



Canyon Springs Healthcare Campus & Senior Living Noise Impact Analysis City of Riverside

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TABLE OF CONTENTS

TΑ	BLE O	F CONTENTS	III
AF	PEND	ICES	V
LIS	ST OF F	EXHIBITS	V
LIS	ST OF T	TABLES	VI
LIS	ST OF A	ABBREVIATED TERMS	VII
EX	ECUTI	VE SUMMARY	1
	Off-Si	ite Traffic Noise Analysis	1
	On-Si	te Traffic Noise Analysis	1
	Opera	ational Noise Analysis	3
	Const	truction Noise Analysis	6
	Sumn	nary of Significance Findings	6
1	IN	TRODUCTION	9
	1.1	Site Location	9
	1.2	Project Description	
2		NDAMENTALS	
_			
	2.1	Range of Noise	
	2.2	Sound Propagation	
	2.3	Traffic Noise Prediction	
	2.5	Noise Control	
	2.6	Noise Barrier Attenuation	
	2.7	Land Use Compatibility With Noise	
	2.8	Community Response to Noise	
	2.9	Vibration	17
3	RE	GULATORY SETTING	19
	3.1	State of California Noise Requirements	
	3.2	State of California Green Building Standards Code	
	3.3	City of Riverside General Plan	
	3.4	Operational Noise Standards	22
	3.5	Construction Noise Standards	25
	3.6	Construction Vibration Standards	
	3.7	Federal Aviation Administration	
	3.8	March Air Reserve Base/Inland Port Airport Land Use Compatibility	27
4		GNIFICANCE CRITERIA	
5	EX	ISTING NOISE LEVEL MEASUREMENTS	33
	5.1	Measurement Procedure and Criteria	33
	5.2	Noise Measurement Locations	
	5.3	Noise Measurement Results	



6	ME	ETHODS AND PROCEDURES	39
	6.1	FHWA Traffic Noise Prediction Model	39
	6.2	Off-Site Traffic Noise Prediction Model Inputs	
	6.3	On-Site Traffic Noise Prediction Model Inputs	
	6.4	Vibration Assessment	
7	OF	F-SITE TRANSPORTATION NOISE IMPACTS	45
	7.1	Traffic Noise Contours	
	7.2	Existing Project Traffic Noise Level Contributions	52
	7.3	Year 2016 Project Traffic Noise Level Contributions	
	7.4	GP Buildout Project Traffic Noise Level Contributions	
	7.5	Project Traffic Noise Contributions	52
8	O۱	I-SITE TRAFFIC NOISE IMPACTS	57
	8.1	On-Site Exterior Noise Analysis	57
	8.2	On-Site Interior Noise Analysis	
9	RE	CEIVER LOCATIONS	63
10	OP.	PERATIONAL NOISE IMPACTS	65
	10.1	Reference Noise Levels	65
	10.2	Project Operational Noise Levels	72
	10.3	Project Operational Noise Level Compliance	76
	10.4	Project Noise Contribution	
	10.5	Operational Noise Mitigation Measures	82
11	CO	NSTRUCTION IMPACTS	83
	11.1	Construction Noise Impacts	83
	11.2	Construction Vibration Impacts	83
12	RE	FERENCES	85
13		RTIFICATION	87



APPENDICES

APPENDIX 3.1: CITY OF RIVERSIDE MUNICIPAL CODE
APPENDIX 5.1: STUDY AREA PHOTOS
APPENDIX 5.2: NOISE LEVEL MEASUREMENT WORKSHEETS
APPENDIX 6.1: SITE PLAN
APPENDIX 6.2: GRADING PLANS
APPENDIX 7.1: OFF-SITE TRAFFIC NOISE CONTOURS
APPENDIX 8.1: ON-SITE TRAFFIC NOISE CALCULATIONS
APPENDIX 10.1: STATIONARY-SOURCE NOISE CALCULATIONS

LIST OF EXHIBITS

EXHIBIT ES-A: SUMMARY OF RECOMMENDATIONS	
EXHIBIT 1-A: LOCATION MAP	11
EXHIBIT 1-B: SITE PLAN	12
EXHIBIT 2-A: TYPICAL NOISE LEVELS	13
EXHIBIT 2-B: TYPICAL LEVELS OF GROUND-BORNE VIBRATION	18
EXHIBIT 3-A: NOISE/LAND USE NOISE COMPATIBILITY CRITERIA	21
EXHIBIT 5-A: NOISE MEASUREMENT LOCATIONS	34
EXHIBIT 9-A: RECEIVER LOCATIONS	64
EXHIBIT 10-A: OPERATIONAL NOISE SOURCE LOCATIONS	67
EXHIBIT 10-B: CONCEPTUAL HELIPAD AND APPROACH LOCATIONS	7 1



LIST OF TABLES

TABLE ES-1: SUMMARY OF SIGNIFICANCE FINDINGS	6
TABLE 3-1: RESIDENTIAL OPERATIONAL NOISE STANDARDS	24
TABLE 3-2: NON-RESIDENTIAL OPERATIONAL NOISE STANDARDS	25
TABLE 4-1: SIGNIFICANCE OF NOISE IMPACTS	30
TABLE 5-1: 24-HOUR AMBIENT NOISE LEVEL MEASUREMENTS	37
TABLE 6-1: OFF-SITE ROADWAY PARAMETERS	40
TABLE 6-2: AVERAGE DAILY TRAFFIC VOLUMES	41
TABLE 6-3: TIME OF DAY VEHICLE SPLITS	42
TABLE 6-4: OFF-SITE DISTRIBUTION OF TRAFFIC FLOW BY VEHICLE TYPE (VEHICLE MIX)	42
TABLE 6-5: ON-SITE ROADWAY PARAMETERS	43
TABLE 6-6: ON-SITE DISTRIBUTION OF TRAFFIC FLOW BY VEHICLE TYPE (VEHICLE MIX)	43
TABLE 6-7: VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT	44
TABLE 7-1: EXISTING WITHOUT PROJECT CONDITIONS NOISE CONTOURS	46
TABLE 7-2: EXISTING WITH PROJECT CONDITIONS NOISE CONTOURS	
TABLE 7-3: YEAR 2016 WITHOUT PROJECT CONDITIONS NOISE CONTOURS	
TABLE 7-4: YEAR 2016 WITH PROJECT CONDITIONS NOISE CONTOURS	
TABLE 7-5: GP BUILDOUT WITHOUT PROJECT CONDITIONS NOISE CONTOURS	50
TABLE 7-6: GP BUILDOUT WITH PROJECT CONDITIONS NOISE CONTOURS	
TABLE 7-7: EXISTING OFF-SITE PROJECT RELATED TRAFFIC NOISE IMPACTS	
TABLE 7-8: YEAR 2016 OFF-SITE PROJECT RELATED TRAFFIC NOISE IMPACTS	
TABLE 7-9: GP BUILDOUT OFF-SITE PROJECT RELATED TRAFFIC NOISE IMPACTS	
TABLE 8-1: EXTERIOR NOISE LEVELS (CNEL)	58
TABLE 8-2: FIRST FLOOR INTERIOR NOISE IMPACTS (CNEL)	60
TABLE 8-3: SECOND FLOOR INTERIOR NOISE IMPACTS (CNEL)	61
TABLE 8-4: THIRD FLOOR INTERIOR NOISE IMPACTS (CNEL)	
TABLE 10-1: REFERENCE NOISE LEVEL MEASUREMENTS	
TABLE 10-2: PROJECT-ONLY OPERATIONAL NOISE LEVELS WITHOUT HELICOPTER ACTIVITIES	
TABLE 10-3: PROJECT-ONLY OPERATIONAL NOISE LEVELS WITH TYPICAL HELICOPTER ACTIVITIES	
TABLE 10-4: PROJECT-ONLY OPERATIONAL NOISE LEVELS WITH TRAUMA HELICOPTER ACTIVITIES	
TABLE 10-5: OPERATIONAL NOISE LEVEL COMPLIANCE WITHOUT HELICOPTER ACTIVITIES	
TABLE 10-6: OPERATIONAL NOISE LEVEL COMPLIANCE WITH TYPICAL HELICOPTER ACTIVITIES	
TABLE 10-7: OPERATIONAL NOISE LEVEL COMPLIANCE WITH TRAUMA HELICOPTER ACTIVITIES	
TABLE 10-8: DAYTIME OPERATIONAL NOISE LEVEL CONTRIBUTIONS (DBA L ₅₀)	
TABLE 10-9: NIGHTTIME OPERATION NOISE LEVEL CONTRIBUTIONS (DBA L ₅₀)	82



LIST OF ABBREVIATED TERMS

(1) Reference

ADT Average Daily Traffic

ANSI American National Standards Institute

Calveno California Vehicle Noise

CEQA California Environmental Quality Act
CNEL Community Noise Equivalent Level

dBA A-weighted decibels

EPA Environmental Protection Agency
FHWA Federal Highway Administration
FAA Federal Aviation Administration

FICON Federal Interagency Committee on Noise

FTA Federal Transit Administration

GP General Plan

I-215 Interstate 215 Freeway

INCE Institute of Noise Control Engineering

Leq Equivalent continuous (average) sound level
Lmax Maximum level measured over the time interval
Lmin Minimum level measured over the time interval

MARB March Air Reserve Base MOB Medical Office Building

mph Miles per hour

NLR Noise Level Reduction

Project Canyon Springs Healthcare Campus & Senior Living

RCALUC Riverside Airport Land Use Commission
RCNM Roadway Construction Noise Model
REMEL Reference Energy Mean Emission Level

SR-60 State Route 60 Freeway STC Sound Transmission Class

VdB Vibration Decibels



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EXECUTIVE SUMMARY

Urban Crossroads, Inc. has prepared this noise study to determine the noise exposure and the necessary noise mitigation measures for the proposed Canyon Springs Healthcare Campus & Senior Living development ("Project"). The Project site is generally located north of Eucalyptus Avenue, between Valley Springs Parkway and Day Street in the City of Riverside. The Project is proposed to consist of several large parcels with improved street frontage in a master planned business park, including a hospital, hospital-related facilities (e.g., boilers, chillers, emergency generators, exchangers, transformers, switches), central energy plant, medical office buildings, parking structures, senior housing, independent living, assisted living, and skilled nursing facilities. The purpose of this noise analysis is to ensure that the proposed development is compatible with the existing and future noise environment.

OFF-SITE TRAFFIC NOISE ANALYSIS

Traffic generated by the proposed Project will influence the traffic noise levels in surrounding off-site areas. To quantify the off-site traffic noise increases on the surrounding off-site areas, the changes in traffic noise levels on 24 roadway segments surrounding the Project site were estimated based on the change in the average daily traffic (ADT) volumes. The traffic noise levels provided in this analysis are based on the traffic forecasts found in the *Canyon Springs Healthcare Campus & Senior Living Traffic Impact Analysis* prepared by Urban Crossroads, Inc. (1) To assess the off-site noise level impacts associated with the proposed Project, noise contour boundaries were developed for Existing, Year 2016, and General Plan (GP) Buildout traffic conditions. The off-site traffic noise analysis indicates that the Project's contributions to roadway noise levels at adjacent sensitive land uses will be *less than significant* for Existing, Year 2016, and GP Buildout conditions.

ON-SITE TRAFFIC NOISE ANALYSIS

The results of this analysis indicate that future vehicle noise from the I-215 Freeway, the SR-60 Freeway, Valley Springs Parkway, Day Street, Eucalyptus Avenue, and Gateway Drive is the principal source of community noise that will impact the Project site. The Project will also experience some background traffic noise impacts from the Project's internal roads, however due to the distance, topography and low traffic volume/speeds, traffic noise from these roads will not make a significant contribution to the noise environment. The following on-site noise Project Design Features recommended in this noise analysis have been designed to reduce the exterior and interior noise levels to satisfy the City of Riverside transportation related CNEL noise criteria for residential development. With the recommended noise Project Design Features shown on Exhibit ES-A, the on-site noise impacts will satisfy City of Riverside exterior and interior noise level standards.



EXTERIOR NOISE PROJECT DESIGN FEATURES

To satisfy the City of Riverside *conditionally acceptable* 70 dBA CNEL exterior noise level criteria for hospital, senior housing, independent and assisted living, and skilled nursing facility land uses and the 75 dBA CNEL for medical office building land uses, no exterior Project Design Features are included nor required. This noise analysis shows that the Canyon Springs Healthcare Campus & Senior Living Project will satisfy the City of Riverside *conditionally acceptable* 70 dBA CNEL exterior noise level criteria for hospital, senior housing, independent and assisted living, and skilled nursing facility land uses and 75 dBA CNEL for medical office building land uses.

INTERIOR NOISE PROJECT DESIGN FEATURES

The exterior noise levels at the Canyon Springs Healthcare Campus & Senior Living exceed that of a typical hospital due to its proximity to March Air Reserve Base and the I-215 and SR-60 Freeways. The exterior walls of all buildings will be designed and constructed to provide an interior environment that will meet or exceed best practice acoustical standards for healthcare facilities. Noise resulting from the proximity of the airport is addressed in this noise study, which indicates that the interior environment should meet 45 dBA CNEL. California Green Building Standards Code requires a 50 dBA CNEL interior noise level, however the Project will exceed these requirements to accommodate the City of Riverside standard of 45 dBA CNEL. Specific assemblies and materials that will accommodate these requirements will be included in Project construction. Note that interior noise levels of 45 dBA could be equated to being perceived as similar to a quiet urban nighttime environment or the background noise level of a theater or large conference room.

Particular care will be taken for the hospital building and the residential buildings including the assisted living facility and the senior housing to assure that these requirements are met. To satisfy the City of Riverside 45 dBA CNEL interior noise level criteria, buildings facing the I-215 Freeway, the SR-60 Freeway, Valley Springs Parkway, Day Street, Eucalyptus Avenue, and Gateway Drive will require a Noise Level Reduction (NLR) of up to 23.2 dBA and a windows closed condition requiring a means of mechanical ventilation (e.g. air conditioning). The components of the construction that will reduce exterior sound from affecting the interior living spaces include walls, windows, and doors.

- Windows: All windows and sliding glass doors shall be well fitted, well weather-stripped assemblies and shall have a minimum sound transmission class (STC) rating of 27. Windows and curtain walls will all be double-paned glass to provide an interior acoustical environment that will meet or exceed an STC rating of 27, and the Project will not rely on operable windows for ventilation.
- <u>Walls</u>: The exterior walls will typically be constructed of metal stud construction with 3" polyisocyanurate insulation, interior gypsum board, and exterior sheathing. Exterior finish material will be either metal panels, stucco, or masonry as indicated in the design guidelines.
- <u>Doors</u>: Exterior doors will be constructed and gasketed to provide an interior environment that will meet or exceed an STC rating of 27.
- <u>Ventilation:</u> Arrangements for any habitable room shall be such that any exterior door or window can be kept closed when the room is in use and still receive circulated air. A forced air circulation



system (e.g. air conditioning) or active ventilation system (e.g. fresh air supply) shall be provided which satisfies the requirements of the Uniform Building Code. Wall mounted air conditioners shall not be used and any fresh air intake ducts should be oriented away from the adjacent roadways.

• Other: Background white noise-source solutions will be considered if necessary.

OPERATIONAL NOISE ANALYSIS

Using reference noise levels to represent the noise sources from the Canyon Springs Healthcare Campus & Senior Living site, this analysis estimates the Project-related operational stationary-source noise levels at the off-site noise-sensitive receivers within the Project study area. The activities at the proposed Canyon Springs Healthcare Campus & Senior Living are anticipated to include .g., on-site retail such as coffee shops, deli/lunch rooms, outdoor vendor carts, car wash services, valet parking, golf cart transport for elderly/infirm patients, flower/gift shop, pharmacy, and medical retail (medical supplies);personal services such as barber shop, beauty salon, spa, tailor, dry cleaner, and self-service laundry; and restaurants (sit-down, quick-serve, and take-out)parking structure and parking lot vehicle movements, mechanical ventilation (roof-top air conditioning) units, emergency backup generators (central energy plant), emergency vehicles (ambulances), emergency helicopter activities, and other ancillary uses (e. The proposed senior housing, skilled nursing, assisted living, and independent living facilities are not expected to contain any unique operational noise sources beyond what is commonly found within residential land uses.

Based on the results of the noise analysis, the typical Project operational noise levels without helicopter activities will satisfy the daytime and nighttime City of Riverside exterior noise level standards at the nearby sensitive receiver locations with the recommended 8-foot high noise barrier, as shown on Exhibit ES-A. While the Project operational noise levels without helicopter activities are expected to satisfy the City standards, the analysis discussed in this section does not account for the potential noise level impacts associated with emergency vehicles and helicopters, which are discussed separately below.

EMERGENCY VEHICLE NOISE EXEMPTION

Due to the nature of emergency vehicle-related noise sources (e.g., sirens, horns), the California Vehicle Code provides an exemption for these unique noise activities. California Vehicle Code, Sections 21055 and 27007, exempt drivers of emergency vehicles and sound amplification equipment of emergency vehicles, respectively. Section 21055 states that emergency vehicles driven in response to an emergency or while engaged in rescue operations and the sirens used reasonably necessary are considered exempt from California Vehicle Code regulations. Further, Section 27007 indicates that sound amplification systems which can be heard outside the vehicle from 50 or more feet are prohibited, unless that system is being operated to request assistance or warn of a hazardous situation. The exemption is for emergency vehicle sirens is explicit when it states this section does not apply to authorized emergency vehicles or vehicles operated by gas, electric, communications, or water utilities. (2) Although the City of Riverside Municipal Code is silent regarding noise from emergency vehicles, this noise study considers the exemption found



in the California Vehicle Code, Sections 21055 and 27007, for noise from emergency vehicles related to the Project. (3)

HELICOPTER NOISE ACTIVITIES

Helicopter activities at the Project site are anticipated to occur under two conditions: typical activity and trauma activity. Typical helicopter activities include the scheduled transferring of patients to and from the hospital on an as-needed basis, for patients who require the services of the Project's hospital use, or those of another local hospital, while trauma includes the non-scheduled helicopter activities for major traumatic injuries or events. At the time this analysis was prepared, the exact model type and specifications of the typical helicopter activity to be used at the hospital helipad operations were unknown. However, based on information provided by Heliplanners, a H145 Airbus helicopter represents the worst-case condition for typical hospital helicopter activities, and a Blackhawk helicopter represents the worst-case condition for trauma activities.

With Typical Helicopter Activities

The proposed typical helicopter activities (H145 Airbus helicopter) at the Project site, including the scheduled transport of patients to and from the hospital on an as-needed basis, for patients who require the services of the Project's hospital use, or those of another local hospital, will generate operational noise levels that satisfy the City of Riverside exterior noise level standards at the nearby sensitive receiver locations with the recommended 8-foot high noise barrier, as shown on Exhibit ES-A.

With Trauma Helicopter Activities

The Project operational noise levels with trauma helicopter activities are anticipated to exceed the nighttime City of Riverside exterior noise level standards at receiver locations R3, and R4. Due to the potential trauma helicopter operational noise level impacts, the Project will be required to identify potential noise abatement measures, to fully satisfy the noise compatibility study requirements of the Federal Aviation Administration (FAA), Riverside County Airport Land Use Commission (RCALUC), March Air Reserve Base/Inland Port Airport Land Use Compatibility Plan, the State of California Heliport Permitting process, and City of Riverside Heliport Permitting process. Therefore, the Project-related emergency helicopter noise impacts are considered *less than significant* after the mitigation measures identified in this noise study. Further, trauma activity will only occur intermittently and does not represent the typical, daily operations at the Project site.

OPERATIONAL NOISE IMPACTS

This analysis demonstrates that the Project will contribute a *potentially significant* operational noise level impact to the existing ambient noise environment at receiver locations R1 and R3 during the daytime hours, and a *less than significant* impact at all receiver locations during the nighttime hours. The daytime Project-related operational noise level increases of 5.5 dBA L_{50} at receiver location R1 and up to 5.0 dBA L_{50} at receiver location R3 result in combined exterior noise levels of 55.0 dBA L_{50} at R1, and 54.6 dBA L_{50} at R3, respectively. As such, the combined



Project and ambient noise levels will remain below the City of Riverside Municipal Code noise level standards for community support land uses (60 dBA L_{50} for R1) and residential uses (55 dBA L_{50} for R3), and therefore, the Project-related operational noise level contributions to the ambient noise levels at nearby sensitive receiver locations will be *less than significant* at receiver locations R1 and R3.

Therefore, the long-term operational noise level impacts associated with the proposed Project activities, such as the parking structure and parking lot vehicle movements, mechanical ventilation (roof-top air conditioning) units, emergency backup generators (central energy plant), emergency vehicles (ambulances), emergency helicopter activities, and other ancillary uses (e.g., on-site retail such as coffee shops, deli, lunch rooms, outdoor vendor carts, car wash services, valet parking, golf cart transport for the elderly or infirm patients, flower and gift shop, pharmacy, and medical retail (medical supplies); personal services such as barber shop, beauty salon, spa, tailor, dry cleaner, and self-service laundry; and restaurants (sit-down, quick-serve, and take-out) are considered *less than significant* with mitigation.

The Project study area includes existing stationary noise sources such as: the loading docks north of Corporate Centre Place at an existing Walmart store, the loading dock and trash compactor located north of Campus Parkway at an existing Target store, and three fast food restaurants with drive-thru speakerphones along the eastern right-of-way of Day Street: Panda Express and Baker's Drive-Thru, which are located north of Gateway Drive, and Portillo's Hot Dogs, which is located south of Gateway Drive. The on-site stationary noise levels at the Project site due to activities associated with these existing stationary sources are included in the ambient noise level measurements, presented in Section 5 of this report, and will largely be overshadowed by the intervening traffic noise from the I-215 Freeway, the SR-60 Freeway, Valley Springs Parkway, Day Street, Eucalyptus Avenue, and Gateway Drive in the Project study area.

Construction of ancillary services could occur as part of the Project. Ancillary services could include on-site retail such as coffee shops, deli, lunch rooms, outdoor vendor carts, car wash services, valet parking, golf cart transport for the elderly or infirm patients, flower and gift shop, pharmacy, and medical retail (medical supplies); personal services such as barber shop, beauty salon, spa, tailor, dry cleaner, and self-service laundry; and restaurants (sit-down, quick-serve, and take-out). Future proposed ancillary services would be subject to the same City of Riverside Municipal Code noise standards as the Project. The City of Riverside Municipal Code identifies operational noise level limitations and provides the necessary enforcement tools to address and remedy any potential noise issues related to prospective ancillary uses within the proposed Canyon Spring Healthcare Campus Specific Plan.

OPERATIONAL NOISE MITIGATION MEASURES

- Prior to certificate of occupancy for the proposed Hospital, Medical Office Building 3, Medical
 Office Building 4 or Parking Structure 1, which every may be constructed first, the Project
 Applicant shall construct the proposed 8-foot-high perimeter wall (as shown on Exhibit ES-A) to
 reduce the operational noise levels at the adjacent sensitive receiver locations.
- Prior to certificate of occupancy for the proposed hospital, the Project shall adhere to all Federal,
 State, Regional, and Local agency requirements including but not limited to: Federal Aviation



Administration, the Riverside County Airport Land Use Commission, the March Air Reserve Base/Inland Port Airport, the State of California Heliport Permitting process, and City of Riverside Entitlement process.

CONSTRUCTION NOISE ANALYSIS

Pursuant to Municipal Code Section 7.35.020 "Exemptions" subsection (G) "Noise sources associated with construction, repair, remodeling, or grading of any real property; provided a permit has been obtained from the City as required; and provided said activities do not take place between the hours of 7:00 p.m. and 7:00 a.m. on weekdays, between the hours of 5:00 p.m. and 8:00 a.m. on Saturdays, or at any time on Sunday or a federal holiday. Therefore, construction noise associated with the proposed Project is exempt from the City's Noise Ordinance. Consistent with direction from the City of Riverside Planning Department, if Project construction activities occur within the permitted hours of Municipal Code, Section 7.35.010(B)(5), the construction noise levels will be considered exempt from the Municipal Code noise level standards, and therefore, the construction of the Project will result in a *less than significant* noise impact.

SUMMARY OF SIGNIFICANCE FINDINGS

The results of this Canyon Springs Healthcare Campus & Senior Living Noise Impact Analysis are summarized below based on the significance criteria in Section 4 of this report. Table ES-1 shows the findings of significance for each potential noise and/or vibration impact before and after any required mitigation measures.

TABLE ES-1: SUMMARY OF SIGNIFICANCE FINDINGS

Analysis	Report	Significance Findings	
Analysis	Section	Unmitigated	Mitigated
Off-Site Traffic Noise	7	Less Than Significant	n/a
On-Site Traffic Noise	8	Compliant with Project Design Features	n/a
Operational Noise	10	Potentially Significant	Less Than Significant
Construction Noise	11	Less Than Significant	n/a
Construction Vibration	11	Less Than Significant	n/a

[&]quot;n/a" = No mitigation is required since the unmitigated impacts will be less than significant.



All buildings require standard windows with a minimum STC rating of 27 and a means of mechanical ventilation (e.g. air conditioning). CAMPUS PKY CORPORATE CENTRE P CANYON PARK DR GATEWAY DR LEY SPRINGS PKY **EUCALYPTUS AVE** LEGEND: Recommended Noise Barrier Height (in feet)

EXHIBIT ES-A: SUMMARY OF RECOMMENDATIONS



Recommended Noise Barrier Location

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1 INTRODUCTION

This noise analysis has been completed to determine the noise impacts associated with the development of the proposed Canyon Springs Healthcare Campus & Senior Living ("Project"). This noise study briefly describes the proposed Project, provides information regarding noise fundamentals, describes the local regulatory setting, provides the study methods and procedures for traffic noise analysis, and evaluates the future exterior noise environment. In addition, this study includes an analysis of the potential Project-related long-term operational and short-term construction noise impacts.

1.1 SITE LOCATION

The proposed Canyon Springs Healthcare Campus & Senior Living site is generally located north of Eucalyptus Avenue, between Valley Springs Parkway and Day Street in the City of Riverside as shown on Exhibit 1-A. The State Route 60 (SR-60) Freeway is located less than one-half mile north of the Project site, and the Interstate 215 (I-215) Freeway is located less than one-quarter mile west of the Project site.

The Project site is currently vacant. Generally, land uses immediately adjacent to the Project site include medical office buildings, office buildings, governmental offices (including the County of Riverside County Clerk's office), single-family residential development, a school, and vacant, undeveloped parcels. Land uses north of the overall Project site (north of Corporate Centre Place and Campus Parkway) include big box retail (e.g., Walmart, Target, PetSmart) and other commercial retail uses; land uses west of the overall Project site (west of Valley Springs Parkway) include a big box retail (Sam's Club) and a bank; land uses south of the overall Project site (south of Eucalyptus Avenue) include a mix of residential development, commercial uses, and vacant, undeveloped parcels; and land uses east of the overall Project site (east of Day Street) include big box retail (e.g., Costco, WinCo Foods) and commercial retail uses.

Existing noise sources within the Project study area include the loading docks north of Corporate Centre Place at the existing Walmart store, the loading dock and trash compactor located north of Campus Parkway at the existing Target store, and three fast food restaurants with drive-thru speakerphones at the eastern right-of-way of Day Street: Panda Express and Baker's Drive-Thru, which are located north of Gateway Drive, and Portillo's Hot Dogs, which is located south of Gateway Drive.

1.2 PROJECT DESCRIPTION

The Project is proposed to consist of several large parcels with improved street frontage and infrastructure in a master planned business park, as shown on Exhibit 1-B. The uses within the Project site will include a hospital, hospital-related facilities, medical office buildings, parking structures, senior housing, independent living, assisted living, and skilled nursing facilities.



The previously approved specific plan land use consists of 100,000 square feet of general retail use and 800,000 square feet of general office use. The currently proposed Project land use plan is more intensive than the previously approved land use plan. The proposed Project consists of hospital land use with approximately 280 beds, 370,000 square feet of medical office, 234 "agerestricted" multi-family housing, independent living/memory care, assisted living, and skilled nursing facilities with approximately 267 beds. Business operations would primarily be conducted within the enclosed buildings on the site, with the exception of the on-site Project related noise sources which are expected to include: parking structure and parking lot vehicle movements, mechanical ventilation (roof-top air conditioning) units, emergency backup generators (central energy plant), emergency vehicles (ambulances), emergency helicopter activities, and other ancillary uses (e.g., outdoor vendor carts, car wash services, valet parking, and golf cart transport for the elderly or infirm patients). Future proposed ancillary services would be subject to the same City of Riverside Municipal Code noise standards as the Project. The City of Riverside Municipal Code identifies operational noise level limitations and provides the necessary enforcement tools to address and remedy any potential noise issues related to prospective ancillary uses within the proposed Canyon Spring Healthcare Campus Specific Plan. Consistent with the worst-case analysis in the Air Quality report for the Project, it is assumed that the Project will be constructed and at full occupancy by 2016. (4)



EXHIBIT 1-A: LOCATION MAP







EXHIBIT 1-B: SITE PLAN



EUCALYPTUS AVE

2 FUNDAMENTALS

Noise has been simply defined as "unwanted sound." Sound becomes unwanted when it interferes with normal activities, when it causes actual physical harm or when it has adverse effects on health. Noise is measured on a logarithmic scale of sound pressure level known as a decibel (dB). A-weighted decibels (dBA) approximate the subjective response of the human ear to broad frequency noise source by discriminating against very low and very high frequencies of the audible spectrum. They are adjusted to reflect only those frequencies which are audible to the human ear. Exhibit 2-A presents a summary of the typical noise levels and their subjective loudness and effects that are described in more detail below.

EXHIBIT 2-A: TYPICAL NOISE LEVELS

COMMON OUTDOOR ACTIVITIES	COMMON INDOOR ACTIVITIES	A - WEIGHTED SOUND LEVEL dBA	SUBJECTIVE LOUDNESS	EFFECTS OF NOISE	
THRESHOLD OF PAIN		140	1		
NEAR JET ENGINE		130	INTOLERABLE OR		
		120	DEAFENING	HEARING LOSS	
JET FLY-OVER AT 300m (1000 ft)	ROCK BAND	110			
LOUD AUTO HORN		100	77		
GAS LAWN MOWER AT 1m (3 ft)		90	VERY NOISY	SPEECH INTERFERENCE SLEEP	
DIESEL TRUCK AT 15m (50 ft), at 80 km/hr (50 mph)	FOOD BLENDER AT 1m (3 ft)	80			
NOISY URBAN AREA, DAYTIME	VACUUM CLEANER AT 3m (10 ft)	70	LOUD		
HEAVY TRAFFIC AT 90m (300 ft)	NORMAL SPEECH AT 1m (3 ft)	60			
QUIET URBAN DAYTIME	LARGE BUSINESS OFFICE	50	MODERATE		
QUIET URBAN NIGHTTIME	THEATER, LARGE CONFERENCE ROOM (BACKGROUND)	40	SLE	DISTURBANCE	
QUIET SUBURBAN NIGHTTIME	LIBRARY	30			
QUIET RURAL NIGHTTIME	BEDROOM AT NIGHT, CONCERT HALL (BACKGROUND)	20	FAINT		
	BROADCAST/RECORDING STUDIO	10	VERY FAINT	NO EFFECT	
LOWEST THRESHOLD OF HUMAN HEARING	LOWEST THRESHOLD OF HUMAN HEARING	0	VERT PAINT		

Source: Environmental Protection Agency Office of Noise Abatement and Control, Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Marqin of Safety (EPA/ONAC 550/9-74-004) March 1974.

2.1 Range of Noise

Since the range of intensities that the human ear can detect is so large, the scale frequently used to measure intensity is a scale based on multiples of 10, the logarithmic scale. The scale for measuring intensity is the decibel scale. Each interval of 10 decibels indicates a sound energy ten times greater than before, which is perceived by the human ear as being roughly twice as loud. (5) The most common sounds vary between 40 dBA (very quiet) to 100 dBA (very loud). Normal conversation at three feet is roughly at 60 dBA, while loud jet engine noises equate to 110 dBA



at approximately 100 feet, which can cause serious discomfort. (6) Another important aspect of noise is the duration of the sound and the way it is described and distributed in time.

2.2 NOISE DESCRIPTORS

Environmental noise descriptors are generally based on averages, rather than instantaneous, noise levels. The most commonly used figure is the equivalent level (Leq). Equivalent sound levels are not measured directly but are calculated from sound pressure levels typically measured in A-weighted decibels (dBA). The equivalent sound level (Leq) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period.

To describe the time-varying character of environmental noise, the statistical or percentile noise descriptors L_{50} , L_{25} , L_8 and L_2 , are commonly used. The percentile noise descriptors are the noise levels equaled or exceeded during 50 percent, 25 percent, 8 percent and 2 percent of a stated time. Sound levels associated with the L_2 and L_8 typically describe transient or short-term events, while levels associated with the L_{50} describe the steady state (or median) noise conditions. The City of Riverside relies on the percentile noise levels to describe the stationary source noise level limits. While the L_{50} describes the mean noise levels occurring 50 percent of the time, the Leq accounts for the total energy (average) observed for the entire hour. Therefore, the Leq noise descriptor is generally 1-2 dBA higher than the L_{50} noise level.

Peak hour or average noise levels, while useful, do not completely describe a given noise environment. Noise levels lower than the peak hour may be disturbing if they occur during times when quiet is most desirable, namely evening and nighttime (sleeping) hours. To account for this, the Community Noise Equivalent Level (CNEL), representing a composite 24-hour noise level is utilized. The CNEL is the weighted average of the intensity of a sound, with corrections for time of day, and averaged over 24 hours. The time of day corrections require the addition of 5 decibels to dBA Leq sound levels in the evening from 7:00 p.m. to 10:00 p.m., and the addition of 10 decibels to dBA Leq sound levels at night between 10:00 p.m. and 7:00 a.m. These additions are made to account for the noise sensitive time periods during the evening and night hours when sound appears louder. CNEL does not represent the actual sound level heard at any particular time, but rather represents the total sound exposure. The City of Riverside relies on the 24-hour CNEL level to assess land use compatibility with transportation related noise sources.

2.3 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.

2.3.1 GEOMETRIC SPREADING

Sound from a localized source (i.e., a stationary point source) propagates uniformly outward in a spherical pattern. The sound level attenuates (or decreases) at a rate of 6 dB 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 dB for each doubling of distance from a line source.

2.3.2 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 ft. 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 dB 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 dB per doubling of distance from a line source.

2.3.3 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) 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.

2.3.4 SHIELDING

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. Shielding by trees and other such vegetation typically only has an "out of sight, out of mind" effect. That is, the perception of noise impact tends to decrease when vegetation blocks the line-of-sight to nearby resident. However, for vegetation to provide a substantial, or even noticeable, noise reduction, the vegetation area must be at least 15 feet in height, 100 feet wide and dense enough to completely obstruct the line-of sight between the source and the receiver. This size of vegetation may provide up to 5 dBA of noise reduction. The FHWA does not consider the planting of vegetation to be a noise abatement measure.

2.4 Traffic Noise Prediction

Vehicle noise is a combination of the noise produced by the engine, exhaust, and tires on the roadway. According to the *Highway Traffic Noise Analysis and Abatement Policy and Guidance*, provided by the Federal Highway Administration (FHWA), the level of traffic noise depends on three primary factors: the volume of the traffic, the speed of the traffic, and the vehicle mix within the flow of traffic. Generally, the loudness of traffic noise is increased by heavier traffic volumes, higher speeds, and a greater number of trucks. (7) A doubling of the traffic volume,



assuming that the speed and vehicle mix do not change, results in a noise level increase of 3 dBA. The vehicle mix on a given roadway may also have an effect on community noise levels. As the number of medium and heavy trucks increases and becomes a larger percentage of the vehicle mix, adjacent noise level impacts will increase.

2.5 Noise Control

Noise control is the process of obtaining an acceptable noise environment for a particular observation point or receptor by controlling the noise source, transmission path, receptor, or all three. This concept is known as the source-path-receptor concept. In general, noise control measures can be applied to any and all of these three elements.

2.6 Noise Barrier Attenuation

Effective noise barriers can reduce noise levels by 10 to 15 dBA, cutting the loudness of traffic noise in half. A noise barrier is most effective when placed close to the noise source or receptor. Noise barriers, however, do have limitations. For a noise barrier to work, it must be high enough and long enough to block the path of the noise source. (7)

2.7 LAND USE COMPATIBILITY WITH NOISE

Some land uses are more tolerant of noise than others. For example, schools, hospitals, churches and residences are more sensitive to noise intrusion than are commercial or industrial developments and related activities. As ambient noise levels affect the perceived amenity or livability of a development, so too can the mismanagement of noise impacts impair the economic health and growth potential of a community by reducing the area's desirability as a place to live, shop and work. For this reason, land use compatibility with the noise environment is an important consideration in the planning and design process. The FHWA encourages State and Local government to regulate land development in such a way that noise-sensitive land uses are either prohibited from being located adjacent to a highway, or that the developments are planned, designed, and constructed in such a way that noise impacts are minimized. (8)

2.8 COMMUNITY RESPONSE TO NOISE

Community responses to noise may range from registering a complaint by telephone or letter, to initiating court action, depending upon each individual's susceptibility to noise and personal attitudes about noise. Several factors are related to the level of community annoyance including:

- Fear associated with noise producing activities;
- Socio-economic status and educational level:
- Perception that those affected are being unfairly treated;
- Attitudes regarding the usefulness of the noise-producing activity;
- Belief that the noise source can be controlled.

Approximately ten percent of the population has a very low tolerance for noise and will object to any noise not of their making. Consequently, even in the quietest environment, some complaints will occur. Another twenty-five percent of the population will not complain even in very severe



noise environments. Thus, a variety of reactions can be expected from people exposed to any given noise environment. (9) Surveys have shown that about ten percent of the people exposed to traffic noise of 60 dBA will report being highly annoyed with the noise, and each increase of one dBA is associated with approximately two percent more people being highly annoyed. When traffic noise exceeds 60 dBA or aircraft noise exceeds 55 dBA, people may begin to complain. (9)

Despite this variability in behavior on an individual level, the population as a whole can be expected to exhibit the following responses to changes in noise levels. An increase or decrease of 1 dBA cannot be perceived except in carefully controlled laboratory experiments, a change of 3 dBA are considered *barely perceptible*, and changes of 5 dBA are considered *readily perceptible*. (7)

2.9 VIBRATION

According to the Federal Transit Administration (FTA) Transit Noise Impact and Vibration Assessment (10), vibration is the periodic oscillation of a medium or object. The rumbling sound caused by the vibration of room surfaces is called structure borne noise. Sources of ground-borne vibrations include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) or human-made causes (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous, such as factory machinery, or transient, such as explosions. As is the case with airborne sound, ground-borne vibrations may be described by amplitude and frequency. Vibration is often described in units of velocity (inches per second), and discussed in decibel (dB) units in order to compress the range of numbers required to describe vibration. Vibration impacts are generally associated with activities such as train operations, construction and heavy truck movements.

The background vibration-velocity level in residential areas is generally 50 VdB. Ground-borne vibration is normally perceptible to humans at approximately 65 VdB. For most people, a vibration-velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels. Typical outdoor sources of perceptible ground-borne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the ground-borne vibration is rarely perceptible. The range of interest is from approximately 50 VdB, which is the typical background vibration-velocity level, to 100 VdB, which is the general threshold where minor damage can occur in fragile buildings. Exhibit 2-B illustrates common vibration sources and the human and structural response to ground-borne vibration.



Bus or truck over bump

Rapid transit, typical

Bus or truck, typical

Typical background vibration

Velocity Typical Sources Level* **Human/Structural Response** (50 ft from source) 100 Threshold, minor cosmetic damage Blasting from construction projects fragile buildings Bulldozers and other heavy tracked construction equipment Difficulty with tasks such as 90 reading a VDT screen Commuter rail, upper range 80 Residential annoyance, infrequent Rapid transit, upper range events (e.g. commuter rail) Commuter rail, typical

EXHIBIT 2-B: TYPICAL LEVELS OF GROUND-BORNE VIBRATION

* RMS Vibration Velocity Level in VdB relative to 10-6 inches/second

50

60

Source: Federal Transit Administration (FTA) Transit Noise Impact and Vibration Assessment

Residential annoyance, frequent

events (e.g. rapid transit)

Limit for vibration sensitive equipment. Approx. threshold for

human perception of vibration



3 REGULATORY SETTING

To limit population exposure to physically and/or psychologically damaging as well as intrusive noise levels, the federal government, the State of California, various county governments, and most municipalities in the state have established standards and ordinances to control noise. In most areas, automobile and truck traffic is the major source of environmental noise. Traffic activity generally produces an average sound level that remains fairly constant with time. Air and rail traffic, and commercial and industrial activities are also major sources of noise in some areas. Federal, state, and local agencies regulate different aspects of environmental noise. Federal and state agencies generally set noise standards for mobile sources such as aircraft and motor vehicles, while regulation of stationary sources is left to local agencies.

3.1 STATE OF CALIFORNIA NOISE REQUIREMENTS

The State of California regulates freeway noise, sets standards for sound transmission, provides occupational noise control criteria, identifies noise standards and provides guidance for local land use compatibility. State law requires that each county and city adopt a General Plan that includes a Noise Element which is to be prepared according to guidelines adopted by the Governor's Office of Planning and Research. (11) The purpose of the Noise Element is to *limit the exposure of the community to excessive noise levels*. In addition, the California Environmental Quality Act (CEQA) requires that all known environmental effects of a project be analyzed, including environmental noise impacts.

3.2 STATE OF CALIFORNIA GREEN BUILDING STANDARDS CODE

The 2014 State of California's Green Building Standards Code contains mandatory measures for non-residential building construction in Section 5.506 on Environmental Comfort. (12) These noise standards are applied to new construction in California for the purpose of controlling interior noise levels resulting from exterior noise sources. The regulations specify that acoustical studies must be prepared when non-residential structures are developed in areas where the exterior noise levels exceed 65 dBA CNEL, such as within a noise contour of an airport, freeway, railroad, and other areas where noise contours are not readily available. If the development falls within an airport or freeway 65 dBA CNEL noise contour, the combined sound transmission class (STC) rating of the wall and roof-ceiling assemblies must be at least 50. For those developments in areas where noise contours are not readily available and the noise level exceeds 65 dBA Leq for any hour of operation, a wall and roof-ceiling combined STC rating of 45, and exterior windows with a minimum STC rating of 40 are required (Section 5.507.4.1).

3.3 CITY OF RIVERSIDE GENERAL PLAN

The City of Riverside has adopted a Noise Element of the General Plan (13) to control and abate environmental noise, and to protect the citizens of the City of Riverside from excessive exposure to noise. The Noise Element specifies the maximum allowable unmitigated exterior noise levels for new developments impacted by transportation noise sources such as arterial roads, freeways, airports and railroads. In addition, the Noise Element identifies several polices to minimize the



impacts of excessive noise levels throughout the community, and establishes noise level requirements for all land uses.

3.3.1 LAND USE COMPATIBILITY

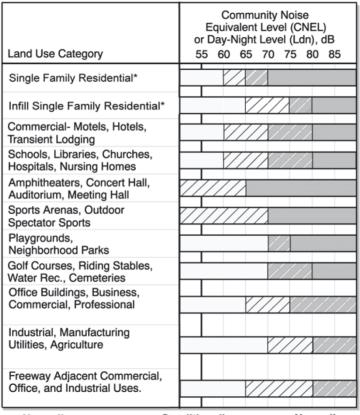
The *Noise/Land Use Noise Compatibility Criteria* (Figure N-10) in the City of Riverside General Plan Noise Element provides guidelines to evaluate the land use compatibility of transportation related noise. The compatibility criteria, shown on Exhibit 3-A, provides the City with a planning tool to gauge the compatibility of land uses relative to existing and future exterior noise levels.

The Noise/Land Use Noise Compatibility Criteria describes categories of compatibility and not specific noise standards. According to these categories of compatibility, the Canyon Springs Healthcare Campus & Senior Living hospital, senior housing, independent and assisted living, and skilled nursing facility land uses are considered normally acceptable with unmitigated exterior noise levels below 60 dBA CNEL and conditionally acceptable with noise levels below 70 dBA CNEL. Medical office building land uses within the Project site are considered normally acceptable with exterior noise levels of 65 dBA CNEL and conditionally acceptable with noise levels of 75 dBA CNEL. For conditionally acceptable land use, new construction or development should be undertaken only after a detailed analysis of noise reduction requirements is made and needed noise insulation features are included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning, will normally suffice.

Consistent with the land use compatibility guidelines, this noise study has been prepared to satisfy an exterior noise level of less than the *conditionally acceptable* 70 dBA CNEL for hospital, senior housing, independent and assisted living, and skilled nursing facility land uses and 75 dBA CNEL for medical office building land uses, and an interior noise level of less than 45 dBA CNEL. This approach is consistent with Figure N-10 of the General Plan Noise Element.



EXHIBIT 3-A: NOISE/LAND USE NOISE COMPATIBILITY CRITERIA



Nature of the noise environment where the CNEL or Ldn level is:

Below 55 dB Relatively quiet suburban or urban areas, no arterial streets within 1 block, no freeways within 1/4 mile.

55-65 dB

Most somewhat noisy urban areas, near but not directly adjacent to high volumes of traffic.

65-75 dB

Very noisy urban areas near arterials, freeways or airports.

75+ dB

Extremely noisy urban areas adjacent to freeways or under airport traffic patterns. Hearing damage with constant exposure outdoors.

