risk of damage to historic and some old buildings.
0.3	Strongly perceptible to severe	Threshold at which there is a risk of damage to older residential structures
0.5	Severe - Vibrations considered unpleasant	Threshold at which there is a risk of damage to new residential and modern commercial/industrial structures

Source: Transportation and Construction Vibration Guidance Manual, California Department of Transportation, April 2020.

M.2. Construction Vibration Levels

Construction activities with the greatest potential of generating perceptible vibration levels would include the removal of pavement and soil, the dropping of heavy objects, and the movement of heavy tracked equipment. Table M-2 presents typical vibration levels that could be expected from representative construction equipment at a reference distance of 25 feet. Vibration levels are highest close to the source and then attenuate with increasing distance depending on soil conditions. Assuming normal propagation, construction vibration would attenuate at the rate $(D_{\text{ref}}/D)^{1.1}$, where D is the distance from the source in feet, and D_{ref} is the reference distance of 25 feet.

Table M-2. Vibration Source Levels for Construction Equipment

Equipment		PPV at 25 ft. (in/sec)	Representative of Setbacks of Nearest Structures (in/sec PPV) ¹		
			10 feet	50 feet	100 feet
Pile Driver (Impact)	upper range	1.158	3.173	0.540	0.252
	typical	0.644	1.764	0.300	0.140
Pile Driver (Sonic)	upper range	0.734	2.011	0.342	0.160
	typical	0.17	0.466	0.079	0.037
Clam shovel drop		0.202	0.553	0.094	0.044
Hydromill (slurry wall)	in soil	0.022	0.022	0.004	0.002
	in rock	0.047	0.047	0.008	0.004
Vibratory Roller		0.210	0.575	0.098	0.046
Hoe Ram		0.089	0.244	0.042	0.019
Large bulldozer		0.089	0.244	0.042	0.019
Caisson drilling		0.089	0.244	0.042	0.019
Loaded trucks		0.076	0.208	0.035	0.017
Jackhammer		0.035	0.096	0.016	0.008
Small bulldozer		0.003	0.008	0.001	0.001

Source: Transit Noise and Vibration Impact Assessment, United States Department of Transportation, Office of Planning and Environment, Federal Transit Administration, September 2018 as modified by Illingworth & Rodkin, Inc., October 2020.

¹These levels calculated assuming normal propagation conditions, using a standard equation of $PPV_{eqmt} = PPV_{ref} * (25/D)^{1.1}$, from Caltrans, April 2020.

M.3. Construction Vibration Impacts

As shown in Table M-1, Caltrans recommends a vibration limit of 0.5 in/sec PPV for new residential and modern commercial/industrial structures, 0.3 in/sec PPV for older residential structures, and 0.25 in/sec PPV for historic and some old buildings. Distances to exceedances of the vibration limits for various structure types are shown in Table M-3.

Table M-3. Distance to Exceedance of Vibration Limit by Structure Type

Structure Type	Threshold	Distance to Exceedance of Threshold, feet ¹	
		Impact Pile Driving	Heavy Construction
Historic Buildings	0.25 in/sec PPV	100 feet	22 feet
Older Residences	0.3 in/sec PPV	85 feet	18 feet
New Residential and Commercial/Industrial Buildings	0.5 in/sec PPV	55 feet	12 feet

¹These levels calculated assuming normal propagation conditions, using a standard equation of $PPV_{eqmt} = PPV_{ref} * (25/D)^{1.1}$, from Caltrans, April 2020.

Heavy construction located within 22 feet of historic buildings and impact pile driving located within 100 feet would have the potential to exceed the 0.25 in/sec PPV threshold. Based on review of the City of Sacramento, City of West Sacramento, City of Davis, Solano County, Yolo County, Sacramento County Historic Resource Inventories, there are no historic structures located within 500 feet of the Project limits.

Heavy construction located within 18 feet of older residential structures or within 12 feet of new residential and modern commercial/industrial structures and impact pile driving within 85 feet of older residential structures or within 55 feet of new residential and modern commercial/industrial structures would have the potential to exceed the 0.3 and 0.5 in/sec PPV thresholds, respectively. Construction vibration limits are not anticipated to be exceeded during periods of construction.