Normally Acceptable

Specific land use is satifactory, based on the assumption that any building is of normal conventional construction, without any special noise insulation requirements.

Conditionally Acceptable

New construction or development should be undertaken only after a detailed analysis of noise reduction requirements is made and needed noise insulation features included in design. Conventional construction, noise insulation features but with closed windows and fresh air supply systems or air conditioning, will normally suffice.

Normally Unacceptable

New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of noise reduction requirements must be made and needed included in design.

Conditionally Unacceptable

New construction or development should generally not be undertaken, unless it can be demonstrated that noise reduction requirements can be employed to reduce noise impacts to an acceptable level. If new construction or development does proceed, a detailed analysis of noise reduction requirements must be made and needed noise insulation features included in the design.

The Community Noise Equivalent Level (CNEL) and Day-Night Noise Level (Ldn) are measures of the 24-hour noise environment. They represent the constant A-weighted noise level that would be measured if all the sound energy received over the day were averaged. In order to account for the greater sensitivity of people to noise at night, the CNEL weighting includes a 5-decibel penalty on noise between 7:00 p.m. and 10:00 p.m. and a 10-decibel penalty on noise between 10:00 p.m. and 7:00 a.m. of the next day. The Ldn includes only the 10-decibel weighting for late-night noise events. For practical purposes, the two measures are equivalent for typical urban noise environments.

* For properties located within airport influence areas, acceptable noise limits for single family residential uses are established by the Riverside County Airport Land Use Compatibility Plan.

SOURCE: STATE DEPARTMENT OF HEALTH. AS MODIFIED BY THE CITY OF RIVERSIDE



3.4 OPERATIONAL NOISE STANDARDS

To analyze noise impacts originating from a designated fixed location or private property such as the Canyon Springs Healthcare Campus & Senior Living Project, operational source noise such as the parking structure and parking lot vehicle movements, mechanical ventilation (roof-top air conditioning) units, emergency backup generators (central energy plant), emergency vehicles (ambulances), emergency helicopter activities, and other ancillary uses (e.g., on-site retail such as coffee shops, deli, lunch rooms, outdoor vendor carts, car wash services, valet parking, golf cart transport for the elderly or infirm patients, flower and gift shop, pharmacy, and medical retail (medical supplies); personal services such as barber shop, beauty salon, spa, tailor, dry cleaner, and self-service laundry; and restaurants (sit-down, quick-serve, and take-out) are typically evaluated against standards established under a City's Municipal Code.

For noise-sensitive residential properties, the City of Riverside Municipal Code, Chapter 7.25, identifies operational noise level limits for the daytime (7:00 a.m. to 10:00 p.m.) hours of 55 dBA L_{50} and 45 dBA L_{50} during the nighttime (10:00 p.m. to 7:00 a.m.) hours. These standards shall apply for a cumulative period of 30 minutes in any hour, as well as plus 5 dBA cannot be exceeded for a cumulative period of more than 15 minutes in any hour, or the standard plus 10 dBA for a cumulative period of more than 5 minutes in any hour, or the standard plus 15 dBA for a cumulative period of more than 1 minute in any hour, or the standard plus 15 dBA for any period of time. (14) Section 7.25.010 (B) states that when the ambient noise levels (shown on Table 5-1 of this report) exceed the first four noise limit categories, the noise level standard shall be adjusted in 5 dBA increments in each category as appropriate to encompass or reflect the ambient noise level. (3) The noise level limit adjustments for the City of Riverside noise standards are shown on Table 3-1 for residential uses. In addition, the base exterior noise level standards and ambient adjustments are provided on Table 3-2 for community support and office/commercial uses.

3.4.1 EMERGENCY VEHICLES

The Project includes the development of a hospital with an emergency room capability that will require the use of emergency vehicles and the noise sources associated with them (e.g. sirens, horns, helicopters). Due to the nature of emergency vehicle-related noise sources (e.g., sirens, horns), the California Vehicle Code provides an exemption for these unique noise activities. California Vehicle Code, Sections 21055 and 27007, exempt drivers of emergency vehicles and sound amplification equipment of emergency vehicles, respectively, as provided below. (2) Although the City of Riverside Municipal Code is silent regarding noise from emergency vehicles, this noise study considers the exemption found in the California Vehicle Code, Sections 21055 and 27007, for noise from emergency vehicles related to the Project.

CALIFORNIA VEHICLE CODE SECTION 21055

The driver of an authorized emergency vehicle is exempt from Chapter 2 (commencing with Section 21350), Chapter 3 (commencing with Section 21650), Chapter 4 (commencing with Section 21800), Chapter 5 (commencing with Section 21950), Chapter 6 (commencing with Section 22348), Chapter 8 (commencing with Section 22348)



22450), Chapter 9 (commencing with Section 22500), and Chapter 10 (commencing with Section 22650) of this division, and Article 3 (commencing with Section 38305) and Article 4 (commencing with Section 38312) of Chapter 5 of Division 16.5, under all of the following conditions:

- A. If the vehicle is being driven in response to an emergency call or while engaged in rescue operations or is being used in the immediate pursuit of an actual or suspected violator of the law or is responding to, but not returning from, a fire alarm, except that fire department vehicles are exempt whether directly responding to an emergency call or operated from one place to another as rendered desirable or necessary by reason of an emergency call and operated to the scene of the emergency or operated from one fire station to another or to some other location by reason of the emergency call.
- B. If the driver of the vehicle sounds a siren as may be reasonably necessary and the vehicle displays a lighted red lamp visible from the front as a warning to other drivers and pedestrians.

A siren shall not be sounded by an authorized emergency vehicle except when required under this section.

CALIFORNIA VEHICLE CODE SECTION 27007

No driver of a vehicle shall operate, or permit the operation of, any sound amplification system which can be heard outside the vehicle from 50 or more feet when the vehicle is being operated upon a highway, unless that system is being operated to request assistance or warn of a hazardous situation.

This section does not apply to authorized emergency vehicles or vehicles operated by gas, electric, communications, or water utilities. This section does not apply to the sound systems of vehicles used for advertising, or in parades, political or other special events, except that the use of sound systems on those vehicles may be prohibited by a local authority by ordinance or resolution.

3.4.2 HELICOPTERS

Helicopter activities at the Project site are anticipated to occur under both typical and trauma operational conditions. The expected typical helicopter activities at the Project site will likely consist of scheduled transport of patients which are anticipated to occur once during peak hour operating conditions (this analysis assumes one helicopter to and from the Project site once per day for purposes of a worst-case analysis). The trauma helicopter activities would consist of non-scheduled, single events which do not represent typical activity conditions of the Project hospital. Each type of helicopter transport will require different helicopter models, as discussed in Section 10 of the report, based on conversations with the helipad consultant (Heliplanners) for the Project. (15) At the time this analysis was prepared, the exact model type and specifications of the helicopters to be used at the hospital helipad operations were unknown. Based on information provided by Heliplanners, a H145 Airbus helicopter represents the worst-case condition for typical hospital helicopter activities, and a Blackhawk helicopter represents the worst-case condition for trauma activities.



TABLE 3-1: RESIDENTIAL OPERATIONAL NOISE STANDARDS

			Exterio	or Noise Leve	el Standards	(dBA) ²
Time Period	Condition	Municipal Code Section ¹	L ₅₀ (30 mins)	L ₂₅ (15 mins)	L ₈ (5 mins)	L ₂ (1 min)
	Base Exterior Residential Noise Level Standards	7.25.010 (A)	55	60	65	70
Daytime	Lowest Measured Ambient Noise Levels ³	n/a	48.5	51.3	55.2	58.9
Dayt	Ambient Exceedance Adjustment ⁴	7.25.010 (B)	0	0	0	0
	Project Daytime Exterior Noise Level Criteria ⁵	7.25.010 (B)	55	60	65	70
	Base Exterior Residential Noise Level Standards	7.25.010 (A)	45	50	55	60
Nighttime	Lowest Measured Ambient Noise Levels ³	n/a	46.7	48.0	50.2	54.0
Night	Ambient Exceedance Adjustment ⁴	7.25.010 (B)	+5	0	0	0
	Project Nighttime Exterior Noise Level Criteria ⁵	7.25.010 (B)	50	50	55	60

¹ Source: City of Riverside Municipal Code, Chapter 7.25 (Appendix 3.1).



 $^{^{2}}$ The percent noise level is the level exceeded "n" percent of the time during the measurement period. L_{25} is the noise level exceeded 25% of the time.

³ Lowest ambient noise levels collected in the City of Riverside at measurement location L7, shown on Exhibit 5-A. See Table 5-1 and Appendix 5-2.

⁴ Section 7.25.010(B): "If the measured ambient noise level exceeds that permissible within any of the first four noise limit categories, the allowable noise exposure standard shall be increased in five decibel increments in each category as appropriate to encompass the ambient noise level."

 $^{^{\}rm 5}$ Combined base noise level standards and adjustments per the City of Riverside Municipal Code.

[&]quot;Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

TABLE 3-2: NON-RESIDENTIAL OPERATIONAL NOISE STANDARDS

			Exterior Noise Level Standards (dBA) ²				
Time Period	Condition	Municipal Code Section ¹	L ₅₀ (30 mins)	L ₂₅ (15 mins)	L ₈ (5 mins)	L ₂ (1 min)	
-t)	Base Exterior Noise Level Standards	7.25.010 (A)	60	65	70	75	
Anytime (Community Support)	Community Support Measured Ambient Noise Levels (L3) ³	n/a	49.5	50.6	51.9	54.4	
Any	Ambient Exceedance Adjustment ⁴	7.25.010 (B)	0	0	0	0	
))	Project Exterior Noise Level Criteria ⁵	7.25.010 (B)	60	65	70	75	
(1	Base Exterior Noise Level Standards	7.25.010 (A)	60	65	70	75	
Anytime (Office/Commercial)	Office/Commercial Measured Ambient Noise Levels (L7) ³	n/a	46.7	48.0	50.2	54.0	
An) Office/Co	Ambient Exceedance Adjustment ⁴	7.25.010 (B)	0	0	0	0	
	Project Exterior Noise Level Criteria ⁵ City of Riverside Municipal Code. Chapte	7.25.010 (B)	60	65	70	75	

¹ Source: City of Riverside Municipal Code, Chapter 7.25 (Appendix 3.1).

3.5 Construction Noise Standards

To analyze noise impacts originating from the construction of the Canyon Springs Healthcare Campus & Senior Living Project, noise from construction activities are typically evaluated against standards established under a City's Municipal Code. The Municipal Code noise standards for construction are described below for the City of Riverside to determine the potential noise impacts at receiver locations within each jurisdiction. The construction-related noise standards are summarized below.



² The percent noise level is the level exceeded "n" percent of the time during the measurement period. L₂₅ is the noise level exceeded 25% of the time.

³ Lowest ambient noise levels collected in the City of Riverside at the given land use, shown on Exhibit 5-A. See Table 5-1 and Appendix 5-2

⁴ Section 7.25.010(B): "If the measured ambient noise level exceeds that permissible within any of the first four noise limit categories, the allowable noise exposure standard shall be increased in five decibel increments in each category as appropriate to encompass the ambient noise level."

⁵ Combined base noise level standards and adjustments per the City of Riverside Municipal Code.

Pursuant to Section 7.35.020 "Exemptions" subsection (G) "Noise sources associated with construction, repair, remodeling, or grading of any real property; provided a permit has been obtained from the City as required; and provided said activities do not take place between the hours of 7:00 p.m. and 7:00 a.m. on weekdays, between the hours of 5:00 p.m. and 8:00 a.m. on Saturdays, or at any time on Sunday or a federal holiday. Therefore, construction noise associated with the proposed Project is exempt from the City's Noise Ordinance. (3) This approach is consistent with direction from the City of Riverside Planning Department. The City of Riverside Municipal Code construction noise standards are included in Appendix 3.1.

3.6 Construction Vibration Standards

The City of Riverside Municipal Code does not identify specific vibration standards for construction. Therefore, the construction-related vibration standards provided by the United States Department of Transportation Federal Transit Administration (FTA) are used in this analysis to assess the potential vibration impacts due to Project construction.

3.6.1 FTA VIBRATION STANDARDS

The United States Department of Transportation Federal Transit Administration (FTA) identifies guidelines (10) for maximum-acceptable vibration criteria for different types of land uses. These guidelines allow 80 VdB for residential uses and buildings where people normally sleep.

Construction activity can result in varying degrees of ground-borne vibration, depending on the equipment and methods used, distance to the affected structures and soil type. Construction vibration is generally associated with pile driving and rock blasting. Other construction equipment such as air compressors, light trucks, hydraulic loaders, etc., generates little or no ground vibration. Occasionally large bulldozers and loaded trucks can cause perceptible vibration levels at close proximity. While not enforceable regulations within the City of Riverside the FTA guidelines of 80 VdB for sensitive land uses provide the basis for determining the relative significance of potential Project related vibration impacts.

3.6.2 HUMAN PERCEPTION OF VIBRATION

Typically, the human response at the perception threshold for vibration includes annoyance in residential areas, previously shown on Exhibit 2-B when vibration levels, expressed in vibration decibels (VdB), approach 75 VdB. As discussed in Section 2.9, ground-borne vibration is normally perceptible to humans at approximately 65 VdB and, for most people, a vibration-velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels. For this analysis, the FTA-provided 80 VdB vibration standard represents residential annoyance as perceived by the nearby sensitive receivers in the Project study area.

3.7 FEDERAL AVIATION ADMINISTRATION

The Federal Aviation Administration (FAA) is responsible for the safety and regulation of civil aviation, and oversees the approval of the aviation permitting process and air traffic control. Operation of the Project includes a proposed helipad and emergency helicopter traffic which has the potential to impact nearby sensitive receiver locations during take offs and landings. This



noise study briefly describes the operational noise levels associated with helicopter activity at the Project site, however, it is not intended to fully satisfy the noise compatibility study requirements of the FAA, Riverside County Airport Land Use Commission, March Air Reserve Base/Inland Port Airport Land Use Compatibility Plan, State of California Heliport Permitting process, and City of Riverside Permitting Process.

3.8 March Air Reserve Base/Inland Port Airport Land Use Compatibility

The Project site is located approximately 1.6 miles north of the March Air Reserve Base (MARB) and is located within the MARB land use compatibility plan area. The Project site is located within the Zone D *Flight Corridor Buffer* as shown in the March ARB/Inland Port Airport Land Use Compatibility Plan, Exhibit MA-4. (16) Consistent with the findings of the *Initial Study for the Proposed Canyon Springs Healthcare Campus Project*, the Project site is not located within the community noise equivalent level (CNEL) noise impact area of the March ARB/Inland Port Airport Land Use Compatibility Plan. (17) As such, impacts would be *less than significant*, and therefore, aircraft noise levels are not further analyzed in this noise study.



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4 SIGNIFICANCE CRITERIA

The following significance criteria are based on guidance provided by Appendix G of the California Environmental Quality Act (CEQA) Guidelines. For the purposes of this report, impacts would be potentially significant if the Project is determined to result in or cause:

- A. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- B. Exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels.
- C. A substantial permanent increase in ambient noise levels in the Project vicinity above existing levels without the proposed Project; or
- D. A substantial temporary or periodic increase in ambient noise levels in the Project vicinity above noise levels existing without the proposed Project.
- E. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, expose people residing or working in the Project area to excessive noise levels.
- F. For a project within the vicinity of a private airstrip, expose people residing or working in the Project area to excessive noise levels.

While the CEQA Guidelines, General Plans, and Municipal Codes provide direction on noise compatibility and establish noise standards by land use type that are sufficient to assess the significance of noise impacts under CEQA Guideline A, they do not define the levels at which increases are considered substantial for use under Guidelines B, C, and D. The thresholds used for Guidelines B, C, and D are provided by General Plans and Municipal Codes of each jurisdiction, respectively, as outlined below. CEQA Guidelines E and F apply to nearby public and private airports, if any, and the Project's land use compatibility. The Project site is located approximately 1.6 miles north of the March Air Reserve Base (MARB) and is located within the MARB land use compatibility plan area. The Project site is located within the Zone D *Flight Corridor Buffer* as shown in the March ARB/Inland Port Airport Land Use Compatibility Plan, Exhibit MA-4. (16) Consistent with the findings of the *Initial Study for the Proposed Canyon Springs Healthcare Campus Project*, the Project site is not located within the community noise equivalent level (CNEL) noise impact area of the March ARB/Inland Port Airport Land Use Compatibility Plan. (17) As such, impacts would be *less than significant*, and therefore, aircraft noise levels are not further analyzed in this noise study.

Unfortunately, there is no completely satisfactory way to measure the subjective effects of noise or of the corresponding human reactions of annoyance and dissatisfaction. This is primarily because of the wide variation in individual thresholds of annoyance and differing individual experiences with noise. Thus, an important way of determining a person's subjective reaction to a new noise is the comparison of it to the existing environment to which one has adapted—the so-called *ambient* environment



In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will typically be judged. With this in mind, the Federal Interagency Committee on Noise (FICON) (18) developed guidance to be used for the assessment of project-generated increases in noise levels that take into account the ambient noise level. The FICON recommendations are based on studies that relate aircraft noise levels to the percentage of persons highly annoyed by aircraft noise. Although the FICON recommendations were specifically developed to assess aircraft noise impacts, these recommendations are often used in environmental noise impact assessments involving the use of cumulative noise exposure metrics, such as the average-daily noise level (i.e., CNEL).

For example, if the ambient noise environment is quiet (<60 dBA) and the new noise source greatly increases the noise levels, an impact may occur even though the noise criteria might not be exceeded. Therefore, for the purpose of this analysis, a *readily perceptible* 5 dBA or greater project related noise level increase is considered a significant impact when nearby noise-sensitive receivers are affected. According to the FICON, in areas where the without project noise levels range from 60 to 65 dBA a 3 dBA *barely perceptible* noise level increase appears to be appropriate for most people. When the without project noise levels already exceed 65 dBA, any increase in community noise louder than 1.5 dBA or greater is considered a significant impact if noise-sensitive receivers are affected, since it likely contributes to an existing noise exposure exceedance. Table 4.1 below provides a summary of the potential noise impact significance criteria, based on guidance from FICON.

TABLE 4-1: SIGNIFICANCE OF NOISE IMPACTS

Without Project Noise Level (CNEL)	Potential Significant Impact
< 60 dBA	5 dBA or more
60 - 65 dBA	3 dBA or more
> 65 dBA	1.5 dBA or more

Federal Interagency Committee on Noise (FICON), 1992

Based on the significance of noise impacts outlined on Table 4-1, noise impacts shall be considered significant if any of the following occur as a direct result of the proposed development:

- If the off-site traffic noise levels at nearby noise-sensitive receivers adjacent to roadways conveying Project traffic:
 - o are less than 60 dBA CNEL and the Project creates a *readily perceptible* 5 dBA CNEL or greater Project related noise level increase; or
 - range from 60 to 65 dBA CNEL and the Project creates a barely perceptible 3 dBA CNEL or greater Project noise level increase; or
 - o already exceed 65 dBA CNEL, and the Project creates a community noise level impact of greater than 1.5 dBA CNEL.
- If the on-site exterior noise levels exceed 70 dBA CNEL at the community support land uses within the Project site, and 75 dBA CNEL at the office building land uses. Interior noise levels shall not



exceed 45 dBA CNEL at any land uses located within the Project site (City of Riverside General Plan Noise Element, Figure N-10).

- If Project-related operational (stationary source) noise levels exceed:
 - o the adjusted residential exterior 55 dBA L₅₀ daytime or 50 dBA L₅₀ nighttime noise level standards based on the measured ambient noise levels at nearby sensitive residential land uses. These standards shall not be exceeded for a cumulative period of 30 minutes (L₅₀), or cannot exceed 60 dBA (daytime) or 50 dBA (nighttime) for a cumulative period of more than 15 minutes (L₂₅) in any hour, or 65 dBA (daytime) or 55 dBA (nighttime) for a cumulative period of more than 5 minutes (L₈) in any hour, or 70 dBA (daytime) or 60 dBA (nighttime) for a cumulative period of more than 1 minute (L₂) in any hour (See Table 3-1 of this report for the City of Riverside Municipal Code, Section 7.25.010(A) & (B) noise standards); or
 - o the adjusted community support exterior 60 dBA L_{50} anytime noise level standards based on the measured ambient noise levels at nearby sensitive residential land uses. These standards shall not be exceeded for a cumulative period of 30 minutes (L_{50}), or cannot exceed 65 dBA for a cumulative period of more than 15 minutes (L_{25}) in any hour, or 70 dBA for a cumulative period of more than 5 minutes (L_{8}) in any hour, or 75 dBA for a cumulative period of more than 1 minute (L_{2}) in any hour (See Table 3-2 of this report for the City of Riverside Municipal Code, Section 7.25.010(A) & (B) noise standards).
- If Project-related construction activities occur anytime other than between the permitted hours of 7:00 a.m. to 7:00 p.m. on weekdays, or 8:00 a.m. to 5:00 p.m. on Saturdays, with no work allowed on Sundays or federal holidays (City of Riverside Municipal Code Section 7.35.010 (B) (5)).
- If short-term project generated construction source vibration levels could exceed the FTA maximum acceptable vibration standard of 80 vibration decibels (VdB) at noise-sensitive receiver locations.



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5 EXISTING NOISE LEVEL MEASUREMENTS

To assess the existing noise level environment, nine 24-hour noise level measurements were taken at sensitive receiver locations in the Project study area. The receiver locations were selected to describe and document the existing noise environment within the Project study area. Exhibit 5-A provides the boundaries of the Project study area and the noise level measurement locations. To fully describe the existing noise conditions, noise level measurements were collected by Urban Crossroads, Inc. from Thursday, January 22nd to Friday, January 23rd, 2014. Appendix 5.1 includes study area photos.

5.1 Measurement Procedure and Criteria

To describe the existing noise environment, the hourly noise levels were measured during typical weekday conditions over a 24-hour period. By collecting individual hourly noise level measurements, it is possible to describe the daytime and nighttime hourly noise levels and calculate the 24-hour CNEL. The long-term noise readings were recorded using Piccolo Type 2 integrating sound level meter and dataloggers. The Piccolo sound level meters were calibrated using a Larson-Davis calibrator, Model CAL 150. All noise meters were programmed in "slow" mode to record noise levels in "A" weighted form. The sound level meters and microphones were equipped with a windscreen during all measurements. All noise level measurement equipment satisfies the American National Standards Institute (ANSI) standard specifications for sound level meters ANSI S1.4-2014/IEC 61672-1:2013. (19)

5.2 Noise Measurement Locations

The long-term noise level measurements were positioned at the nearest sensitive receiver locations to assess the existing ambient hourly noise levels surrounding the Project site. To describe the existing noise environment, it is not necessary to collect measurements at each individual building or residence, because each receiver measurement represents a group of buildings that share acoustical equivalence. In other words, the area represented by the receiver shares similar shielding, terrain, and geometric relationship to the reference noise source. Receivers represent a location of noise sensitive areas and are used to estimate the future noise level impacts. Collecting reference ambient noise level measurements at the nearby sensitive receiver locations allows for a comparison of the before and after Project noise levels and is necessary to assess potential cumulative noise impacts.

5.3 Noise Measurement Results

To describe the existing ambient noise environment, the noise measurements presented below focus on the average or equivalent sound levels (Leq). The equivalent sound level (Leq) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period. Table 5-1 identifies the hourly daytime (7:00 a.m. to 10:00 p.m. in the City of Riverside) and nighttime (10:00 p.m. to 7:00 a.m. in the City of Riverside) noise levels at each noise level measurement location. The median noise levels are provided on Table 5-1



consistent with the City of Riverside Municipal Code stationary noise level standards. Appendix 5.2 provides a summary of the existing hourly ambient noise levels described below:



EXHIBIT 5-A: NOISE MEASUREMENT LOCATIONS



Noise Measurement Locations

- Located approximately 212 feet south of the planned Canyon Springs Healthcare Campus & Senior Living site, location L1 represents the off-site exterior noise levels south of Eucalyptus Avenue from Edgemont Elementary School. Based on the noise level measurements, the existing daytime hourly ambient noise levels ranged from 65.8 to 72.4 dBA Leq resulting in an energy (logarithmic) average daytime noise level of 69.4 dBA Leq. During the nighttime hours, the measured ambient noise levels ranged from 60.7 to 69.9 dBA Leq producing an energy (logarithmic) average nighttime noise level of 66.4 dBA Leq. A review of the 24-hour Community Noise Equivalent Level (CNEL) indicates that the overall exterior noise level is 73.5 dBA CNEL.
- Location L2 represents the noise levels at the existing single-family residential homes along Eucalyptus Avenue adjacent to the southern Project site. The noise level measurements collected show an overall 24-hour exterior noise level of 60.0 dBA CNEL. The hourly noise levels measured at location L2 ranged from 49.8 to 54.2 dBA Leq during the daytime hours and from 49.2 to 57.3 dBA Leq during the nighttime hours. The energy (logarithmic) average daytime noise level was calculated at 52.0 dBA Leq with an average nighttime noise level of 53.7 dBA Leq.
- Location L3 represents the noise levels at the northern property line of Edgemont Elementary School. The 24-hour CNEL indicates that the overall exterior noise level is 61.8 dBA CNEL. At location L3 the background ambient noise levels ranged from 46.0 to 53.3 dBA Leq during the daytime hours to levels of 50.9 to 59.4 dBA Leq during the nighttime hours. The energy (logarithmic) average daytime noise level was calculated at 50.7 dBA Leq with an average nighttime noise level of 55.9 dBA Leq.
- Located at the southeast corner of Valley Springs Parkway and Corporate Centre Place, location L4 represents the noise levels at the future location of the parking lot for the senior housing residences within the Project site. A Walmart shopping center with two loading docks is located north of this location across Corporate Centre Place. The noise level measurements collected show an overall 24-hour exterior noise level of 62.9 dBA CNEL. The hourly noise levels measured at location L4 ranged from 53.2 to 61.0 dBA Leq during the daytime hours and from 51.8 to 59.2 dBA Leq during the nighttime hours. The energy (logarithmic) average daytime noise level was calculated at 58.2 dBA Leq with an average nighttime noise level of 55.8 dBA Leq.
- Located approximately 225 feet north of the planned senior housing development within the Canyon Springs Healthcare Campus & Senior Living site, location L5 represents the off-site exterior noise levels at the southern corner of Corporate Centre Place and Campus Parkway. A Walmart shopping center with two loading docks is located west of this location across Corporate Centre Place and a Target with one loading dock area and trash compactor is located to the east. Based on the noise level measurements, the existing daytime hourly ambient noise levels ranged from 56.9 to 61.5 dBA Leq resulting in an energy (logarithmic) average daytime noise level of 59.6 dBA Leq. During the nighttime hours, the measured ambient noise levels ranged from 51.5 to 60.2 dBA Leq producing an energy (logarithmic) average nighttime noise level of 55.9 dBA Leq. A review of the 24-hour CNEL indicates that the overall exterior noise level is 63.4 dBA CNEL.
- Location L6 represents the noise levels at the property line between the proposed senior housing development (north) and the existing County of Riverside County Clerk's office building (south). The noise level measurements collected show an overall 24-hour exterior noise level of 63.7 dBA CNEL. The hourly noise levels measured at location L6 ranged from 51.9 to 57.2 dBA Leq during the daytime hours and from 54.8 to 61.2 dBA Leq during the nighttime hours. The energy (logarithmic) average daytime noise level was calculated at 54.5 dBA Leq with an average nighttime noise level of 57.5 dBA Leq.



- Location L7 represents the existing noise levels along Canyon Park Drive at the future location of the independent living facility within the Project site. The 24-hour CNEL indicates that the overall exterior noise level is 56.2 dBA CNEL. At location L7 the background ambient noise levels ranged from 48.8 to 54.5 dBA Leq during the daytime hours to levels of 46.0 to 50.1 dBA Leq during the nighttime hours. The energy (logarithmic) average daytime noise level was calculated at 52.0 dBA Leq with an average nighttime noise level of 48.4 dBA Leq.
- Located north of Gateway Drive, location L8 represents the existing noise levels at the future location of the assisted living building within the Project site. The noise level measurements collected show an overall 24-hour exterior noise level of 65.7 dBA CNEL. The hourly noise levels measured at location L8 ranged from 59.3 to 66.3 dBA Leq during the daytime hours and from 51.3 to 60.9 dBA Leq during the nighttime hours. The energy (logarithmic) average daytime noise level was calculated at 63.5 dBA Leq with an average nighttime noise level of 57.2 dBA Leq.
- Location L9 represents the existing noise levels east of the proposed skilled nursing facility at the
 northwestern corner of Day Street and Gateway Drive within the Project site. Existing drive-thru
 speakerphones are located east of this location across Day Street at a Panda Express, Baker's
 Drive-Thru, and Portillo's Hot Dogs. The 24-hour CNEL indicates that the overall exterior noise
 level is 66.3 dBA CNEL. At location L9 the background ambient noise levels ranged from 60.8 to
 65.0 dBA Leq during the daytime hours to levels of 52.0 to 63.5 dBA Leq during the nighttime
 hours. The energy (logarithmic) average daytime noise level was calculated at 63.5 dBA Leq with
 an average nighttime noise level of 58.2 dBA Leq.

Table 5-1 provides the (energy average) noise levels used to describe the daytime and nighttime ambient conditions. These daytime and nighttime energy average noise levels represent the average of all hourly noise levels observed during these time periods expressed as a single number. Appendix 5.2 provides a summary of the hourly noise levels for each hour as well as the minimum and maximum noise level observed during the daytime and nighttime period.

The background ambient noise levels in the Project study area are dominated by the transportation-related noise associated with the arterial roadway network. This includes the auto and heavy truck activities on the I-215 Freeway, the SR-60 Freeway, Valley Springs Parkway, Day Street, Eucalyptus Avenue, and Gateway Drive near the noise level measurement locations. Secondary background ambient noise is also included in the noise level measurements from existing stationary noise sources such as commercial loading docks and drive-thru speakerphones in the Project study area, however, these impacts are generally overshadowed by the nearby vehicular traffic noise levels. The 24-hour existing noise level measurements shown on Table 5-1 present the existing ambient noise conditions.



TABLE 5-1: 24-HOUR AMBIENT NOISE LEVEL MEASUREMENTS

	Distance		Hourly No	Hourly Noise Level	Median Noise Level	laya I asic	
Location ¹	from	Description	(dBA	(dBA Leq) ²	(dBA L ₅₀) ²	L ₅₀) ²	CNEL
	(Feet)		Daytime ³	Nighttime ⁴	Daytime ³	Nighttime ⁴	
11	212'	Located south of Edgemont Elementary School across Eucalyptus Avenue in a vacant lot.	b.9 ₆	66.4	65.7	61.9	73.5
L2	,0	Located adjacent to existing single-family residential homes along the southern boundary of the proposed medical office buildings 3 and 4.	52.0	53.7	49.6	52.7	0.09
F7	,0	Located at the northern property line of the Edgemont Elementary School, east of the proposed hospital.	20.7	55.9	49.5	55.1	61.8
L4	,0	Located at the southeast corner of Valley Springs Parkway and Corporate Centre Place at the future location of the parking lot.	58.2	55.8	53.5	53.8	62.9
57	225'	Located north of the future senior housing development at the southern corner of Corporate Centre Place and Campus Parkway.	9'69	55.9	55.0	51.5	63.4
97	,0	Located at the northern property line of the County of Riverside County Clerk's office building.	54.5	57.5	53.8	56.0	63.7
71	,0	Located along Canyon Park Drive at the future location of the independent living facility within the Project site.	52.0	48.4	48.5	46.7	56.2
87	,0	Located north of Gateway Drive at the future location of the assisted living building within the Project site.	63.5	57.2	55.4	50.8	65.7
67	,0	Located at the northwestern corner of Day Street and Gateway Drive within the Project site, east of the proposed skilled nursing facility.	63.5	58.2	58.8	54.2	66.3
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¹ See Exhibit 5-A for the location of the noise level measurement locations.



08991-37 Noise Study

² The long-term 24-hour measurement printouts are included in Appendix 5.2.
³ "Daytime" for measurements taken in the City of Riverside represents 7:00 a.m. to 10:00 p.m. per the Municipal Code.
⁴ "Nighttime" for measurements taken in the City of Riverside represents 10:00 p.m. to 7:00 a.m. per the Municipal Code.

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6 METHODS AND PROCEDURES

The following section outlines the methods and procedures used to model and analyze the future traffic noise environment.

6.1 FHWA Traffic Noise Prediction Model

The estimated roadway noise impacts from vehicular traffic were calculated using a computer program that replicates the Federal Highway Administration (FHWA) Traffic Noise Prediction Model- FHWA-RD-77-108. (20) The FHWA Model arrives at a predicted noise level through a series of adjustments to the Reference Energy Mean Emission Level (REMEL). In California the national REMELs are substituted with the California Vehicle Noise (Calveno) Emission Levels. (21) Adjustments are then made to the REMEL to account for: the roadway classification (e.g., collector, secondary, major or arterial), the roadway active width (i.e., the distance between the center of the outermost travel lanes on each side of the roadway), the total average daily traffic (ADT), the travel speed, the percentages of automobiles, medium trucks, and heavy trucks in the traffic volume, the roadway grade, the angle of view (e.g., whether the roadway view is blocked), the site conditions ("hard" or "soft" relates to the absorption of the ground, pavement, or landscaping), and the percentage of total ADT which flows each hour throughout a 24-hour period.

6.2 OFF-SITE TRAFFIC NOISE PREDICTION MODEL INPUTS

Table 6-1 presents the roadway parameters used to assess the Project's off-site transportation noise impacts. Table 6-1 identifies the 24 study area roadway segments, the distance from the centerline to adjacent land use based on the functional roadway classifications according to the City of Riverside General Plan Circulation Element, and the vehicle speeds. For the purpose of the off-site analysis, soft site conditions were used to analyze the traffic noise impacts for the Project study area. Soft site conditions account for the sound propagation loss over natural surfaces such as normal earth and ground vegetation.

The Existing, Year 2016, and General Plan (GP) Buildout average daily traffic volumes used for this study, presented in Table 6-2, were obtained from the *Canyon Springs Healthcare Campus & Senior Living Traffic Impact Analysis*, prepared by Urban Crossroads, Inc. (1) Table 6-3 presents the time of day vehicle splits and Table 6-4 presents the traffic flow distributions (vehicle mix) used for this analysis. The vehicle mix provides the hourly distribution percentages of automobile, medium trucks and heavy trucks for input into the FHWA noise prediction model.



TABLE 6-1: OFF-SITE ROADWAY PARAMETERS

ID	Roadway	Segment	Distance from Centerline to Nearest Adjacent Land Use (Feet) ²	Vehicle Speed (MPH)	
1	Sycamore Canyon Bl.	n/o Eastridge Av.	Business/Office Park	55'	45
2	Sycamore Canyon Bl.	s/o Eastridge Av.	Business/Office Park	55'	45
3	Box Springs Bl.	n/o Eastridge Av.	Business/Office Park	44'	40
4	Box Springs Bl.	s/o Eastridge Av.	Business/Office Park	44'	40
5	Day St.	n/o SR-60 Fwy	Commercial	60'	40
6	Day St.	n/o Canyon Springs Pkwy.	Commercial	60'	40
7	Day St.	s/o Canyon Springs Pkwy.	Commercial	60'	40
8	Day St.	s/o Campus Pkwy.	Commercial	60'	40
9	Day St.	s/o Gateway Dr.	Commercial	60'	40
10	Day St.	n/o Eucalyptus Av.	Commercial	60'	40
11	Day St.	s/o Eucalyptus Av.	Residential	55'	35
12	Day St.	s/o Cottonwood Av.	Residential/Office	44'	35
13	Day St.	s/o Bay Av.	Residential/Office	44'	35
14	Day St.	s/o Alessandro Bl.	Commercial	44'	35
15	Eucalyptus Av.	s/o Towngate Dr.	Residential	50'	40
16	Eastridge Av.	w/o Sycamore Canyon Bl.	Business/Office Park	60'	40
17	Eastridge Av.	e/o Sycamore Canyon Bl.	Business/Office Park	60'	40
18	Eastridge Av.	e/o Box Springs Bl.	Business/Office Park	60'	40
19	Eucalyptus Av.	w/o Valley Springs Pkwy.	Commercial	60'	40
20	Eucalyptus Av.	e/o Valley Springs Pkwy.	Residential/Office	60'	40
21	Eucalyptus Av.	e/o Day St.	Residential	67'	40
22	Towngate Dr.	e/o Eucalyptus Av.	Residential	67'	40
23	Alessandro Bl.	w/o Day St.	Commercial	67'	45
24	Alessandro Bl.	e/o Day St.	Residential	67'	45



¹ Source: City of Riverside General Plan Land Use/Urban Design Element, Figure LU-10 Land Use Policy Map.
² Distance to adjacent land use is based upon the right-of-way distances for each functional roadway classification provided in the General Plan Circulation Elements.

TABLE 6-2: AVERAGE DAILY TRAFFIC VOLUMES

				Avera	age Daily T	raffic (1,0	00's) ¹		
ID	Doodway	Cogmont	Exis	ting	Year	2016	GP Bu	ildout	
טו	Roadway	Segment	No Project	With Project	No Project				
1	Sycamore Canyon Bl.	n/o Eastridge Av.	13.2	13.8	20.6	21.2	21.7	22.3	
2	Sycamore Canyon Bl.	s/o Eastridge Av.	14.1	14.2	21.0	21.2	22.1	22.2	
3	Box Springs Bl.	n/o Eastridge Av.	2.5	2.7	7.7	7.9	8.1	8.3	
4	Box Springs Bl.	s/o Eastridge Av.	1.0	1.2	3.1	3.3	3.3	3.4	
5	Day St.	n/o SR-60 Fwy	28.2	30.9	31.4	34.1	33.1	35.8	
6	Day St.	n/o Canyon Springs Pkwy.	39.2	44.3	44.1	49.2	46.6	51.7	
7	Day St.	s/o Canyon Springs Pkwy.	24.2	29.2	27.8	32.9	29.5	34.5	
8	Day St.	s/o Campus Pkwy.	22.0	26.9	25.3	30.3	26.9	31.8	
9	Day St.	s/o Gateway Dr.	16.8	19.1	19.9	22.2	21.0	23.4	
10	Day St.	n/o Eucalyptus Av.	16.8	19.4	19.9	22.5	21.0	23.7	
11	Day St.	s/o Eucalyptus Av.	11.8	13.2	19.6	21.1	21.0	22.4	
12	Day St.	s/o Cottonwood Av.	7.1	8.2	15.7	16.8	17.5	18.6	
13	Day St.	s/o Bay Av.	6.7	7.5	15.3	16.1	17.8	18.6	
14	Day St.	s/o Alessandro Bl.	0.7	0.9	12.0	12.2	12.6	12.8	
15	Eucalyptus Av.	s/o Towngate Dr.	11.4	12.0	16.9	17.8	17.8	18.4	
16	Eastridge Av.	w/o Sycamore Canyon Bl.	8.6	8.8	29.1	29.3	31.6	31.8	
17	Eastridge Av.	e/o Sycamore Canyon Bl.	16.0	16.9	27.7	28.6	29.2	30.1	
18	Eastridge Av.	e/o Box Springs Bl.	19.4	20.7	34.4	35.7	36.2	37.5	
19	Eucalyptus Av.	w/o Valley Springs Pkwy.	30.5	38.7	45.8	54.0	48.5	56.7	
20	Eucalyptus Av.	e/o Valley Springs Pkwy.	17.1	19.2	28.5	30.6	30.1	32.1	
21	Eucalyptus Av.	e/o Day St.	13.9	15.0	29.7	31.3	31.3	32.4	
22	Towngate Dr.	e/o Eucalyptus Av.	7.9	8.5	13.4	14.8	14.8	15.4	
23	Alessandro Bl.	w/o Day St.	26.7	26.9	41.1	41.3	49.7	49.9	
24	Alessandro Bl.	e/o Day St.	27.7	28.0	40.7	41.1	42.8	43.1	

¹ Source: Canyon Springs Healthcare Campus & Senior Living Traffic Impact Analysis, Urban Crossroads, Inc., January 2015. "GP Buildout" = General Plan Buildout volumes.



TABLE 6-3: TIME OF DAY VEHICLE SPLITS

	Vehicle Type					
Time Period	Autos	Medium Trucks	Heavy Trucks			
Daytime (7am-7pm)	77.5%	84.8%	86.5%			
Evening (7pm-10pm)	12.9%	4.9%	2.7%			
Nighttime (10pm-7am)	9.6%	10.3%	10.8%			
Total:	100.0%	100.0%	100.0%			

Source: County of Riverside Office of Industrial Hygiene Time of Day Vehicle Splits.

TABLE 6-4: OFF-SITE DISTRIBUTION OF TRAFFIC FLOW BY VEHICLE TYPE (VEHICLE MIX)

Roadway Classification	To	otal % Traffic Flo	W	
	Autos	Medium Trucks	Heavy Trucks	Total
All Segments	97.42%	1.84%	0.74%	100.00%

Source: County of Riverside Office of Industrial Hygiene.

6.3 On-Site Traffic Noise Prediction Model Inputs

The on-site roadway parameters including the average daily traffic (ADT) volumes used for this study are presented on Table 6-5. Based on the City of Riverside General Plan Circulation Element, Figure CCM-2, Valley Springs Parkway, Day Street, and Eucalyptus Avenue are classified as 120-foot Arterials, and Gateway Drive is classified as a 100-foot Arterial. To predict the future on-site noise environment at the Project site, the number of lanes and the General Plan with Project condition traffic volumes were obtained from the *Canyon Springs Healthcare Campus & Senior Living Traffic Impact Analysis*. (1) The I-215 and SR-60 Freeway volumes were obtained using a ten-percent growth factor above the existing conditions provided by the Caltrans Traffic Data Branch *2013 Annual Average Daily Truck Traffic on the California Highways System*. (22) The traffic volumes shown on Table 6-5 reflect future long-range traffic conditions needed to assess the future on-site traffic noise environment and to identify the appropriate Project Design Features that address the worst-case future conditions. For the purposes of this analysis, soft site conditions were used to analyze the on-site traffic noise impacts for the Project study area. Soft site conditions account for the sound propagation loss over natural surfaces such as normal earth and ground vegetation.



TABLE 6-5: ON-SITE ROADWAY PARAMETERS

Roadway	Lanes	Classification ¹	Traffic Volume ²	Speed Limits (mph) ³	Site Conditions
I-215 Fwy	8	Freeway	130,900	65	Soft
SR-60 Fwy	9	Freeway	147,400	65	Soft
Valley Springs Pkwy.	5	Arterial (120')	31,200	40	Soft
Day St.	5	Arterial (120')	23,700	40	Soft
Eucalyptus Av.	4	Arterial (120')	32,100	40	Soft
Gateway Dr.	4	Arterial (100')	12,300	40	Soft

¹ Road classifications based upon the City of Riverside General Plan Circulation Element, Figure CCM-2.

Table 6-3 presents the time of day vehicle splits by vehicle type, and Table 6-6 presents the total traffic flow distributions (vehicle mixes) used for this analysis. The vehicle mix provides the hourly distribution percentages of automobile, medium trucks and heavy trucks for input into the FHWA Model based on roadway types. The vehicle mix for the I-215 and SR-60 Freeways was obtained from the *2013 Annual Average Daily Truck Traffic on the California Highways System*, published by Caltrans. (22)

TABLE 6-6: ON-SITE DISTRIBUTION OF TRAFFIC FLOW BY VEHICLE TYPE (VEHICLE MIX)

Roadway		To	otal % Traffic Flo	W		
	Classification	Autos	Medium Trucks	Heavy Trucks	Total	
I-215 Fwy ¹	Freeway	85.50%	6.31%	8.19%	100.00%	
SR-60 Fwy ¹	Freeway	89.50%	4.51%	5.99%	100.00%	
All Roadways ²	All	97.42%	1.84%	0.74%	100.00%	

¹ Source: Caltrans Data Branch Annual Average Daily Truck Traffic on the California Highways System, 2013.

To predict the future noise environment at each building within the Project site, coordinate information was collected to identify the noise transmission path between the noise source and receiver. The coordinate information is based on the Project site plan showing the plotting of each building in relationship to the I-215 Freeway, SR-60 Freeway, Valley Springs Parkway, Day Street, Eucalyptus Avenue, and Gateway Drive as shown in Appendix 6.1.

The site plan and grading plans, provided in Appendix 6.2, were used to identify the relationship between the roadway centerline elevation, the pad elevation and the centerline distance to the noise barrier, and the building façade. The exterior noise level impacts at the first floor façade were located five feet above the proposed finished floor elevation. All second floor receivers



² I-215 and SR-60 Freeway traffic volumes are based on 10% growth from existing volumes obtained from the Caltrans Traffic Data Branch Annual Average Daily Truck Traffic on the California Highways System, 2013. Roadway traffic volumes were obtained from the Canyon Springs Healthcare Campus & Senior Living Traffic Impact Analysis, Roadway Volume/Capacity Analysis for General Plan With Project Conditions, February 2015.

³ Posted speed limits on the I-215 and SR-60 Freeways. Roadway speed limits are based on County of Riverside Office of Industrial Hygiene Requirements for Traffic Noise Modeling, July 2012.

 $^{^{2}}$ Source: County of Riverside Office of Industrial Hygiene Requirements for Traffic Noise Modeling, July 2012.

were located fourteen feet above the proposed finished floor elevation, and all third floor receivers were located 23 feet above the proposed finished floor elevation.

6.4 VIBRATION ASSESSMENT

This analysis focuses on the potential ground-borne vibration associated with vehicular traffic and construction activities. Ground-borne vibration levels from automobile traffic are generally overshadowed by vibration generated by heavy trucks that roll over the same uneven roadway surfaces. However, due to the rapid drop-off rate of ground-borne vibration and the short duration of the associated events, vehicular traffic-induced ground-borne vibration is rarely perceptible beyond the roadway right-of-way, and rarely results in vibration levels that cause damage to buildings in the vicinity.

However, while vehicular traffic is rarely perceptible, construction has the potential to result in varying degrees of temporary ground vibration, depending on the specific construction activities and equipment used. Ground vibration levels associated with various types of construction equipment are summarized on Table 6-7. Based on the representative vibration levels presented for various construction equipment types, it is possible to estimate the human response (annoyance) using the following vibration assessment methods defined by the FTA. To describe the human response (annoyance) associated with vibration impacts the FTA provides the following equation: $L_{VdB}(D) = L_{VdB}(25 \text{ ft}) - 30\log(D/25)$

TABLE 6-7: VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT

Equipment	Vibration Decibels (VdB) at 25 feet ¹
Small bulldozer	58
Jackhammer	79
Loaded Trucks	86
Large bulldozer	87

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



7 OFF-SITE TRANSPORTATION NOISE IMPACTS

To assess the off-site transportation CNEL noise level impacts associated with development of the proposed Project, noise contours were developed based on the *Canyon Springs Healthcare Campus & Senior Living Traffic Impact Analysis*. (1) Noise contour boundaries represent the equal levels of noise exposure and are measured in CNEL from the center of the roadway. Noise contours were developed for the following traffic scenarios:

- <u>Existing Without / With Project</u>: This scenario refers to the existing present-day noise conditions, without the Project and with the construction of the proposed Project.
- <u>Year 2016 Without / With Project</u>: This scenario refers to the background noise conditions at future Year 2016 with and without the proposed Project. This scenario corresponds to 2016 conditions, and includes all cumulative projects identified in the Traffic Impact Analysis.
- <u>General Plan (GP) Buildout Without / With Project</u>: This scenario refers to the background noise conditions at future GP Buildout with and without the proposed Project. This scenario corresponds to GP Buildout conditions, and includes all cumulative projects identified in the Traffic Impact Analysis.

7.1 Traffic Noise Contours

To quantify the Project's traffic noise impacts on the surrounding areas, the changes in traffic noise levels on 24 roadway segments surrounding the Project were calculated based on the changes in the average daily traffic volumes. The noise contours were used to assess the Project's incremental traffic-related cumulative noise impacts at land uses adjacent to roadways conveying Project traffic. Based on the cumulative noise impact significance criteria described in Section 4, a significant off-site traffic noise level impact occurs if the without Project noise levels at nearby noise-sensitive receivers:

- are less than 60 dBA and the Project creates a readily perceptible 5 dBA or greater Project related noise level increase, or:
- range from 60 to 65 dBA and the Project creates a *barely perceptible* 3 dBA or greater Project noise level increase, or;
- already exceed 65 dBA, and the Project creates a community noise level impact of greater than 1.5 dBA.

Noise contours represent the distance to noise levels of a constant value and are measured from the center of the roadway for the 70, 65, and 60 dBA noise levels. The noise contours do not take into account the effect of any existing noise barriers or topography that may affect ambient noise levels. In addition, since the noise contours reflect modeling of vehicular noise along area roadways, they appropriately do not reflect noise contribution from the surrounding commercial uses within the Project study area. Tables 7-1 through 7-6 present a summary of the unmitigated exterior traffic noise levels for the 24 study area roadway segments analyzed from the without Project to the with Project conditions in each of the three timeframes: Existing, Year 2016, and GP Buildout conditions. Appendix 7.1 includes a summary of the traffic noise level contours for each of the six traffic scenarios.



TABLE 7-1: EXISTING WITHOUT PROJECT CONDITIONS NOISE CONTOURS

ID	Road	Segment	Adjacent	CNEL at Nearest Adjacent		nce to Co n Center (Feet) ²	
טו	RUdu	Land Use ¹		Land Use (dBA)	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Sycamore Canyon Bl.	n/o Eastridge Av.	Business/Office Park	67.7	RW	83	180
2	Sycamore Canyon Bl.	s/o Eastridge Av.	Business/Office Park	68.0	RW	87	188
3	Box Springs Bl.	n/o Eastridge Av.	Business/Office Park	60.6	RW	RW	48
4	Box Springs Bl.	s/o Eastridge Av.	Business/Office Park	56.6	RW	RW	RW
5	Day St.	n/o SR-60 Fwy	Commercial	69.9	RW	128	276
6	Day St.	n/o Canyon Springs Pkwy.	Commercial	71.4	74	160	344
7	Day St.	s/o Canyon Springs Pkwy.	Commercial	69.3	RW	116	249
8	Day St.	s/o Campus Pkwy.	Commercial	68.9	RW	109	234
9	Day St.	s/o Gateway Dr.	Commercial	67.7	RW	91	195
10	Day St.	n/o Eucalyptus Av.	Commercial	67.7	RW	91	195
11	Day St.	s/o Eucalyptus Av.	Residential	64.9	RW	RW	117
12	Day St.	s/o Cottonwood Av.	Residential/Office	63.7	RW	RW	77
13	Day St.	s/o Bay Av.	Residential/Office	63.4	RW	RW	75
14	Day St.	s/o Alessandro Bl.	Commercial	53.6	RW	RW	RW
15	Eucalyptus Av.	s/o Towngate Dr.	Residential	66.6	RW	64	137
16	Eastridge Av.	w/o Sycamore Canyon Bl.	Business/Office Park	64.8	RW	RW	125
17	Eastridge Av.	e/o Sycamore Canyon Bl.	Business/Office Park	67.5	RW	88	189
18	Eastridge Av.	e/o Box Springs Bl.	Business/Office Park	68.3	RW	100	215
19	Eucalyptus Av.	w/o Valley Springs Pkwy.	Commercial	70.3	63	135	291
20	Eucalyptus Av.	e/o Valley Springs Pkwy.	Residential/Office	67.8	RW	92	198
21	Eucalyptus Av.	e/o Day St.	Residential	66.2	RW	81	174
22	Towngate Dr.	e/o Eucalyptus Av.	Residential	63.8	RW	RW	120
23	Alessandro Bl.	w/o Day St.	Commercial	70.3	71	152	327
24	Alessandro Bl.	e/o Day St.	Residential	70.5	72	156	335

¹ Source: City of Riverside General Plan Land Use/Urban Design Element, Figure LU-10 Land Use Policy Map.



 $^{^2}$ "RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-2: EXISTING WITH PROJECT CONDITIONS NOISE CONTOURS

ID	Road	Segment	Adjacent	CNEL at Nearest Adjacent		nce to Co n Center (Feet) ²	
טו	Roau	Segment	Land Use ¹	Land Use (dBA)	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Sycamore Canyon Bl.	n/o Eastridge Av.	Business/Office Park	67.9	RW	86	185
2	Sycamore Canyon Bl.	s/o Eastridge Av.	Business/Office Park	68.0	RW	88	189
3	Box Springs Bl.	n/o Eastridge Av.	Business/Office Park	60.9	RW	RW	51
4	Box Springs Bl.	s/o Eastridge Av.	Business/Office Park	57.4	RW	RW	RW
5	Day St.	n/o SR-60 Fwy	Commercial	70.3	63	136	293
6	Day St.	n/o Canyon Springs Pkwy.	Commercial	71.9	80	173	373
7	Day St.	s/o Canyon Springs Pkwy.	Commercial	70.1	61	131	282
8	Day St.	s/o Campus Pkwy.	Commercial	69.7	RW	124	267
9	Day St.	s/o Gateway Dr.	Commercial	68.2	RW	99	213
10	Day St.	n/o Eucalyptus Av.	Commercial	68.3	RW	100	215
11	Day St.	s/o Eucalyptus Av.	Residential	65.4	RW	58	126
12	Day St.	s/o Cottonwood Av.	Residential/Office	64.3	RW	RW	85
13	Day St.	s/o Bay Av.	Residential/Office	63.9	RW	RW	80
14	Day St.	s/o Alessandro Bl.	Commercial	54.7	RW	RW	RW
15	Eucalyptus Av.	s/o Towngate Dr.	Residential	66.8	RW	66	142
16	Eastridge Av.	w/o Sycamore Canyon Bl.	Business/Office Park	64.9	RW	RW	127
17	Eastridge Av.	e/o Sycamore Canyon Bl.	Business/Office Park	67.7	RW	91	196
18	Eastridge Av.	e/o Box Springs Bl.	Business/Office Park	68.6	RW	104	225
19	Eucalyptus Av.	w/o Valley Springs Pkwy.	Commercial	71.3	73	158	341
20	Eucalyptus Av.	e/o Valley Springs Pkwy.	Residential/Office	68.3	RW	99	214
21	Eucalyptus Av.	e/o Day St.	Residential	66.6	RW	85	183
22	Towngate Dr.	e/o Eucalyptus Av.	Residential	64.1	RW	RW	126
23	Alessandro Bl.	w/o Day St.	Commercial	70.4	71	153	329
24	Alessandro Bl.	e/o Day St.	Residential	70.5	73	157	338

¹ Source: City of Riverside General Plan Land Use/Urban Design Element, Figure LU-10 Land Use Policy Map.



 $^{^2}$ "RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-3: YEAR 2016 WITHOUT PROJECT CONDITIONS NOISE CONTOURS

ID	Road Segment	Adjacent	CNEL at Nearest Adjacent	Distance to Contour from Centerline (Feet) ²			
ID	Land		Land Use ¹	Land Use (dBA)	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Sycamore Canyon Bl.	n/o Eastridge Av.	Business/Office Park	69.6	RW	112	242
2	Sycamore Canyon Bl.	s/o Eastridge Av.	Business/Office Park	69.7	RW	114	245
3	Box Springs Bl.	n/o Eastridge Av.	Business/Office Park	65.5	RW	47	102
4	Box Springs Bl.	s/o Eastridge Av.	Business/Office Park	61.5	RW	RW	55
5	Day St.	n/o SR-60 Fwy	Commercial	70.4	64	138	296
6	Day St.	n/o Canyon Springs Pkwy.	Commercial	71.9	80	173	372
7	Day St.	s/o Canyon Springs Pkwy.	Commercial	69.9	RW	127	273
8	Day St.	s/o Campus Pkwy.	Commercial	69.5	RW	119	257
9	Day St.	s/o Gateway Dr.	Commercial	68.4	RW	102	219
10	Day St.	n/o Eucalyptus Av.	Commercial	68.4	RW	102	219
11	Day St.	s/o Eucalyptus Av.	Residential	67.1	RW	76	164
12	Day St.	s/o Cottonwood Av.	Residential/Office	67.1	RW	61	131
13	Day St.	s/o Bay Av.	Residential/Office	67.0	RW	60	129
14	Day St.	s/o Alessandro Bl.	Commercial	66.0	RW	51	110
15	Eucalyptus Av.	s/o Towngate Dr.	Residential	68.3	RW	83	179
16	Eastridge Av.	w/o Sycamore Canyon Bl.	Business/Office Park	70.1	61	131	282
17	Eastridge Av.	e/o Sycamore Canyon Bl.	Business/Office Park	69.9	RW	127	273
18	Eastridge Av.	e/o Box Springs Bl.	Business/Office Park	70.8	68	146	315
19	Eucalyptus Av.	w/o Valley Springs Pkwy.	Commercial	72.0	82	177	381
20	Eucalyptus Av.	e/o Valley Springs Pkwy.	Residential/Office	70.0	60	129	278
21	Eucalyptus Av.	e/o Day St.	Residential	69.5	RW	134	289
22	Towngate Dr.	e/o Eucalyptus Av.	Residential	66.1	RW	79	170
23	Alessandro Bl.	w/o Day St.	Commercial	72.2	94	203	436
24	Alessandro Bl.	e/o Day St.	Residential	72.2	93	201	434

¹ Source: City of Riverside General Plan Land Use/Urban Design Element, Figure LU-10 Land Use Policy Map.



² "RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-4: YEAR 2016 WITH PROJECT CONDITIONS NOISE CONTOURS

ID	Road	Segment	Adjacent	CNEL at Nearest Adjacent		nce to Co n Center (Feet) ²	
טו	Roau	Segment	Land Use ¹	Land Use (dBA)	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Sycamore Canyon Bl.	n/o Eastridge Av.	Business/Office Park	69.8	RW	114	247
2	Sycamore Canyon Bl.	s/o Eastridge Av.	Business/Office Park	69.8	RW	114	247
3	Box Springs Bl.	n/o Eastridge Av.	Business/Office Park	65.6	RW	48	103
4	Box Springs Bl.	s/o Eastridge Av.	Business/Office Park	61.8	RW	RW	58
5	Day St.	n/o SR-60 Fwy	Commercial	70.8	67	145	313
6	Day St.	n/o Canyon Springs Pkwy.	Commercial	72.4	86	186	400
7	Day St.	s/o Canyon Springs Pkwy.	Commercial	70.6	66	142	306
8	Day St.	s/o Campus Pkwy.	Commercial	70.3	62	134	289
9	Day St.	s/o Gateway Dr.	Commercial	68.9	RW	109	235
10	Day St.	n/o Eucalyptus Av.	Commercial	69.0	RW	110	237
11	Day St.	s/o Eucalyptus Av.	Residential	67.4	RW	80	172
12	Day St.	s/o Cottonwood Av.	Residential/Office	67.4	RW	64	138
13	Day St.	s/o Bay Av.	Residential/Office	67.2	RW	62	134
14	Day St.	s/o Alessandro Bl.	Commercial	66.0	RW	52	111
15	Eucalyptus Av.	s/o Towngate Dr.	Residential	68.5	RW	86	185
16	Eastridge Av.	w/o Sycamore Canyon Bl.	Business/Office Park	70.1	61	131	283
17	Eastridge Av.	e/o Sycamore Canyon Bl.	Business/Office Park	70.0	60	129	279
18	Eastridge Av.	e/o Box Springs Bl.	Business/Office Park	71.0	70	150	323
19	Eucalyptus Av.	w/o Valley Springs Pkwy.	Commercial	72.8	92	198	426
20	Eucalyptus Av.	e/o Valley Springs Pkwy.	Residential/Office	70.3	63	135	291
21	Eucalyptus Av.	e/o Day St.	Residential	69.8	RW	139	299
22	Towngate Dr.	e/o Eucalyptus Av.	Residential	66.5	RW	84	182
23	Alessandro BI.	w/o Day St.	Commercial	72.2	94	203	438
24	Alessandro Bl.	e/o Day St.	Residential	72.2	94	203	436

¹ Source: City of Riverside General Plan Land Use/Urban Design Element, Figure LU-10 Land Use Policy Map.



² "RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-5: GP BUILDOUT WITHOUT PROJECT CONDITIONS NOISE CONTOURS

ID	Road	Segment	Adjacent	CNEL at Nearest Adjacent		nce to Co n Center (Feet) ²	
טו	RUdu	segment	Land Use ¹	Land Use (dBA)	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Sycamore Canyon Bl.	n/o Eastridge Av.	Business/Office Park	69.9	RW	116	250
2	Sycamore Canyon Bl.	s/o Eastridge Av.	Business/Office Park	70.0	55	118	254
3	Box Springs Bl.	n/o Eastridge Av.	Business/Office Park	65.7	RW	49	105
4	Box Springs Bl.	s/o Eastridge Av.	Business/Office Park	61.8	RW	RW	58
5	Day St.	n/o SR-60 Fwy	Commercial	70.6	66	143	307
6	Day St.	n/o Canyon Springs Pkwy.	Commercial	72.1	83	179	386
7	Day St.	s/o Canyon Springs Pkwy.	Commercial	70.1	61	132	284
8	Day St.	s/o Campus Pkwy.	Commercial	69.7	RW	124	267
9	Day St.	s/o Gateway Dr.	Commercial	68.7	RW	105	227
10	Day St.	n/o Eucalyptus Av.	Commercial	68.7	RW	105	227
11	Day St.	s/o Eucalyptus Av.	Residential	67.4	RW	80	172
12	Day St.	s/o Cottonwood Av.	Residential/Office	67.6	RW	66	141
13	Day St.	s/o Bay Av.	Residential/Office	67.7	RW	66	143
14	Day St.	s/o Alessandro Bl.	Commercial	66.2	RW	53	114
15	Eucalyptus Av.	s/o Towngate Dr.	Residential	68.5	RW	86	185
16	Eastridge Av.	w/o Sycamore Canyon Bl.	Business/Office Park	70.4	64	138	298
17	Eastridge Av.	e/o Sycamore Canyon Bl.	Business/Office Park	70.1	61	131	282
18	Eastridge Av.	e/o Box Springs Bl.	Business/Office Park	71.0	70	151	326
19	Eucalyptus Av.	w/o Valley Springs Pkwy.	Commercial	72.3	85	184	396
20	Eucalyptus Av.	e/o Valley Springs Pkwy.	Residential/Office	70.2	62	134	288
21	Eucalyptus Av.	e/o Day St.	Residential	69.8	RW	139	299
22	Towngate Dr.	e/o Eucalyptus Av.	Residential	66.5	RW	84	182
23	Alessandro Bl.	w/o Day St.	Commercial	73.0	107	230	495
24	Alessandro Bl.	e/o Day St.	Residential	72.4	97	208	448

¹ Source: City of Riverside General Plan Land Use/Urban Design Element, Figure LU-10 Land Use Policy Map.



 $^{^{2}}$ "RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-6: GP BUILDOUT WITH PROJECT CONDITIONS NOISE CONTOURS

ID	Road	Sogmont	Adjacent	CNEL at Nearest Adjacent		nce to Co n Center (Feet) ²	
ID	ROđu	Segment	Land Use ¹	Land Use (dBA)	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Sycamore Canyon Bl.	n/o Eastridge Av.	Business/Office Park	70.0	55	118	255
2	Sycamore Canyon Bl.	s/o Eastridge Av.	Business/Office Park	70.0	55	118	254
3	Box Springs Bl.	n/o Eastridge Av.	Business/Office Park	65.8	RW	50	107
4	Box Springs Bl.	s/o Eastridge Av.	Business/Office Park	61.9	RW	RW	59
5	Day St.	n/o SR-60 Fwy	Commercial	71.0	70	150	324
6	Day St.	n/o Canyon Springs Pkwy.	Commercial	72.6	89	192	413
7	Day St.	s/o Canyon Springs Pkwy.	Commercial	70.8	68	147	316
8	Day St.	s/o Campus Pkwy.	Commercial	70.5	64	139	299
9	Day St.	s/o Gateway Dr.	Commercial	69.1	RW	113	244
10	Day St.	n/o Eucalyptus Av.	Commercial	69.2	RW	114	246
11	Day St.	s/o Eucalyptus Av.	Residential	67.7	RW	83	179
12	Day St.	s/o Cottonwood Av.	Residential/Office	67.9	RW	68	147
13	Day St.	s/o Bay Av.	Residential/Office	67.9	RW	68	147
14	Day St.	s/o Alessandro Bl.	Commercial	66.2	RW	53	115
15	Eucalyptus Av.	s/o Towngate Dr.	Residential	68.7	RW	88	189
16	Eastridge Av.	w/o Sycamore Canyon Bl.	Business/Office Park	70.5	64	139	299
17	Eastridge Av.	e/o Sycamore Canyon Bl.	Business/Office Park	70.2	62	134	288
18	Eastridge Av.	e/o Box Springs Bl.	Business/Office Park	71.2	72	155	334
19	Eucalyptus Av.	w/o Valley Springs Pkwy.	Commercial	73.0	95	204	440
20	Eucalyptus Av.	e/o Valley Springs Pkwy.	Residential/Office	70.5	65	140	301
21	Eucalyptus Av.	e/o Day St.	Residential	69.9	RW	142	306
22	Towngate Dr.	e/o Eucalyptus Av.	Residential	66.7	RW	87	187
23	Alessandro Bl.	w/o Day St.	Commercial	73.0	107	231	497
24	Alessandro Bl.	e/o Day St.	Residential	72.4	97	209	450

¹ Source: City of Riverside General Plan Land Use/Urban Design Element, Figure LU-10 Land Use Policy Map.



² "RW" = Location of the respective noise contour falls within the right-of-way of the road.

7.2 Existing Project Traffic Noise Level Contributions

Table 7-7 presents a comparison of the Existing without and with Project conditions CNEL noise levels. From this we can see that the unmitigated without Project exterior noise levels are expected to range from 53.6 to 71.4 dBA CNEL. Existing with Project noise level contours are expected to range from 54.7 to 71.9 dBA CNEL. Overall the Project is expected to generate an unmitigated exterior noise level increase of up to 1.1 dBA CNEL. A review of the data in Table 7-7 suggests that the Project's contribution to the existing noise level is *less than significant* for all of the study area roadway segments. Based on the criteria in Section 4, the Project will create a *less than significant* off-site traffic noise level impact on the study area roadway segments for Existing conditions.

7.3 YEAR 2016 PROJECT TRAFFIC NOISE LEVEL CONTRIBUTIONS

Table 7-8 presents a comparison of the Year 2016 without and with Project conditions CNEL noise levels. Table 7-3 shows that the unmitigated exterior noise levels are expected to range from 61.5 to 72.2 dBA CNEL. Table 7-4 presents the Year 2016 with Project conditions noise level contours that are expected to range from 61.8 to 72.8 dBA CNEL. As shown on Table 7-8 the Project is expected to generate an unmitigated exterior noise level increase of up to 0.8 dBA CNEL. Based on the noise impact significance criteria described in Section 4, for Year 2016 conditions, the Project will create a *less than significant* impact on the study area roadway segments.

7.4 GP Buildout Project Traffic Noise Level Contributions

Table 7-9 presents a comparison of the GP Buildout without and with Project conditions CNEL noise levels. Table 7-5 shows that the unmitigated exterior noise levels are expected to range from 61.8 to 73.0 dBA CNEL. Table 7-6 presents the GP Buildout with Project conditions noise level contours that are expected to range from 61.9 to 73.0 dBA CNEL. As shown on Table 7-9 the Project is expected to generate an unmitigated exterior noise level increase of up to 0.8 dBA CNEL. Based on the noise impact significance criteria described in Section 4, the Project-related noise level increases on the 24 study area roadway segments will not be significant. Therefore, the Project will create a *less than significant* off-site traffic noise level impact on the study area roadway segments for GP Buildout conditions.

7.5 Project Traffic Noise Contributions

The off-site traffic noise analysis shows that the Existing Project noise level contribution of up to 1.1 dBA CNEL is expected to decrease to 0.8 dBA CNEL by GP Buildout conditions. This shows that the Project's incremental traffic-related noise level increases at land uses adjacent to roadways conveying Project traffic will diminish over time. This occurs as the background traffic on the study area roadway segments increases and the Project represents a smaller percentage of the overall traffic volume. The off-site traffic noise analysis indicates that the Project's contributions to roadway noise levels will be *less than significant*.



TABLE 7-7: EXISTING OFF-SITE PROJECT RELATED TRAFFIC NOISE IMPACTS

				CNFL	CNEI at Adiacent Land Use (dBA)	Hsp (dBA)	Potential
	Road	Segment	Adjacent Land Use	No Project	With Project	Project Addition	Significant Impact? ²
—	Sycamore Canyon Bl.	n/o Eastridge Av.	Business/Office Park	67.7	67.9	0.2	No
2	Sycamore Canyon Bl.	s/o Eastridge Av.	Business/Office Park	0.89	68.0	0.0	No
3	Box Springs Bl.	n/o Eastridge Av.	Business/Office Park	9.09	6.09	0.3	No
4	Box Springs Bl.	s/o Eastridge Av.	Business/Office Park	56.6	57.4	0.8	No
2	Day St.	n/o SR-60 Fwy	Commercial	6.69	70.3	0.4	No
9	Day St.	n/o Canyon Springs Pkwy.	Commercial	71.4	71.9	0.5	No
7	Day St.	s/o Canyon Springs Pkwy.	Commercial	69.3	70.1	0.8	No
∞	Day St.	s/o Campus Pkwy.	Commercial	6'89	2.69	0.8	No
6	Day St.	s/o Gateway Dr.	Commercial	<i>L'L</i> 9	68.2	0.5	No
10	Day St.	n/o Eucalyptus Av.	Commercial	<i>L'L</i> 9	68.3	9.0	No
11	Day St.	s/o Eucalyptus Av.	Residential	6.49	65.4	0.5	No
12	Day St.	s/o Cottonwood Av.	Residential/Office	2.89	64.3	9.0	No
13	Day St.	s/o Bay Av.	Residential/Office	63.4	63.9	0.5	No
14	Day St.	s/o Alessandro Bl.	Commercial	9:89	54.7	1.1	No
15	Eucalyptus Av.	s/o Towngate Dr.	Residential	9.99	8.99	0.2	No
16	Eastridge Av.	w/o Sycamore Canyon Bl.	Business/Office Park	64.8	64.9	0.1	No
17	/ Eastridge Av.	e/o Sycamore Canyon Bl.	Business/Office Park	9.79	67.7	0.2	No
18	Eastridge Av.	e/o Box Springs Bl.	Business/Office Park	8.89	9.89	0.3	No
19	Eucalyptus Av.	w/o Valley Springs Pkwy.	Commercial	2.07	71.3	1.0	No
20	Eucalyptus Av.	e/o Valley Springs Pkwy.	Residential/Office	8.79	68.3	0.5	No
21	Eucalyptus Av.	e/o Day St.	Residential	66.2	9.99	0.4	No
22	Towngate Dr.	e/o Eucalyptus Av.	Residential	63.8	64.1	0.3	No
23	Alessandro BI.	w/o Day St.	Commercial	70.3	70.4	0.1	No
24	Alessandro BI.	e/o Day St.	Residential	70.5	70.5	0.0	No
10	Source: City of Diverside Coperal Diap Land Healthrap Design Flor	+000	Figure 111-101 and 11se Policy Man				

¹Source: City of Riverside General Plan Land Use/Urban Design Element, Figure LU-10 Land Use Policy Map. ² Significance of Cumulative Impacts (Table 4-1).



08991-37 Noise Study

TABLE 7-8: YEAR 2016 OFF-SITE PROJECT RELATED TRAFFIC NOISE IMPACTS

2		1		CNEL 8	CNEL at Adjacent Land Use (dBA)	Use (dBA)	Potential
≘	Road	segment	Adjacent Land Use	No Project	With Project	Project Addition	Significant Impact? ²
_	Sycamore Canyon Bl.	n/o Eastridge Av.	Business/Office Park	9.69	8.69	0.2	No
2	Sycamore Canyon Bl.	s/o Eastridge Av.	Business/Office Park	2.69	8.69	0.1	No
3	Box Springs Bl.	n/o Eastridge Av.	Business/Office Park	65.5	9:29	0.1	No
4	Box Springs Bl.	s/o Eastridge Av.	Business/Office Park	61.5	61.8	0.3	No
2	Day St.	n/o SR-60 Fwy	Commercial	70.4	70.8	0.4	No
9	Day St.	n/o Canyon Springs Pkwy.	Commercial	71.9	72.4	0.5	No
7	Day St.	s/o Canyon Springs Pkwy.	Commercial	6.69	70.6	0.7	No
∞	Day St.	s/o Campus Pkwy.	Commercial	9.69	70.3	0.8	No
6	Day St.	s/o Gateway Dr.	Commercial	68.4	68.9	0.5	No
10	Day St.	n/o Eucalyptus Av.	Commercial	68.4	0.69	9.0	No
1	Day St.	s/o Eucalyptus Av.	Residential	67.1	67.4	0.3	No
12	Day St.	s/o Cottonwood Av.	Residential/Office	67.1	67.4	0.3	No
13	Day St.	s/o Bay Av.	Residential/Office	0.79	67.2	0.2	No
14	Day St.	s/o Alessandro Bl.	Commercial	0.99	0.99	0.0	No
15	Eucalyptus Av.	s/o Towngate Dr.	Residential	68.3	68.5	0.2	No
16	Eastridge Av.	w/o Sycamore Canyon Bl.	Business/Office Park	70.1	70.1	0.0	No
17	Eastridge Av.	e/o Sycamore Canyon Bl.	Business/Office Park	6.69	70.0	0.1	No
18	Eastridge Av.	e/o Box Springs BI.	Business/Office Park	70.8	71.0	0.2	No
19	Eucalyptus Av.	w/o Valley Springs Pkwy.	Commercial	72.0	72.8	0.8	No
20	Eucalyptus Av.	e/o Valley Springs Pkwy.	Residential/Office	70.0	70.3	0.3	No
21	Eucalyptus Av.	e/o Day St.	Residential	69.5	8.69	0.3	No
22	Towngate Dr.	e/o Eucalyptus Av.	Residential	66.1	66.5	0.4	No
23	Alessandro BI.	w/o Day St.	Commercial	72.2	72.2	0.0	No
24	. Alessandro BI.	e/o Day St.	Residential	72.2	72.2	0.0	No
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¹Source: City of Riverside General Plan Land Use/Urban Design Element, Figure LU-10 Land Use Policy Map. ² Significance of Cumulative Impacts (Table 4-1).



08991-37 Noise Study

TABLE 7-9: GP BUILDOUT OFF-SITE PROJECT RELATED TRAFFIC NOISE IMPACTS

2			1 1 - 1	CNEL	CNEL at Adjacent Land Use (dBA)	Use (dBA)	Potential
≘	Koad	Segment	Adjacent Land Use	No Project	With Project	Project Addition	Significant Impact? ²
_	Sycamore Canyon Bl.	n/o Eastridge Av.	Business/Office Park	6.69	70.0	0.1	No
2	Sycamore Canyon Bl.	s/o Eastridge Av.	Business/Office Park	70.0	70.0	0.0	No
3	Box Springs Bl.	n/o Eastridge Av.	Business/Office Park	65.7	65.8	0.1	No
4	Box Springs Bl.	s/o Eastridge Av.	Business/Office Park	61.8	61.9	0.1	No
2	Day St.	n/o SR-60 Fwy	Commercial	70.6	71.0	0.4	No
9	Day St.	n/o Canyon Springs Pkwy.	Commercial	72.1	72.6	0.5	No
7	Day St.	s/o Canyon Springs Pkwy.	Commercial	70.1	70.8	0.7	No
∞	Day St.	s/o Campus Pkwy.	Commercial	2.69	70.5	0.8	No
6	Day St.	s/o Gateway Dr.	Commercial	68.7	69.1	0.4	No
10	Day St.	n/o Eucalyptus Av.	Commercial	68.7	69.2	0.5	No
11	Day St.	s/o Eucalyptus Av.	Residential	67.4	67.7	0.3	No
12	Day St.	s/o Cottonwood Av.	Residential/Office	9.79	67.9	0.3	No
13	Day St.	s/o Bay Av.	Residential/Office	67.7	67.9	0.2	No
14	Day St.	s/o Alessandro Bl.	Commercial	66.2	66.2	0.0	No
15	Eucalyptus Av.	s/o Towngate Dr.	Residential	68.5	68.7	0.2	No
16	Eastridge Av.	w/o Sycamore Canyon Bl.	Business/Office Park	70.4	70.5	0.1	No
17	Eastridge Av.	e/o Sycamore Canyon Bl.	Business/Office Park	70.1	70.2	0.1	No
18	Eastridge Av.	e/o Box Springs BI.	Business/Office Park	71.0	71.2	0.2	No
19	Eucalyptus Av.	w/o Valley Springs Pkwy.	Commercial	72.3	73.0	0.7	No
20	Eucalyptus Av.	e/o Valley Springs Pkwy.	Residential/Office	70.2	70.5	0.3	No
21	Eucalyptus Av.	e/o Day St.	Residential	8.69	6.69	0.1	No
22	Towngate Dr.	e/o Eucalyptus Av.	Residential	66.5	66.7	0.2	No
23	Alessandro BI.	w/o Day St.	Commercial	73.0	73.0	0.0	No
24	Alessandro BI.	e/o Day St.	Residential	72.4	72.4	0.0	No

¹Source: City of Riverside General Plan Land Use/Urban Design Element, Figure LU-10 Land Use Policy Map. ² Significance of Cumulative Impacts (Table 4-1).



08991-37 Noise Study

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8 ON-SITE TRAFFIC NOISE IMPACTS

An on-site exterior noise impact analysis has been completed to determine the traffic noise exposure and to identify potential necessary Project Design Features for the proposed Canyon Springs Healthcare Campus & Senior Living. It is expected that the primary source of noise impacts to the Project site will be traffic noise from the I-215 Freeway, the SR-60 Freeway, Valley Springs Parkway, Day Street, Eucalyptus Avenue, and Gateway Drive. The Project will also experience some background traffic noise impacts from the Project's internal streets, however, due to the distance, topography and low traffic volume/speed, traffic noise from these roads will not make a significant contribution to the noise environment.

8.1 ON-SITE EXTERIOR NOISE ANALYSIS

Using the FHWA traffic noise prediction model and the parameters outlined in Tables 6-3, 6-5, and 6-6, the expected future exterior noise levels for individual buildings were calculated. Table 8-1 presents a summary of future exterior noise level impacts at the first-floor building façades. The on-site traffic noise level impacts indicate that the buildings facing the I-215 Freeway, the SR-60 Freeway, Valley Springs Parkway, Day Street, Eucalyptus Avenue, and Gateway Drive will experience exterior noise levels ranging from 43.6 to 68.3 dBA CNEL. The on-site traffic noise analysis calculations are provided in Appendix 8.1.

To satisfy the City of Riverside *conditionally acceptable* 70 dBA CNEL exterior noise level criteria for hospital, senior housing, independent and assisted living, and skilled nursing facility land uses and the 75 dBA CNEL for medical office building land uses, no exterior noise Project Design Features are required. This noise analysis shows that the Canyon Springs Healthcare Campus & Senior Living Project will satisfy the City of Riverside *conditionally acceptable* 70 dBA CNEL exterior noise level criteria for hospital, senior housing, independent and assisted living, and skilled nursing facility land uses and 75 dBA CNEL for medical office building land uses.



TABLE 8-1: EXTERIOR NOISE LEVELS (CNEL)

Building	Façade	Roadway	Exterior Noise Level (dBA CNEL)
	West	I-215 Fwy	63.6
Senior Housing	west	Valley Springs Pkwy.	03.0
	North	SR-60 Fwy	44.1
Indopondent Living	North	SR-60 Fwy	43.6
Independent Living	East	Day St.	54.3
Ckilled Nursing	East	Day St.	60.9
Skilled Nursing	South	Gateway Dr.	63.7
Assisted Living	South	Gateway Dr.	64.2
Hospital Phase 2	North	Gateway Dr.	62.6
Lloopital Dhasa 1	West	I-215 Fwy	67.9
Hospital Phase 1	west	Valley Springs Pkwy.	07.9
	West	I-215 Fwy	(0.2
Medical Office Bldg. 3	vvest	Valley Springs Pkwy.	68.3
	South	Eucalyptus Av.	59.8
Modical Office Dide 4	West	Valley Springs Pkwy.	61.9
Medical Office Bldg. 4	South	Eucalyptus Av.	60.9
Modical Office Dide 5	East	Day St.	56.1
Medical Office Bldg. 5	South	Eucalyptus Av.	55.0
Medical Office Bldg. 1	North	Gateway Dr.	52.9
Medical Office Bldg. 2	North	Gateway Dr.	52.9

8.2 ON-SITE INTERIOR NOISE ANALYSIS

To ensure that the interior noise levels comply with the City of Riverside 45 dBA CNEL interior noise standards, future noise levels were calculated at the first, second, and third floor building facades.

8.2.1 Noise Level Reduction Methodology

The interior noise level is the difference between the predicted exterior noise level at the building facade and the noise reduction of the structure. Typical building construction will provide a Noise Level Reduction (NLR) of approximately 12 dBA with "windows open" and a minimum 25 dBA noise reduction with "windows closed." However, sound leaks, cracks and openings within the window assembly can greatly diminish its effectiveness in reducing noise. Several methods are used to improve interior noise reduction, including: (1) weather-stripped solid core exterior doors; (2) upgraded dual glazed windows; (3) mechanical ventilation/air conditioning; and (4) exterior wall/roof assembles free of cut outs or openings.



8.2.2 Interior Noise Level Assessment

To provide the necessary interior noise level reduction, Tables 8-2 to 8-4 indicate that buildings adjacent to the I-215 Freeway, the SR-60 Freeway, Valley Springs Parkway, Day Street, Eucalyptus Avenue, and Gateway Drive will require a windows closed condition and a means of mechanical ventilation (e.g. air conditioning). Table 8-2 shows that the future noise levels at the first-floor building façade are expected to range from 43.6 to 68.3 dBA CNEL. The first-floor interior noise level analysis shows that the City of Riverside 45 dBA CNEL interior noise level standards can be satisfied using standard windows with a minimum STC rating of 27. Table 8-3 shows that the future noise levels at the second-floor building façade are expected to range from 41.3 to 68.3 dBA CNEL, and windows with a minimum STC rating of 27 are expected to satisfy the City of Riverside's 45 dBA CNEL interior noise level standards. Table 8-4 shows that the future noise levels at the third-floor building façade are expected to range from 40.4 to 68.2 dBA CNEL, and windows with a minimum STC rating of 27 are expected to satisfy the City of Riverside's 45 dBA CNEL interior noise level standards.

With the Project Design Features shown on Exhibit ES-A, and described in the Executive Summary, the Canyon Springs Healthcare Campus & Senior Living Project will satisfy the City of Riverside interior noise levels standards.



TABLE 8-2: FIRST FLOOR INTERIOR NOISE IMPACTS (CNEL)

Building	Roadway	Location	Noise Level at Façade ¹	Required Interior Noise Reduction ²	Estimated Interior Noise Reduction ³	Upgraded Windows⁴	Interior Noise Level ⁵
Salor Holaco	I-215/Valley Springs	West	63.6	18.6	25	No	38.6
fillshou lollies	SR-60 Fwy	North	44.1	0.0	25	ON	19.1
Independent	SR-60 Fwy	North	43.6	0.0	25	No	18.6
Living	Day St.	East	54.3	9.3	25	No	29.3
2011/10 10 11/10	Day St.	East	6.09	15.9	25	ON	35.9
okilied ival silig	Gateway Dr.	South	63.7	18.7	25	No	38.7
Assisted Living	Gateway Dr.	South	64.2	19.2	25	No	39.2
Hospital Phase 2	Gateway Dr.	North	62.6	17.6	25	No	37.6
Hospital Phase 1	I-215/Valley Springs	West	67.9	22.9	25	No	42.9
c dOM	I-215/Valley Springs	West	68.3	23.3	25	No	43.3
S GOIN	Eucalyptus Av.	South	8.69	14.8	25	ON	34.8
V dOM	Valley Springs Pkwy.	West	61.9	16.9	25	No	36.9
4 ON 1	Eucalyptus Av.	South	6.09	15.9	25	ON	35.9
3 dOM	Day St.	East	56.1	11.1	25	No	31.1
C GOIN	Eucalyptus Av.	South	55.0	10.0	25	No	30.0
MOB 1	Gateway Dr.	North	52.9	7.9	25	No	27.9
MOB 2	Gateway Dr.	North	52.9	7.9	25	ON	27.9
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¹ Exterior noise level at the facade with a windows closed condition requiring a means of mechanical ventilation (e.g. air conditioning).

Noise reduction required to satisfy the 45 dBA CNEL interior noise standards.



08991-37 Noise Study

³ A minimum of 25 dBA noise reduction is assumed with standard building construction.

⁴ Does the required interior noise reduction trigger upgraded windows with a minimum STC rating of greater than 27?

⁵ Estimated interior noise level with minimum STC rating for all windows.

"MOB" = Medical Office Building

TABLE 8-3: SECOND FLOOR INTERIOR NOISE IMPACTS (CNEL)

Building	Roadway	Location	Noise Level at Façade ¹	Required Interior Noise Reduction ²	Estimated Interior Noise Reduction ³	Upgraded Windows⁴	Interior Noise Level ⁵
Section of the sectio	I-215/Valley Springs	West	63.6	18.6	25	No	38.6
fillsmou lollies	SR-60 Fwy	North	41.8	0.0	25	No	16.8
Independent	SR-60 Fwy	North	41.3	0.0	25	No	16.3
Living	Day St.	East	54.3	9.3	25	No	29.3
Science Mississian	Day St.	East	6.09	15.9	25	No	6'98
okilled Ivdi sirig	Gateway Dr.	South	63.6	18.6	25	No	9.88
Assisted Living	Gateway Dr.	South	64.0	19.0	25	No	0.68
Hospital Phase 2	Gateway Dr.	North	62.6	17.6	25	No	9.78
Hospital Phase 1	I-215/Valley Springs	West	67.9	22.9	25	No	42.9
C GOM	I-215/Valley Springs	West	68.3	23.3	25	No	43.3
NOB 3	Eucalyptus Av.	South	29.8	14.8	25	No	34.8
NOP 4	Valley Springs Pkwy.	West	61.8	16.8	25	No	8.98
VIOD 4	Eucalyptus Av.	South	6.09	15.9	25	No	6'98
3 GOM	Day St.	East	56.1	11.1	25	No	31.1
INIOD 3	Eucalyptus Av.	South	55.0	10.0	25	No	30.0
MOB 1	Gateway Dr.	North	52.9	7.9	25	No	27.9
MOB 2	Gateway Dr.	North	52.9	7.9	25	No	27.9

Exterior noise level at the facade with a windows closed condition requiring a means of mechanical ventilation (e.g. air conditioning).



61 08991-37 Noise Study

² Noise reduction required to satisfy the 45 dBA CNEL interior noise standards.

³ A minimum of 25 dBA noise reduction is assumed with standard building construction.

 $^{^4}$ Does the required interior noise reduction trigger upgraded windows with a minimum STC rating of greater than 27? 5 Estimated interior noise level with minimum STC rating for all windows. "MOB" = Medical Office Building

TABLE 8-4: THIRD FLOOR INTERIOR NOISE IMPACTS (CNEL)

Building	Roadway	Location	Noise Level at Façade ¹	Required Interior Noise Reduction ²	Estimated Interior Noise Reduction ³	Upgraded Windows ⁴	Interior Noise Level ⁵
zajono I rojeco	I-215/Valley Springs	West	63.6	18.6	25	No	38.6
fillshou lollies	SR-60 Fwy	North	40.9	0.0	25	No	15.9
Independent	SR-60 Fwy	North	40.4	0.0	25	ON	15.4
Living	Day St.	East	54.3	9.3	25	ON	29.3
N POLITICAL DE LA COMPANSION DE LA COMPA	Day St.	East	8.09	15.8	25	No	35.8
Skilled Ival Sillig	Gateway Dr.	South	63.4	18.4	25	No	38.4
Assisted Living	Gateway Dr.	South	63.7	18.7	25	ON	38.7
Hospital Phase 2	Gateway Dr.	North	62.4	17.4	25	ON	37.4
Hospital Phase 1	I-215/Valley Springs	West	8.79	22.8	25	No	42.8
NOD 2	I-215/Valley Springs	West	68.2	23.2	25	No	43.2
S GOIN	Eucalyptus Av.	South	8.65	14.8	25	No	34.8
N AON	Valley Springs Pkwy.	West	61.8	16.8	25	No	36.8
4 to 1	Eucalyptus Av.	South	6.09	15.9	25	No	35.9
3 001/1	Day St.	East	56.1	11.1	25	No	31.1
C GOIN	Eucalyptus Av.	South	0.53	10.0	25	No	30.0
MOB 1	Gateway Dr.	North	52.9	7.9	25	No	27.9
MOB 2	Gateway Dr.	North	52.9	7.9	25	No	27.9

Exterior noise level at the facade with a windows closed condition requiring a means of mechanical ventilation (e.g. air conditioning).



08991-37 Noise Study

² Noise reduction required to satisfy the 45 dBA CNEL interior noise standards.

³ A minimum of 25 dBA noise reduction is assumed with standard building construction.

 $^{^4}$ Does the required interior noise reduction trigger upgraded windows with a minimum STC rating of greater than 27? 5 Estimated interior noise level with minimum STC rating for all windows. "MOB" = Medical Office Building

9 RECEIVER LOCATIONS

To assess the potential for long-term operational and short-term construction noise impacts, the following seven receiver locations as shown on Exhibit 9-A were identified as representative locations for analysis. Sensitive receivers are generally defined as locations where people reside or where the presence of unwanted sound could otherwise adversely affect the use of the land. Noise-sensitive land uses are generally considered to include: schools, hospitals, single-family dwellings, mobile home parks, churches, libraries, and recreation areas. Moderately noise-sensitive land uses typically include: multi-family dwellings, hotels, motels, dormitories, out-patient clinics, cemeteries, golf courses, country clubs, athletic/tennis clubs, and equestrian clubs. Land uses that are considered relatively insensitive to noise include business, commercial, and professional developments. Land uses that are typically not affected by noise include: industrial, manufacturing, utilities, agriculture, natural open space, undeveloped land, parking lots, warehousing, liquid and solid waste facilities, salvage yards, and transit terminals.

Representative sensitive receivers in the vicinity of the Project site include Edgemont Elementary School located at receiver locations R1 and R2, single-family residential homes located at receiver locations R3 to R6, and the multi-family residential community at receiver location R7. The closest sensitive receivers are represented by locations R1 and R3 at a distance of approximately 11 feet south of the Project site.

- R1: Located approximately 11 feet south of the Project site, R1 represents the northern property line of Edgemont Elementary School. A 24-hour noise level measurement, L3, was taken at this location to describe the existing ambient noise conditions.
- R2: Location R2 represents an existing playground within the Edgemont Elementary School located approximately 17 feet east of the Project site boundary.
- R3: Location R3 represents the existing residential home located roughly 11 feet south of the Project site along Eucalyptus Avenue. A 24-hour noise level measurement, L2, was taken near this location to describe the existing ambient noise environment.
- R4: Located approximately 25 feet south of the Project site, R4 represents the existing residential homes adjacent to the southern property line the Project site.
- R5: Location R5 represents the existing single-family homes located approximately 214 feet south of the Project site across Eucalyptus Avenue. A 24-hour noise level measurement was taken near this location, L1, to describe the existing ambient noise environment.
- R6: Location R6 represents an existing residential home which is situated approximately 450 feet south of the Project site boundary, south of Eucalyptus Avenue.
- R7: At a distance of approximately 598 feet southeast of the Project site, location R7 represents the noise-sensitive multi-family residential community on the southeast corner of Eucalyptus Avenue and Day Street.







10 OPERATIONAL NOISE IMPACTS

This section analyzes the potential stationary-source operational noise impacts at nearby receiver locations resulting from operation of the proposed Canyon Springs Healthcare Campus & Senior Living Project. Exhibit 10-A identifies the representative receiver locations and noise source locations used to assess the operational noise levels.

10.1 Reference Noise Levels

To estimate the potential stationary-source noise impacts, reference noise level measurements were collected from similar types of activities to represent the noise levels expected with the development of the proposed Canyon Springs Healthcare Campus & Senior Living Project. This section provides a detailed description of the reference noise level measurements shown on Table 10-1 used to estimate the stationary-source noise impacts. The reference noise levels presented on Table 10-1 are shown at a normalized reference distance of 50 feet for comparison at a uniform distance. It is important to note that the following projected noise levels assume the worst-case noise environment with parking structure and parking lot vehicle movements, mechanical ventilation (roof-top air conditioning) units, emergency backup generators (central energy plant), emergency vehicles (ambulances), emergency helicopter activities, and other ancillary uses (e.g., on-site retail such as coffee shops, deli, lunch rooms, outdoor vendor carts, car wash services, valet parking, golf cart transport for the elderly or infirm patients, flower and gift shop, pharmacy, and medical retail (medical supplies); personal services such as barber shop, beauty salon, spa, tailor, dry cleaner, and self-service laundry; and restaurants (sit-down, quickserve, and take-out all operating simultaneously. In reality, these noise level impacts will vary throughout the day.

Due to the nature of emergency vehicle-related noise sources (e.g., sirens, horns), the California Vehicle Code provides an exemption for these unique noise activities. California Vehicle Code, Sections 21055 and 27007, exempt drivers of emergency vehicles and sound amplification equipment of emergency vehicles, respectively. Section 21055 states that emergency vehicles driven in response to an emergency or while engaged in rescue operations and the sirens used reasonably necessary are considered exempt from California Vehicle Code regulations. Further, Section 27007 indicates that sound amplification systems which can be heard outside the vehicle from 50 or more feet are prohibited, unless that system is being operated to request assistance or warn of a hazardous situation. The exemption is for emergency vehicle sirens is explicit when it states this section does not apply to authorized emergency vehicles or vehicles operated by gas, electric, communications, or water utilities. Although the City of Riverside Municipal Code is silent regarding noise from emergency vehicles, this noise study considers the exemption found in the California Vehicle Code, Sections 21055 and 27007, for noise from emergency vehicles related to the Project.



TABLE 10-1: REFERENCE NOISE LEVEL MEASUREMENTS

	Dist.	Noise	Acti	urly ivity utes) ⁷	Reference N (dBA) @ F Dista	Reference		Noise Levels 50 Feet
Noise Source	From Source (Feet)	Source Height (Feet)	Day	Night	Leq (Energy Avg.)	L ₅₀ (30 mins)	Leq (Energy Avg.)	L ₅₀ (30 mins)
Parking Structure Vehicle Movement ¹	20'	5'	60	60	65.9	62.5	59.9	56.5
Parking Lot Vehicle Movement ²	20'	5'	60	60	62.9	54.5	56.9	48.5
Roof-Top Air Conditioning Unit ³	5'	25'	39	28	77.2	74.4	57.2	54.4
Emergency Generator ⁴	50'	10'	30	30	72.0	72.0	72.0	72.0
Typical Helicopter Activities ⁵	200'	15'	30	30	70.5	70.5	82.5	82.5
Trauma Helicopter Activities ⁶	400'	15'	5	5	81.7	81.7	99.8	99.8

¹ As measured by Urban Crossroads, Inc. during peak activity at the EV Free Church of Fullerton three-story parking garage on Sunday, September 15, 2013.



² As measured by Urban Crossroads, Inc. during peak activity at the Water of Life Church overflow parking lot on Sunday, September 15, 2013.

³ As measured by Urban Crossroads, Inc. on 7/27/2015 at the Santee Walmart located at 170 Town Center Parkway.

⁴ Worst-case emergency generator reference noise level based on a 1000 kilowatt Caterpillar XQ1000 generator.

⁵ Source: Highest reference noise level for a helicopter provided in the Examination of the low frequency limit for helicopter noise data in the FAA Aviation Environmental Design Tool and INM, Noise-Con 2010.

⁶ Source: UH-60A Blackhawk helicopter data provided by the Operational Noise Data for UH-60A and CH-47C Army Helicopters prepared by the United States Army Corps of Engineers, August 1982.

⁷ Duration (minutes within the hour) of noise activity during peak hourly conditions.

[&]quot;Day" = 7:00 a.m. to 10:00 p.m.; "Night" = 10:00 p.m. to 7:00 a.m.

Recommended Noise Barrier Height (in feet) TEYAG Recommended Noise barrier
Recommended Noise Barrier Distance from receiver to center of noise source (in feet) Parking Structure Vehicle Movement GATEWAYDR Receiver Locations EDGEMONT ST **Emergency Helicopter Activities** Roof-Top Air Conditioning Unit Parking Lot Vehicle Movement LEGEND: NALLEY SPRINGS PKY

EXHIBIT 10-A: OPERATIONAL NOISE SOURCE LOCATIONS



10.1.1 Parking Structure Vehicle Movement

To determine the noise level impacts associated with parking structure vehicle movement, Urban Crossroads collected reference noise level measurements at the Evangelical Free Church of Fullerton on Sunday, September 15, 2013. The Evangelical Free Church of Fullerton provides a three-level parking structure to accommodate peak Sunday worship services. Parking in the structure is controlled with volunteer traffic control guides to manage the flow of cars. The noise levels observed at the Evangelical Free Church of Fullerton were used to represent those at the Canyon Springs Healthcare Campus & Senior Living parking structures. The parking structure short-term noise level measurements indicate that the parking structure vehicle movement generates a noise level of 59.9 dBA Leq at a uniform reference distance of 50 feet. Parking structure vehicle movement within the Project site is expected to operate for 60 minutes during typical hourly daytime and nighttime conditions.

10.1.2 PARKING LOT VEHICLE MOVEMENT

To estimate the potential noise level impacts associated with proposed parking lots within the Canyon Springs Healthcare Campus & Senior Living site, reference noise level measurements were taken during peak worship services on Sunday, September 15, 2013 in Lot A of the Water of Life Church. The projected noise levels from the parking lots within the Project site are expected to reflect the noise levels observed at Lot A. The reference noise level measurement taken at Lot A measured 56.9 dBA Leq when normalized at 50 feet during peak conditions. Parking lot vehicle movement within the Project site is expected to operate for 60 minutes during typical hourly daytime and nighttime conditions.

10.1.3 ROOF-TOP AIR CONDITIONING UNITS

In order to assess the impacts created by the roof-top mechanical ventilation equipment at the Project site, reference noise levels measurements were taken at the Santee Walmart on July 27th, 2015. Located at 170 Town Center Parkway in the City of Santee, the noise level measurements describe a single mechanical roof-top air conditioning unit on the roof of an existing Walmart store. The reference noise level represents a Lennox SCA120 series 10-ton model packaged air conditioning unit. The reference noise level noise level at a uniform distance of 50 feet from the unit was measured at 57.2 dBA Leq. The operating conditions of the reference noise level measurement reflect peak summer cooling requirements with measured temperatures approaching 96 degrees Fahrenheit (°F) with average daytime temperatures of 82°F. The roof-top air condition units were observed to operate the most during the daytime hours, for a total of 39 minutes per hour, and during the nighttime hours for 28 minutes per hour. For the purpose of this noise analysis, the roof-top mechanical ventilation equipment is located at the roof elevation of each building provided in the Project *Building Height Diagram*. (23) The noise attenuation provided by a parapet wall is not included in this reference noise level measurement.



10.1.4 EMERGENCY BACKUP GENERATORS

Based on information provided by the Project team, the Project includes the use of six backup emergency generators for the hospital, medical office buildings 1 and 2, and senior housing buildings, as follows:

- Hospital Phase 1 Building two 1000 kilowatt (kW) generators in the Central Plant;
- Hospital Phase 2 Building one 1000 kW generator in the Central Plant;
- Medical Office Building 1 one 750 kW generator at the west building façade;
- Medical Office Building 2 one 500 kW generator at the east building façade;
- Senior Housing Building one 100 kW generator at the southwest building façade;

To present the worst-case Project-related operational noise levels, a reference noise level for a CAT XQ1000 1000 kW generator is used in this analysis for all generator locations. Since this analysis uses the highest kilowatt generator at all locations, it may conservatively overstate the operational noise levels. Caterpillar, Inc. provides the noise level in Leq for a CAT XQ1000 generator at a reference distance of 50 feet of 72.0 dBA Leq and a noise source height of 10 feet. (24)

10.1.5 Helicopter Activities

The proposed helicopter activities at the Project site are anticipated to occur under two conditions: typical and trauma activity, at a single helipad, located on the roof of the Hospital Phase 1 building. Based on information provided by the Project's helipad consultant, Heliplanners, the operational activities at the Project site can be estimated. (15) Further, published reference noise levels were obtained to describe each type of helicopter activity. Each type of helicopter transport is expected to rely on any combination of helicopter types as described in the sections below.

It is important to recognize that this noise study provides an initial review of the potential noise levels associated with the emergency helicopter activities. Detailed helicopter analysis will be required to identify noise abatement measures, if any, to fully satisfy the noise compatibility study requirements of the Federal Aviation Administration (FAA), Riverside County Airport Land Use Commission (RCALUC), March Air Reserve Base/Inland Port Airport Land Use Compatibility Plan, State of California Heliport Permitting process, and the City of Riverside Heliport Permitting process.

Typical Helicopter Activities

The expected typical helicopter activities at the Project site will consist of the scheduled transport of patients on an as-needed basis, for patients who require the services of the Project's hospital use, or those of another local hospital. (15) The typical helicopter activities were estimated using the worst-case helicopter model reference noise level identified for 'Helicopter A' in the Examination of the low frequency limit for helicopter noise data in the Federal Aviation Administration Environmental Design Tool and Integrated Noise Model, prepared by the U.S. Department of Transportation's John A. Volpe National Transportation Systems Center. (25) At



the time this analysis was prepared, the exact model type and specifications of the helicopters to be used at the hospital helipad operations were unknown. Based on information provided by Heliplanners, the 'Helicopter A' reference noise level data is used to describe the potential noise levels from a H145 Airbus helicopter used in worst-case, typical hospital operations.

At a uniform distance of 50 feet, the reference noise level approached 82.5 dBA Leq under in ground effect (IGE) conditions. IGE conditions account for the propagation loss over the ground when a helicopter is hovering at up to five feet above the ground (or helipad). Typical helicopter conditions are estimated to occur during 30 minutes of the peak hour conditions, which conservatively overstates the two typical events per week estimate provided by Heliplanners to represent worst-case conditions. (15)

Trauma Helicopter Activities

The trauma helicopter activities would consist of single events which are unlikely to occur under normal operations of the Project hospital, since this type of activity would only be required for major traumatic injuries or events. Additional published reference noise level data for the trauma-related helicopter events at the Project site was obtained from the U.S. Army Corps of Engineers *Operational Noise Data for UH-60A and CH-47C Army Helicopters*. (26) The reference UH-60A helicopter represents worst-case trauma-related Blackhawk helicopter operations based on the input provided by Heliplanners for trauma-related helicopter activities. (15) At a uniform distance of 50 feet, the reference noise level approached 99.8 dBA Leq under IGE conditions. Trauma helicopter conditions are estimated to occur during 5 minutes of the peak hour conditions, since trauma-related events would only occur on an as-needed basis during emergency conditions. (15) Exhibit 10-B shows the proposed helicopter take-off and landing locations in red at the Hospital Phase 1 building. (15)



Senior Housing Underground parking @ 13'+ 3 levels of occupied space @ 12'/floor + HOSPITAL PHASE 2 Hospital 5 Levels of occupied space @ 15'/floor + HOSPITAL PHASE 1 penthouse @ 15'/floor + 4' parapet Total bldg. height 94' MOB 1,3,4 4 Levels @ 12'/floor + 4' parapet Total bldg. height 52' LEGEND: IIII Conceptual Helicopter Approach Conceptual Helicopter Landing Location

EXHIBIT 10-B: CONCEPTUAL HELIPAD AND APPROACH LOCATIONS



10.2 Project Operational Noise Levels

Using the reference noise levels to represent the proposed operations that include parking structure and parking lot vehicle movements, mechanical ventilation (roof-top air conditioning) units, emergency backup generators (central energy plant), emergency vehicles (ambulances), emergency helicopter activities, and other ancillary uses (e.g., on-site retail such as coffee shops, deli, lunch rooms, outdoor vendor carts, car wash services, valet parking, golf cart transport for the elderly or infirm patients, flower and gift shop, pharmacy, and medical retail (medical supplies); personal services such as barber shop, beauty salon, spa, tailor, dry cleaner, and selfservice laundry; and restaurants (sit-down, quick-serve, and take-out, Urban Crossroads, Inc. calculated the operational source noise levels that are expected to be generated by the Project site and the Project-related noise level increases that would be experienced at each of the sensitive receiver locations. The operational noise level calculations, shown on Tables 10-2 and 10-3 account for the distance attenuation provided due to geometric spreading when sound from a localized stationary source (i.e., a point source) propagates uniformly outward in a spherical pattern. With geometric spreading, sound levels attenuate (or decrease) at a rate of 6 dB for each doubling of distance from a point source. Exhibit 10-A shows the closest operational noise sources and their distance to each receiver location used in this analysis. The operational noise level calculations are included in Appendix 10.1.

Since the exact model type and specifications of the helicopters to be used at the Project site were unknown at the time this analysis was prepared, the Project-related operational noise levels are analyzed under three conditions as shown below:

- 1. Without helicopter activities;
- 2. With typical helicopter activities; and
- 3. With trauma helicopter activities.

Without Helicopter Activities

Table 10-2 presents the Project operational noise levels during the daytime and nighttime hours without helicopter activities, and includes distance attenuation and the barrier attenuation provided by the recommended 8-foot high noise barrier, as shown on Exhibit 10-A. Additional barrier attenuation is included in the calculations when the planned Project buildings block the line-of-sight from the noise source to the receiver locations. Table 10-2 indicates that the noise levels associated with the Canyon Springs Healthcare Campus & Senior Living Project, without helicopter activities, are expected to range from 39.1 to 47.0 dBA L_{50} at the nearby sensitive receiver locations during the daytime and nighttime hours.



TABLE 10-2: PROJECT-ONLY OPERATIONAL NOISE LEVELS WITHOUT HELICOPTER ACTIVITIES

_ [Stationa	ary/Area-Sour	ce Noise Leve	Is (dBA) ³
Receiver Location ¹	Noise Sources ²	L ₅₀ (30 mins)	L ₂₅ (15 mins)	L ₈ (5 mins)	L ₂ (1 min)
	Parking Structure Vehicle Movement	42.3	45.4	47.5	54.1
	Parking Lot Vehicle Movement	18.6	21.7	28.3	37.3
R1	Roof-Top Air Conditioning Unit	35.6	14.9	12.7	11.3
	Emergency Generator	36.7	_4	_4	_4
	Combined Noise Level:	44.0	45.4	47.6	54.2
	Parking Structure Vehicle Movement	45.0	48.1	50.2	56.8
	Parking Lot Vehicle Movement	19.3	22.4	29.0	38.0
R2	Roof-Top Air Conditioning Unit	29.6	8.9	6.7	5.3
	Emergency Generator	30.7	_4	_4	_4
	Combined Noise Level:	45.3	48.1	50.2	56.9
	Parking Structure Vehicle Movement	44.1	47.2	49.3	55.9
	Parking Lot Vehicle Movement	35.2	38.3	44.9	53.9
R3	Roof-Top Air Conditioning Unit	33.3	12.6	10.4	9.0
	Emergency Generator	38.5	_4	_4	_4
	Combined Noise Level:	45.8	48.0	50.6	58.0
	Parking Structure Vehicle Movement	37.9	41.0	43.1	49.7
	Parking Lot Vehicle Movement	32.1	35.2	41.8	50.8
R4	Roof-Top Air Conditioning Unit	37.2	16.5	14.3	12.9
	Emergency Generator	27.7	_4	_4	_4
	Combined Noise Level:	41.3	42.0	45.5	53.3
	Parking Structure Vehicle Movement	45.5	48.6	50.7	57.3
	Parking Lot Vehicle Movement	36.0	39.1	45.7	54.7
R5	Roof-Top Air Conditioning Unit	33.9	13.2	11.0	9.6
	Emergency Generator	39.4	_4	_4	_4
	Combined Noise Level:	47.0	49.1	51.9	59.2
	Parking Structure Vehicle Movement	35.5	38.6	40.7	47.3
	Parking Lot Vehicle Movement	33.8	36.9	43.5	52.5
R6	Roof-Top Air Conditioning Unit	30.0	9.3	7.1	5.7
	Emergency Generator	37.5	_4	_4	_4
	Combined Noise Level:	41.0	40.8	45.3	53.6
	Parking Structure Vehicle Movement	34.0	37.1	39.2	45.8
 	Parking Lot Vehicle Movement	31.7	34.8	41.4	50.4
R7	Roof-Top Air Conditioning Unit	27.2	6.5	4.3	2.9
	Emergency Generator	35.5	_4	_4	_4
	Combined Noise Level: 0-A for the receiver and noise source locations.	39.1	39.1	43.4	51.7

¹ See Exhibit 10-A for the receiver and noise source locations.

Note: The helicopter operational noise levels are added to the Project operational noise levels on Tables 10-3 and 10-4 to show the difference at each receiver location without and with the typical and trauma helicopter noise levels, respectively.



² Reference noise sources as shown on Table 10-1.

³ Stationary source noise level calculations are provided in Appendix 10.1.

⁴ Reference noise level data does not include the given noise level descriptor.

With Typical Helicopter Activity

Table 10-3 presents the Project operational noise levels during the daytime and nighttime hours with the addition of the proposed typical helicopter activities. Table 10-3 indicates that the noise levels associated with the Canyon Springs Healthcare Campus & Senior Living Project, with typical helicopter activities, are expected to range from 39.8 to 47.5 dBA L_{50} at the nearby sensitive receiver locations during the daytime and nighttime hours.

TABLE 10-3: PROJECT-ONLY OPERATIONAL NOISE LEVELS WITH TYPICAL HELICOPTER ACTIVITIES

D	No. to	Stationa	ary/Area-Sour	ce Noise Leve	Is (dBA) ³
Receiver Location ¹	Noise Sources ²	L ₅₀ (30 mins)	L ₂₅ (15 mins)	L ₈ (5 mins)	L ₂ (1 min)
	Project Operational Noise Levels (Table 10-2)	44.0	45.4	47.6	54.2
R1	Typical Helicopter Activities	43.7	_4	_4	_4
	Combined Noise Level:	46.9	45.4	47.6	54.2
	Project Operational Noise Levels (Table 10-2)	45.3	48.1	50.2	56.9
R2	Typical Helicopter Activities	37.7	_4	_4	_4
	Combined Noise Level:	46.0	48.1	50.2	56.9
	Project Operational Noise Levels (Table 10-2)	45.8	48.0	50.6	58.0
R3	Typical Helicopter Activities	42.7	_4	_4	_4
	Combined Noise Level:	47.5	48.0	50.6	58.0
	Project Operational Noise Levels (Table 10-2)	41.3	42.0	45.5	53.3
R4	Typical Helicopter Activities	40.4	_4	_4	_4
	Combined Noise Level:	43.9	42.0	45.5	53.3
	Project Operational Noise Levels (Table 10-2)	47.0	49.1	51.9	59.2
R5	Typical Helicopter Activities	35.8	_4	_4	_4
	Combined Noise Level		49.1	51.9	59.2
	Project Operational Noise Levels (Table 10-2)	41.0	40.8	45.3	53.6
R6	Typical Helicopter Activities	33.0	_4	_4	_4
	Combined Noise Level:	41.6	40.8	45.3	53.6
	Project Operational Noise Levels (Table 10-2)	39.1	39.1	43.4	51.7
R7	Typical Helicopter Activities	31.6	_4	_4	_4
	Combined Noise Level:	39.8	39.1	43.4	51.7

¹ See Exhibit 10-A for the receiver and noise source locations.



² The Project Operational Noise Levels, previously shown on Table 10-2, are combined with the typical helicopter activities.

 $^{^{\}rm 3}$ Stationary source noise level calculations are provided in Appendix 10.1.

⁴ Reference noise level data does not include the given noise level descriptor.

With Trauma Helicopter Activity

Table 10-4 shows the Project operational noise levels during the daytime and nighttime hours with the addition of the proposed trauma helicopter activities. Table 10-4 indicates that the noise levels associated with the Canyon Springs Healthcare Campus & Senior Living Project, with trauma helicopter activities, are expected to range from 43.1 to 53.6 dBA L_{50} at the nearby sensitive receiver locations during the daytime and nighttime hours.

TABLE 10-4: PROJECT-ONLY OPERATIONAL NOISE LEVELS WITH TRAUMA HELICOPTER ACTIVITIES

D	Matri	Stationa	ary/Area-Sour	ce Noise Leve	ls (dBA) ³
Receiver Location ¹	Noise Sources ²	L ₅₀ (30 mins)	L ₂₅ (15 mins)	L ₈ (5 mins)	L ₂ (1 min)
	Project Operational Noise Levels (Table 10-2)	44.0	45.4	47.6	54.2
R1	Trauma Helicopter Activities	53.1	_4	_4	_4
	Combined Noise Level:	53.6	45.4	47.6	54.2
	Project Operational Noise Levels (Table 10-2)	45.3	48.1	50.2	56.9
R2	Trauma Helicopter Activities	47.2	_4	_4	_4
	Combined Noise Level:	49.4	48.1	50.2	56.9
	Project Operational Noise Levels (Table 10-2)	45.8	48.0	50.6	58.0
R3	Trauma Helicopter Activities	52.1	_4	_4	_4
	Combined Noise Level:	53.0	48.0	50.6	58.0
	Project Operational Noise Levels (Table 10-2)	41.3	42.0	45.5	53.3
R4	Trauma Helicopter Activities	49.9	_4	_4	_4
	Combined Noise Level:	50.5	42.0	45.5	53.3
	Project Operational Noise Levels (Table 10-2)	47.0	49.1	51.9	59.2
R5	Trauma Helicopter Activities	45.2	_4	_4	_4
	Combined Noise Level:	49.2	49.1	51.9	59.2
	Project Operational Noise Levels (Table 10-2)	41.0	40.8	45.3	53.6
R6	Trauma Helicopter Activities	42.4	_4	_4	_4
	Combined Noise Level:	44.8	40.8	45.3	53.6
	Project Operational Noise Levels (Table 10-2)	39.1	39.1	43.4	51.7
R7	Trauma Helicopter Activities	41.0	_4	_4	_4
	Combined Noise Level:	43.1	39.1	43.4	51.7

¹ See Exhibit 10-A for the receiver and noise source locations.



² The Project Operational Noise Levels, previously shown on Table 10-2, are combined with the trauma helicopter activities.

 $^{^{\}rm 3}$ Stationary source noise level calculations are provided in Appendix 10.1.

⁴ Reference noise level data does not include the given noise level descriptor.

10.3 Project Operational Noise Level Compliance

The operational noise level compliance of the Project noise sources is shown on Tables 10-5, 10-6, and 10-7 in relation to the City of Riverside exterior noise level standards, without helicopter activities, with typical helicopter activities, and with trauma helicopter activities, respectively.

Without Helicopter Activities

Based on the results of the noise analysis, shown on Table 10-5, the Project operational noise levels without helicopter activities will satisfy the daytime and nighttime City of Riverside exterior noise level standards at the nearby sensitive receiver locations with the recommended 8-foot high noise barrier as shown on Exhibit 10-A. Additional attenuation is provided by the Project buildings which will be located between some noise sources and the receiver locations, with roof heights of up to 52 feet. (23)

With Typical Helicopter Activities

Table 10-6 shows the operational noise levels with typical helicopter activities will also satisfy the daytime and nighttime City of Riverside exterior noise level standards at the nearby sensitive receiver locations with the recommended 8-foot high noise barrier as shown on Exhibit 10-A.

With Trauma Helicopter Activities

Table 10-7 shows the Project operational noise levels with trauma helicopter activities are anticipated to exceed the nighttime City of Riverside exterior noise level standards at receiver locations R3, and R4. Due to the potential trauma helicopter operational noise level impacts, the Project will be required to comply with all the conditions of approval per the requirements of the Federal Aviation Administration (FAA), Riverside County Airport Land Use Commission (RCALUC), March Air Reserve Base/Inland Port Airport Land Use Compatibility Plan the State of California Heliport Permitting process, and City of Riverside Heliport Permitting process. Therefore, the Project-related emergency helicopter noise impacts are considered *less than significant* after the mitigation measures identified in this noise study. Further, trauma activity will only occur intermittently and does not represent the typical, daily operations at the Project site.



TABLE 10-5: OPERATIONAL NOISE LEVEL COMPLIANCE WITHOUT HELICOPTER ACTIVITIES

	Noise Lev	Noise Level at Receiver Locations (dBA) ²	ver Locatio	ns (dBA) ²			Noise I	Noise Level Thresholds (dBA) ²	esholds	(dBA) ²			Thre	Threshold
Receiver Location ¹	L ₅₀	L ₂₅	Ls	L ₂	L ₅₀ (30 mins)	mins)	L ₂₅ (15 mins)	mins)	L ₈ (5 mins)	mins)	L ₂ (1 min)	min)	Excee	Exceeded? ³
	(30 mins)	(15 mins)	(5 mins)	(1 min)	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
R1	44.0	45.4	47.6	54.2	09	09	99	99	70	70	75	75	No	ON
R2	45.3	48.1	50.2	6.99	09	09	99	99	70	70	75	75	No	No
R3	45.8	48.0	9.03	58.0	52	20	09	20	99	55	70	09	No	No
R4	41.3	42.0	45.5	53.3	99	20	09	20	99	22	70	09	No	oN
R5	47.0	49.1	51.9	59.2	52	20	09	20	99	55	70	09	No	No
R6	41.0	40.8	45.3	53.6	52	20	09	20	99	55	70	09	No	No
R7	39.1	39.1	43.4	51.7	22	20	09	20	99	55	70	09	No	ON
1 Con Evhibit	O A for tho ro	ion bac rouion	1 Soo Evbibit 10 A for the receiver and noise source locations	+ionc										



08991-37 Noise Study

77

 $^{^1}$ See Exhibit 10-A for the receiver and noise source locations. 2 Estimated Project operational noise levels as shown on Table 10-2. 3 Do the estimated Project operational noise levels meet the operational noise level standards? "Day" = 7:00 a.m. to 10:00 p.m.; "Night" = 10:00 p.m. to 7:00 a.m.

TABLE 10-6: OPERATIONAL NOISE LEVEL COMPLIANCE WITH TYPICAL HELICOPTER ACTIVITIES

on Lso Lss (15 mins) 46.9 45.4 46.0 48.1 47.5 48.0 43.9 42.0 47.4 49.1	Noise Level at Receiver Locations (dBA) ²	ıs (dBA)²			Noise I	Noise Level Thresholds (dBA) ²	esholds	(dBA) ²			Thres	Threshold
(30 mins) (15 mins) 46.9 45.4 46.0 48.1 47.5 48.0 43.9 42.0 47.4 49.1	l P	L ₂	L ₅₀ (30 mins)	mins)	L ₂₅ (15 mins)	mins)	L ₈ (5 mins)	nins)	L ₂ (1 min)	min)	Excee	Exceeded? ³
46.0 46.0 47.5 43.9 47.4	(5 mins)	(1 min)	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
46.0 47.5 43.9 47.4	47.6	54.2	09	09	92	99	70	70	75	75	No	No
47.5	50.2	6.99	09	09	99	92	70	70	75	75	No	No
43.9	9.09	58.0	22	20	09	20	99	22	70	09	No	No
47.4	45.5	53.3	22	20	09	20	92	22	70	09	No	No
	51.9	59.2	22	20	09	20	92	22	70	09	No	No
R6 41.6 40.8	45.3	53.6	22	20	09	20	9	22	70	09	No	No
R7 39.8 39.1	43.4	51.7	22	20	09	20	99	22	70	09	No	No

¹ See Exhibit 10-A for the receiver and noise source locations.

² Estimated Project operational noise levels as shown on Table 10-3 which include the typical helicopter activities at the Project site. ³ Do the estimated Project operational noise levels meet the operational noise level standards (Table 3-1)? "Day" = 7:00 a.m. to 10:00 p.m.; "Night" = 10:00 p.m. to 7:00 a.m.



08991-37 Noise Study

78

TABLE 10-7: OPERATIONAL NOISE LEVEL COMPLIANCE WITH TRAUMA HELICOPTER ACTIVITIES

	Noise Lev	Noise Level at Receiver Locations (dBA) ²	ver Location	ns (dBA) ²			Noise I	Noise Level Thresholds (dBA) ²	esholds	(dBA) ²			Thres	Threshold
Receiver Location ¹	L ₅₀	L ₂₅	Ls	L ₂	L ₅₀ (30 mins)	mins)	L ₂₅ (15 mins)	mins)	L ₈ (5 mins)	mins)	L ₂ (1 min)	min)	Excee	Exceeded? ³
	(30 mins)	(15 mins)	(5 mins)	(1 min)	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
R1	53.6	45.4	47.6	54.2	09	09	99	99	70	70	75	75	No	No
R2	49.4	48.1	50.2	6'99	09	09	92	99	70	70	75	75	No	No
R3	53.0	48.0	9.03	0.83	99	20	09	20	99	52	70	09	No	Yes
R4	50.5	42.0	45.5	53.3	22	20	09	20	92	52	70	09	No	Yes
R5	49.2	49.1	51.9	2.93	99	20	09	20	92	22	70	09	No	No
R6	44.8	40.8	45.3	9.83	99	20	09	20	99	22	70	09	No	No
R7	43.1	39.1	43.4	2.13	99	20	09	20	99	22	70	09	No	No

See Exhibit 10-A for the receiver and noise source locations.

² Estimated Project operational noise levels as shown on Table 10-4 which include the typical helicopter activities at the Project site. ³ Do the estimated Project operational noise levels meet the operational noise level standards (Table 3-1)? "Day" = 7:00 a.m. to 10:00 p.m.; "Night" = 10:00 p.m. to 7:00 a.m.



08991-37 Noise Study

4

10.4 Project Noise Contribution

To describe the Project operational noise level contributions, the Project operational noise levels were combined with the existing ambient noise levels measurements. The difference between the combined Project and ambient noise levels describe the Project noise level contributions. Noise levels that would be experienced at receiver locations when Project-source noise is added to ambient daytime and nighttime conditions are presented on Tables 10-6 and 10-7, respectively, and include the attenuation provided by the recommended 8-foot high noise barrier and Project buildings shown on Exhibit 10-A.

The Project-related operational noise levels shown on Tables 10-8 and 10-9 do not include operational noise levels from ambulances operating at the Project site. The California Vehicle Code, Sections 21055 and 27007, exempt drivers of emergency vehicles and sound amplification equipment of emergency vehicles, respectively. Section 21055 states that emergency vehicles driven in response to an emergency or while engaged in rescue operations and the sirens used reasonably necessary are considered exempt from California Vehicle Code regulations. Further, Section 27007 indicates that sound amplification systems which can be heard outside the vehicle from 50 or more feet are prohibited, unless that system is being operated to request assistance or warn of a hazardous situation. The exemption is for emergency vehicles irens is explicit when it states this section does not apply to authorized emergency vehicles or vehicles operated by gas, electric, communications, or water utilities. (2)

As indicated in Tables 10-8 and 10-9, the Project would contribute operational stationary-source noise level increases of up to 5.5 dBA L_{50} (daytime) and 3.2 dBA L_{50} (nighttime) at nearby receiver locations. The daytime Project-related operational noise level increases of 5.5 dBA L_{50} at receiver location R1 and up to 5.0 dBA L_{50} at receiver location R3 result in combined exterior noise levels of 55.0 dBA L_{50} at R1, and 54.6 dBA L_{50} at R3, respectively. As such, the combined Project and ambient noise levels will remain below the City of Riverside Municipal Code noise level standards for community support land uses (60 dBA L_{50} for R1) and residential uses (55 dBA L_{50} for R3), and therefore, the Project-related operational noise level contributions to the ambient noise levels at nearby sensitive receiver locations will be *less than significant* at receiver locations R1 and R3. Further, nighttime operational noise level increases with the Project are shown to be *less than significant* at all receiver locations with mitigation.



TABLE 10-8: DAYTIME OPERATIONAL NOISE LEVEL CONTRIBUTIONS (DBA L50)

Receiver Location ¹	Total Project Operational Noise Level ²	Measurement Location ³	Reference Ambient Noise Levels ⁴	Combined Project and Ambient ⁵	Project Contribution ⁶	Potential Cumulative Significant Impact? ⁷
R1	53.6	L3	49.5	55.0	5.5	No ⁸
R2	49.4	L3	49.5	52.4	2.9	No
R3	53.0	L2	49.6	54.6	5.0	No ⁸
R4	50.5	L2	49.6	53.1	3.5	No
R5	49.2	L1	65.7	65.8	0.1	No
R6	44.8	L1	65.7	65.7	0.0	No
R7	43.1	L1	65.7	65.7	0.0	No

¹ See Exhibit 10-A for the sensitive receiver locations.



² Total Project operational noise levels as shown on Table 10-2, without the trauma helicopter.

³ Reference noise level measurement locations as shown on Exhibit 5-A.

⁴ Observed daytime ambient noise levels as shown on Table 5-1.

⁵ Represents the combined ambient conditions plus the Project activities.

⁶ The noise level increase expected with the addition of the proposed Project activities. As discussed in Section 4, when the without Project noise levels are less than 60 dBA a Project-related increase of 5 dBA is considered readily perceptible; when the without Project noise levels are between 60 to 65 dBA a 3 dBA increase is considered barely perceptible, and when the without Project noise levels are above 65 dBA, a 1.5 dBA increase is just perceptible.

⁷ Significance Criteria as defined in Section 4.

 $^{^8}$ The combined Project and ambient noise levels will remain below the City of Riverside Municipal Code noise level standards for community support land uses (60 dBA L50 for R1) and residential uses (55 dBA L50 for R3), and therefore, the Project-related operational noise level contributions to the ambient noise levels at nearby sensitive receiver locations will be less than significant at receiver locations R1 and R3.

TABLE 10-9: NIGHTTIME OPERATION NOISE LEVEL CONTRIBUTIONS (DBA L50)

Receiver Location ¹	Total Project Operational Noise Level ²	Measurement Location ³	Reference Ambient Noise Levels ⁴	Combined Project and Ambient ⁵	Project Contribution ⁶	Potential Cumulative Significant Impact? ⁷
R1	53.6	L3	55.1	57.4	2.3	No
R2	49.4	L3	55.1	56.1	1.0	No
R3	53.0	L2	52.7	55.9	3.2	No
R4	50.5	L2	52.7	54.7	2.0	No
R5	49.2	L1	61.9	62.1	0.2	No
R6	44.8	L1	61.9	62.0	0.1	No
R7	43.1	L1	61.9	62.0	0.1	No

¹ See Exhibit 10-A for the sensitive receiver locations.

10.5 OPERATIONAL NOISE MITIGATION MEASURES

- Prior to certificate of occupancy for the proposed Hospital, Medical Office Building 3, Medical Office Building 4 or Parking Structure 1, which every may be constructed first, the Project Applicant shall construct the proposed 8-foot-high perimeter wall (as shown on Figure 4.9-2) to reduce the operational noise levels at the adjacent sensitive receiver locations.
- Prior to certificate of occupancy for the proposed hospital, the Project shall adhere to all Federal, State, Regional, and Local agency requirements including but not limited to: Federal Aviation Administration, the Riverside County Airport Land Use Commission, the March Air Reserve Base/Inland Port Airport, the State of California Heliport Permitting process, and City of Riverside Entitlement process.



² Total Project operational noise levels as shown on Table 10-2, without the trauma helicopter activities.

³ Reference noise level measurement locations as shown on Exhibit 5-A.

⁴ Observed nighttime ambient noise levels as shown on Table 5-1.

⁵ Represents the combined ambient conditions plus the Project activities.

⁶ The noise level increase expected with the addition of the proposed Project activities. As discussed in Section 4, when the without Project noise levels are less than 60 dBA a Project-related increase of 5 dBA is considered readily perceptible; when the without Project noise levels are between 60 to 65 dBA a 3 dBA increase is considered barely perceptible, and when the without Project noise levels are above 65 dBA, a 1.5 dBA increase is just perceptible.

⁷ Significance Criteria as defined in Section 4.

11 CONSTRUCTION IMPACTS

This section analyzes potential impacts resulting from the short-term construction activities associated with the development of the Project.

11.1 Construction Noise Impacts

Pursuant to Section 7.35.020 "Exemptions" subsection (G) "Noise sources associated with construction, repair, remodeling, or grading of any real property; provided a permit has been obtained from the City as required; and provided said activities do not take place between the hours of 7:00 p.m. and 7:00 a.m. on weekdays, between the hours of 5:00 p.m. and 8:00 a.m. on Saturdays, or at any time on Sunday or a federal holiday. Therefore, construction noise associated with the proposed Project is exempt from the City's Noise Ordinance. (3)

11.2 Construction Vibration Impacts

Construction activity can result in varying degrees of ground vibration, depending on the equipment and methods used, distance to the affected structures and soil type. It is expected that ground-borne vibration from Project construction activities would cause only intermittent, localized intrusion. The proposed Project's construction activities most likely to cause vibration impacts are:

- Heavy Construction Equipment: Although all heavy mobile construction equipment has the
 potential of causing at least some perceptible vibration while operating close to building, the
 vibration is usually short-term and is not of sufficient magnitude to cause building damage. It is
 not expected that heavy equipment such as large bulldozers would operate close enough to any
 residences to cause a vibration impact.
- Trucks: Trucks hauling building materials to construction sites can be sources of vibration intrusion if the haul routes pass through residential neighborhoods on streets with bumps or potholes. Repairing the bumps and potholes generally eliminates the problem.

The construction of the Project is not expected to generate vibration levels exceeding the FTA maximum acceptable vibration standard of 80 (VdB). Further, impacts at the site of the closest sensitive receiver are unlikely to be sustained during the entire construction period, but will occur rather only during the times that heavy construction equipment is operating adjacent to the Project site perimeter. Moreover, construction at the Project site will be restricted to daytime hours consistent with City requirements thereby eliminating potential vibration impact during the sensitive nighttime hours.



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12 REFERENCES

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- Environmental Protection Agency Office of Noise Abatement and Control. Information on Levels of Environmental Noise Requiste to Protect Public Health and Welfare with an Adequate Margin of Safety. March, 1974. EPA/ONAC 550/9/74-004.
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- 21. California Department of Transportation Environmental Program, Office of Environmental Engineering. *Use of California Vehicle Noise Reference Energy Mean Emission Levels (Calveno REMELs) in FHWA Highway Traffic Noise Prediction.* September 1995. TAN 95-03.
- 22. **California Department of Transportation**. *Traffic Data Branch, Annual Average Daily Truck Traffic on the California Highways System*. 2013.
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- 26. **U.S. Army Corps of Engineers.** *Operational Noise Data for UH-60A and CH-47C Army Helicopters.* August 1982.



13 CERTIFICATION

The contents of this noise study report represent an accurate depiction of the noise environment and impacts associated with the proposed Canyon Springs Healthcare Campus & Senior Living Project. The information contained in this noise study report is based on the best available data at the time of preparation. If you have any questions, please contact me directly at (949) 336-5979.

Bill Lawson, P.E., INCE Principal URBAN CROSSROADS, INC. 41 Corporate Park, Suite 300 Irvine, CA 92606 (949) 660-1994 x203 blawson@urbanxroads.com



EDUCATION

Master of Science in Civil and Environmental Engineering California Polytechnic State University, San Luis Obispo • December, 1993

Bachelor of Science in City and Regional Planning California Polytechnic State University, San Luis Obispo • June, 1992

PROFESSIONAL REGISTRATIONS

PE – Registered Professional Traffic Engineer – TR 2537 • January, 2009 AICP – American Institute of Certified Planners – 013011 • June, 1997–January 1, 2012 PTP – Professional Transportation Planner • May, 2007 – May, 2013 INCE – Institute of Noise Control Engineering • March, 2004

Professional Affiliations

ASA – Acoustical Society of America ITE – Institute of Transportation Engineers

Professional Certifications

Certified Acoustical Consultant – County of Orange • February, 2011 FHWA-NHI-142051 Highway Traffic Noise Certificate of Training • February, 2013



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APPENDIX 3.1:

CITY OF RIVERSIDE MUNICIPAL CODE



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Title 7

NOISE CONTROL

Chapters:

7.05	POLICY AND INTENT
7.10	DEFINITIONS
7.15	ADMINISTRATION AND ENFORCEMENT
7.20	SOUND LEVEL MEASUREMENT
7.23	AMBIENT NOISE LEVELS
7.25	NUISANCE EXTERIOR SOUND LEVEL LIMITS
7.30	NUISANCE INTERIOR SOUND LEVEL LIMITS
7.35	GENERAL NOISE REGULATIONS
7.40	VARIANCE PROCEDURE
7.45	SEVERABILITY

Chapter 7.05

POLICY AND INTENT

Sections:

7.05.010 Policy and intent.

Section 7.05.010 Policy and intent.

It is determined that certain noise levels are detrimental to the public health, safety and welfare and are contrary to the public interest. Therefore, the City Council declares that creating, maintaining, causing or allowing to create, maintain or cause any noise in a manner not in conformity with the provisions of this chapter, is a public nuisance and shall be punishable as such.

In order to control unnecessary, excessive and/or annoying noise in the City, it is declared to be the policy of the City to prohibit such noise generated by the sources specified in this chapter. It shall be the goal of the City to minimize noise levels and mitigate the effects of noise to provide a safe and healthy living environment. (Ord. 6273 § 1 (part), 1996)

Chapter 7.10

DEFINITIONS

Sections:

7.10.010	Definitions generally.
7.10.015	A-weighted sound level.
7.10.020	Agricultural property.
7.10.025	Ambient noise level.
7.10.030	Commercial purpose.
7.10.035	Construction.
7.10.040	Community support land use category.
7.10.045	Cumulative period.
7.10.050	Decibel (dB).
7.10.055	Demolition.
7.10.060	Emergency.
7.10.065	Emergency work.
7.10.070	Fixed noise source.
7.10.075	Grading.
7.10.080	Impulsive sound.
7.10.085	Industrial land use category.
7.10.090	Intrusive noise.
7.10.095	Minor maintenance.
7.10.100	Mobile noise source.
7.10.105	Motor vehicle.
7.10.110	Muffler or sound dissapative device.
7.10.115	Noise.
7.10.120	Noise Control Officer.
7.10.125	Noise disturbance.
7.10.130	Noise source.
7.10.135	Noise zone.
7.10.140	Nonurban land use category.
7.10.145	Office/commercial land use category.
7.10.150	Person.
7.10.155	Powered model vehicle.
7.10.160	Public recreation facility land use category.
7.10.165	Public right-of-way.
7.10.170	Public space.
7.10.175	Residential land use category.
7.10.180	Sound.
7.10.185	Sound amplifying equipment.
7.10.190	Sound level.
7.10.195	Sound level meter.
7.10.200	Sound pressure.
7.10.205	Sound pressure level.
7.10.210	Supplementary definitions of technical terms.

Section 7.10.010 Definitions generally.

For the purposes of this title, the words and phrases defined in this chapter shall have the meanings respectively ascribed to them by this chapter. (Ord. 6273 § 1 (part), 1996)

Section 7.10.015 A-weighted sound level.

"A-weighted sound level" means the sound pressure level in decibels as measured on a sound level meter using the A-weighing network. The level is designated dB(A) or dBA. (Ord. 6273 § 1 (part), 1996)

Section 7.10.020 Agricultural property.

"Agricultural property" means a parcel of real property which is developed for agricultural and incidental residential purposes which is located within any permitted zone. (Ord. 6273 § 1 (part), 1996)

Section 7.10.025 Ambient noise level.

"Ambient noise level" means the all-encompassing noise level associated with a given environment, being a composite of sounds from all sources, excluding an alleged offensive noise, at the location and approximate time at which the comparison with the offensive noise is to be made. The ambient noise level constitutes the normal or existing level of environmental noise at a given location. (Ord. 6273 § 1 (part), 1996)

Section 7.10.030 Commercial purpose.

"Commercial purpose" means the use, operation or maintenance of any sound amplification equipment for the purpose of advertising any business, goods or services, or for the purposes of attracting the attention of the public, or soliciting patronage of customers to any performance, show, entertainment, exhibition or event, or for the purpose of demonstrating such sound equipment. (Ord. 6273 § 1 (part), 1996)

Section 7.10.035 Construction.

"Construction" means any site preparation including grading, building, fabricating, assembly, substantial repair, alteration, or similar action. (Ord. 6273 § 1 (part), 1996)

Section 7.10.040 Community support land use category.

"Community support land use category" means areas developed with schools, libraries, fire stations, hospitals and similar uses in any zone. (Ord. 6273 § 1 (part), 1996)

Section 7.10.045 Cumulative period.

"Cumulative period" means a total period of time composed of time segments which may be continuous or discontinuous. (Ord. 6273 § 1 (part), 1996)

Section 7.10.050 Decibel (dB).

"Decibel (dB)" means a unit for measuring amplitude of a sound, equal to twenty times the logarithm to the base ten of the ratio of the pressure of the sound measured to the reference pressure, which is twenty micropascals (twenty micronewtons per square meter). (Ord. 6273 § 1 (part), 1996)

Section 7.10.055 Demolition.

"Demolition" means any dismantling, intentional destruction or removal of structures, site improvements, landscaping or utilities. (Ord. 6273 § 1 (part), 1996)

Section 7.10.060 Emergency.

"Emergency" means any occurrence or set of circumstances involving actual or imminent physical trauma or property damage which demands immediate action. (Ord. 6273 § 1 (part), 1996)

Section 7.10.065 Emergency work.

"Emergency work" means work made necessary to restore property to a safe condition following a physical trauma or property damage caused by an emergency or work necessary to prevent or minimize damage from a potential emergency. (Ord. 6273 § 1 (part), 1996)

Section 7.10.070 Fixed noise source.

"Fixed noise source" means a stationary device which creates sounds from a fixed location, including residential, agricultural, industrial and commercial machinery and equipment, pumps fans, compressors, air conditioners and refrigeration devices. (Ord. 6273 § 1 (part), 1996)

Section 7.10.075 Grading.

"Grading" means any excavating and/or filling of earth material to prepare a site for construction or the placement of improvements. (Ord. 6273 § 1 (part), 1996)

Section 7.10.080 Impulsive sound.

"Impulsive sound" means sound of short duration, usually less than one second, with an abrupt onset and rapid decay. Examples include explosions, drum beats, drop-forge impacts, fire crackers, discharge of firearms and one object striking another. (Ord. 6273 § 1 (part), 1996)

Section 7.10.085 Industrial land use category.

"Industrial land use category" means any area occupied by land uses whose primary operation involves warehousing, manufacturing, assembling, distributing, packaging or processing goods in the BMP, I, and AIR zones. (Ord. 6967 § 2, 2007; (Ord. 6273 § 1 (part), 1996)

Section 7.10.090 Intrusive noise.

"Intrusive noise" means a noise which intrudes over and above the existing ambient noise. The relative intrusiveness of the sound depends upon its amplitude, duration, frequency and time of occurrence, tonal or informational content as well as its relationship to the prevailing ambient noise level. (Ord. 6273 § 1 (part), 1996)

Section 7.10.095 Minor maintenance.

"Minor maintenance" means work required to keep property used for residential purposes in an existing state. (Ord. 6273 § 1 (part), 1996)

Section 7.10.100 Mobile noise source.

"Mobile noise source" means any noise source other than a fixed noise source. (Ord. 6273 § 1 (part), 1996)

Section 7.10.105 Motor vehicle.

"Motor vehicle" means any self-propelled vehicle as defined in the California Vehicle Code, including all on-highway types of motor vehicles subject to registration under said code, and all off-highway type motor vehicles subject to identification under said code. (Ord. 6273 § 1 (part), 1996)

Section 7.10.110 Muffler or sound dissapative device.

"Muffler or sound dissapative device" means a device for abating the sound of escaping gases from an internal combustion engine. (Ord. 6273 § 1 (part), 1996)

Section 7.10.115 Noise.

"Noise" means any sound which exceeds the appropriate actual or presumed ambient noise level or which annoys or tends to disturb humans or which causes or tends to cause an adverse psychological or physiological effect on humans. (Ord. 6273 § 1 (part), 1996)

Section 7.10.120 Noise Control Officer.

"Noise Control Officer" means the City official(s) or duly authorized representative(s) with the responsibility to enforce the noise ordinance. (Ord. 6273 § 1 (part), 1996)

Section 7.10.125 Noise disturbance.

"Noise disturbance" means any sound which endangers or injures the safety or health of humans or animals, or annoys or disturbs a reasonable person of normal sensitivities or endangers or injures personal or real property. (Ord. 6273 § 1 (part), 1996)

Section 7.10.130 Noise source.

"Noise source" means a disturbance causing operation which originates from noise generating mechanism. An example of a noise source is the combination of a motor, pump and compressor. (Ord. 6273 § 1 (part), 1996)

Section 7.10.135 Noise zone.

"Noise zone" means defined areas of generally consistent land use where the ambient noise levels are generally similar within a range of five decibels. (Ord. 6273 § 1 (part), 1996)

Section 7.10.140 Nonurban land use category.

"Nonurban land use category" means vacant land or land primarily for agricultural production containing ten acres or more. (Ord. 6273 § 1 (part), 1996)

Section 7.10.145 Office/commercial land use category.

"Office/commercial land use category" means areas developed with office and/or commercial uses in the O, CRC, CR-NC, CR, and CG zones. (Ord. 6967 § 2, 2007; Ord. 6273 § 1 (part), 1996)

Section 7.10.150 Person.

"Person" means any individual, association, partnership or corporation and includes any officer, employee, department, agency or instrumentality of a State or any political subdivision of a State. (Ord. 6273 § 1 (part), 1996)

Section 7.10.155 Powered model vehicle.

"Powered model vehicle" means airborne, waterborne or land-borne vehicles such as model airplanes, model boats, and model vehicles of any type or size which are not designed for carrying persons or property and which can be propelled in any form other than manpower or wind power. (Ord. 6273 § 1 (part), 1996)

Section 7.10.160 Public recreation facility land use category.

"Public recreation facility land use category" means areas developed with public parks and other public recreational facilities. (Ord. 6273 § 1 (part), 1996)

Section 7.10.165 Public right-of-way.

"Public right-of-way" means any street, avenue, boulevard, highway, sidewalk or alley or similar place which is owned or controlled by a government entity. (Ord. 6273 § 1 (part), 1996)

Section 7.10.170 Public space.

"Public space" means any real property or structures which are owned or controlled by a government entity. (Ord. 6273 § 1 (part), 1996)

Section 7.10.175 Residential land use category.

"Residential land use category" means areas primarily used for residential purposes in the RE, RA-5, RR, RC, R-1-1-1/2 acre, R-1-13000, R-1-10500, R-1-8500, R-1-7000, R-3-2500, R-3-4000, R-3-3000, R-3-2000, R-3-1500, and R-4 zones. (Ord. 6967 § 2, 2007; Ord. 6273 § 1 (part), 1996)

Section 7.10.180 Sound.

"Sound" means an oscillation in pressure, particle displacement, particle velocity or other physical parameter, in a medium with internal forces that causes compression and rarefaction of that medium. The description of sound may include any characteristic of such sound, including duration, intensity and frequency. (Ord. 6273 § 1 (part), 1996)

Section 7.10.185 Sound amplifying equipment.

"Sound amplifying equipment" means any device for the amplification of the human voice, or music, or any other sound, excluding devices in motor vehicles when heard only by the occupants of the vehicle, excluding warning devices on authorized emergency vehicles or horns or other warning devices on any vehicle used only for traffic safety purposes. (Ord. 6273 § 1 (part), 1996)

Section 7.10.190 Sound level.

"Sound level" means the weighted sound pressure level obtained by the use of a sound level meter and frequency weighing network, such as A, B or C, as specified in American National Standards Institute specifications for sound level meter ANSI S1.4-1971 or the latest approved revision thereof. If the frequency weighing method used is not stated, the A-weighing shall apply. (Ord. 6273 § 1 (part), 1996)

Section 7.10.195 Sound level meter.

"Sound level meter" means an instrument, including a microphone, an amplifier, an output meter, and frequency weighing networks for the measurement of sound levels which satisfies the requirements for S2A meters in American National Standards Institute specifications for

sound level meters, S1.4-1971, or the most recent revision thereof. (Ord. 6273 § 1 (part), 1996)

Section 7.10.200 Sound pressure.

"Sound pressure" means the instantaneous difference between the actual pressure and the average or barometric pressure at a given point in space, as produced by sound energy. (Ord. 6273 § 1 (part), 1996)

Section 7.10.205 Sound pressure level.

"Sound pressure level" in decibels means twenty times the logarithm to the base ten of the ratio of the pressure of this sound to the reference pressure, which reference pressure shall be explicitly stated. (Ord. 6273 § 1 (part), 1996)

Section 7.10.210 Supplementary definitions of technical terms.

Definitions of technical terms not defined herein shall be obtained from the American National Standard, "Acoustical Terminology" S1.1-1961 (R-1971) or the latest revision thereof. (Ord. 6273 § 1 (part), 1996)

Chapter 7.15

ADMINISTRATION AND ENFORCEMENT

Section:

7.15.005 Administration and enforcement.

Section 7.15.005 Administration and enforcement.

- A. The noise regulation shall be enforced by the Code Enforcement Division of the Community Development Department and/or the Riverside Police Department.
- B. It shall be the responsibility of the Code Enforcement Division and/or the Riverside Police Department to enforce the provisions of this Title and to perform all other functions required by this Title. Such duties shall include, but not be limited to investigating potential violations, issuing warning notices and citations, and providing evidence to the City Attorney for legal action.
- C. A violation of these regulations may be prosecuted as a misdemeanor or as an infraction. Each day a violation occurs shall constitute a separate offense and shall be punishable as such. However, nothing in these regulations shall prevent any code compliance officer or his duly authorized representatives from efforts to obtain voluntary compliance by way of warning, notice or education. (Ord. 6959 § 1, 2007; Ord. 6844 § 15, 2006; Ord. 6273 § 1 (part), 1996)

SOUND LEVEL MEASUREMENT

Section:

7.20.010 Sound level measurement.

Section 7.20.010 Sound level measurement.

Except as provided by Chapter 17.35, General Noise Regulations, any sound or noise level measurement made to enforce this title shall be measured with a sound level meter using the A-weighing scale at slow response. The exterior noise level shall be measured at the position or positions along the complainant's property line closest to the noise source or where the noise level is highest. If the complaint concerns an interior source, noise measurements shall be made at a point at least four feet from the wall, ceiling or floor nearest the noise source with windows opened or closed as would be normal for the season. (Ord. 6273 § 1 (part), 1996)

AMBIENT NOISE LEVELS

Sections:

7.23.010 Ambient Sound Levels.7.23.020 Mixed Use Development.

7.23.030 Infill Single-Family Residential Development.

Section 7.23.010 Ambient Sound Levels.

Title 7 - Noise Control of the Riverside Municipal Code shall be consistent with Title 24 of the Health and Safety Code of the State of California as may be amended from time to time. (Ord. 6967 § 3, 2007)

Section 7.23.020 Mixed Use Development.

Where a new development proposal includes a mix of residential and nonresidential uses within the same project, the interior ambient noise standard for the residential component of the project may be increased by 5 decibels. (Ord. 6967 § 3, 2007)

Section 7.23.030 Infill Single-Family Residential Development.

Where a new development proposal includes an infill single-family residential use, the interior ambient noise standard for the proposal may be increased by 5 decibels. (Ord. 6967 § 3, 2007)

NUISANCE EXTERIOR SOUND LEVEL LIMITS

Section:

7.25.010 Exterior sound level limits.

Section 7.25.010 Exterior sound level limits.

- A. Unless a variance has been granted as provided in this chapter, it shall be unlawful for any person to cause or allow the creation of any noise which exceeds the following:
 - The exterior noise standard of the applicable land use category, up to five decibels, for a cumulative period of more than thirty minutes in any hour; or
 - 2. The exterior noise standard of the applicable land use category, plus five decibels, for a cumulative period of more than fifteen minutes in any hour; or
 - 3. The exterior noise standard of the applicable land use category, plus ten decibels, for a cumulative period of more than five minutes in any hour; or
 - 4. The exterior noise standard of the applicable land use category, plus fifteen decibels, for the cumulative period of more than one minute in any hour: or
 - 5. The exterior noise standard for the applicable land use category, plus twenty decibels or the maximum measured ambient noise level, for any period of time.
- B. If the measured ambient noise level exceeds that permissible within any of the first four noise limit categories, the allowable noise exposure standard shall be increased in five decibel increments in each category as appropriate to encompass the ambient noise level. In the event the ambient noise level exceeds the fifth noise limit category, the maximum allowable noise level under said category shall be increased to reflect the maximum ambient noise level.
- C. If possible, the ambient noise level shall be measured at the same location along the property line with the alleged offending noise source inoperative. If for any reason the alleged offending noise source cannot be shut down, then the ambient noise must be estimated by performing a measurement in the same general area of the source but at a sufficient distance that the offending noise is inaudible. If the measurement location is on the boundary between two different districts, the noise shall be the arithmetic mean of the two districts.
- D. Where the intruding noise source is an air-conditioning unit or refrigeration system which was installed prior to the effective date of this chapter, the exterior noise level when measured at the property line shall not exceed sixty dBA for units installed before 1-1-80 and fifty-five dBA for units installed after 1-1-80.

Table 7.25.010A

Exterior Noise Standards			
Land Use Category	Time Period	Noise Level	
Residential	Night (10 p.m. to 7 a.m.) Day (7 a.m. to 10 p.m.)	45 dBA 55 dBA	
Office/commercial	Any time	65 dBA	
Industrial	Any time	70 dBA	
Community support	Any time	60 dBA	
Public recreation facility	Any time	65 dBA	
Nonurban	Any time	70 dBA	

Table 7.25.010B

Land Use Category/Zoning Matrix			
Land Use Category	Underlying Zone		
Residential	RE, RA-5, RR, RC, R-1-1/2 acre, R-1-13000, R-1-10500, R-1-8500, R-1-7000, R-3-2500, R-3-4000, R-3-3000, R-3-2000, R-3-1500, R-4		
Office/commercial	O, CRC, CR-NC, CR, CG		
Industrial	BMP, I, AIR		
Community support	Any permitted zone		
Nonurban	Any permitted zone		

(Ord. 6967 § 5, 2007; Ord. 6273 § 1 (part), 1996)

NUISANCE INTERIOR SOUND LEVEL LIMITS

Section:

7.30.015 Interior sound level limits.

Section 7.30.015 Interior sound level limits.

- A. No person shall operate or cause to be operated, any source of sound indoors which causes the noise level, when measured inside another dwelling unit, school or hospital, to exceed:
 - 1. The interior noise standard for the applicable land category area, up to five decibels, for a cumulative period of more than five minutes in any hour:
 - 2. The interior noise standard for the applicable land use category, plus five decibels, for a cumulative period of more than one minute in any hour;
 - 3. The interior noise standard for the applicable land use category, plus ten decibels or the maximum measured ambient noise level, for any period of time.
- B. If the measured interior ambient noise level exceeds that permissible within the first two noise limit categories in this section, the allowable noise exposure standard shall be increased in five decibel increments in each category as appropriate to reflect the interior ambient noise level. In the event the interior ambient noise level exceeds the third noise limit category, the maximum allowable interior noise level under said category shall be increased to reflect the maximum interior ambient noise level.
- C. The interior noise standard for various land use districts shall apply, unless otherwise specifically indicated, within structures located in designated zones with windows opened or closed as is typical of the season.

Table 7.30.015

Interior Noise Standard			
Land Use Category	Time Period	Noise Level	
Residential	Night (10 p.m. C 7 a.m.) Day (7 a.m. C 10 p.m.)	35 dBA 45 dBA	
School	7 a.m. C 10 p.m. (while school is in session)	45 dBA	
Hospital	Any time	45 dBA	

(Ord. 6273 § 1 (part), 1996)

GENERAL NOISE REGULATIONS

Sections:

7.35.010 General noise regulations.

7.35.020 Exemptions.

Section 7.35.010 General noise regulations.

- A. Notwithstanding the sound level meter standards described in this ordinance, it is nonetheless unlawful for any person to make, continue, or cause to be made or continued any disturbing, excessive or offensive noise which causes discomfort or annoyance to reasonable persons of normal sensitivity. The factors which should be considered in determining whether a violation of this section exists, include the following:
 - 1. The sound level of the objectionable noise.
 - 2. The sound level of the ambient noise.
 - 3. The proximity of the noise to residential sleeping facilities.
 - 4. The zoning of the area.
 - 5. The population density of the area.
 - 6. The time of day or night.
 - 7. The duration of the noise.
 - 8. Whether the noise is recurrent, intermittent, or constant.
 - 9. Whether the noise is produced by a commercial or noncommercial activity.
 - 10. Whether the nature of the noise is usual or unusual.
 - 11. Whether the noise is natural or unnatural.
- B. It is unlawful for any person to make, continue, or cause to be made or continued any disturbing, excessive or offensive noise which causes discomfort or annoyance to reasonable persons of normal sensitivity. The following acts, among others, are declared to be disturbing, excessive and offensive noises in violation of this section:
 - Radios, Television Sets, Musical Instruments and similar stationary or mobile devices: Operating, playing or permitting the operation or playing of any radio, television set, audio equipment, drum, musical instrument, or similar device which produces or reproduces sound in such a manner as to disturb the peace, quiet and comfort of neighboring residents or

persons of normal sensitivity. The operation of any such set, instrument, audio equipment, television set, machine or similar device between the hours of 10:00 p.m. and 7:00 a.m. in such a manner as to be plainly audible at a distance of 50 feet from the building, structure or vehicle in which it is located, shall be prima facie evidence of a violation of this section.

- 2. Loud Speakers (Amplified Sound): Using, or operating, or permitting to be used or operated, for any purpose, any loud speaker, loudspeaker system, or similar device between the hours of 10:00 p.m. and 7:00 a.m. such that the sound therefrom creates a noise disturbance across a residential property line, or at any time exceeds the maximum permitted noise level for the underlying land use category, except for any non-commercial public speaking, public assembly or other activity for which a variance has been issued.
- 3. Animals and Birds: Owning, possessing, or permitting to be harbored any animal or bird which frequently or for a continued duration howls, barks, meows, squawks, or makes other sounds which create a noise disturbance across a residential or commercial property line.
- 4. Loading and Unloading: Loading, unloading, opening, closing or other handling of boxes, crates, containers, building materials, garbage cans, or similar objects, or permitting these activities between the hours of 10:00 p.m. and 7:00 a.m. in such a manner as to cause a noise disturbance across a residential property line or at any time exceeds the maximum permitted noise level for the underlying land use category.
- 5. Construction: Operating or causing the operation of any tools or equipment used in construction, drilling, repair, alteration, grading or demolition work between the hours of 7:00 p.m. and 7:00 a.m. on week days and between 5 p.m. and 8 a.m. on Saturdays or at any time on Sunday or federal holidays such that the sound therefrom creates a noise disturbance across a residential or commercial property line or at any time exceeds the maximum permitted noise level for the underlying land use category, except for emergency work or by variance. This section does not apply to the use of domestic power tools.
- 6. Domestic Power Tools: Operating or permitting the operation of any mechanically powered saw, sander, drill grinder, lawn or garden tool, or similar tool between 10:00 p.m. and 7:00 a.m. so as to create a noise disturbance across a residential or commercial property line. Any motor, machinery, pump, compressor, generator etc., shall be sufficiently muffled and maintained so as not to create a noise disturbance.
- 7. Powered Model Vehicles: Operating or permitting the operation of powered model vehicles between the hours of 7:00 p.m. and 7:00 a.m. so as to create a noise disturbance across a residential or commercial property line or at any time exceeds the maximum permitted noise level for the underlying land use category.

- 8. Stationary Non-emergency Signaling Devices: Sounding, or permit-ting the sounding of any signal from any stationary bell, chime, siren, whistle, or similar device intended primarily for non-emergency purposes, from any place, for more than 10 seconds in any hourly period. Houses of worship and the Mission Inn carillons shall be exempt from the operation of this provision. Sound sources covered by this provision and not exempted under this subsection may be exempted by a variance.
- 9. Emergency Signaling Devices: The intentional sounding or permitting the sounding outdoors of any fire, burglar or civil defense alarm, siren, whistle or similar stationary emergency signaling device, except for emergency purposes or for testing. Testing of a stationary emergency signaling device shall not occur before 7 a.m. or after 7 p.m. Any such testing shall only use the minimum cycle test time. In no case shall the test time exceed 10 seconds or occur more than once each calendar month.
- 10. Vehicle, Motorcycle, Motorboat or Aircraft Repair and Testing: Repairing, rebuilding, modifying or testing any motor vehicle, motorboat or aircraft, or permitting any these activities, in such a manner as to create a noise disturbance across a residential property line, or at any time exceeds the maximum permitted noise level for the underlying land use category shall not be permitted except where said activities are directly related to officially sanctioned events. underlying land use category.
- 11. Permitting any noise disturbance that is:
 - a. Plainly audible across property boundaries;
 - b. Plainly audible through partitions common to two residences within a building;
 - c. Plainly audible at a distance of 50 feet in any direction from the source of music or sound between the hours of 7:00 a.m. and 10:00 p.m.; or
 - d. Plainly audible at a distance of 25 feet in any direction from the source of music or sound between the hours of 10:00 p.m. and 7:00 a.m. (Ord. 6959 §2, 2007; Ord. 6328 § 1, 1996; Ord. 6273 § 1 (part), 1996)

Section 7.35.020 Exemptions.

The following activities shall be exempt from the provisions of this title:

- A. Emergency Work. The provisions of this Title shall not apply to the emission of sound for the purpose of alerting persons to the existence of an emergency or in the performance of emergency work.
- B. Entertainment Events. The provisions of this Title shall not apply to those reasonable sounds emanating from authorized school bands, school athletic and school entertainment events and occasional public and private outdoor or indoor

- gatherings, public dances, shows, bands, sporting and entertainment events conducted between the hours of seven a.m. and ten p.m.
- C. Federal or State Preempted Activities. The provisions of this Chapter shall not apply to any other activity the noise level of which is regulated by state or federal law.
- D. Minor Maintenance to Residential Property. The provisions of this Title shall not apply to noise sources associated with minor maintenance to property used for residential purposes, provided the activities take place between the hours of seven a.m. and ten p.m.
- E. Right-Of-Way Construction. The provisions of this Title shall not apply to any work performed in the City right-of-ways when, in the opinion of the Public Works Director or his designee, such work will create traffic congestion and/or hazardous or unsafe conditions.
- F. Public Health, Welfare and Safety Activities. The provisions of this Title shall not apply to construction maintenance and repair operations conducted by public agencies and/or utility companies or their contractors which are deemed necessary to serve the best interests of the public and to protect the public health, welfare and safety, including but not limited to, trash collection, street sweeping, debris and limb removal, removal of downed wires, restoring electrical service, repairing traffic signals, unplugging sewers, vacuuming catch basins, repairing of damaged poles, removal of abandoned vehicles, repairing of water hydrants and mains, gas lines, oil lines, sewers, storm drains, roads, sidewalks, etc. (Ord. 6917 § 1, 2006; Ord. 6328 § 2, 1996; Ord. 6273 § 1 (part), 1996)

VARIANCE PROCEDURE

Sections:

7.40.010 Variance procedure.

7.40.020 Appeals.

Section 7.40.010 Variance procedure.

- A. The Zoning Administrator is authorized to grant variances for exemption from any provision of this title, and may limit area of applicability, noise levels, time limits, and other terms and conditions determined appropriate to protect the public health, safety, and welfare. The provisions of this section shall in no way affect the duty to obtain any permit or license required by law for such activities.
- B. Any person seeking a variance pursuant to this section shall file an application with the Zoning Administrator. The application shall be signed by the property owner or owner's representative using forms supplied by the Planning Division. The application shall contain information which demonstrates that bringing the source of the sound or activity into compliance with this title would constitute an unreasonable hardship to the applicant, the community, or other persons. The Zoning Administrator may require additional information if it is necessary to make a determination regarding the variance request. The application shall be accompanied by a fee established by resolution of the City Council.
- C. A separate application shall be filed for each noise source; provided, however, several mobile sources under common ownership or several fixed sources on a single property may be combined into one application. Any person who claims to be adversely affected by the allowance of the variance may file a statement with the Zoning Administrator containing any information to support his claim. If the Zoning Administrator determines that a sufficient controversy exists regarding a variance application, the variance may be set for public hearing before the Planning Commission.
- D. Public notice of the consideration of a proposed variance from the standards of this chapter shall be provided by the Zoning Administrator by mailing such notice to property owners within three hundred feet of the exterior boundaries of the property under consideration. The notice shall invite interested persons to notify the Planning Department of any concerns or comments within ten days of the date of the notice.
- E. In determining whether to grant or deny the application, the Zoning Administrator or the Planning Commission shall consider comments received from property owners within three hundred feet, hardship on the applicant, the community, or other persons affected and property affected and any other adverse impacts. The requested variance may be granted in whole or in part and upon such terms and conditions as it deems necessary if, from the facts presented on the application, the Zoning Administrator or the Planning Commission finds that:

- 1. The strict application of the provisions of this title would result in practical difficulties or unnecessary hardships inconsistent with the general purpose of this title;
- There are exceptional circumstances or conditions applicable to the property involved or to the intended use or development of the property that do not apply generally to other property in the same zone or neighborhood;
- The granting of such variance will not be materially detrimental to the public welfare or injurious to the property or improvements in the zone or neighborhood in which the property is located;
- 4. The granting of such variance will not be contrary to the objectives of any part of the adopted General Plan.
- F. A variance shall be granted by a notice to the applicant containing all the necessary conditions, including any time limits on the permitted activity. The variance shall not become effective until all the conditions are agreed to by the applicant. Noncompliance with any condition of the variance shall terminate the variance and subject the person holding it to those provisions of this chapter for which the variance was granted.
- G. A variance shall be valid for a period not exceeding one year after the date on which it was granted. Applications for extensions of the time limits specified in variances or for the modification of other substantial conditions shall be treated like applications for initial variances.
- H. In the event the Zoning Administrator does not approve an application for a variance within ten days after the application is filed it shall be placed on the agenda of the next regularly scheduled Planning Commission, unless the Commission refers the matter to the City Council. (Ord. 6967 § 7, 2007; Ord. 6462 § 8-10, 1999; Ord. 6273 § 1 (part), 1996)

Section 7.40.020 Appeals.

Any person aggrieved by the approval or disapproval of a variance, may appeal the decision of the Zoning Administrator or Planning Commission to the City Council within ten days after the date of such approval or disapproval. The City Council shall hold a hearing thereon, upon notice to the applicant, considering the same criteria presented to the Zoning Administrator. (Ord. 6462 § 11, 1999; Ord. 6273 § 1 (part), 1996)

SEVERABILITY

Section:

7.45.010 Severability

Section 7.45.010 Severability

If any section, subsection, sentence, clause or phrase in this title is for any reason held to be invalid or unconstitutional by decision of any court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of this title. The City Council hereby declares that it would have passed this title and each section, subsection, clause or phrase thereof irrespective of the fact that any one or more other sections, subsections, clauses or phrases may be declared invalid or unconstitutional. (Ord. 6328 § 3, 1996)

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APPENDIX 5.1:

STUDY AREA PHOTOS



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L1 33, 55' 52.532900", 117, 16' 59.393900"



L1_E 33, 55' 52.532900", 117, 16' 59.393900"



L1_N 33, 55' 51.420500", 117, 16' 59.723500"



L1_N2 33, 55' 51.420500", 117, 16' 59.723500"



L1_N3 33, 55' 52.532900", 117, 16' 59.393900"



L1_N4 33, 55' 52.532900", 117, 16' 59.393900"



L1_NE 33, 55' 51.420500", 117, 16' 59.723500"



L1_S 33, 55' 52.532900", 117, 16' 59.393900"



L1_SE 33, 55' 52.532900", 117, 16' 59.393900"



L1_W 33, 55' 52.532900", 117, 16' 59.393900"



L2 33, 56' 12.006200", 117, 17' 14.637400"



L2_E 33, 55' 53.878700", 117, 17' 1.481300"



L2_E2 33, 55' 54.743900", 117, 17' 2.442600"

L2_N 33, 55' 54.743900", 117, 17' 2.442600"



L2_NE 33, 55' 54.743900", 117, 17' 2.442600"



L2_NW 33, 55' 54.743900", 117, 17' 2.442600"



L2_S 33, 55' 53.878700", 117, 17' 1.481300"



L2_S2 33, 55' 53.878700", 117, 17' 1.481300"



L2_W 33, 55' 54.743900", 117, 17' 2.442600"



L3 33, 55' 59.742700", 117, 16' 59.091800"



L3_2 33, 55' 59.742700", 117, 16' 59.091800"



L3_E 33, 55' 59.742700", 117, 16' 59.091800"



L3_N 33, 55' 59.742700", 117, 16' 59.091800"



L3_NE 33, 55' 59.742700", 117, 16' 59.091800"



L3_NW 33, 55' 59.742700", 117, 16' 59.091800"

L3_S 33, 55' 59.742700", 117, 16' 59.091800"



L3_SW 33, 55' 59.742700", 117, 16' 59.091800"



L4 33, 56' 11.855100", 117, 17' 12.192900"



L4_2 33, 56' 11.855100", 117, 17' 12.192900"



L4_N 33, 56' 12.349500", 117, 17' 11.094300"



L4_NE 33, 56' 12.349500", 117, 17' 11.094300"



L4_NW 33, 56' 12.349500", 117, 17' 11.094300"



L4_S 33, 56' 11.855100", 117, 17' 12.192900"



L4_SE 33, 56' 11.855100", 117, 17' 12.192900"



L4_SE2 33, 56' 12.349500", 117, 17' 11.094300"



L5 33, 56' 17.677900", 117, 17' 1.728500"

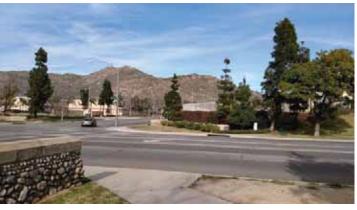


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L5_E2 33, 56' 17.677900", 117, 17' 1.728500"



L5_E3 33, 56' 17.677900", 117, 17' 1.728500"



L5_N 33, 56' 17.677900", 117, 17' 1.728500"



L5_NE 33, 56' 17.677900", 117, 17' 1.728500"



L5_S 33, 56' 17.677900", 117, 17' 1.728500"



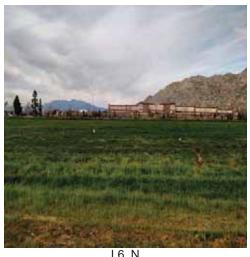


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L5_SW 33, 56' 17.677900", 117, 17' 1.728500"



L6 33, 56' 8.998700", 117, 17' 7.194200"



L6_N 33, 56' 8.998700", 117, 17' 7.194200"



L6_N2 33, 56' 8.998700", 117, 17' 7.194200"



L6_N3 33, 56' 8.243400", 117, 17' 7.853300"



L6_NE 33, 56' 8.998700", 117, 17' 7.194200"

L7 33, 56' 12.239600", 117, 16' 54.395100"



L7_2 33, 56' 12.239600", 117, 16' 54.395100"



L7_E 33, 56' 12.239600", 117, 16' 54.395100"



L7_E2 33, 56' 12.239600", 117, 16' 54.395100"



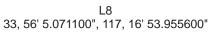
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L7_S 33, 56' 12.239600", 117, 16' 54.395100"

L7_SE 33, 56' 12.239600", 117, 16' 54.395100"







L8_2 33, 56' 5.744000", 117, 16' 53.681000"



L8_E 33, 56' 5.744000", 117, 16' 53.681000"



L8_E2 33, 56' 5.744000", 117, 16' 53.681000"



L8_N 33, 56' 5.744000", 117, 16' 53.681000"



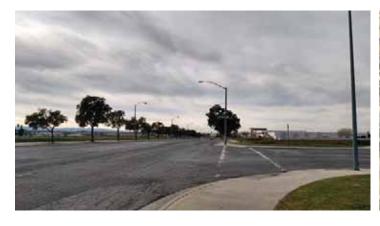
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L8_S 33, 56' 5.744000", 117, 16' 53.681000"



L8_SW 33, 56' 5.744000", 117, 16' 53.681000"



L8_W 33, 56' 5.744000", 117, 16' 53.681000"



L9 33, 56' 6.334500", 117, 16' 45.386300"



L9_E 33, 56' 6.334500", 117, 16' 45.386300"



L9_E2 33, 56' 5.936200", 117, 16' 45.688400"



L9_NE 33, 56' 5.936200", 117, 16' 45.688400"



L9_NW 33, 56' 5.936200", 117, 16' 45.688400"



L9_S 33, 56' 6.334500", 117, 16' 45.386300"



L9_SE 33, 56' 6.334500", 117, 16' 45.386300"



L9_W 33, 56' 6.334500", 117, 16' 45.386300"



NoiseSource_Baker's Drive-Thru 33, 56' 5.812600", 117, 16' 45.221500"



NoiseSource_Baker's Drive-Thru-2 33, 56' 6.856300", 117, 16' 44.562300"



NoiseSource_Ground Squirrels 33, 56' 16.840200", 117, 17' 0.904500"



NoiseSource_Panda Express Drive-Thru 33, 56' 6.856300", 117, 16' 44.562300"



NoiseSource_Portillo's Drive-Thru 33, 56' 5.812600", 117, 16' 45.221500"



NoiseSource_Target Loading Docks + Trash Compactor 33, 56' 17.156000", 117, 16' 55.026800"



NoiseSource_Target Loading Docks + Trash Compactor-2 33, 56' 16.373200", 117, 16' 55.438800"



NoiseSource_Target Loading Docks + Trash Compactor-3 33, 56' 15.521800", 117, 16' 55.768400"



NoiseSource_Target Loading Docks + Trash Compactor-4 33, 56' 15.521800", 117, 16' 55.768400"



NoiseSource_Target 33, 56' 16.373200", 117, 16' 55.438800"



NoiseSource_Target-2 33, 56' 15.521800", 117, 16' 55.768400"



NoiseSource_Target-3 33, 56' 15.521800", 117, 16' 55.768400"



NoiseSource_Target-4 33, 56' 16.826400", 117, 17' 0.053100"



NoiseSource_Walmart Loading Docks-E 33, 56' 19.216000", 117, 17' 5.628600"



NoiseSource_Walmart Loading Docks-W 33, 56' 18.529300", 117, 17' 13.264100"



NoiseSource_Walmart 33, 56' 16.853900", 117, 17' 14.307800"



Site_Assisted Living-E 33, 56' 12.280800", 117, 16' 54.422600"



Site_Assisted Living-NE 33, 56' 12.280800", 117, 16' 54.422600"



Site_Assisted Living-NW 33, 56' 12.280800", 117, 16' 54.422600"



Site_Assisted Living-S 33, 56' 12.280800", 117, 16' 54.422600"



Site_Assisted Living-S2 33, 56' 12.280800", 117, 16' 54.422600"



Site_Assisted Living-SE 33, 56' 12.280800", 117, 16' 54.422600"



Site_Assisted Living-SW 33, 56' 12.280800", 117, 16' 54.422600"



Site_Assisted Living-W 33, 56' 12.280800", 117, 16' 54.422600"



Site_Hospital_S 33, 55' 59.825100", 117, 17' 4.557400"



Site_Hospital_SE 33, 55' 59.825100", 117, 17' 4.557400"



Site_Hospital-E 33, 55' 59.825100", 117, 17' 4.557400"



Site_Hospital-NE 33, 55' 59.825100", 117, 17' 4.557400"



Site_Hospital-SW 33, 55' 59.825100", 117, 17' 4.557400"



Site_Hospital-SW2 33, 55' 59.825100", 117, 17' 4.557400"



Site_Hospital-W 33, 55' 59.825100", 117, 17' 4.557400"



Site_Nursing Facility-E 33, 56' 5.661600", 117, 16' 49.973100"



Site_Nursing Facility-N 33, 56' 5.661600", 117, 16' 49.973100"



Site_Nursing Facility-N2 33, 56' 5.661600", 117, 16' 49.973100"



Site_Nursing Facility-N3 33, 56' 5.812600", 117, 16' 45.221500"



Site_Nursing Facility-NE 33, 56' 5.661600", 117, 16' 49.973100"



Site_Nursing Facility-NW 33, 56' 5.661600", 117, 16' 49.973100"



Site_Nursing Facility-NW2 33, 56' 5.812600", 117, 16' 45.221500"



Site_Nursing Facility-NW3 33, 56' 5.812600", 117, 16' 45.221500"



Site_Nursing Facility-S 33, 56' 5.661600", 117, 16' 49.973100"



Site_Nursing Facility-W 33, 56' 5.826400", 117, 16' 45.276400"



Site_Senior Housing-Campus Pkwy-N 33, 56' 17.362000", 117, 17' 0.986900"



Site_Senior Housing-Campus Pkwy-S 33, 56' 16.840200", 117, 17' 0.904500"



Site_Senior Housing-Campus Pkwy-W 33, 56' 16.826400", 117, 17' 0.053100"



Site_Senior Housing-Campus Pkwy-W2 33, 56' 16.826400", 117, 17' 0.053100"



Site_Senior Housing-E 33, 56' 10.660400", 117, 17' 12.495100"



Site_Senior Housing-N 33, 56' 10.660400", 117, 17' 12.495100"



Site_Senior Housing-NE 33, 56' 10.660400", 117, 17' 12.495100"



Site_Senior Housing-S 33, 56' 10.660400", 117, 17' 12.495100"



Site_Senior Housing-SE 33, 56' 10.660400", 117, 17' 12.495100"



Site_Valley Springs Pkwy-E 33, 55' 58.932400", 117, 17' 8.210400"



Site_Valley Springs Pkwy-N 33, 55' 58.932400", 117, 17' 8.210400"



Site_Valley Springs Pkwy-NE 33, 55' 58.932400", 117, 17' 8.210400"

JN:08991 Canyon Springs



Site_Valley Springs Pkwy-S 33, 55' 58.932400", 117, 17' 8.210400"



Site_Valley Springs Pkwy-SE 33, 55' 58.932400", 117, 17' 8.210400"



Site_Valley Springs Pkwy-SW 33, 55' 58.932400", 117, 17' 8.210400"



Site_Valley Springs Pkwy-W 33, 55' 58.932400", 117, 17' 8.210400"

APPENDIX 5.2:

NOISE LEVEL MEASUREMENT WORKSHEETS





	24-Hour	CNEL	73.5		es)	6.59	22 23		%661	46.0 54.5	51.6	43.5	54.1		47.5	43.5	52.0	54.5	58.5 57.5	50.5	47.0	47.5	46.0	53.0	52.5	52.5	54.5	52.0	48.5	1 (
	erage Leq	Night	66.4		L90% (55 Minutes)	L'L9	21		762 %	49.5 56.5	53.8	47.0 60.0	55.4		49.0	47.0	53.0	56.0	60.0	52.5	49.5	50.5	49.5 50.5	55.0	54.5	55.5	56.0	54.0 52.5	53.5	40 F
	Energy Average Leq	Day	69.4		%06T——	6.99 9.89	19 20		%06T	52.0 59.0	56.0	49.0	56.4		49.5	49.0	54.0	57.0	61.0	54.0	52.0	53.5	52.0 53.5	57.0	57.0 50 E	59.0	58.0	56.0	54.5) - C
	JN: 8991	Analyst: A. Wolfe	1/22/2015 -		nute)	72.3	17 18		F20%	62.0 69.0	65.7	53.5 67.0	61.9		53.5	53.5 53.5	58.0	61.5	67.0 67.0	62.0	63.0	64.5	63.U	65.5	67.5	0.69	67.5	64.5	62.0 57.5) C
ary	:NC	Analyst:	Date:		——L2% (1 Minute)	₽.0T ₽.2T	15 16		L25%	66.5 73.0	6.69	57.0 71.0	66.2		58.0	57.5	63.0	0.99	71.0	66.5	67.5	0.69	67.5 7.8.5	69.5	71.5	72.5	71.5	69.0	67.5	L 7
Iour Noise Level Measurement Summary						f.88	13 14	ĵ	%87	70.5 75.5	73.3	65.0 74.0	70.6		67.5	66.0	69.5	70.5	74.0	70.5	71.0	72.5	72.0	73.0	74.5	75.5	75.0	73.5	71.0	0:- 0
/leasurem		s Avenue in a	r this		Leq (Average)	6.89 E.39	11 12	Hour Beginning	F2%	71.5	74.2	67.0 75.0	72.2	Hourly Summary	70.0	68.5	71.0	72.0	75.0	71.5	72.5	73.5	77.5 77.5	74.0	75.5	76.0	75.5	74.5	72.5	71 1
ise Level N		School across Eucalyptus Avenue in a	st and north o			l' <i>L</i> 9	9 10	Ho	L2%	73.0	75.7	70.5	74.2	Hourly S	73.0	71.5	74.0	74.5	76.0	73.0	74.0	74.5	74.5 74.5	76.0	77.0	77.5	76.5	76.0	74.5	70.5
24-Hour No		ary School acr	vacant lot. Existing single-family homes are located west and north of this location.			8.29	7 8		11%	74.0	77.0	73.0	75.7		74.5	73.5	75.5	75.5	77.0	74.5	75.5	75.5	74.0 7.7.7	77.0	78.0	78.5	77.5	77.0	76.0	75.0
2		L1 - Located south of Edgemont Elementary	amily homes a			6.69	9		Lmin	42.4 52.7	49.8	42.2 57.5	52.7		46.3	42.2	50.8	52.4	57.5 55.7	49.1	42.4	45.4	44.3 44.9	50.8	50.8	50.4	52.7	51.5	49.8	() / /
	sbi	south of Edger	kisting single-fa			9.89	4 5		Lmax	77.3	6.06	76.8	83.6		85.7	80.9	82.0	86.5	83.0	83.4	86.1	93.3	80.6	91.1	86.2	98.3	83.6	86.2	82.6	00 E
	Canyon Sprin	L1 - Located	vacant lot. Ex location.	(unadjusted)		7.09	2 3		bel	65.8 72.4	69.4	6.69	66.4		63.8	61.7	64.7	9.99	6.69	65.8	67.1	68.9	68.1	69.4	70.4	72.3	70.5	68.6	65.9	C V 7
	Project Name: Canyon Springs	:	Location:	Hourly Leq dBA Readings (unadjusted)		8.89	0 1		Hour	Min Max	Energy Average	Min	Energy Average		0	← ℃	v %	4 п	9 2	- ∞ ο	70	- 5	7 7	14	15	17	9 0	20	22	
	Ь			Hourly Leq di	75.0	(ABb) peJ yluoH			Time Period	Day	Energy,	Night	Energy				ApiN,) in the second						Dav	ĥ				+4	Night

	24-Hour	CNEL	0.09						2.64	23		%66T	41.0	48.U 45.3	41.5	53.0	48.8		44.5	41.5	47.0	51.0	32.0 53.0 50.5	46.0	41.5	42.5	41.0	41.0 47.5	48.0	44.5	44.0 47.5	47.5	46.5	44.0	3.5
	24-1	C)9				+		6.13	22 2		67	4	4 4	4.	5.	4		4	4 4	4	<u>ن</u> ک	ນົດເດ	4	4 <	4	4	4 4	. 4	4	4 .	1 4	4 4	4	4
	ge Leg	Night	53.7		– L90% (55 Minutes)		+		0.12	21		T65%	42.5	48.5	43.0	54.0	49.9		46.0	43.0	48.0	52.0	54.0 52.0	47.5	43.0	43.5	43.0	42.5	48.5	46.0	46.0	48.5	47.0	44.5	44.5
	Energy Average Leq				90% (55		7	7	2.23	20				+		-			H					H											
	Energ	Day	52.0]				27.79	19		%06T	43.5	49.0	44.5	54.5	50.4		46.5	44.5	48.5	52.5	54.5 52.5	48.0	43.5	44.0	44.0	43.5	49.0	47.0	46.5	48.5	48.0	45.5	45.5
		Le Le	015 -	2					52.1	18		%(47.0	0.10	.5	56.5	7		49.0	48.5	51.0	55.0	56.5 54.5	50.5	47.5	47.5	48.0	48.0 50.5	51.0	.5	0.0	51.0	50.5	48.0	47.5
	JN: 8991		1/22/2015		nute)			(2.23	17		T20%	47	20	47	26	52		46	4	5.12	55	26	50	4 4	47	48	48	57 52	20	20	51	50	48	47
,	JN:	Analyst:	Date:		-L2% (1 Minute)			\exists	54.	15 16		L25%	49.0	52.0	49.0	57.5	54.0		50.5	50.0	52.5	56.5	57.5 57.5	52.0	49.5	49.5	50.5	50.0	52.0	52.0	51.5	52.0 52.0	51.5	49.5	49.0
dour Noise Level Measurement Summary								9	23.	14		%8T	51.5	53.7	51.0	29.0	55.7		53.0	51.5	54.0	58.0	59.0 57.0	54.0	53.0	53.0	54.0	52.5	54.0	54.5	54.5	54.5	53.0	52.0	51.0
ment			ور ف		ge)		-		8,64	13	guir			+					H								_				_				
easure		the :	ınd parkıı		Leq (Average)				0.02	11 12	Hour Beginning	T2%	53.0	55.1	52.0	59.5	56.2	ımmary	54.0	52.0	54.5	58.5	59.5 57.5	55.0	54.5	54.5	55.5	53.5	55.5	56.5	56.0	55.5	55.5	53.0	52.0
evel M		ies along	s and 4, a		e le				6'67	10	Hon	12%	56.0	58.3	53.0	61.0	57.7	Hourly Summary	26.0	53.0 56.5	55.5	59.0	61.0 59.0	7.5	57.0	57.0	59.5	56.5	58.5	60.5	59.5 57.5	59.0	59.0	56.5	4.5
oise Le		tial hom	e sguipii						1,13	6		 	2	0 10	2	9	2	_	2		. D	. D		2	<u>.</u>	വ	2	വ	. n	9	<u> </u>	വ	ט ט	2	2
Hour No		y residen	office buildings 3 and 4, and parking						27.2	- &		L1%	58.0	61.0	54.0	62.5	59.2		57.0	54.0 57.5	56.0	0.09	62.5 60.5	59.5	59.5 50.5	59.0	62.5	58.0	61.0	64.5	62.0	61.5	61.5	0.09	57.0
24-F		le-family	medical					2.	99	7							H		H																
		ting sing	oposed r					£.7	9	9		Lmin	39.4	47.7	39.6	51.3	47.6		42.7	39.6	46.0	50.2	51.3	45.2	40.5	41.0	39.4	40.1	47.7	43.3	42.5	46.7	45.3	42.0	42.6
		it to exis	of the pr				1	2.6		-		Lmax	65.9	6.5	58.8	73.7	67.9		67.4	58.8	59.5	9.99	71.2	7.69	72.7	67.6	71.2	65.9	67.6	74.1	7.09	8.89	68.0	73.7	5.4
	sbu	adjacer	undary (8.8		- 4		Lm	99	,)∠	25	7.	.9		_9	<u>~</u>	20 00	99	<u> </u>	39	, , ,	. [9	7	9 2		7/_))	 	39 79	7	. 65.
	Canyon Sprii	L2 - Located adjacent to existing single-family residential homes along the	southern boundary of the proposed medical structure.	nadjusted)					4,08 8,18	2 3		hed	49.8	52.0	49.2	57.3	53.7		9.09	49.2	51.8	55.8	57.3 57.3	52.2	51.1	50.0	51.9	49.8 53.6	52.4	54.2	52.7	52.7	52.2	51.9	49.2
	Project Name: Canyon Springs		Location:	A Readings (u					7.64	0 1		Hour	Min	lviax /erade	Min	Max	verage		0	- ~	۷ W	4	0 9 1	. ∞	6 5	2 ==	12	2 7	7 - 12	16	_ 0	19	20	22	23
	Pro			Hourly Leq dBA Readings (unadjusted)	75.0	(Aab)			Hour 45.0 7.00.0			Time Period	Day	Fnerdy Average	Nicht the state of	nigini	Energy Average				† 1	lilling.							Day					Night	,

	24-Hour	CNEL	61.8					6.05	23		%667	42.0	20.0	45.0	55.0	50.4		46.5	45.0	48.5	52.5	55.0	51.5	46.0 42.5	42.0	43.0	43.0 42.0	42.5	49.0	46.0 45.5	49.5	50.0	49.0 47.5	46.5
	age Leq	Night	55.9		L90% (55 Minutes)			23.0	21 22		L95%	42.0	50.5	46.5	56.5	51.8		48.0	47.0	49.5	53.5	56.5	53.0	46.5	42.0	43.5	43.5 42.5	43.0	49.5	46.5	50.5	50.5	49.5 48.5	47.0
	Energy Average Leq	Day	50.7		<u>—— 190% (5</u>	,	H	.52.	19 20		%06T	42.5	91.0	46.5	57.0	52.5		48.5	48.0	50.5	54.0	57.0	54.0	47.5	42.5	44.0	44.0	43.5	49.5	47.0	51.0	51.0	50.0 49.5	47.5
	161	Wolfe	1/22/2015 -	2000	(e)		3	49.7	17 18		T20%	45.0	22.3	48.5	59.0	55.1		50.5	51.0	53.0	57.0	59.0	57.5	50.5 45.5	45.0	45.0	45.5 45.0	45.0	51.0	49.5	52.5	52.5	51.5 51.5	49.0
λ	JN: 8991	Analyst: A. Wolfe	Date: 1/		L2% (1 Minute)			.£2	15 16		L25%	46.5	50.6	50.0	0.09	56.4		52.0	52.5	54.5	58.5	0.09	59.0	52.0 46.5	46.5	46.5	47.0	46.5	51.5	50.5	53.5	53.0	53.0 52.5	50.5
Hour Noise Level Measurement Summary								L'27	13 14		%8T	48.0	51.9	52.0	61.0	57.7		53.5	54.5	56.0	0.09	61.0	0.09	53.5 48.5	48.0	48.0	50.0 49.0	49.0	52.5	52.0	54.5	54.0	54.0 54.0	52.0
asuremen		School,	-		Leg (Average)			p .8 p		Hour Beginning	F2%	48.5	52.7	52.5	61.5	58.3	nmary	54.5	55.5	56.5	60.5	61.5	60.5	54.5	48.5	49.0	52.0	50.0	53.0	53.0	55.0	54.5	54.5 54.5	52.5
e Level Me		nt Elementary	building 1.		lec			0.94	10 11	Hour	L2%	49.5	54.4	54.5	62.5	59.4	Hourly Summary	26.0	56.5	57.5	61.5	62.5	61.5	55.5 53.5	49.5	50.5	53.0	52.0	54.5	53.0	56.0	56.0	55.5 55.5	54.5
Hour Nois		f the Edgemo	medical office building 1.					1 <mark>6</mark> 7	6 8		L1%	51.0	56.8	57.0	63.5	60.5		57.0	57.0	58.0	62.0	63.5	62.0	56.5	51.0	52.0	58.U 56.0	53.5	55.0	62.5 53.5	57.5	57.5	56.0	59.0
24-		roperty line o	and south of				59.4 0.88		7 9		Lmin	41.3	45.8	42.9	53.7	49.4		45.2	42.9	47.6	51.9	53.7	50.8	45.3	41.3	42.6	42.1	42.1	48.3	45.0	49.1	49.2	48.3 46.5	45.5
		the northern p	osed hospital				9.77 8.83		4 5		Lmax	57.5	13.7	62.3	75.5	9.69		64.2	63.2	62.3	67.4	68.9	65.2	59.9	58.0	60.3	65.8	59.8	64.9	73.7	62.4	62.9	67.2 61.0	75.5
	anyon Springs	L3 - Located at the northern property line of the Edgemont Elementary School	east of the proposed hospital and south of	adjusted)			$oxed{\exists}$	52.	2 3		Leq	46.0	50.7	50.9	59.4	55.9		51.6	52.1	53.7	57.6	59.4	58.0	51.3	46.0	46.3	48.4	46.7	51.4	53.1	53.3	52.9	52.5 52.0	53.2
	Project Name: Canyon Springs		Location: ea	Readings (un				25.13	0 1		Hour	Min	lvlax	Min	Max	erage		0	- 0	ı m	4 п	ი		∞ o-	10	<u></u>	7 2	5 4	15	16	18	19	20	22
	Prc			Hourly Leg dBA Readings (unadjusted)	- ((A8)		Hour 4 4 5.0 7 0.0 6	- O: O:		Time Period	Day	Energy Average	Night	Max	Energy A				Night	, ,							Day	Uay					Night

	24-Hour	CNEL	62.9					6,13	23		%667	45.0	48.4	43.5	24.U	6.44	47.5	43.5	48.0	49.5 52.0	54.0	49.0	46.0	45.5	47.0	47.0	45.0	51.0	49.0	49.0 50.0	49.5	48.0	45.5	44.5
	rage Leq	Night	55.8		- L90% (55 Minutes)			53.2	21 22		T62%	46.5	49.6	46.0	55.0	7.00	48.5	46.0	49.5	53.5	55.0	50.5	47.5	46.5	48.0	48.0	46.5	52.0	50.5	50.0	50.5	49.0	46.5	46.0
	Energy Average Leq	Day	58.2) %06T ——		8.8	22	19 20		%067	47.0 52.5	50.3	46.5	55.5	5.1.5	49.0	46.5	50.0	54.0	55.5	51.5	48.0	47.0	49.0	49.0	47.5 52.5	52.5	51.0	51.0	51.0	49.5	47.0	46.5
	166	Wolfe	1/22/2015 - 1/23/2015		(e:		5.9 4.8		17 18		L50%	51.0	53.5	49.5	57.5	23.8 20.8	51.5	50.0	53.0	56.5	57.5	54.5	51.0	51.0	53.5	53.0	52.0	55.0	55.0	54.5 54.5	54.0	52.5	49.5	50.0
>	JN: 8991	Analyst: A. Wolfe	1/ 1/		-L2% (1 Minute)		0.18		15 16		L25%	53.5	56.3	51.0	59.0	0.00	53.0	52.0	54.5	58.0	59.0	56.0	54.0	54.5	57.0	5.99	55.5 57.5	57.5	58.5	57.5 56.5	56.0	54.5	51.0	52.0
Hour Noise Level Measurement Summary							9.8	39	. 14		%8T	55.5 62.5	60.3	54.5	67.6	0.70	55.0	54.5	56.5	0.60	61.0	59.5	59.0	59.5	61.0	61.5	59.5	61.5	62.5	61.5	0.09	55.5	54.5	54.5
asuremen		orate	ing		Leq (Average)		3.8	39		Hour Beginning	L5%	56.5	61.9	55.0	62.U Fo 7	36.7 Imary	56.0	55.0	57.0	61.5	62.0	61.0	60.5	61.0	63.0	63.0	62.0	62.5	64.5	63.0	61.0	59.5	56.0	55.0
Level Me		way and Corp	king lot for the senior housing		hed		5.3		10 11	Hour	L2%	58.5	65.3	57.0	61.1	Hourly Summary	57.0	58.0	59.0	0.1.0	64.5 61.5	63.5	64.0	64.0	0.99	0.99	66.5	66.5	0.89	65.0	64.5	63.5	0.09	58.0
Hour Noise		y Springs Park	rking lot for th					2 <u>9</u>	6 8		L1%	60.0	68.2	58.5	07.0	03.7	58.5	0.09	62.0	0.2.0	66.5	03.3	0.79	67.0	0.69	0.69	0.69	69.5	71.5	69.0	0.79	65.5	64.5	0.09
24-F		orner of Valle	tion of the pai		,			99	7 9		Lmin	44.1	47.2	41.4	32.1	46.3	45.7	41.4	46.9	50.8	52.7	49.3	44.3	44.3	44.9	45.9	44.1	50.3	47.5	47.4	48.6	46.9	44.6	43.4
		ne southeast c	ne tuture loca				8.8		4 5		Lmax	86.8	81.2	63.4	74.8	74.3	63.4	66.7	66.4	0.07	75.0	74.0	77.4	79.9	82.5	81.2	76.9	82.6	83.6	83.5 82.5	86.1	76.2	72.0	71.8
	yon Springs	L4 - Located at the southeast corner of Valley Springs Parkway and Corporate	Centre Place at the future location of the par residences.	djusted)				99	2 3		Leq	53.2	58.2	51.8	59.7	55.8	52.7	51.8	54.3	28.5	59.2	56.9	5.95	57.1	58.5	58.5	57.6	59.6	61.0	59.5 58.4	58.8	55.9	53.2	51.9
	Project Name: Canyon Springs		Location: Cer res	eadings (una			1	8.13	_		Hour	Min	age	Min	IVIAX	aĥe	0	· —	2 5	v 4	. ГО 4	0 /	- ∞	6,	2 ==	12	13	15	16	7 2	19	20	22	23
	Proje	_	í	Hourly Leq dBA Readings (unadjusted)	75.0		0.000 0.2000 0.0000 0.00000 0.0000000000		0		Time Period	Day	Energy Aver	Night	Frorm Aver	Ellelyy Avelaye			‡ 3	nigini							Dav	<u> </u>					Night	11.6.1

	24-Hour	CNEL	63.4					7 9	2 23		%667	43.5 52.0	48.1	43.0	50.5	40.7	AE E	44.5	43.0 45.5	47.5	50.5	51.0	46.0 45.0	43.5	45.5 45.0	45.0	43.5	52.0	48.5	48.0	48.5 45.5	46.5
	erage Leq	Night	55.9		- L90% (55 Minutes)		6.8		21 22		L95%	45.5 53.0	49.5	44.5	51.5	47.7	0.47.0	45.5	44.5	48.0	51.5	52.5	48.0 46.0	46.0	47.5 47.0	47.0	45.5 53.0	53.0	50.0	49.0	49.5	47.5
	Energy Average Leq	Day	9.69		%06T——		2.93		19 20		%06T	47.0 53.5	50.3	45.0	52.0	40.0	0.01	46.0	45.0 48.0	48.5	52.0	53.0	49.5 47.0	47.0	49.0 48.5	48.5	53.5	53.5	51.0	50.0	50.0	48.5
	166	. Wolfe	1/22/2015 -	207/57/	te)		7.09 3.19		17 18		L50%	52.5 57.0	55.0	48.5	54.5	0.10	013	49.0	48.5 50.5	51.0	54.5	57.0	56.0 53.0	53.5	54.0 54.5	54.0	54.0 56.5	56.5	56.5	55.0	53.5 52.5	52.0
λ	JN: 8991	Analyst: A. Wolfe	Date: 1		-L2% (1 Minute)		6.93		15 16		L25%	55.0 59.5	58.1	50.5	57.0	0.50	62.0	50.5	50.5	52.5	57.0	29.0	58.5 57.0	57.5	28.0 58.0	58.0	57.5	59.5	59.5	58.0	57.0 55.0	54.5
Hour Noise Level Measurement Summary							8.69		13 14		%8T	59.0	62.0	52.5	60.5	0.76	9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	52.5	53.0	55.5	60.5	61.5	62.0 61.5	62.0	62.5 62.0	62.0	62.0	63.0	63.0	62.0	61.5	59.0
asuremen		nent at			Leg (Average)		0.65		12 1	ing	L5%	60.5	63.6	53.5	62.5	narv	FO 0	53.5	54.5	56.5	62.5	62.5	63.5 63.0	63.5	64.5 63.5	63.5	64.0	64.5	65.0	63.5	63.0	60.5
Level Mea		sing developr	s Parkway.		Led		8.85		10 11		L2%	63.0	67.1	56.5	0.89	Hourly Summary	4.7 E	56.5	58.0	60.5	0.89	9.29	67.5 65.5	67.5	68.5 67.0	0.89	0.89	67.5	0.69	66.5	65.5	63.5
our Noise		re senior hou	lace and Campus Parkway.				9.7 3.93		- 8		L1%	64.5 72.0	70.1	0.09	71.5	0.00	3 77	61.0	60.0	64.0	71.5	9.89	70.5 67.5	69.5	71.0	72.0	70.0	69.5	71.5	69.5	68.0	65.5
24-H		t site and futu	e Centre Plac				L.09		9		Lmin	42.2 51.4	46.9	42.1	49. <i>1</i>	40.0	7 67	43.8	42.1 44.2	45.9	49.7	20.0	45.5 43.7	42.4	43.1 42.4	43.3	42.2 51.0	51.4	46.4	46.7	47.2	45.1
		L5 - Located north of the Project site and future senior housing development at	the southern corner of Corporate Centre Pl				G.T	9 '23'	- 5		Lmax	74.1	81.1	0.69	84.0	0.67	0 22	71.8	76.0	72.4	84.0	82.7	78.2	78.4	82.0 79.5	79.3	80.7	76.3	79.7	79.5	80.2	78.5
	on Springs	ocated north	outhern corne	usted)		+	Þ	24	- 			56.9 61.5			60.2 EE 0	6.00	25.2	51.6	51.5		60.2		59.5 57.6		60.6 59.0		59.9		60.7 61 E			
	Project Name: Canyon Springs		Location: the so	dinas (unadi		-	\mathbb{H}	6.12 6.13	1 2		Hour L	Min (5		u	X					. 4						13						22 8
	Project		2007	Hourly Leg dBA Readings (unadiusted)	, r	dB 65.0	ly Leq (45.0	0		Time Period Ho	Day N	Energy Average	Night Night	A Avera	Elleigy Avelay			Night								Day					Night

	24-Hour	CNEL	63.7			\	-	7.73		23	ļ	%667	48.0	51.4	52.0	55.5	53.4		52.0	52.0	53.0	53.5 55.5	55.5	53.5	48.0	48.5	49.5	50.0	50.0	51.0	52.0	54.0 54.0	52.5	52.0	53.0
	age Leq	Night	57.5		- L90% (55 Minutes)			9.5		21 22		K61	49.0 E4 E	51.9	52.5	56.0	53.9		52.5	52.5	54.0	54.0 56.0	56.0	54.0	49.0	49.5	50.0	50.5	50.0	51.5	52.5	54.5 54.5	53.0	52.5	53.5
	Energy Average Leq	Day	54.5		—— L90% (5)			2.6.2		19 20		%06T	50.0	52.3	52.5	50.5	54.4		53.0	53.0	54.0	54.5 56.5	56.5	54.5	50.0	50.0	50.5	50.5	50.5	52.0	53.0	54.5 54.5	53.5	52.5	54.0
	91	Wolfe	1/22/2015 - 1/23/2015		(e			1.95 4.95		17 18		T20%	51.0	23.8	54.0	58.5	26.0		54.5	54.0	55.5	56.0 58.5	58.0	56.5	51.0	51.5	52.0	52.0	51.5	53.5	55.0	56.0 55.5	54.5	54.5	55.5
~	JN: 8991	Analyst: A. Wolfe	Date: 1/: 1/:		-L2% (1 Minute)			Z.8		15 16		L25%	52.0	54.6	55.0	59.5	27.0		55.0	55.0	56.5	58.0 59.5	59.0	57.5	52.0	52.0	53.0	52.5	52.5	54.5	26.0	56.5 56.5	55.5	55.5	56.5
tour Noise Level Measurement Summary									25	13 14		%8T	53.5	55.8	56.0	61.0	28.7		56.0	56.5	57.5	61.0	60.5	59.0	53.5	53.5	54.0	54.5	53.5	56.0	57.5	57.5	56.5	57.0	58.5
asuremen		unty	tnın the		Leq (Average)			9	25	12	Beginning	L5%	54.0	56.4	56.5	67.5	59.6	ımary	56.5	56.5	58.0	62.5 62.5	61.0	59.5	54.0	54.0	54.0 54.5	55.5	54.5	56.5	58.5	58.0 57.5	57.0	57.0	59.5
Elevel Me		the County of Riverside County	senior nousing building within the		hed				25 19	10 11		L2%	55.0	58.2	57.0	6.79	62.4	Hourry Summary	57.0	57.5	59.0	64.5 67.5	62.5	61.0	56.5	55.0	55.5 55.5	59.0	56.0	58.5	62.0	59.0 58.5	58.5	59.5	63.0
Hour Noise								Z.8		6		L1%	56.0	59.4	57.5	0.07	64.3		57.5	57.5	59.5	65.5	63.5	62.0	59.0	56.0	26.0	61.5	57.0	61.0	63.0	59.5 59.0	59.5	61.0	66.5
24-F		operty line of	r tne proposed					58.8 57.2		7 9		Lmin	47.4	50.6	51.0	54.9	52.7		51.6	51.5	52.6	52.8 54.8	54.9	53.1	47.4	47.4	49.1	49.1	49.3	50.6	50.7	53.0	52.0	51.1	51.7
		he northern pr	Iding, south o				7	2.82		4		Lmax	62.0	68,4	6.09	81.6	74.1		63.2	6.09	62.5	/1.5 81.6	9.69	65.9	74.0	64.5	62.0	8.79	63.3	71.9	70.1	62.9	63.7	70.4	76.3
	nyon Springs	L6 - Located at the northern property line of	Clerk's office building, south of the proposed Project site.	adjusted)			1	8.4 2.95		2 3		Leq	51.9	54.5	54.8	61.2	57.5		54.9	54.8	56.2	58.2 61.2	58.8	57.2	52.7	51.9	52.6	53.1	52.3	55.7 55.1	56.1	56.4	55.2	55.6	57.7
	Project Name: Canyon Springs		Location: Cle Pro	Readings (una				6.4		1		Hour	Min	rage	Min	Max	erage		0 -	- 2	ς,	5 4	9	<u> </u>	0 0	70	12	13	4 7 1	<u>. 7</u>	17	<u>~</u>	20	22	23
	Proj	-	-	Hourly Leq dBA Readings (unadjusted)	75.0				40.0	35.0		Time Period	Day	Energy Ave	Night	, L	Energy Average				Night								Day					Night	3116111

	ır		6.					T					۰۵														_								
	24-Hour	CNEL	56.2							67	23		%667	41.0	43.9	41.5	42.8		42.0	41.5	42.5	42.5	44.5	45.5	43.0 41.5	41.0	41.5	42.5	41.5	43.0 45.5	43.0	46.5	45.5	43.0	44.0
	ed	ht	4.		nutes)				-	20.	22		%	0.0	0, 00,	יני ת	2 00		0.	rvi C	0.0	0 12	.5	О. г	v. O	0. 1	ت د	i rvi	rč r	υro	0.	0, 0	י ניז ל	vi c	o. c
	erage L	Night	48.4		(55 Mir				8	20	21		T62%	42.0	44.8	42.5	43.8		43.0	42.5	43.0	44.0	45.5	46.0	43.3	42.0	42.5	43	42.5	45.5 46.5	44.0	47.0	46.5	43.5	45.0 44.0
	Energy Average Leq	ay	52.0		- L90% (55 Minutes)				0 t	G	20		%06T	42.5	45.5	43.0	44.3	2	43.5	43.0 43.5	43.5	44.5	46.0	46.5	44.0 42.5	42.5	43.0 13.5	44.0	2.5	46.5 47.0	44.5	47.5	47.5	44.5 45.5	45.5 44.5
	En	Day	52						9.8	2	19)6T	42	46	43	44		43	43	43	44	46	46	4 4	42		4 4	42.	4 4	44	47	4	44	45.
		olfe	2015 - 2015						8.8	9	- 18		T20%	44.5	8.5	44.5 49.0	46.7	5	46.0	44.5 46.0	46.0	46.5 45.5	49.0	49.0	47.5 44.5	45.0	45.0 46.0	6.5	45.5	51.0 49.5	48.0	50.0	51.0	47.0	47.5
	JN: 8991	A. Wo	1/22/2015 1/23/2015		nute)				8.	LS	17		L5	4 4	4	4 4	4		4	4 4	4	4 4	4	4	4 4	4	4 <	- 4	4 1	υ 4	4	വ വ	, OJ (4	4 4
	ë.	Analyst: A. Wolfe	Date:		-L2% (1 Minute)				0.t	g	16		L25%	47.0	51.3	46.0	48.0		48.0	46.0 47.5	47.0	47.5	50.0	50.5	50.0 47.0	48.5	48.5	50.0	49.5	53.0 53.0	52.0	52.5	53.0	50.0	49.0 49.0
nary		_			L2				9.4	9	15				1				Ĺ																
Sumn					•				7	200	14		%8T	53.0 57.5	55.2	48.0	50.2		20.0	48.0 49.5	49.5	49.5	51.5	53.0	53.0 53.0	54.5	54.0 54.5	54.5	54.5	56.5	56.0	57.5 56.5	56.0	53.5	51.5
nent					(e)				7	200	13				+		+					_												+	
Hour Noise Level Measurement Summary		ndent			Leq (Average)				9	.03	12	Hour Beginning	F2%	54.0	56.7	49.0	51.4	mary	51.5	49.0	50.5	50.0	52.5	54.0	54.5	56.5	55.5	55.5	55.5	28.5	57.5	59.0	57.0	55.5	54.0 52.5
ıl Mea		indepe	ilding.		Fed (L	19	- 1	Hour			+		ł	Hourly Summary		_	_	_												+	
Feve		n of the	an existing office building.						7	19	10		L2%	56.0	58.9	50.5	54.0	Hour	22.0	50.5	51.5	53.0	54.5	56.0	57.0	0.09	28.0 58.0	57.5	57.5	59.5	59.0	61.5 50 5	59.0	58.0	55.5
Noise		locatio	sting of							8.84	6				t		t																		
		future	ıf an exi					4	(20.	_ _		L1%	57.5	60.5	53.0	56.2		58.0	53.0	54.0	55.0	56.5	57.5	58.5	63.0	60.0	59.0	59.0	61.5	0.09	63.0	61.0	59.U	58.5 58.5
24-1		e at the	south o						t	20.	7						t																	t	
		L7 - Located along Canyon Park Drive at the future location of the independent	living facility within the Project site, south of						8	3.64	9		Lmin	40.3	43.0	40.1	41.7		41.1	40.1	41.6	41.3	43.2	45.0	42.4	40.4	41.1	42.3	40.9	41.9	42.5	45.3	44.6	41./	43.0 42.1
		nyon Pa	ie Proje						I	Z. T A	- 73		×	4 c	7 8	- r	0 80		3		7	2 2	2	4		ε .	4 <		22	— oc	7	7	. 2 .	9 0	2 2
	S	long Cal	/ithin th						1	0.84	- 4		Lmax	63.4	73.8	61.1	67.3		67.3	61.1	63.2	68.2	63.5	63.4	64.7	69.3	4.//	64.7	67.5	75.8	65.7	72.5	80.2	9:69	69.2 71.5
	յ Spring	ated al	acility w	ted)					þ	. .	. 8		ь	∞ п	5 0	0, -	. 4.		∞.	0. ~	; 	0.0	. ∞	4.	o, ∞,	4.	-	, c	2 1	ت C	, œ	∞ 4	. o c	۷ ن	
	Canyor	L7 - Lo	living fa	snadjus					I		5		hed	48.8	52.0	46.0	48.4		48.8	46.0	47.1	48.0	49.8	50.4	20.00 48.8	51.4	5. 1.	20 20	50.2	5.4 5.4	51	53	54.0	20	50.
	Vame:	:	Location:	dings (ເ)·9t	_ ←		ur	Min	V 7	Min Max	5 1		0	_ ^	1 K	4 7.	5	7	0 6	10	11	13	14	16	17	18	20		22 23
	Project Name: Canyon Springs		Loca	BA Rea						8.84	0		Hour	2 2	Energy Average	2 \(\(\)	Energy Average						-			,		_	, ,	_ ,		, ,	- (\) (4 (4 (
	ш.			Hourly Leq dBA Readings (unadjusted)	75.0	70.07	65.0	55.0	50.0	45.0 40.0 35.0	0.00		Fime Period	Day	Energy	Night	Energy	E .			Night								Day						Night
				Hour					rly L				Time			Z					Z														Z

	24-Hour	CNEL	65.7		ı			/		0.1	24		73)	%667	<i>A</i> 1 5	49.0	46.5	43.5	49.5	46.6		45.5	43.5	43.5	48.5	49.5	46.5	48.0	45.5 43.0	41.5	42.5	43.0	43.0	47.0	49.0	48.5	49.0 48.5	48.5	46.5	46.5 46.0	2
	rage Leq	Night	57.2		100% (EE Minutos)	co ivilliutes)			3.	09			21 22		T65%	42.5	50.5	47.6	44.5	51.0	47.6		46.5	45.0	44.5	49.5	51.0	47.5	48.5	46.5 44.5	42.5	44.0	45.0	44.5	48.0	50.5	49.5	50.0	49.0	47.0	47.0	2
	Energy Average Led	Day	63.5		1 900	L90 % (3			2.9 G.				19 20		%06T	43.5	51.5	48.5	45.0	51.5	48.2		47.0	45.5	45.0	50.0	51.5	48.0	49.0	45.5	43.5	45.0	46.0	45.5	49.0	51.5	51.0	51.0	49.5	48.0	47.5	
	166	Wolfe	1/22/2015 -	1/23/2015	(0,1)	(a)		-	49				17 18		T20%	510	59.0	55.4	48.0	54.5	50.8		49.0	48.0	48.5	52.5	54.5	51.0	51.0	53.0	53.0	55.5	56.5	55.U 56.D	56.5	59.0	59.0	56.0	52.0	51.0	49.5	-
	JN: 8991	Analyst: A. Wolfe	Date: 1,		1 2% (1 Minute)	LZ % (1 IVIIIIU		-	99				15 16		L25%	53.0	65.5	62.0	49.5	56.5	52.7		50.5	49.5	50.5 52.5	54.0	5.95	53.5	53.0	58.5 60.5	61.5	62.5	63.5	62.5	63.5	65.5	65.5	62.0 50 5	55.5	53.5	51.5	2.50
Hour Noise Level Measurement Summary						-		\exists	7.68 3.68	+			13 14		%8T	0 09	71.5	68.5	52.0	61.5	57.2		53.0	52.0	52.5	57.5	61.5	0.09	61.5	66.5	0.89	68.5	69.5	0.69	69.5	71.5	71.5	70.0	63.5	0.09	57.5 55.5	2.00
asuremen		ed living	south of		(Avorago)	red (Average)	l	C).46)			12	Beginning	L5%	64.0	73.0	70.2	52.5	65.0	60.2	nmary	55.0	52.5	53.5 56.5	60:09	0.59	63.5	65.0	68.5	70.0	70.0	71.0 70.E	70.5	71.0	73.0	73.0	72.0	66.5	64.0	61.0	2
e Level Me		future location of the assisted living	urgent care facility is located south of			han		\exists	9.2 6.3.7	+			10 11		L2%	495	75.0	72.5	54.0	71.5	66.3	Hourly Summary	9.09	54.0	50.5 41.5	66.5	71.5	0.69	70.0	71.5	71.5	72.0	72.5	72.5	73.0	74.5	75.0	74.0	71.0	69.5	68.5	2.10
Hour Nois		uture locatior	urgent care ta		l			\exists	7.1 0.2				- «		L1%	72.0	76.0	73.8	55.5	74.0	8.69		0.79	55.5	60.5 67.5	71.5	74.0	72.0	72.0	72.5	72.5	73.5	73.5	74.0	74.0	75.5	76.0	5.5/	73.0	72.0	72.0	2.55
24-					l	-			\exists	28.			7 9		Lmin	410	48.3	45.4	43.0	47.9	45.7		44.9	43.0	43.5	47.5	47.9	45.9	46.9	44.1	41.0	41.5	42.2	41.7	45.6	47.1	47.2	48.3	47.6	45.5	45.4	-
		th of Gateway	ne Project site		l				6.0	.85			- - -		Lmax	7 77	88.1	81.8	75.4	81.2	79.0		78.2	78.0	75.4	81.2	79.0	78.3	9.62	79.5	7.77	84.2	78.4	78.3	82.0	84.3	80.0	80.6	79.1	88.1	80.5	25
	Canyon Springs	L8 - Located north of Gateway Drive at the	building within the Project site. An existing Gateway Drive	ateway Dilve.	adjusted					£.9			- 6		Lea	503	66.3	63.5	51.3	6.09	57.2		55.3	51.3	52.4	. 80 . 80 . 80	6.09	58.8	59.3	67.7	62.6	63.7	64.0	63.8	64.3	0.99	66.3	64.6	60.5	60.5	58.3	2:0
	Project Name: Ca		Location: bu	onlings	veaunigs (un					5.3	39 5.1.5	G .			Hour	Min	Max	erage	Min	Max	erage		0	— (7 8	o 4	വ	9	7	∞ ♂	10	1	12	5 T	15	16	17	Σ 0	20	21	22	21
	Pro			Cateway or ABA Boadines (madineted)	riodily ted dis-	75.0				الا	45.0		0		Time Period		Day	Energy Average	Night		Energy Average				Night) Distriction								Dav	3						Night	

24-Hour	CNEL	66.3	-		8.32	22 23		%667	49.0 54.5	51.4	44.5	49.3		46.0	44.5	47.0	48.5	54.5	54.5	50.0	49.5	51.0 50.5	50.0	51.0	53.0	52.0	52.0	50.5	49.0) L \
erage Leq	Night	2.83		- L90% (55 Minutes)	8.16	21		T62%	50.0 55.5	52.9	45.0 55.5	50:3		47.0	45.0	48.0	49.5 53.0	55.5	52.5	51.5 52.0	51.0	52.5 52.5	52.0 52.0	52.5	54.0 54.5	54.0	53.5 52.5	51.5	50.0	
Energy Average Leq	Day	63.5		%06T ——	G.16	19 20		%06T	51.0 56.5	53.9	45.5	50.9		47.5	45.5	48.5	50.0 53.5	56.0	56.5	52.5 53.0	52.5	53.5 54.0	53.0	53.5	55.5	55.0	54.0	52.5 52.5	50.5) (
991	. Wolfe	1/22/2015 -		te)	0.84	17 18		L50%	55.0 61.0	58.8	48.0	54.2		52.0	48.0	51.5	54.0	59.5	61.0	58.0 58.5	58.5	59.0	58.5	59.0	0.69	60.5	59.0	56.5	53.5) L
y 10,8991	Analyst: A. Wolfe	Date: 1	-	-L2% (1 Minute)	6. <u>2</u> 9	15 16		L25%	59.0 64.0	62.4	50.5	57.2		55.0	50.5	54.0	56.5 59.5	62.5	64.0	61.5 62.0	62.5	62.5	62.5	62.5	62.5	63.5	62.5	0.09	59.0	
it Summar					5.29	13 14		%87	63.5	66.3	55.5	61.3		59.5	55.5	59.0	61.0	0.99	0.79	65.0 66.0	66.5	66.5	66.5	67.0	60.5	67.5	67.0	63.5	61.5) L
asuremer	ve within			Leq (Average)	0.48		Hour Beginning	F2%	64.5	9.79	57.0	62.6	nmary	61.5	57.5	60.5	62.5	67.0	68.5	66.0	0.89	67.5	67.5	68.5	67.5	0.69	68.5	65.0	63.0	2 2
Hour Noise Level Measurement Summary	Day Street and Gateway Drive within	ty.		bel	6.46 6.46	10 11	Hour	L2%	67.0	70.2	60.5	65.5	Hourly Summary	64.5	60.5	63.5	65.0	70.0	71.5	68.5 70.0	71.0	69.5	70.5	71.5	70.5	71.0	71.5	67.5	0.79) L
Hour Nois	Dav Street and	nursing facili			2.18	6 8		L1%	69.0 75.0	72.8	62.5	67.6		999	62.5	65.5	67.0	72.5	75.0	69.5 72.5	75.0	71.5	73.0	74.0	72.5	73.0	74.5 70.5	70.5	0.69.0	
24-	en corner of l	oposed skilled			5. £9	6 7		Lmin	47.3 52.3	49.6	44.0	48.1		45.7	44.0	46.5	47.6	53.1	52.3	48.1	47.3	49.0	47.9	47.9	49.8	50.5	50.3	49.8	47.0) (
	ne northweste	east of the pro			7.92 7.92	5		Lmax	77.8	87.0	68.2	79.2		82.7	68.2	73.1	77.2	85.6	84.2	78.3	88.2	87.8	83.7	89.2	80.7	85.4	91.4	81.6	76.4	
nyon Springs	L9 - Located at the northwestern corner of	the Project site, east of the proposed skilled nursing facility.	ıdjusted)		5.23	2 3		Leq	60.8 65.0	63.5	52.0	58.2		56.6	52.0	55.5	57.6	63.5	64.4	64.8	64.6	62.4	63.3	64.2	62.9	64.1	65.0	60.8	58.3	0 11
Project Name: Canyon Springs		Location: the	Readings (una		9.66	1 0		Hour	Min	rage	Min	rage	,	0	- 0	1 K	4 10	9	7	8 6	10	1 1	13 2	4 1	ر ا	17	8 0	50 2	22	22
Proj	•	_	Hourly Leq dBA Readings (unadjusted)	75.0	Hourly Leq (dE)	-		Time Period	Day	Energy Average	Night	Energy Average	6			Night								Day						Night

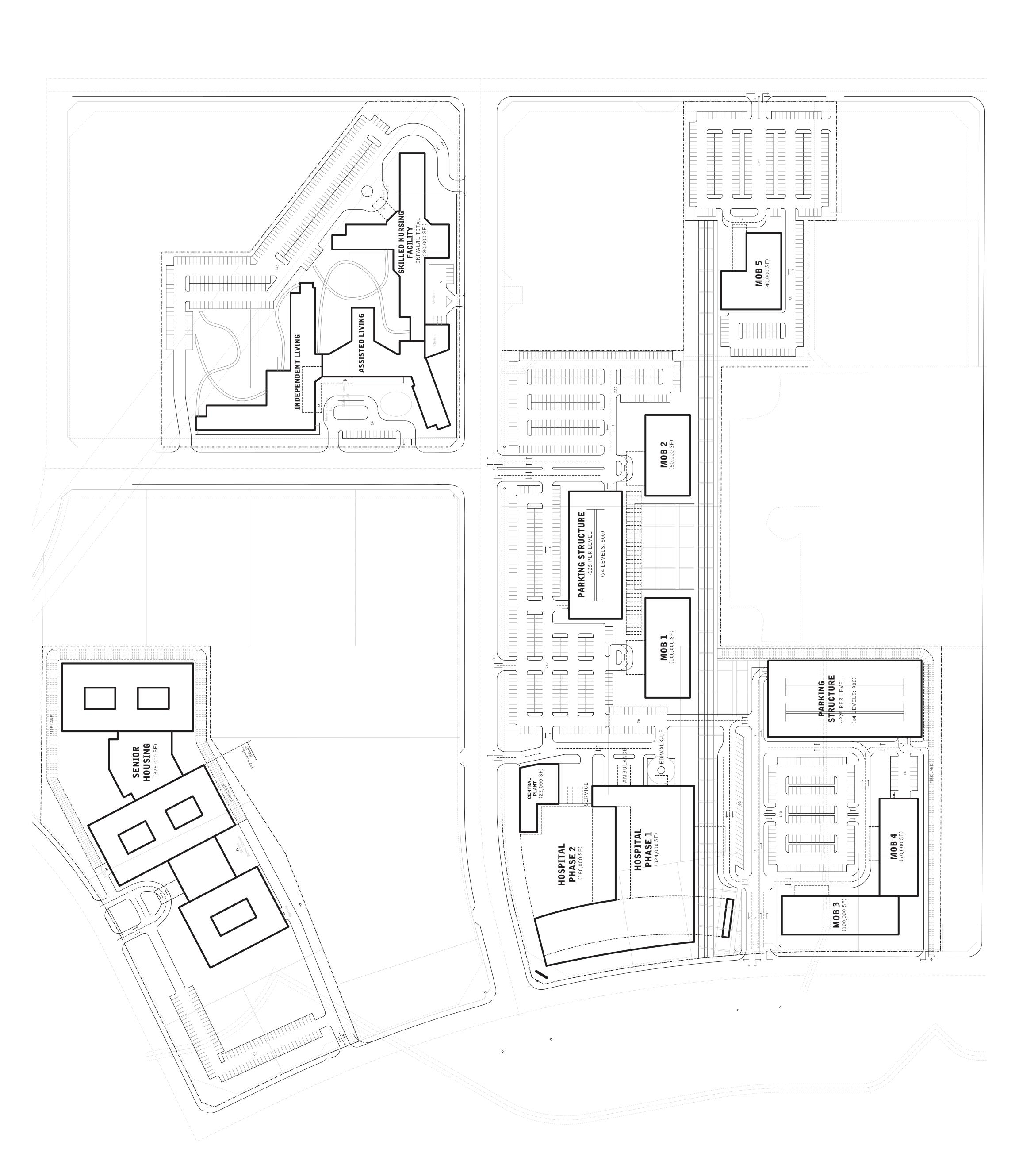


APPENDIX 6.1:

SITE PLAN









APPENDIX 6.2:

GRADING PLANS





CENTER **HEALTHCARE** CANYON SPRINGS DAY STREET CITY OF RIVERSIDE PARK DRIVE CANYON VALLEY SPRINGS PARKWAY **TABRIC YAU** 291-440-045 Z91-440-044/ CANYON PARK DRIVE INDEX 200-011-167 VICINI LEGEN DAY STREET PROPERTY BOUNDARY

STREET CENTERLINE

CITY LIMITS

FINISHED FLOOR ELEVATION

FINISHED SURFACE ELEVATION

FINISHED SURFACE ELEVATION

PROPOSED BIORETENTION AREA

PROPOSED CURB

DIRECTION OF FLOW

EXIST. TREE

EXIST. STREET LIGHT

EXIST. EDGE OF PAVEMENT

EXISTING SANITARY SEWER

EXISTING SANITARY SEWER

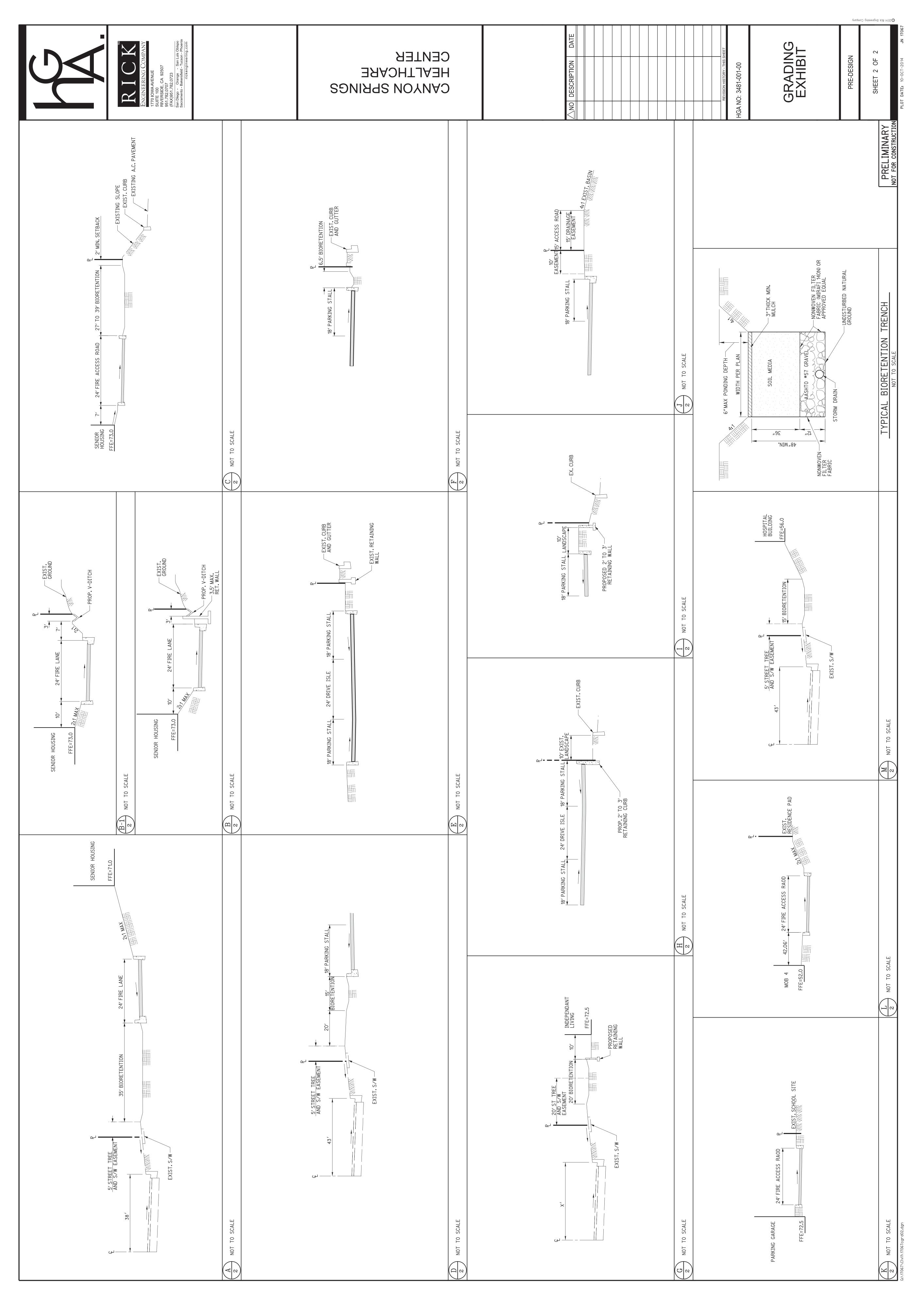
EXISTING STORM DRAIN

EXISTING GAS MAIN

EXISTING ELECTRIC LINE 291-090-041 291-450-055 291-450-056 OWNER

CANYON SPRINGS MARKETPLACE C
C/O TDA INVESTMENT GROUP
2025 PIONEER COURT
SAN MATEO, CA 94403 HIVERIDGE DRIVE 215 FWY SYCAMORE CAN BLVD 291-450-066 VALLEY SPRINGS PARKWAY

Q 2014 Rick Engineering Company



APPENDIX 7.1:

OFF-SITE TRAFFIC NOISE CONTOURS





	FHV	VA-RD-77-108	HIGH	WAY I	NOISE P	REDICTI	ON MC	DEL			
Road Nan	io: Existing Wine: Sycamore ont: n/o Eastridg	Canyon Bl.					Name: umber:		n Springs		
	SPECIFIC IN	IPUT DATA							L INPUT	S	
Highway Data					Site Cor	nditions	(Hard =	: 10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	13,200 vehicle	S					Autos:	15		
Peak Hour	Percentage:	10%			Me	edium Tru	icks (2 .	Axles):	15		
Peak F	lour Volume:	1,320 vehicle	S		He	eavy Truc	cks (3+.	Axles):	15		
Ve	hicle Speed:	45 mph		ŀ	Vehicle	Miv					
Near/Far La	ne Distance:	48 feet		F		icleType		Dav	Evenina	Niaht	Dailv
Site Data							lutos:	77.5%		9.6%	
Pa	rrier Height:	0.0 feet			М	edium Tr	ucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-W		0.0				Heavy Tr	ucks:	86.5%	2.7%	10.8%	0.74%
Centerline Di		55.0 feet									
Centerline Dist.	to Observer:	55.0 feet			Noise S				eet)		
Barrier Distance	to Observer:	0.0 feet				Autos		000			
Observer Height	(Above Pad):	5.0 feet				m Trucks		297	0		
	ad Elevation:	0.0 feet			Hear	vy Trucks	s: 8.	.006	Grade Ad	ustmen	t: 0.0
Ro	ad Elevation:	0.0 feet		Ī	Lane Eq	uivalent	Distan	ce (in	feet)		
	Road Grade:	0.0%		Ī		Autos	s: 49	.739			
	Left View:	-90.0 degre	es		Mediu	m Trucks	s: 49	.561			
	Right View:	90.0 degre	es		Hear	vy Trucks	s: 49	.579			
FHWA Noise Mod	el Calculation	s		-							
VehicleType	REMEL	Traffic Flow	Dist	tance	Finite	Road	Fresi	nel	Barrier Att	en Be	rm Atten
Autos:	68.46	-0.75		-0.0	7	-1.20		-4.67	0.0	00	0.000
Medium Trucks:	79.45	-17.98		-0.0)5	-1.20		-4.87	0.0	00	0.000
Heavy Trucks:	84.25	-21.94		-0.0)5	-1.20		-5.38	0.0	00	0.000
Unmitigated Nois	e Levels (with	out Topo and	barrie	er attei	nuation)						
VehicleType	Leq Peak Hou	ır Leq Day	/	Leq E	vening	Leq	Night		Ldn	(NEL
Autos:	66	.4	64.5		62.8		56.	7	65.3	3	66.0
Medium Trucks:	60	.2	58.7		52.4		50.	8	59.3	3	59.5
Heavy Trucks:	61	.1	59.6		50.6		51.	9	60.2	2	60.3
Vehicle Noise:	68	.3	66.5		63.4		58.	7	67.3	3	67.7
Centerline Distan	ce to Noise Co	ontour (in feet)								
					dBA		dBA	6	0 dBA		5 dBA
			Ldn:		36		8		168		361
		Ci	NEL:	3	39	8	3		180		387

	ithout Project				Project I	Vame	Canyo	n Springs		
								opinigo		
PECIFIC II	IPUT DATA			a: a					S	
				Site Con	ditions (Hard :				
. ,	,	S								
		S		Hea	avy Truci	ks (3+	Axles):	15		
· · · · · · · · · · · · · · · · · · ·			7	Vehicle I	Лix					
e Distance:	36 feet			Vehi	cleType		Day	Evening	Night	Daily
					A	utos:	77.5%	12.9%	9.6%	97.429
ier Heiaht:	0.0 feet			Me	dium Tru	ıcks:	84.8%	4.9%	10.3%	1.849
II, 1-Berm):	0.0			H	leavy Tru	icks:	86.5%	2.7%	10.8%	0.74
			1	Noise So	urce Ele	vatio	ns (in fe	eet)		
					Autos.	: C	0.000			
				Mediur	n Trucks.	: 2	2.297			
,				Heav	y Trucks.	: 8	3.006	Grade Ad	justment	0.0
						.				
			-	Lane Equ				reet)		
Right View:	90.0 degre	es		Heav	y Trucks.	: 40).262			
		Dis				Fres				m Atter
				-						0.00
										0.00
					-1.20		-5.50	0.0	000	0.00
							_		_	
	.,.,		Leq E		Leq N	_				NEL
										58
									_	52
						_				53
-				56.1		51	.6	60.	1	60
to Noise C	ontour (in feet)	70	dBA	65 d	RΔ	6	60 dBA	55	dBA
		I dn:	10 0		21			45		97
	r n/o Eastrid PECIFIC II raffic (Adt): rercentage: ur Volume: lice Speed: e Distance: lice Height: II, 1-18mm): to Barrier: 0 Observer: 0 Observer: bove Pad): d Elevation: d Elevation: d Elevation: Calculation REMEL 66.577.72 82.99 Level (with Level Peak Ho 55.55 56.66	Percentage: 10% 250 vehicle 250 vehicl	raffic (Adt): 2,500 vehicles refrendinge: 10% raffic (Adt): 2,500 vehicles recentage: 10% recentage: 40 mph e Distance: 36 feet lier Height: 0.0 feet II, 1-Berm): 0.0 r. to Barrier: 44.0 feet 0.0 beserver: 44.0 feet 0.0 beserver: 0.0 feet bove Pad): 5.0 feet If Elevation: 0.0 feet d Elevation: 0.0 feet d Elevation: 90.0 degrees Right View: 90.0 degrees Right View: 90.0 degrees Calculations REMEL Traffic Flow Dis 66.51 7.7.46 67.7.72 -24.70 82.99 -28.65 Levels (without Topo and barrie. eq Peak Hour Leq Day 59.1 57.2 53.1 51.6 54.4 53.0	: n/o Eastridge Av. PECIFIC INPUT DATA raffic (Adf): 2,500 vehicles rercentage: 10% ur Volume: 250 vehicles cle Speed: 40 mph e Distance: 36 feet lier Height: 0.0 feet li, 1-Berm): 0.0 to Barrier: 44.0 feet 0 Observer: 44.0 feet 0 Observer: 0.0 feet bove Pad): 5.0 feet 1 Elevation: 0.0 feet 1 Elevation: 0.0 feet 1 Elevation: 90.0 degrees Right View: 90.0 degrees Right View: 90.0 degrees Calculations REMEL Traffic Flow Distance 66.51 7.746 1.2 77.72 -24.70 1.3 82.99 -28.65 1.3 Levels (without Topo and barrier attented peak How Leq Day Leq E 59.1 57.2 53.1 51.6 54.4 53.0 61.1 59.4	Traffic Flow Distance Finite	En lo Eastridge Av. PECIFIC INPUT DATA Raffic (Adt): 2,500 vehicles elercentage: 10% Vehicles 250 vehicles of Seed: 40 mph p Distance: 36 feet Vehicle Mix V	: n/o Eastridge Av. PECIFIC INPUT DATA Anoise raffic (Adt): 2,500 vehicles recentage: 10% Aur Volume: 250 vehicles cles Speed: 40 mph a Distance: 36 feet Vehicle Mix Vehicle Mix	The continue of the continue	## NO Eastridge Av. PECIFIC INPUT DATA	Enio Eastridge Av. PECIFIC INPUT DATA

	FH	WA-RD-77-108	HIGHW	AY NO	ISE P	REDICTI	ON MO	DEL			
	e: Sycamore						Name: umber:		n Springs		
SITE	SPECIFIC II	NPUT DATA				N	OISE I	ИODE	L INPUT	S	
Highway Data				Si	te Cor	nditions	(Hard =	10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	14,100 vehicle	s					Autos:	15		
Peak Hour	Percentage:	10%			Me	edium Tru	icks (2 /	Axles):	15		
Peak H	our Volume:	1,410 vehicle	s		He	eavy Truc	ks (3+ /	Axles):	15		
Ve	hicle Speed:	45 mph		1/4	ehicle	Miss					
Near/Far La	ne Distance:	48 feet		VE		icleType		Dav	Evening	Night	Daily
Site Data					VCI			77.5%	-	9.6%	
					M	edium Tr		84.8%		10.3%	
	rier Height:	0.0 feet 0.0				Heavy Tr		86.5%		10.8%	
Barrier Type (0-W Centerline Dis	. ,	55.0 feet								10.07	0.1 170
Centerline Dist.		55.0 feet		No	oise S	ource El	evation	s (in fe	eet)		
Barrier Distance		0.0 feet				Autos		000			
Observer Height (5.0 feet			Mediu	m Trucks	3: 2.:	297			
	ad Flevation:	0.0 feet			Hea	vy Trucks	3: 8.	006	Grade Adj	ustmen	t: 0.0
	ad Elevation:	0.0 feet		La	ne Ec	uivalent	Distan	ce (in i	feet)		
	Road Grade:	0.0%		_		Autos		739	,		
,	Left View:	-90.0 degre	00		Mediu	m Trucks					
	Right View:	90.0 degre				vy Trucks		579			
FHWA Noise Mode	el Calculation	18									
VehicleType	REMEL	Traffic Flow	Distai	nce	Finite	Road	Fresr	nel	Barrier Att	en Be	rm Atten
Autos:	68.46	-0.46		-0.07		-1.20		-4.67	0.0	000	0.000
Medium Trucks:	79.45			-0.05		-1.20		-4.87	0.0		0.000
Heavy Trucks:	84.25			-0.05		-1.20		-5.38	0.0	000	0.000
Unmitigated Noise											
VehicleType	Leq Peak Ho			eq Eve		Leq			Ldn		NEL
Autos:	-	6.7	64.8		63.1		57.0		65.6		66.2
Medium Trucks:	-	0.5	59.0		52.6		51.1		59.6		59.8
Heavy Trucks:		1.4	59.9		50.9		52.1		60.5		60.6
Vehicle Noise:	-	3.6	66.8		63.7		59.0)	67.5	i	68.0
Centerline Distant	e to Noise C	ontour (in feet)	70 dB	RΔ	65 (HRΔ	6	i0 dBA	5/	5 dBA
			Ldn:	38	// 1	8			175		377
		0	NFI:	40		8			188		405
		C.	•	70		0			.50		.00

Tuesday, February 03, 2015

	FH)	WA-RD-77-108	HIGHWAY	NOISE P	REDICTIO	N MODEL				
Road Nam	io: Existing W ne: Box Spring nt: s/o Eastrid	s Bl.				ame: Cany nber: 8991	on Springs			
SITE	SPECIFIC IN	IPUT DATA					EL INPUTS			
Highway Data				Site Cor	nditions (F	lard = 10, S	oft = 15)			
Average Daily	. ,	1,000 vehicles	S			Autos				
	Percentage:	10%				ks (2 Axles)				
	lour Volume:	100 vehicles	8	He	avy Truck	s (3+ Axles)	: 15			
	hicle Speed:	40 mph		Vehicle	Mix					
Near/Far La	ne Distance:	36 feet		Veh	icleType	Day	Evening N	light Daily		
Site Data					Au	tos: 77.59	% 12.9%	9.6% 97.42%		
Ba	rrier Height:	0.0 feet		М	edium Tru	cks: 84.89	% 4.9% 1	0.3% 1.84%		
Barrier Type (0-W	/all, 1-Berm):	0.0		1	Heavy Tru	cks: 86.59	% 2.7% 1	0.8% 0.74%		
Centerline Di		44.0 feet		Noise S	ource Elev	ations (in	feet)			
Centerline Dist.		44.0 feet		Autos: 0.000						
Barrier Distance			Medium Trucks: 2.297							
Observer Height (. ,		Heavy Trucks: 8.006 Grade Adjustment: 0.0							
	ad Elevation:	0.0 feet		Lane Equivalent Distance (in feet)						
	ad Elevation:	0.0 feet		Lane Eq			feet)			
	Road Grade:	0.0%			Autos:	40.460				
	Left View:	-90.0 degree	es		m Trucks:	40.241				
	Right View:	90.0 degree	es	Heav	y Trucks:	40.262				
FHWA Noise Mod	el Calculation	s		1						
VehicleType	REMEL	Traffic Flow	Distance	Finite	Road	Fresnel	Barrier Atten	Berm Atten		
Autos:	66.51	-11.44	1.	.28	-1.20	-4.61	0.000	0.000		
Medium Trucks:	77.72	-28.68	1.	.31	-1.20	-4.87	0.000	0.000		
Heavy Trucks:	82.99	-32.63	1.	.31	-1.20	-5.50	0.000	0.000		
Unmitigated Nois				,						
VehicleType	Leq Peak Ho			Evening	Leq Ni	•	Ldn	CNEL		
Autos:	55		53.2	51.5		45.4	54.1	54.7		
Medium Trucks:	49		47.6	41.3		39.7	48.2	48.4		
Heavy Trucks:	50		49.0	40.0		41.3	49.6	49.7		
Vehicle Noise:	57		55.4	52.2		47.6	56.1	56.6		
Centerline Distan	ce to Noise C	ontour (in feet)		0 -/0.4	05 4		00 -ID4	55 dD4		
) dBA	65 dE	SA	60 dBA	55 dBA		
			Ldn:	5	11		24	52		
		Cr	VEL:	6	12		26	56		

Tuesday, February 03, 2015

	FH	WA-RD-	77-108	HIGH	HWAY	NOISE P	REDICT	ION MO	DDEL			
Road Na	ario: Existing W me: Day St. ent: n/o SR-60		roject					Name: lumber:		n Springs		
	SPECIFIC I	NPUT D	ATA							L INPUT	s	
Highway Data						Site Cor	nditions	(Hard :				
Average Dail	y Traffic (Adt):	28,200	vehicles						Autos:			
Peak Ho	ır Percentage:	109	6				edium Tr		,			
Peak	Hour Volume:	2,820	vehicles			He	eavy Tru	cks (3+	Axles):	15		
1	/ehicle Speed:	40	mph		1	Vehicle	Mix					
Near/Far L	.ane Distance:	72	feet		1		icleType	,	Dav	Evenina	Niaht	Dailv
Site Data								Autos:	77.5%	- 3	9.6%	. ,
	arrier Height:		feet			М	edium T	rucks:	84.8%		10.3%	
Barrier Type (0-	-	0.0					Heavy T	rucks:	86.5%	2.7%	10.8%	0.74%
,, ,	Dist. to Barrier:		feet		-					-1		
Centerline Dis	t. to Observer:	60.0	feet			Noise S				eet)		
Barrier Distanc	e to Observer:	0.0	feet				Auto		.000			
Observer Heigh	t (Above Pad):	5.0	feet				m Truck		.297			
	Pad Elevation:	0.0	feet			Hear	vy Truck	s: 8	.006	Grade Ad	justment	0.0
R	oad Elevation:	0.0	feet		l	Lane Eq	uivalen	t Distar	ice (in	feet)		
	Road Grade:	0.0	%		ı		Auto	s: 48	.260			
	Left View:	-90.0	dearee	s		Mediu	m Truck	s: 48	.076			
	Right View:	90.0	degree	s		Hear	vy Truck	s: 48	.094			
FHWA Noise Mo	del Calculation	ns										
VehicleType	REMEL	Traffic	Flow	Dis	stance	Finite	Road	Fres	nel	Barrier Att	en Ber	m Atten
Auto	s: 66.51	ı	3.06		0.1	13	-1.20		-4.69	0.0	000	0.000
Medium Trucks	s: 77.72	2	-14.18		0.1	15	-1.20		-4.88	0.0	000	0.000
Heavy Trucks	82.99	9	-18.13		0.1	15	-1.20		-5.34	0.0	000	0.000
Unmitigated No.	se Levels (with	hout Top	oo and i	barri	er atte	nuation)						
VehicleType	Leq Peak Ho	our L	.eq Day		Leq E	vening	Leq	Night		Ldn	C	NEL
Auto	s: 6	8.5	6	6.6		64.8		58.	8	67.4	4	68.0
Medium Trucks		2.5		31.0		54.6		53.		61.5	-	61.8
Heavy Trucks		3.8		32.4		53.4		54.	-	63.0		63.1
Vehicle Noise		0.5		8.8		65.5		61.	U	69.5)	69.9
Centerline Dista	nce to Noise C	Contour	(in feet)		70	dBA	65	dBA		60 dBA		dBA
				dn:		<i>aba</i> 56		ава 20		258		aBA 55
	Lan: CNFL:							20 28		276	-	i95
			UN	·		59	'	20		210	-	

	FH	WA-RD-77-108	HIGH	WAY N	OISE PR	REDICT	ION M	ODEL			
Road Nan	io: Existing W ne: Day St. nt: s/o Canyo	ithout Project n Springs Pkwy					Name. lumber.		n Springs		
	SPECIFIC II	NPUT DATA							L INPUT	s	
Highway Data				S	Site Con	ditions	(Hard	= 10, S	oft = 15)		
,	Traffic (Adt): Percentage:	24,200 vehicle 10%	S					Autos: Axles):	15		
Peak F	lour Volume:	2,420 vehicle	S		Hea	avy Trui	cks (3+	Axles):	15		
Ve	hicle Speed:	40 mph		ν	/ehicle II	Лix					
Near/Far La	ne Distance:	72 feet			Vehi	cleType		Day	Evening	Night	Daily
Site Data							Autos:	77.5%	12.9%	9.6%	97.429
Ra	rrier Heiaht:	0.0 feet			Me	dium T	rucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-VI	/all, 1-Berm):	0.0			H	leavy T	rucks:	86.5%	2.7%	10.8%	0.74%
Centerline Di		60.0 feet		٨	loise So	urce E	levatio	ns (in f	eet)		
Centerline Dist.		60.0 feet				Auto	s: (.000			
Barrier Distance		0.0 feet			Mediur	n Truck	s: 2	.297			
Observer Height		5.0 feet			Heav	y Truck	s: 8	.006	Grade Ad	justment	: 0.0
	ad Elevation:	0.0 feet		-							
	ad Elevation:	0.0 feet		L	ane Equ				reet)		
•	Road Grade:	0.0%				Auto		3.260			
	Left View: Right View:	-90.0 degre 90.0 degre				n Truck y Truck		3.076 3.094			
FHWA Noise Mod	el Calculation	15									
VehicleType	REMEL	Traffic Flow	Dist	ance	Finite	Road	Fres	inel	Barrier Att	en Bei	rm Atten
Autos:	66.51	2.40		0.13	3	-1.20		-4.69	0.0	000	0.00
Medium Trucks:	77.72	-14.84		0.15		-1.20		-4.88	0.0	000	0.00
Heavy Trucks:				0.15		-1.20		-5.34	0.0	000	0.00
Unmitigated Nois								_			
VehicleType	Leq Peak Ho			Leq Ev		Leq	Night		Ldn		NEL
Autos:	-		65.9		64.2		58		66.		67.
Medium Trucks:	-		60.3		54.0		52		60.	-	61.
Heavy Trucks:			61.7		52.7		53		62.3		62.
Vehicle Noise:	-		68.1		64.8		60	.3	68.	В	69.
Centerline Distan	ce to Noise C	ontour (in feet	*)	70 d	IRΔ	65	dBA	т,	60 dBA	55	dBA
			I dn:	50			08		233		501
			NFI:	54			uo 16		249		537
		C.		34					270		

	FH\	WA-RD-77-108	HIGHWA	Y NOISE I	PREDIC	TION MODEL		
Road Name	e: Day St.	ithout Project n Springs Pkwy				t Name: Cany Number: 8991	on Springs	
SITE S	SPECIFIC IN	NPUT DATA				NOISE MOD		
Highway Data				Site Co	nditions	s (Hard = 10, 3	Soft = 15)	
Average Daily 1 Peak Hour I Peak Ho		39,200 vehicle: 10% 3,920 vehicle:				Autos rucks (2 Axles ucks (3+ Axles): 15	
Veh	nicle Speed:	40 mph		Vehicle	Miv			
Near/Far Lan	ne Distance:	72 feet			hicleTyp	e Dav	Evening	Night Daily
Site Data				-		Autos: 77.5	-	9.6% 97.42%
Pari	rier Height:	0.0 feet		1	Medium 1	Trucks: 84.8	% 4.9%	10.3% 1.84%
Barrier Type (0-Wa	-	0.0 1661			Heavy	Trucks: 86.5	% 2.7%	10.8% 0.74%
Centerline Dis		60.0 feet						
Centerline Dist. t		60.0 feet		Noise S		levations (in	feet)	
Barrier Distance t		0.0 feet			Auto			
Observer Height (A		5.0 feet			um Truci			
• ,	d Flevation:	0.0 feet		Hea	avy Truci	ks: 8.006	Grade Adju	stment: 0.0
Roa	d Elevation:	0.0 feet		Lane E	quivaler	nt Distance (in	r feet)	
F	Road Grade:	0.0%			Auto	os: 48.260		
	Left View:	-90.0 degree	es	Medi	um Truci	ks: 48.076		
	Right View:	90.0 degree	es	Hea	avy Truci	ks: 48.094		
FHWA Noise Mode	l Calculation	ıs						
VehicleType	REMEL	Traffic Flow	Distanc	e Finit	e Road	Fresnel	Barrier Atte	n Berm Atten
Autos:	66.51	4.49	(0.13	-1.20	-4.69	0.0	0.000
Medium Trucks:	77.72	-12.74	(0.15	-1.20	-4.88	0.0	0.000
Heavy Trucks:	82.99	-16.70	(0.15	-1.20	-5.34	0.0	0.000
Unmitigated Noise	Levels (with	out Topo and	barrier at	tenuation)			
VehicleType	Leq Peak Hou	ur Leq Day	Lec	Evening	Lec	Night	Ldn	CNEL
Autos:	69	9.9	68.0	66.	3	60.2	68.8	69.4
Medium Trucks:			62.4	56.		54.5	63.0	63.2
Heavy Trucks:			63.8	54.	8	56.0	64.4	64.5
Vehicle Noise:	71	1.9	70.2	66.	9	62.4	70.9	71.4
Centerline Distanc	e to Noise Co	ontour (in feet						
				70 dBA		i dBA	60 dBA	55 dBA
			Ldn:	69		149	321	692
		CI	VEL:	74		160	344	741

Tuesday, February 03, 2015

	FH	WA-RD-77-108	HIGH	IWAY N	IOISE PE	REDICTI	ON MO	DEL			
	e: Day St.	/ithout Project					Name: umber:		n Springs		
SITE		NPUT DATA							L INPU	гs	
Highway Data				5	Site Con	ditions	(Hard :	= 10, S	oft = 15)		
Average Daily	Traffic (Adt):	22,000 vehicle	s					Autos:	15		
Peak Hour	Percentage:	10%			Me	dium Tru	icks (2	Axles):	15		
Peak H	lour Volume:	2,200 vehicle	s		He	avy Truc	ks (3+	Axles):	15		
Ve	hicle Speed:	40 mph		,	Vehicle I	Miss					
Near/Far La	ne Distance:	72 feet				icleType		Day	Evening	Nigl	nt Daily
Site Data					ven		utos:	77.5%			6% 97.42%
					1.4	edium Tr		84.8%			
	rrier Height:	0.0 feet				Heavy Tr		86.5%			
Barrier Type (0-W		0.0			′	icavy II	uona.	30.3%	2.1%	10.	570 0.747
Centerline Di		60.0 feet		1	Voise So	ource Ele	evatio	ıs (in f	eet)		
Centerline Dist.		60.0 feet				Autos	: 0	.000			
Barrier Distance		0.0 feet			Mediui	m Trucks	: 2	.297			
Observer Height (,	5.0 feet			Heav	y Trucks	: 8	.006	Grade A	djustm	ent: 0.0
	ad Elevation:	0.0 feet				uivalent	Distant	/!	£4\		
	ad Elevation:	0.0 feet		-	Larie Eq	Autos		.260	ieei)		
,	Road Grade:	0.0%			A de elle	Autos m Trucks		.260			
	Left View:	-90.0 degre									
	Right View:	90.0 degre	es		Heav	y Trucks	: 48	.094			
FHWA Noise Mod											
VehicleType	REMEL	Traffic Flow		tance		Road	Fres		Barrier A		Berm Atten
Autos:	66.51			0.13	-	-1.20		-4.69	-	.000	0.00
Medium Trucks:	77.72			0.15		-1.20		-4.88		.000	0.00
Heavy Trucks:	82.99	-19.21		0.15	5	-1.20		-5.34	0	.000	0.00
Unmitigated Noise								_			
VehicleType	Leq Peak Ho			Leq E		Leq I			Ldn		CNEL
Autos:	-	7.4	65.5		63.8		57.		66		66.
Medium Trucks:		1.4	59.9		53.5		52.		60		60.
Heavy Trucks:		2.7	61.3		52.3		53.		61		62.
Vehicle Noise:		9.4	67.7		64.4		59.	9	68	.4	68.
Centerline Distant	ce to Noise C	Contour (in feet	t)	70 c	ID A	65 (4DA	Τ.	50 dBA	1	55 dBA
			I dn:	4		10			218		33 aBA 471
		_	NFI:	50		10			234		504

	FH	WA-RD-77-108	HIGI	HWAY	NOISE P	REDICT	ION MO	DDEL			
Road Na	ario: Existing W me: Day St. ent: s/o Gatewa	*					Name: lumber:		n Springs		
	SPECIFIC II	NPUT DATA							L INPUT	s	
Highway Data					Site Cor	nditions	(Hard :	= 10, Sc	oft = 15)		
Average Dail	y Traffic (Adt):	16,800 vehicle	S					Autos:	15		
Peak Hou	ır Percentage:	10%				edium Tr					
Peak	Hour Volume:	1,680 vehicle	S		He	eavy Trui	cks (3+	Axles):	15		
١	ehicle Speed:	40 mph		-	Vehicle	Mix					
Near/Far L	.ane Distance:	72 feet		-	Ver	icleType	,	Dav	Evening	Night	Dailv
Site Data							Autos:	77.5%		9.6%	97.42%
В	arrier Height:	0.0 feet			М	edium T	rucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-	-	0.0				Heavy T	rucks:	86.5%	2.7%	10.8%	0.74%
Centerline I	Dist. to Barrier:	60.0 feet		ŀ	Noise S	ource F	levatio	ns (in f	oet)		
Centerline Dis	t. to Observer:	60.0 feet		-		Auto		.000	,		
Barrier Distanc	e to Observer:	0.0 feet			Mediu	m Truck		.297			
Observer Heigh	t (Above Pad):	5.0 feet				vy Truck		.006	Grade Ad	iustmen	t: 0.0
	Pad Elevation:	0.0 feet		ļ		•					
R	oad Elevation:	0.0 feet			Lane Eq				feet)		
	Road Grade:	0.0%				Auto		.260			
	Left View:	-90.0 degre	es			m Truck		.076			
	Right View:	90.0 degre	es		Hear	vy Truck	s: 48	1.094			
FHWA Noise Mo	del Calculation	18									
VehicleType	REMEL	Traffic Flow	Di	stance	Finite	Road	Fres	nel	Barrier Att	en Be	rm Atten
Autos	66.51	0.81		0.1	3	-1.20		-4.69	0.0	000	0.000
Medium Trucks	s: 77.72	-16.42		0.1	5	-1.20		-4.88	0.0	000	0.000
Heavy Trucks	82.99	-20.38		0.1	15	-1.20		-5.34	0.0	000	0.000
Unmitigated Noi	se Levels (with	nout Topo and	barri	ier atte	nuation)						
VehicleType	Leq Peak Ho			Leq E	vening		Night		Ldn		NEL
Autos	s: 66	6.3	64.4		62.6		56.	.5	65.2	2	65.8
Medium Trucks			58.7		52.4		50.	-	59.3	-	59.5
Heavy Trucks	s: 6°	1.6	60.1		51.1		52.	.4	60.7	7	60.8
Vehicle Noise	9: 68	8.3	66.5		63.3		58	.7	67.2	2	67.7
Centerline Dista	nce to Noise C	ontour (in feet	:)								
			l		dBA		dBA	6	60 dBA		dBA
		_	Ldn:		39		35		182		393
		C	NEL:	4	12	9	91		195	4	121

	FHW	/A-RD-77-108 HI	SHWAY I	NOISE P	REDICT	ION MOD	EL		
Scenario Road Name Road Segment		•				t Name: C lumber: 8	anyon Spring 991	s	
SITE S	PECIFIC IN	PUT DATA					ODEL INPU	TS	
Highway Data				Site Cor	ditions	(Hard = 1	10, Soft = 15)		
Average Daily T	raffic (Adt): 1	1,800 vehicles				Α	utos: 15		
Peak Hour F	Percentage:	10%		Me	dium Ti	rucks (2 A	kles): 15		
Peak Ho	ur Volume:	1,180 vehicles		He	avy Tru	cks (3+ A	kles): 15		
Veh	icle Speed:	35 mph	ŀ	Vehicle	Mix				
Near/Far Land	e Distance:	58 feet	ŀ		icleTyp	e [Day Evening	g Nigh	nt Daily
Site Data							7.5% 12.9%		6% 97.42%
Barr	ier Heiaht:	0.0 feet		М	edium 7	rucks: 8	4.8% 4.9%	6 10.3	3% 1.84%
Barrier Type (0-Wa		0.0			Heavy 7	rucks: 8	6.5% 2.7%	6 10.8	8% 0.74%
Centerline Dist	to Barrier:	55.0 feet	ŀ	Noise S	ource F	levations	(in feet)		
Centerline Dist. to	Observer:	55.0 feet	F		Auto				
Barrier Distance to		0.0 feet		Mediu	m Truck				
Observer Height (A		5.0 feet			y Truck		ns Grade A	djustm	ent: 0.0
	d Elevation:	0.0 feet	-		•				
	d Elevation:	0.0 feet		Lane Eq		t Distance	, ,		
R	oad Grade:	0.0%		11-4	Auto				
	Left View:	-90.0 degrees			m Truck				
	Right View:	90.0 degrees		пеа	ry Truck	18. 40.0	30		
FHWA Noise Model	Calculations	5							
VehicleType	REMEL		Distance		Road	Fresne		Atten I	Berm Atten
Autos:	64.30	-0.14	0.3		-1.20			0.000	0.000
Medium Trucks:	75.75	-17.38	0.3		-1.20			0.000	0.000
Heavy Trucks:	81.57	-21.33	0.3	12	-1.20	-	5.38 (0.000	0.000
Unmitigated Noise			rier attei	nuation)					
	∟eq Peak Hou			vening		Night	Ldn		CNEL
Autos:	63.			59.6		53.5		2.2	62.8
Medium Trucks:	57.			49.6		48.1		6.5	56.8
Heavy Trucks:	59.			48.9		50.1		3.5	58.6
Vehicle Noise:	65.		3	60.3		56.0	6-	1.5	64.9
Centerline Distance	e to Noise Co	ntour (in feet)							
				dBA		dBA	60 dBA		55 dBA
		Ldr		24		51	109		236
		CNEL	: 2	25		54	117		252

	FH	WA-RD-77-108	HIGH	WAY N	IOISE P	REDICT	ION M	DDEL			
Scenario Road Name Road Segmen	e: Day St.	ithout Project ptus Av.					t Name: lumber:		n Springs		
	SPECIFIC II	NPUT DATA							L INPUT	s	
Highway Data					Site Cor	ditions	(Hard	= 10, S	oft = 15)		
Average Daily	Fraffic (Adt):	16,800 vehicle	es					Autos:	15		
Peak Hour I	Percentage:	10%			Me	dium Ti	ucks (2	Axles):	15		
Peak Ho	our Volume:	1,680 vehicle	es		He	avy Tru	cks (3+	Axles):	15		
Vel	nicle Speed:	40 mph		1	Vehicle	Mix					
Near/Far Lar	e Distance:	72 feet		F	Veh	icleTyp	э	Day	Evening	Night	Daily
Site Data							Autos:	77.5%	12.9%	9.6%	97.429
Bar	rier Heiaht:	0.0 feet			M	edium 7	rucks:	84.8%	4.9%	10.3%	1.849
Barrier Type (0-Wa	all, 1-Berm):	0.0				Heavy 7	rucks:	86.5%	2.7%	10.8%	0.749
Centerline Dis	t. to Barrier:	60.0 feet		,	Voise S	ource F	levatio	ns (in f	eet)		
Centerline Dist. t	o Observer:	60.0 feet		ŕ	10,00 0	Auto		.000	001)		
Barrier Distance t	o Observer:	0.0 feet			Mediu	m Truck		.297			
Observer Height (/	Above Pad):	5.0 feet				∕v Truc⊦	-	.006	Grade Ad	iustment	0.0
Pa	d Elevation:	0.0 feet				,					
	d Elevation:	0.0 feet		1	Lane Eq				feet)		
F	Road Grade:	0.0%				Auto		3.260			
	Left View:	-90.0 degre				m Truck		3.076			
	Right View:	90.0 degre	es		Hea	y Truck	s: 48	3.094			
FHWA Noise Mode	l Calculation	ıs									
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fres	nel	Barrier Att	en Ber	m Atten
Autos:	66.51			0.13	-	-1.20		-4.69		000	0.00
Medium Trucks:	77.72			0.15	-	-1.20		-4.88		000	0.00
Heavy Trucks:	82.99	-20.38		0.15	5	-1.20		-5.34	0.0	000	0.00
Unmitigated Noise				er atten	uation)						
	Leq Peak Ho			Leg E			Night		Ldn	_	NEL
Autos:	-	3.3	64.4		62.6		56	-	65.2	_	65.
Medium Trucks:	-).2	58.7		52.4		50	-	59.3	-	59.
Heavy Trucks:		1.6	60.1		51.1		52		60.7		60.
Vehicle Noise:	68	3.3	66.5		63.3		58	.7	67.2	2	67.
Centerline Distanc	e to Noise C	ontour (in fee	t)								
			L	70 c			dBA	- (60 dBA		dBA
		_	Ldn:	39	-		85		182	-	93
		C	NFI:	4:	2		91		195	- 1	21

Tuesday, February 03, 2015

	FHV	VA-RD-77-108	HIGH	1 YAWI	IOISE PE	REDICTI	ON MO	DDEL				
Road Nam	io: Existing Wine: Day St. nt: s/o Cottony	,				Project Job Ni			n Spring	gs		
	SPECIFIC IN					N	OISE	MODE	L INP	JTS		
Highway Data					Site Con	ditions	(Hard :	= 10, S	oft = 15)		
Average Daily	Traffic (Adt):	7,100 vehicles	3					Autos	15			
Peak Hour	Percentage:	10%			Me	dium Tru	icks (2	Axles).	15			
Peak H	lour Volume:	710 vehicles	3		He	avy Truc	ks (3+	Axles).	15			
Ve	hicle Speed:	35 mph			Vehicle I	Miv						
Near/Far La	ne Distance:	36 feet		-		icleType	Т	Day	Evenir	aa Mi	ght	Daily
Site Data				_	* 077		utos:	77.5%		-	9.6%	97.42%
		0.0 feet			Me	edium Tr		84.89			0.3%	1.84%
Barrier Type (0-W	rrier Height:	0.0 reet 0.0				leavy Tr		86.5%			0.8%	0.74%
Centerline Di	. ,	44.0 feet										•
Centerline Dist.		44.0 feet		L	Noise So				eet)			
Barrier Distance		0.0 feet				Autos		.000				
Observer Height		5.0 feet				n Trucks		.297				
	ad Flevation:	0.0 feet			Heav	y Trucks	: 8	.006	Grade	Adjust	ment:	0.0
	ad Elevation:	0.0 feet		1	Lane Eq	uivalent	Distar	ice (in	feet)			
	Road Grade:	0.0%				Autos		.460				
	Left View:	-90.0 degree	es		Mediui	m Trucks	: 40	.241				
	Right View:	90.0 degree			Heav	y Trucks	: 40	.262				
FHWA Noise Mod	el Calculation	s										
VehicleType	REMEL	Traffic Flow	Dis	stance		Road	Fres		Barrier		Berr	n Atten
Autos:	64.30	-2.35		1.2	-	-1.20		-4.61		0.000		0.00
Medium Trucks:	75.75	-19.59		1.3		-1.20		-4.87		0.000		0.00
Heavy Trucks:	81.57	-23.54		1.3	1	-1.20		-5.50		0.000		0.000
Unmitigated Nois	e Levels (with	out Topo and	barri	er atter	uation)							
VehicleType	Leq Peak Hou	r Leq Day		Leq E	vening	Leq I	Vight		Ldn		C٨	IEL
Autos:	62	.0	60.1		58.4		52.	3	6	60.9		61.
Medium Trucks:	56		54.8		48.4		46.			55.3		55.0
Heavy Trucks:	58		56.7		47.7		48.			57.3		57.
Vehicle Noise:	64	.3	62.6		59.1		54.	7	6	63.3		63.
Centerline Distan	ce to Noise Co	ontour (in feet))									
			L		dBA	65 d			60 dBA			dBA
			Ldn:	1	-	3			72			56
		CI	IEL:	- 1	7	3	6		77		16	37

Tuesday, February 03, 2015

	FH	WA-RD-77-10	B HIG	HWAY	NOISE PI	REDICT	ION MC	DEL			
Road Na	nrio: Existing W me: Day St. ent: s/o Bay Av	,					Name: lumber:		n Springs		
	SPECIFIC II	IPUT DATA							L INPUT	S	
Highway Data					Site Cor	ditions	(Hard =	: 10, Sc	oft = 15)		
Average Daily	/ Traffic (Adt):	6,700 vehicle	es					Autos:	15		
Peak Hou	r Percentage:	10%			Me	dium Tr	ucks (2 .	4xles):	15		
Peak	Hour Volume:	670 vehicle	es		He	avy Tru	cks (3+ .	4xles):	15		
ν	ehicle Speed:	35 mph		F	Vehicle	Mix					
Near/Far L	ane Distance:	36 feet		f		icleType		Dav	Evenina	Niaht	Dailv
Site Data							Autos:	77.5%	- 3	9.6%	- /
	arrier Height:	0.0 feet			М	edium T	rucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-	-	0.0 feet			,	Heavy T	rucks:	86.5%	2.7%	10.8%	0.74%
,, ,	Dist. to Barrier:	44.0 feet									
Centerline Dis		44.0 feet			Noise S			٠,	eet)		
Barrier Distance		0.0 feet				Auto		000			
Observer Height		5.0 feet				m Truck		297			
	Pad Elevation:	0.0 feet			Heav	ry Truck	s: 8.	006	Grade Adj	justment	0.0
	oad Elevation:	0.0 feet			Lane Eq	uivalen	t Distan	ce (in	feet)		
	Road Grade:	0.0%				Auto	s: 40	460			
	Left View:	-90.0 degre	es		Mediu	m Truck	s: 40	241			
	Right View:	90.0 degre	ees		Heav	y Truck	s: 40	262			
FHWA Noise Mo	del Calculation	ıs									
VehicleType	REMEL	Traffic Flow	Di	stance	Finite	Road	Fresi	nel	Barrier Att	en Ber	m Atten
Autos	: 64.30	-2.60)	1.2	28	-1.20		-4.61	0.0	000	0.000
Medium Trucks	: 75.75	-19.84	ļ	1.3	31	-1.20		-4.87	0.0	000	0.000
Heavy Trucks	: 81.57	-23.79)	1.3	31	-1.20		-5.50	0.0	000	0.000
Unmitigated Noi											
VehicleType	Leq Peak Ho		_	Leq E	vening	Leq	Night		Ldn		VEL
Autos		1.8	59.9		58.1		52.		60.7		61.3
Medium Trucks		6.0	54.5		48.2		46.	-	55.1		55.3
Heavy Trucks Vehicle Noise		7.9 1.0	56.5 62.3		47.4 58.9		48.° 54.		57.0 63.0		57.2 63.4
Centerline Dista	nce to Noise C	ontour (in fee	t)								
Jones Dista	10 110/36 0	ooui (iii iee	,	70	dBA	65	dBA	6	60 dBA	55	dBA
			Ldn:		15	3	32		70	1	50
		C	NEL:		16	3	35		75	1	61

	FH	WA-RD-77-108	HIGHW	AY N	DISE PE	REDICT	ION MOD	EL		
Road Nam	io: Existing W ne: Eucalyptus nt: s/o Towng	Av.					t Name: C lumber: 8		Springs	
SITE	SPECIFIC IN	NPUT DATA				- 1	NOISE M	ODE	L INPUTS	
Highway Data				S	ite Con	ditions	(Hard =	10, Sc	ft = 15)	
Peak H	Traffic (Adt): Percentage: lour Volume: hicle Speed:	11,400 vehicle 10% 1,140 vehicle 40 mph			He	avy Tru	rucks (2 A ocks (3+ A		15 15 15	
	ne Distance:	48 feet		ν	ehicle l					
	ne Distance.	40 1661			Veh	icleTyp		Day		Vight Dail
Site Data Bai Barrier Type (0-W	rrier Height: /all, 1-Berm):	0.0 feet 0.0				edium 7 Heavy 7	rucks: 8	7.5% 84.8% 86.5%	4.9%	9.6% 97.42 10.3% 1.84 10.8% 0.74
Centerline Dis		50.0 feet		Ν	oise Sc	urce E	levations	(in fe	et)	
Ros	to Observer:	50.0 feet 0.0 feet 5.0 feet 0.0 feet 0.0 feet 0.0% -90.0 degre	es	L	Heav ane Eq	Auto m Truck ry Truck uivalen Auto m Truck	(s: 2.2 (s: 8.0 (t Distance) (s: 44.1	97 06 e (in t 47	Grade Adjus	stment: 0.0
FHWA Noise Mode	Right View:	90.0 degre	es		Heav	y Truck	rs: 43.9	66		
VehicleType	REMEL	Traffic Flow	Distar	nce	Finite	Road	Fresne	<i>al</i>	Barrier Atter	Berm Atte
Autos:	66.51		Diotai	0.71	7 11 1110	-1.20		4.65	0.00	
Medium Trucks:	77.72	-18.11		0.74		-1.20		4.87	0.00	
Heavy Trucks:	82.99	-22.06		0.73		-1.20	-	5.43	0.00	0.0
Unmitigated Noise	e Levels (with	out Topo and	barrier a	attenu	ation)					
VehicleType	Leq Peak Ho	ur Leq Day	/ L	eq Ev	ening	Leq	Night		Ldn	CNEL
Autos:	65	5.1	63.3		61.5		55.4		64.1	6
Medium Trucks:		9.1	57.6		51.3		49.7		58.2	5
Heavy Trucks:		0.5	59.0		50.0		51.3		59.6	5
Vehicle Noise:			65.4		62.2		57.6		66.1	6
Centerline Distant	ce to Noise C	ontour (in feet	:)							
			L	70 dl			dBA	6	0 dBA	55 dBA
		_	Ldn:	28			60		128	277
		C	NEL:	30		,	64		137	296

	FHV	VA-RD-77-108	HIGI	1 YAWH	NOISE P	REDICT	ION M	ODEL			
Road Nan	rio: Existing Wine: Day St. ent: s/o Alessan	,					Name lumber		n Springs		
	SPECIFIC IN	PUT DATA			01: 0				L INPUT	s	
Highway Data					Site Cor	aitions	(Hard				
Average Daily	. ,	700 vehicle	S					Autos:			
Peak Hour	Percentage:	10%				dium Tr		,			
Peak H	Hour Volume:	70 vehicle	S		He	avy Tru	cks (3+	Axles):	15		
Vé	ehicle Speed:	35 mph			Vehicle	Mix					
Near/Far La	ne Distance:	36 feet				icleType		Day	Evening	Night	Daily
Site Data						,	Autos:	77.5%	12.9%	9.6%	97.42%
Ra	rrier Heiaht:	0.0 feet			М	edium T	rucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-V		0.0				Heavy T	rucks:	86.5%	2.7%	10.8%	0.74%
Centerline Di	ist. to Barrier:	44.0 feet		-	Noise S	urco E	lovatio	ne (in f	not)		
Centerline Dist.	to Observer:	44.0 feet		H	140/36 3	Auto		0.000	bei)		
Barrier Distance	to Observer:	0.0 feet			Modiu	m Truck		2.297			
Observer Height	(Above Pad):	5.0 feet				vy Truck		3.006	Grade Ad	iustment	. 0.0
P	ad Elevation:	0.0 feet			77001	y much	o. c		Orado riaj	Juoumoni	. 0.0
Ro	ad Elevation:	0.0 feet			Lane Eq	uivalen	t Dista	nce (in	feet)		
	Road Grade:	0.0%				Auto	s: 40	0.460			
	Left View:	-90.0 degre	es		Mediu	m Truck	s: 40).241			
	Right View:	90.0 degre	es		Heav	ry Truck	s: 40).262			
FHWA Noise Mod	lel Calculation:	s									
VehicleType	REMEL	Traffic Flow	Di	stance	Finite	Road	Fres	snel	Barrier Att	en Bei	m Atten
Autos:	64.30	-12.41		1.2	8	-1.20		-4.61	0.0	000	0.000
Medium Trucks:	75.75	-29.65		1.3	1	-1.20		-4.87	0.0	000	0.000
Heavy Trucks:	81.57	-33.60		1.3	1	-1.20		-5.50	0.0	000	0.000
Unmitigated Nois	e Levels (with	out Topo and	barri	ier atter	nuation)						
VehicleType	Leq Peak Hou	r Leq Day	/	Leq E	vening	Leq	Night		Ldn	C	NEL
Autos:	52.	.0	50.1		48.3		42	.2	50.9	9	51.5
Medium Trucks:			44.7		38.3		36		45.3		45.5
Heavy Trucks:	48.	.1	46.7		37.6		38	.9	47.2	2	47.3
Vehicle Noise:	54.	.2	52.5		49.0	,	44	.7	53.2	2	53.6
Centerline Distan	ce to Noise Co	ntour (in feet)								
				70	dRA	65	dRA	1 6	SO dBA	55	dBA

Tuesday, February 03, 2015

	FHV	/A-RD-77-108 H	HIGHWA'	Y NOISE P	REDICTION	ON MC	ODEL			
Road Nan	rio: Existing Wit ne: Eastridge A ent: w/o Sycamo	v. ,			Project I Job Nu			n Springs		
SITE Highway Data	SPECIFIC IN	PUT DATA		Site Co	No nditions (L INPUT	S	
Average Daily Peak Hour Peak F	Traffic (Adt): Percentage: Hour Volume: Phicle Speed:	8,600 vehicles 10% 860 vehicles 40 mph 72 feet		Me He Vehicle	edium Truck eavy Truck Mix	cks (2	Autos: Axles): Axles):	15 15 15	A.F. 1.	
Site Data	ino Biotarioo.	72 1001		Vel	nicleType	utos:	77.5%	Evening 12.9%	Night 9.6%	Daily 97.42%
	rrier Height: Vall, 1-Berm):	0.0 feet 0.0			ledium Tru Heavy Tru	ıcks:	84.8% 86.5%	4.9%	10.3%	1.84%
	ist. to Barrier:	60.0 feet		Noise S	ource Ele	vatio	ns (in f	eet)		
Centerline Dist. Barrier Distance Observer Height	to Observer:	60.0 feet 0.0 feet 5.0 feet 0.0 feet			Autos: m Trucks: vy Trucks:	: 2	0.000 2.297 3.006	Grade Ad	justment	: 0.0
Ro	ad Elevation:	0.0 feet		Lane Ed	uivalent i	Dista	nce (in	feet)		
	Road Grade: Left View: Right View:	0.0% -90.0 degrees 90.0 degrees			Autos: im Trucks: vy Trucks:	: 48	3.260 3.076 3.094			
FHWA Noise Mod	lel Calculations	•								
VehicleType	REMEL	Traffic Flow	Distanc	e Finite	Road	Fres	snel	Barrier Att	en Be	m Atten
Autos:	66.51	-2.09	().13	-1.20		-4.69	0.0	000	0.000
Medium Trucks: Heavy Trucks:		-19.33 -23.29).15).15	-1.20 -1.20		-4.88 -5.34		000	0.000
Unmitigated Nois	e Levels (with	out Topo and b	arrier at	tenuation)						
VehicleType	Leq Peak Hou		_	Evening	Leq N	light		Ldn	С	NEL
Autos:	63.	3 6	1.4	59.7		53	.6	62.2	2	62.9
Medium Trucks:	57.	3 5	5.8	49.5	,	47	.9	56.4	4	56.6
Heavy Trucks:	58.	7 5	7.2	48.2	!	49	.4	57.8	3	57.9
Vehicle Noise:	65.	4 6	3.6	60.3	3	55	.8	64.3	3	64.8
Centerline Distan	ce to Noise Co	ntour (in feet)								
				'0 dBA	65 d			60 dBA		dBA
		_	dn:	25	54			117	_	252
		CN	FI:	27	58	3		125	- 2	69

Tuesday, February 03, 2015

	FHW	A-RD-77-108	HIGHV	YAW	NOISE P	REDICT	ION MC	DEL			
Road Nam	io: Existing With e: Eastridge Av nt: e/o Sycamor	. 1					Name: lumber:		n Springs		
	SPECIFIC INF	PUT DATA			04- 0				L INPUT	S	
Highway Data				-	Site Cor	iaitions	(Hara =				
	Traffic (Adt): 16		3					Autos:	15		
	Percentage:	10%				edium Tr	,				
		,600 vehicles	3		He	eavy Tru	cks (3+	Axles):	15		
	hicle Speed:	40 mph			Vehicle	Mix					
Near/Far Lai	ne Distance:	72 feet			Veh	icleType	9	Day	Evening	Night	Daily
Site Data						,	Autos:	77.5%	12.9%	9.6%	97.42%
Rai	rrier Height:	0.0 feet			М	edium T	rucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-W		0.0				Heavy T	rucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dis	st. to Barrier:	60.0 feet		H	Noise S	ource E	levation	s (in f	eet)		
Centerline Dist.	to Observer:	60.0 feet				Auto		000	,		
Barrier Distance	to Observer:	0.0 feet			Mediu	m Truck		297			
Observer Height (Above Pad):	5.0 feet				vy Truck		.006	Grade Ad	iustment	0.0
Pa	ad Elevation:	0.0 feet		L		•					
Roa	ad Elevation:	0.0 feet		L	Lane Eq	uivalen	t Distar	ce (in	feet)		
I	Road Grade:	0.0%				Auto	s: 48	.260			
	Left View:	-90.0 degree	es			m Truck		.076			
	Right View:	90.0 degree	es		Hear	vy Truck	s: 48	.094			
FHWA Noise Mode	el Calculations										
VehicleType	REMEL	Traffic Flow	Dista	ance	Finite	Road	Fres		Barrier Att	en Ber	m Atten
Autos:	66.51	0.60		0.1		-1.20		-4.69		000	0.000
Medium Trucks:	77.72	-16.64		0.1	-	-1.20		-4.88		000	0.000
Heavy Trucks:	82.99	-20.59		0.1	5	-1.20		-5.34	0.0	000	0.000
Unmitigated Noise		ut Topo and									
VehicleType	Leq Peak Hour	Leq Day		Leq E	vening		Night		Ldn	_	VEL
Autos:	66.0		64.1		62.4		56.		64.9		65.5
Medium Trucks:	60.0		58.5		52.2		50.	-	59.1		59.3
Heavy Trucks: Vehicle Noise:	61.4		59.9 66.3		50.9 63.0		52. 58.		60.5		60.6
					ხ3.0	'	58.	5	67.0	,	٥/.5
Centerline Distanc	ce to Noise Cor	ntour (in feet)	70	dBA	65	dBA	-	60 dBA	55	dBA
			l dn:		18		32	,	177		81
			VFI:	-	11		38		189	-	.07
		Oi.	•	-			,,,			-	٠.

	FH	WA-RD-77-108	HIGHWA	Y NOISE F	PREDICT	TION MOD	EL	
Road Nam	io: Existing W ne: Eucalyptus nt: w/o Valley					t Name: C Number: 8	anyon Springs 991	
SITE	SPECIFIC IN	NPUT DATA					ODEL INPUT	S
Highway Data				Site Co	nditions	(Hard = 1	10, Soft = 15)	
Average Daily	Traffic (Adt):	30,500 vehicle	S			A	utos: 15	
Peak Hour	Percentage:	10%		M	ledium T	rucks (2 A)	kles): 15	
Peak H	lour Volume:	3,050 vehicle	S	Н	eavy Tru	icks (3+ Ax	kles): 15	
Ve	hicle Speed:	40 mph		Vehicle	Mix			
Near/Far La	ne Distance:	72 feet			hicleTyp	e E	Day Evening	Night Daily
Site Data							7.5% 12.9%	9.6% 97.42%
Ra	rrier Heiaht:	0.0 feet		٨	/ledium 1	Frucks: 8	4.8% 4.9%	10.3% 1.84%
Barrier Type (0-W		0.0			Heavy 7	Frucks: 8	6.5% 2.7%	10.8% 0.74%
Centerline Di	st. to Barrier:	60.0 feet		Noise S	Source F	levations	(in feet)	
Centerline Dist.	to Observer:	60.0 feet			Auto			
Barrier Distance	to Observer:	0.0 feet		Medi	um Truci			
Observer Height (5.0 feet			vy Truci		ne Grade Ad	justment: 0.0
	ad Elevation:	0.0 feet			•			
	ad Elevation:	0.0 feet		Lane E		nt Distance	, ,	
	Road Grade:	0.0%		44	Auto um Truci			
	Left View: Right View:	-90.0 degre			um Truci avy Truci			
	rigiti view.	90.0 degree	es	пес	ivy Truci	18. 40.0	34	
FHWA Noise Mod								
VehicleType	REMEL	Traffic Flow	Distanc		e Road	Fresne		
Autos:	66.51	3.40		0.13	-1.20			0.000
Medium Trucks:	77.72			0.15	-1.20			0.000
Heavy Trucks:	82.99			0.15	-1.20	~	5.34 0.0	0.000
Unmitigated Nois								
VehicleType	Leq Peak Ho			Evening		Night	Ldn	CNEL
Autos:			66.9	65.	_	59.1	67.7	
Medium Trucks:			61.3 62.7	55.0 53.1		53.4 54.9	61.9	
Heavy Trucks: Vehicle Noise:			69.1	65.		61.3	69.8	
				05.		01.3	69.0	70.3
Centerline Distant	ce to Noise C	ontour (in feet		70.154			00 104	55 54
				70 dBA		dBA	60 dBA	55 dBA
			Ldn: VFI :	59 63		126 135	272 291	585 626
		Ci	VEL.	03		133	291	020

	FHV	WA-RD-77-108	HIGHW	AY NO	DISE P	REDICT	TION MOD	EL			
	e: Existing Wi e: Eastridge A t: e/o Box Spi	v.					t Name: C Number: 8		n Springs		
	PECIFIC IN	IPUT DATA							L INPUTS	;	
Highway Data				S	ite Cor	nditions	(Hard = 1	0, Sc	oft = 15)		
Average Daily 1 Peak Hour F Peak Ho		19,400 vehicle 10% 1.940 vehicle					A rucks (2 A) icks (3+ A)	/			
	icle Speed:	40 mph				•		/			
Near/Far Lan	,	72 feet		V	ehicle					A.C	
					ven	icleTyp		ay 7.5%	Evening 12.9%	Night 9.6%	Daily 97.42%
Site Data				_		edium 7		7.5% 4.8%		10.3%	
	ier Height:	0.0 feet									
Barrier Type (0-Wa	. ,	0.0			-	Heavy 7	rucks: 8	6.5%	2.7%	10.8%	0.74%
Centerline Dis		60.0 feet		N	loise S	ource E	levations	(in fe	eet)		
Centerline Dist. to		60.0 feet				Auto	os: 0.00	00			
Barrier Distance to		0.0 feet			Mediu	m Truck	ks: 2.29	97			
Observer Height (A	,	5.0 feet			Heav	y Truck	ks: 8.00	06	Grade Adju	ıstmen	t: 0.0
	d Elevation:	0.0 feet				•					
	d Elevation:	0.0 feet		L	ane Eq		t Distance	_	feet)		
R	oad Grade:	0.0%				Auto					
	Left View:	-90.0 degre	es			m Truck		-			
	Right View:	90.0 degre	es		Heav	y Truck	ks: 48.0	94			
FHWA Noise Mode	l Calculation	s									
VehicleType	REMEL	Traffic Flow	Dista	nce	Finite	Road	Fresne	1	Barrier Atte	en Be	rm Atten
Autos:	66.51	1.44		0.13		-1.20		4.69	0.0	00	0.000
Medium Trucks:	77.72	-15.80		0.15		-1.20		4.88	0.0	00	0.000
Heavy Trucks:	82.99	-19.76		0.15		-1.20	-4	5.34	0.0	00	0.000
Unmitigated Noise	Levels (with	out Topo and	barrier	attenu	ation)						
VehicleType I	Leq Peak Hou	ır Leq Day	/ L	eq Eve	ening	Leq	Night		Ldn	С	NEL
Autos:	66	.9	65.0		63.2		57.2		65.8		66.4
Medium Trucks:	60	.9	59.4		53.0		51.5		59.9		60.1
Heavy Trucks:	62	.2	60.8		51.7		53.0		61.3		61.5
Vehicle Noise:	68	.9	67.2		63.9		59.3		67.9		68.3
Centerline Distance	e to Noise Co	ontour (in feet)								
				70 dl	BA	65	dBA	6	60 dBA	55	5 dBA
			Ldn:	43		-	93		201		433

Tuesday, February 03, 2015

FH	WA-RD-77-108	HIGHWAY	NOISE P	REDICT	ION MODEL		
Scenario: Existing W Road Name: Eucalyptu: Road Segment: e/o Valley	s Av.				Name: Canyo lumber: 8991	on Springs	
SITE SPECIFIC I	NPUT DATA				IOISE MODE		
Highway Data			Site Cor	ditions	(Hard = 10, S)	oft = 15)	
Average Daily Traffic (Adt): Peak Hour Percentage: Peak Hour Volume:	17,100 vehicles 10% 1,710 vehicles				Autos ucks (2 Axles) cks (3+ Axles)	: 15	
Vehicle Speed:	40 mph		Vehicle	Miv			
Near/Far Lane Distance:	72 feet			icleType	Dav	Evening 1	light Daily
Site Data			1011		Autos: 77.59		9.6% 97.42%
Barrier Height:	0.0 feet		М	edium T	rucks: 84.89	6 4.9%	10.3% 1.84%
Barrier Type (0-Wall, 1-Berm):	0.0			Heavy T	rucks: 86.59	6 2.7%	10.8% 0.74%
Centerline Dist. to Barrier:	60.0 feet		Noise S	ource E	levations (in	feet)	
Centerline Dist. to Observer: Barrier Distance to Observer: Observer Height (Above Pad): Pad Elevation:	60.0 feet 0.0 feet 5.0 feet 0.0 feet		Heav	Auto m Truck ry Truck	s: 2.297 s: 8.006	Grade Adjus	stment: 0.0
Road Elevation: Road Grade:	0.0 feet		Lane Eq	Auto	t Distance (in s: 48.260	ieet)	
Left View: Right View:	0.0% -90.0 degree 90.0 degree			m Truck /y Truck	s: 48.076		
FHWA Noise Model Calculation	าร						
VehicleType REMEL	Traffic Flow	Distance	Finite	Road	Fresnel	Barrier Atter	Berm Atten
Autos: 66.51	0.89	0.	.13	-1.20	-4.69	0.00	0.000
Medium Trucks: 77.72			.15	-1.20	-4.88		
Heavy Trucks: 82.99			.15	-1.20	-5.34	0.00	0.000
Unmitigated Noise Levels (with							
VehicleType Leq Peak Ho	, ,		Evening	Leq	Night	Ldn	CNEL
		64.4	62.7		56.6	65.2	65.8
		58.8	52.5		50.9	59.4	59.6
,		66.6	51.2 63.3		52.4 58.8	60.8	60.9
			63.3		30.8	67.3	67.8
Centerline Distance to Noise C	Contour (in feet)) dBA	65	dBA	60 dBA	55 dBA
		l dn:	40		36	185	398
	-	IEL:	43		92	198	426

Tuesday, February 03, 2015

	FHV	VA-RD-77-108	HIGHW	AY N	OISE PI	REDICTION	ом мо	DEL			
Road Nan	io: Existing Witne: Eucalyptus nt: e/o Day St.					Project I Job Nu			n Springs		
SITE	SPECIFIC IN	PUT DATA							L INPUT	s	
Highway Data				S	ite Cor	nditions (Hard =	10, S	oft = 15)		
Average Daily	Traffic (Adt): 1	3,900 vehicles	S					Autos:	15		
Peak Hour	Percentage:	10%			Me	dium Tru	cks (2 /	4xles):	15		
Peak F	lour Volume:	1,390 vehicles	S		He	eavy Truci	ks (3+ /	Axles):	15		
Ve	hicle Speed:	40 mph		V	ehicle	Miv					
Near/Far La	ne Distance:	82 feet		F		icleType		Dav	Evening	Niah	Daily
Site Data							utos:	77.5%		9.6	. ,
Ra	rrier Heiaht:	0.0 feet			М	edium Tru	ıcks:	84.8%	4.9%	10.3	% 1.84%
Barrier Type (0-W		0.0			1	Heavy Tru	ıcks:	86.5%	2.7%	10.8	% 0.74%
Centerline Di	st. to Barrier:	67.0 feet		۸	loise S	ource Ele	vation	s (in f	eet)		
Centerline Dist.	to Observer:	67.0 feet				Autos		000	,		
Barrier Distance	to Observer:	0.0 feet			Mediu	m Trucks		297			
Observer Height	(Above Pad):	5.0 feet				vy Trucks.		006	Grade Adj	iustme	nt: 0.0
	ad Elevation:	0.0 feet									
Ro	ad Elevation:	0.0 feet		L	ane Eq	uivalent			feet)		
	Road Grade:	0.0%				Autos.		226			
	Left View:	-90.0 degree	es		Mediu	m Trucks.	: 53.	059			
	Right View:	90.0 degree	es		Heav	vy Trucks.	53.	076			
FHWA Noise Mod	el Calculation:	S									
VehicleType	REMEL	Traffic Flow	Distan	се	Finite	Road	Fresr	nel	Barrier Atte	en E	erm Atten
Autos:	66.51	-0.01		-0.51		-1.20		-4.71	0.0	100	0.000
Medium Trucks:	77.72	-17.25		-0.49		-1.20		-4.88	0.0	100	0.000
Heavy Trucks:	82.99	-21.20		-0.49		-1.20		-5.29	0.0	00	0.000
Unmitigated Nois	e Levels (with	out Topo and	barrier a	itteni	uation)						
VehicleType	Leq Peak Hou	r Leq Day	' Le	eq Ev	ening	Leq N	light		Ldn		CNEL
Autos:	64.	8	62.9		61.1		55.1		63.7	,	64.3
Medium Trucks:	58.	8	57.3		50.9		49.4	1	57.8	3	58.1
Heavy Trucks:	60.	•	58.7		49.6		50.9		59.2		59.4
Vehicle Noise:	66.	.8	65.1		61.8		57.2	2	65.8	3	66.2
Centerline Distan	ce to Noise Co	ntour (in feet)	70 -	D.4	65 d	(D.4	1 .	20 -/D4		ID 4
			I dn:	70 d		65 d			163	L :	55 dBA 351
			Lan: VFI :	38		81	-		174		376
		Ci	VEL.	38	•	81			174		3/0

	FHWA-RD-	-77-108 HIG	HWAY N	IOISE PR	EDICTION	MODEL			
Scenario: Existir Road Name: Alessa Road Segment: w/o Da	ndro Bl.	roject				me: Canyo ber: 8991	n Springs		
SITE SPECIF	C INPUT D	DATA					L INPUTS	5	
Highway Data			5	Site Cond	ditions (Ha	ard = 10, S	oft = 15)		
Average Daily Traffic (A	t): 26,700	vehicles				Autos:	15		
Peak Hour Percenta	e: 10%	6		Med	dium Truck	s (2 Axles):	15		
Peak Hour Volur	e: 2,670	vehicles		Hea	avy Trucks	(3+ Axles):	15		
Vehicle Spe	ed: 45	mph	1	Vehicle N	lix				
Near/Far Lane Distan	e: 82	feet	H		cleType	Day	Evening	Night	Daily
Site Data					Auto				97.42%
Barrier Heig	ht. 0.0	feet		Me	dium Truci	ks: 84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Ber				Н	leavy Truci	ks: 86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barr	er: 67.0	feet	,	Noise So	urce Elevi	ations (in f	eet)		
Centerline Dist. to Observ	er: 67.0	feet			Autos:	0.000	,		
Barrier Distance to Observ		feet		Mediun	n Trucks:	2.297			
Observer Height (Above Pa		feet			y Trucks:	8.006	Grade Adj	ustment:	0.0
Pad Elevati		feet							
Road Elevati		feet	- 1	Lane Equ		stance (in	teet)		
Road Gra				A decedio co	Autos:	53.226			
Left Vi Right Vi	00.0	degrees			n Trucks: y Trucks:	53.059 53.076			
Night Vi	w. 90.0	degrees		i icav	y Trucks.	33.070			
FHWA Noise Model Calcul				,					
VehicleType REME			stance	Finite		resnel	Barrier Atte		n Atten
	3.46	2.31	-0.51		-1.20 -1.20	-4.71	0.0		0.000
		-14.92 -18.88	-0.49 -0.49		-1.20	-4.88 -5.29	0.0		0.000
*					-1.20	-5.29	0.0	00	0.000
VehicleType Leq Pea		eq Day	ier atten Leg Ev		Leg Nig	h4	Ldn	CN	IEI
Autos:	69.1	67.2	Ley E	65.4	Leq Mg	59.3	68.0		68.6
Medium Trucks:	62.8	61.3		55.0		53.4	61.9		62.1
Heavy Trucks:	63.7	62.3		53.2		54.5	62.8		63.0
Vehicle Noise:	70.9	69.2		66.0		61.3	69.9		70.3
Centerline Distance to Noi	o Contour	(in feet)							
Centernine Distance to Noi	e contour	,	70 c	dBA	65 dB/	A (60 dBA	55 (1BA
Centerline Distance to Noi	e comour	Ldn:	70 d		65 dB/	4 (305	55 d	

	FH'	WA-RD-77-108	HIGH	IWAY N	IOISE P	REDICT	ION MO	DEL			
Road Nam	io: Existing W ne: Towngate nt: e/o Eucaly	Dr.					Name: lumber:		n Springs		
SITE	SPECIFIC II	NPUT DATA				N	IOISE I	ИODE	L INPUT	s	
Highway Data				5	Site Cor	nditions	(Hard =	10, S	oft = 15)		
Average Daily	Traffic (Adt):	7,900 vehicle	s					Autos:	15		
Peak Hour	Percentage:	10%			Ме	edium Tri	ucks (2 /	Axles):	15		
	lour Volume:	790 vehicle	:S		He	avy Truc	cks (3+ A	Axles):	15		
Ve	hicle Speed:	40 mph		١.	/- t-!-t-						
Near/Far La	ne Distance:	82 feet		μ,	Vehicle			D	C	A Contact	D-#-
a:- a -					ver	icleType	Autos:	Day 77.5%	Evening	Night	Daily
Site Data						ledium Ti		84.8%		9.6%	
	rrier Height:	0.0 feet								10.3%	
Barrier Type (0-W	. ,	0.0				Heavy Ti	rucks:	86.5%	2.7%	10.8%	0.74%
Centerline Di		67.0 feet		1	Voise S	ource El	levation	s (in f	eet)		
Centerline Dist.		67.0 feet				Auto	s: 0.	000			
Barrier Distance		0.0 feet			Mediu	m Truck	s: 2.:	297			
Observer Height	. ,	5.0 feet			Hear	vy Truck	s: 8.	006	Grade Adj	iustment	0.0
	ad Elevation:	0.0 feet		-				,,			
	ad Elevation:	0.0 feet		-	Lane Eq	uivalen			teet)		
	Road Grade:	0.0%				Auto					
	Left View:	-90.0 degre				m Truck					
	Right View:	90.0 degre	es		Hea	vy Truck	s: 53.	076			
FHWA Noise Mod	el Calculation	18									
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fresr	nel	Barrier Att	en Ber	m Atten
Autos:				-0.51		-1.20		-4.71		000	0.000
Medium Trucks:				-0.49	-	-1.20		-4.88		000	0.000
Heavy Trucks:	82.99	-23.66		-0.49	9	-1.20		-5.29	0.0	000	0.000
Unmitigated Nois			barrie	er atten	uation)			,			
VehicleType	Leq Peak Ho			Leq Ev			Night		Ldn		NEL
Autos:		2.3	60.4		58.7		52.6		61.2	-	61.8
Medium Trucks:		6.3	54.8		48.5		46.9		55.4		55.6
Heavy Trucks:		7.6	56.2		47.2		48.4		56.8		56.9
Vehicle Noise:		1.4	62.6		59.3	•	54.8	5	63.3	5	63.8
Centerline Distan	ce to Noise C	ontour (in fee	t)	70.0	AD A	65	dBA		60 dBA		dBA
			I dn:	24			и <i>Б</i> А 52	1 ,	112		241
		_	NFI:	26			66		120	_	258
		C	IVLL.	21	U	-	,0		120	2	.00

Tuesday, February 03, 2015

	FH	WA-RD-77-108	HIGH	WAY N	OISE P	REDICT	ION MC	DEL			
Road Nar	rio: Existing W me: Alessandro ent: e/o Day St	o Bl.					Name: lumber:		on Springs		
	SPECIFIC II	NPUT DATA							EL INPUTS		
Highway Data				5	Site Cor	ditions	(Hard =	= 10, S	oft = 15)		
Peak Hou	Traffic (Adt): r Percentage: Hour Volume:	27,700 vehicle: 10% 2,770 vehicle:				edium Tru eavy Truc		,	: 15		
Ve	ehicle Speed:	45 mph		1	/ehicle	Mix					
Near/Far La	ane Distance:	82 feet		F		icleType	,	Dav	Evening	Night	Daily
Site Data							Autos:	77.59	-	-	97.42%
Rs	arrier Heiaht:	0.0 feet			М	edium Ti	rucks:	84.89	6 4.9%	10.3%	1.84%
Barrier Type (0-V	Vall, 1-Berm):	0.0				Heavy Ti	rucks:	86.59	6 2.7%	10.8%	0.74%
	ist. to Barrier:	67.0 feet		1	Voise S	ource El	levation	ıs (in i	feet)		
Centerline Dist.		67.0 feet				Auto		.000	· ·		
Barrier Distance		0.0 feet			Mediu	m Truck		297			
Observer Height	. ,	5.0 feet			Heav	vy Truck	s: 8	.006	Grade Adju	stment:	0.0
	Pad Elevation:	0.0 feet		_		•					
Ro	ad Elevation:	0.0 feet			.ane Eq	uivalen			feet)		
	Road Grade:	0.0%				Auto		.226			
	Left View:	-90.0 degree	es		Mediu	m Truck	s: 53	.059			
	Right View:	90.0 degree	es		Heav	y Truck	s: 53	.076			
FHWA Noise Mod	del Calculation	าร									
VehicleType	REMEL	Traffic Flow	Dista	ance	Finite	Road	Fres	nel	Barrier Atte	n Bern	n Atten
Autos:	68.46	2.47		-0.51	l	-1.20		-4.71	0.00	00	0.000
Medium Trucks:	79.45	-14.76		-0.49	9	-1.20		-4.88	0.00	00	0.000
Heavy Trucks:	84.25	-18.72		-0.49)	-1.20		-5.29	0.00	00	0.000
Unmitigated Nois	e Levels (with	hout Topo and	barrie	r atten	uation)						
VehicleType	Leq Peak Ho			Leg E		,	Night		Ldn	CN	
Autos:			67.3		65.6		59.		68.1		68.7
Medium Trucks:			61.5		55.1		53.		62.0		62.3
Heavy Trucks: Vehicle Noise:			62.4 69.3		53.4 66.2		54. 61.		63.0 70.0		63.1 70.5
Centerline Distan					00.2		01.		70.0		70.5
Centerline Distan	ice to Noise C	ontour (in feet	,	70 c	lBA	65	dBA	I	60 dBA	55 (iBA
			Ldn:	67	7	1-	45	-	313	67	' 4
		CI	VEL:	72	2	1	56		335	72	23

Tuesday, February 03, 2015

	FHV	WA-RD-77-108	HIGH	WAY I	NOISE P	REDICT	ION MO	DDEL			
Road Nam	io: Existing Wi ne: Sycamore (nt: n/o Eastrido	Canyon Bl.					Name: umber:		n Springs		
	SPECIFIC IN	IPUT DATA							L INPUT	s	
Highway Data					Site Cor	nditions	(Hard =				
Average Daily	Traffic (Adt):	13,800 vehicle	S					Autos:	15		
Peak Hour	Percentage:	10%				edium Tri			15		
Peak H	lour Volume:	1,380 vehicle	S		He	eavy Truc	cks (3+	Axles):	15		
Ve	hicle Speed:	45 mph		ŀ	Vehicle	Mix					
Near/Far La	ne Distance:	48 feet		F	Ver	icleType		Day	Evenina	Night	Dailv
Site Data							Autos:	77.5%	12.9%	9.69	6 97.42%
Par	rrier Heiaht:	0.0 feet			М	edium Ti	rucks:	84.8%	4.9%	10.39	6 1.84%
Barrier Type (0-W		0.0				Heavy Ti	rucks:	86.5%	2.7%	10.89	6 0.74%
Centerline Dis	st. to Barrier:	55.0 feet		-	Noise S	ource Fl	lovation	ne (in fa	of)		
Centerline Dist.	to Observer:	55.0 feet		ŀ	110/36 0	Auto		.000	.01)		
Barrier Distance	to Observer:	0.0 feet			Modiu	m Truck:		.297			
Observer Height (Above Pad):	5.0 feet				vy Truck		.006	Grade Ad	iuetmar	t- 0.0
Pa	ad Elevation:	0.0 feet			i ica	y much	s. 0	.000	Orade Adj	usunci	n. 0.0
Ros	ad Elevation:	0.0 feet		L	Lane Eq	uivalen	Distar	ice (in	feet)		
i i	Road Grade:	0.0%				Auto	s: 49	.739			
	Left View:	-90.0 degree	es		Mediu	m Truck	s: 49	.561			
	Right View:	90.0 degree	es		Hear	vy Truck	s: 49	.579			
FHWA Noise Mode	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dist	ance	Finite	Road	Fres	nel	Barrier Att	en Be	erm Atten
Autos:	68.46	-0.55		-0.0)7	-1.20		-4.67	0.0	000	0.000
Medium Trucks:	79.45	-17.79		-0.0)5	-1.20		-4.87	0.0	000	0.000
Heavy Trucks:	84.25	-21.75		-0.0)5	-1.20		-5.38	0.0	000	0.000
Unmitigated Noise	e Levels (with	out Topo and	barrie	r atte	nuation)						
VehicleType	Leq Peak Hou	ır Leq Day	,	Leq E	vening	Leq	Night		Ldn	(CNEL
Autos:	66	.6	64.7		63.0		56.	9	65.5	5	66.1
Medium Trucks:	60	.4	58.9		52.5		51.	0	59.5	5	59.7
Heavy Trucks:	61	.3	59.8		50.8		52.	0	60.4	1	60.5
Vehicle Noise:	68	.5	66.7		63.6		58.	9	67.5	5	67.9
Centerline Distant	ce to Noise Co	ontour (in feet)			r		,		,	
			L		dBA		dBA	6	0 dBA	5	5 dBA
			Ldn:	-	37	_	0		173		372
		Ci	VEL:	4	40	8	6		185		399

Tuesday, February 03, 2015

FH	IWA-RD-77-108 HIG	HWAY NOISE	PREDICTION MC	DEL	
Scenario: Existing V Road Name: Box Sprin Road Segment: n/o Eastri	gs Bl.		Project Name: Job Number:	Canyon Springs 8991	
SITE SPECIFIC I	NPUT DATA		NOISE	MODEL INPUTS	5
Highway Data		Site Co	onditions (Hard =	: 10, Soft = 15)	
Average Daily Traffic (Adt): Peak Hour Percentage: Peak Hour Volume:	2,700 vehicles 10% 270 vehicles		fledium Trucks (2 . Heavy Trucks (3+ .		
Vehicle Speed:	40 mph	Vehicle			
Near/Far Lane Distance:	36 feet		ehicleType	Day Evening	Night Daily
Site Data		-	Autos:	77.5% 12.9%	9.6% 97.42%
Barrier Height:	0.0 feet		Medium Trucks:	84.8% 4.9%	10.3% 1.84%
Barrier Type (0-Wall, 1-Berm):	0.0		Heavy Trucks:	86.5% 2.7%	10.8% 0.749
Centerline Dist. to Barrier:	44.0 feet	Noise	Source Elevation	ıs (in feet)	
Centerline Dist. to Observer:	44.0 feet			.000	
Barrier Distance to Observer:	0.0 feet	Med		297	
Observer Height (Above Pad):	5.0 feet		ann 11 dono		ustment: 0.0
Pad Elevation:	0.0 feet				
Road Elevation:	0.0 feet	Lane E	quivalent Distan	ce (in feet)	
Road Grade:	0.0%			.460	
Left View:	-90.0 degrees	Med	ium Trucks: 40	.241	
Right View:	90.0 degrees	He	avy Trucks: 40	.262	
FHWA Noise Model Calculation	ns				
VehicleType REMEL	Traffic Flow D	istance Fini	te Road Fresi	nel Barrier Atte	en Berm Atten
Autos: 66.5	1 -7.13	1.28	-1.20	-4.61 0.0	0.00
Medium Trucks: 77.7	2 -24.36	1.31	-1.20	<i>-4.87</i> 0.0	0.00
Heavy Trucks: 82.9	9 -28.32	1.31	-1.20	-5.50 0.0	0.00
Unmitigated Noise Levels (wit	hout Topo and barr	ier attenuation)		
VehicleType Leq Peak He		Leq Evening	Leq Night	Ldn	CNEL
	9.5 57.6	55			
	3.5 52.0	45	-		
	4.8 53.4	44			
Vehicle Noise: 6	1.5 59.8	56	5 51.	9 60.5	60.
Centerline Distance to Noise (Contour (in feet)				
		70 dBA	65 dBA	60 dBA	55 dBA
	Ldn:	10	22	47	102
	CNEL:	11	23	51	109

Coc	or Eviation 14	lists D-	nio ot				Drois -	Alom -	Con	n Carine		
	e: Existing We: Sycamore							i ivame: lumber:		n Springs		
Road Segmen							JOD I	iumber.	0991			
		•			-		-				_	
Highway Data	SPECIFIC II	NPUI	DATA			Site Cor				L INPUT of $t = 15$)	5	
	T	44.00	0	_		one our	laitions	(mara	Autos:			
Average Daily	Percentage:		o veriicie o%	5		1.40	edium Ti	uoko (2				
	our Volume:		0 vehicle				eavy Tru		,			
	hicle Speed:	,	5 mph	5	L			UNS (ST	AXICS).	13		
Near/Far Lar			B feet		L	Vehicle						
	io Diotarioo.					Veh	icleTyp		Day	Evening	Night	Daily
Site Data								Autos:	77.5%		9.6%	
	rier Height:	-	.0 feet				edium 7		84.8%		10.3%	
Barrier Type (0-W	. ,	_	.0				Heavy 1	rucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dis			.0 feet			Noise S	ource E	levatio	ns (in f	eet)		
Centerline Dist.			.0 feet				Auto	s: C	0.000			
Barrier Distance		_	.0 feet			Mediu	m Truck	s: 2	2.297			
Observer Height (,		.0 feet			Hear	vy Truck	:s: 8	3.006	Grade Ad	ljustment	: 0.0
	d Elevation:		.0 feet			Lane Eq	uivalor	t Dieta	nco (in	foot)		
	Road Grade:	_	.0 reet			Lane Ly	Auto		9.739	ieei)		
,	Left View:		.0% .0 degre	00		Madiu	m Truck		9.561			
	Right View:		.0 degre				vy Truck		9.579			
	rugin view.	50	.o acgre	03		7700	, , ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					
FHWA Noise Mode	el Calculation	าร										
VehicleType	REMEL		fic Flow	Dis	stance		Road	Fres		Barrier At		rm Atten
Autos:	68.46		-0.43		-0.0		-1.20		-4.67		000	0.00
Medium Trucks:	79.45		-17.67		-0.0	-	-1.20		-4.87		000	0.00
Heavy Trucks:	84.25		-21.62		-0.0	5	-1.20		-5.38	0.0	000	0.00
Unmitigated Noise	Levels (with	hout T	opo and	barri	er atten	uation)						
VehicleType	Leq Peak Ho	ur	Leq Day	/	Leq E	vening	Leq	Night		Ldn	C	NEL
Autos:	6	8.6		64.9		63.1		57	.0	65.	7	66.
Medium Trucks:	-	0.5		59.0		52.7		51		59.		59.
Heavy Trucks:		1.4		60.0		50.9		52		60.	_	60.
Vehicle Noise:	6	8.6		66.9		63.7		59	.0	67.	6	68.
Centerline Distanc	e to Noise C	ontou	r (in feet)								
					70 d	dBA	65	dBA	(60 dBA	55	dBA
				Ldn:	3	0		32		176	-	379
				NEL:	4	-		38		189		107

Tuesday, February 03, 2015

F	HWA-RD-77-108	HIGHWAY	NOISE P	REDICT	ION MC	DEL			
Scenario: Existing Road Name: Box Sprii Road Segment: s/o Eastr	ngs Bl.				Name: lumber:		on Springs		
SITE SPECIFIC	INPUT DATA			N	IOISE	MODE	L INPUT	s	
Highway Data			Site Cor	ditions	(Hard =	: 10, S	oft = 15)		
Average Daily Traffic (Adt):	1,200 vehicles	3				Autos	15		
Peak Hour Percentage.	10%		Me	dium Tr	ucks (2 .	Axles)	: 15		
Peak Hour Volume:	120 vehicles	3	He	avy Tru	cks (3+ i	Axles)	: 15		
Vehicle Speed:	40 mph		Vehicle	Mix					
Near/Far Lane Distance.	36 feet		Veh	icleType	,	Dav	Evening	Nigh	t Daily
Site Data					Autos:	77.59			97.42%
Barrier Height.	0.0 feet		М	edium T	rucks:	84.89	6 4.9%	10.3	3% 1.84%
Barrier Type (0-Wall, 1-Berm)				Heavy T	rucks:	86.59	6 2.7%	10.8	3% 0.74%
Centerline Dist. to Barrier	44.0 feet		Noise S	ource F	levation	s (in	eet)		
Centerline Dist. to Observer	44.0 feet		710,00	Auto		000	001)		
Barrier Distance to Observer	0.0 feet		Mediu	m Truck		297			
Observer Height (Above Pad)				vy Truck		006	Grade Ad	ljustme	ent: 0.0
Pad Elevation	0.0 1001			•					
Road Elevation			Lane Eq			_ •	feet)		
Road Grade	0.070			Auto		460			
Left View	00.0 009.00			m Truck		.241			
Right View	90.0 degree	es	Heav	/y Truck	s: 40.	.262			
FHWA Noise Model Calculation									
VehicleType REMEL	Traffic Flow	Distance		Road	Fresi		Barrier At		Berm Atten
Autos: 66.5			28	-1.20		-4.61		000	0.000
Medium Trucks: 77.7			31	-1.20		-4.87		000	0.000
Heavy Trucks: 82.9			31	-1.20		-5.50	0.0	000	0.000
Unmitigated Noise Levels (wi									01/5/
VehicleType Leq Peak H			Evening		Night		Ldn		CNEL
		54.0 48.4	52.3 42.1		46.3	_	54. 49.	-	55.4 49.2
		48.4 49.8	42.1		40.	-	50.	-	49.2 50.5
		56.2	52.9		48.4	_	56.	_	57.4
Centerline Distance to Noise	Contour (in feet))							
	, , , , ,) dBA		dBA		60 dBA		55 dBA
	-	Ldn:	6		3		27		59
	CN	IEL:	6	1	4		29		63

	FHV	VA-RD-77-108	HIGH\	YAW 1	NOISE P	REDICT	ION MO	DEL			
Road Nam	io: Existing Wit ne: Day St. nt: n/o SR-60 F	,					Name: lumber:		n Springs		
SITE	SPECIFIC IN	PUT DATA				I	IOISE	MODE	L INPUT	s	
Highway Data					Site Cor	nditions	(Hard =	= 10, Sc	oft = 15)		
Average Daily	Traffic (Adt): 3	0,900 vehicles	3					Autos:	15		
Peak Hour	Percentage:	10%			Me	edium Tr	ucks (2	Axles):	15		
Peak H	lour Volume:	3,090 vehicles	3		He	eavy True	cks (3+	Axles):	15		
Ve	hicle Speed:	40 mph		H	Vehicle	Miv					
Near/Far La	ne Distance:	72 feet		-		nicleType	,	Dav	Evening	Night	Daily
Site Data					V C /		Autos:	77.5%		9.6	
	rrior Hojahti	0.0 feet			М	ledium T	rucks:	84.8%		10.3	
Barrier Type (0-W	rrier Height:	0.0 reet				Heavy T	rucks:	86.5%	2.7%	10.8	% 0.74%
Centerline Di		60.0 feet									
Centerline Dist.		60.0 feet			Noise S				eet)		
Barrier Distance		0.0 feet				Auto		.000			
		5.0 feet			Mediu	m Truck	s: 2	.297			
Observer Height (ad Flevation:	0.0 feet			Hear	vy Truck	s: 8	.006	Grade Ad	justme	nt: 0.0
	ad Elevation:	0.0 feet		H	Lane Eq	uivalon	t Dictor	oo (in	foot)		
	au cievalion. Road Grade:	0.0%		H	Lane Lq	Auto		.260	iccij		
,	Road Grade: Left View:				Modiu	m Truck		.076			
		-90.0 degree				vy Truck		.076			
	Right View:	90.0 degree	25		пеа	vy muck	S. 40	.094			
FHWA Noise Mod	el Calculation:	s									
VehicleType	REMEL	Traffic Flow	Dist	ance	Finite	Road	Fres	nel	Barrier Att	en B	erm Atten
Autos:	66.51	3.46		0.1	3	-1.20		-4.69	0.0	000	0.000
Medium Trucks:	77.72	-13.78		0.1	5	-1.20		-4.88	0.0	000	0.000
Heavy Trucks:	82.99	-17.73		0.1	5	-1.20		-5.34	0.0	000	0.000
Unmitigated Noise	e Levels (with	out Topo and	barrie	r atter	nuation)						
VehicleType	Leg Peak Hou	r Leq Day		Leq E	vening	Leq	Night		Ldn		CNEL
Autos:	68.	9	67.0		65.2		59.	2	67.8	3	68.4
Medium Trucks:	62.	9	61.4		55.0		53.	5	61.9	9	62.2
Heavy Trucks:	64.	2	62.8		53.8		55.	0	63.4	1	63.5
Vehicle Noise:	70.	.9	69.2		65.9	1	61.	4	69.9)	70.3
Centerline Distant	ce to Noise Co	ntour (in feet)								
		,,		70	dBA	65	dBA	6	60 dBA		55 dBA
			Ldn:	5	i9	1.	27	•	274	•	590
		CI	VEL:	6	3	1	36		293		632

	FHWA-I	RD-77-108 HIG	HWAY N	DISE PREDIC	TION MODEL	-	
Scenario: Es Road Name: Da Road Segment: s/		,			et Name: Can Number: 899		
SITE SPEC	CIFIC INPU	T DATA			NOISE MOI	DEL INPUTS	
Highway Data			S	ite Condition	s (Hard = 10,	Soft = 15)	
Average Daily Traffi Peak Hour Perco Peak Hour V	entage:	00 vehicles 10% 20 vehicles			Auto rucks (2 Axle ucks (3+ Axle	s): 15	
Vehicle	Speed:	40 mph			•		
Near/Far Lane Di		72 feet	V	ehicle Mix	- D-	. I etaal 1	Wester Delte
Site Data			-	VehicleTyp	e Day Autos: 77.		Night Daily 9.6% 97.42%
	Hadada.	0.0.64		Medium			10.3% 1.84%
Barrier I Barrier Type (0-Wall, 1-		0.0 feet 0.0		Heavy			10.8% 0.74%
Centerline Dist. to		0.0 feet		loise Source I	-lovetions (i	a foot)	
Centerline Dist. to Ob	server: 6	0.0 feet	N			1 reet)	
Barrier Distance to Ob	server:	0.0 feet		Aut			
Observer Height (Abov	e Pad):	5.0 feet		Medium Truc		Grade Adjus	otmont: 0.0
Pad Ele	evation:	0.0 feet		Heavy Truc			sunem. 0.0
Road Ele	evation:	0.0 feet	L	ane Equivale		in feet)	
Road	Grade:	0.0%		Aut	os: 48.260		
Le	ft View: -9	0.0 degrees		Medium Truc	ks: 48.076		
Righ	nt View: 9	0.0 degrees		Heavy Truc	ks: 48.094		
FHWA Noise Model Ca	lculations						
VehicleType RI	EMEL Tra	affic Flow Di	stance	Finite Road	Fresnel	Barrier Atter	Berm Atten
Autos:	66.51	3.21	0.13	-1.20	-4.6	9 0.00	0.000
Medium Trucks:	77.72	-14.02	0.15	-1.20	-4.8	88 0.00	0.000
Heavy Trucks:	82.99	-17.98	0.15	-1.20	-5.3	34 0.00	0.000
Unmitigated Noise Lev	els (without	Topo and barr	er attenu	ıation)			
	Peak Hour	Leq Day	Leg Ev		g Night	Ldn	CNEL
Autos:	68.7	66.8		65.0	58.9	67.6	68.2
Medium Trucks:	62.6	61.1		54.8	53.2	61.7	61.9
Heavy Trucks:	64.0	62.5		53.5	54.8	63.1	63.2
Vehicle Noise:	70.7	68.9		65.7	61.1	69.6	70.1
Centerline Distance to	Noise Conto	ur (in feet)					
			70 d	BA 65	5 dBA	60 dBA	55 dBA
		Ldn:	57		122	264	568
		CNEL:	61		131	282	608

	FH	WA-RD-77-108	B HIGH	WAY N	OISE PI	REDICT	ION MODEL		
Road Name		ith Project n Springs Pkwy	y.				Name: Cany lumber: 8991		
SITE S	PECIFIC II	NPUT DATA					NOISE MOD		5
Highway Data				S	ite Con	ditions	(Hard = 10,	Soft = 15)	
Average Daily 1	Traffic (Adt):	44,300 vehicle	es				Auto	s: 15	
Peak Hour I	Percentage:	10%					ucks (2 Axles	,	
Peak Ho	our Volume:	4,430 vehicle	es		He	avy Tru	cks (3+ Axles	:): 15	
Veh	nicle Speed:	40 mph		ν	ehicle	Mix			
Near/Far Lan	ne Distance:	72 feet		Ė		icleType	e Day	Evening	Night Daily
Site Data							Autos: 77.5	% 12.9%	9.6% 97.42%
Barı	rier Height:	0.0 feet			M	edium T	rucks: 84.8	% 4.9%	10.3% 1.84%
Barrier Type (0-Wa	-	0.0			I	Heavy T	rucks: 86.5	% 2.7%	10.8% 0.74%
Centerline Dis	t. to Barrier:	60.0 feet		N	loise So	ource E	levations (in	feet)	
Centerline Dist. t	o Observer:	60.0 feet				Auto		,	
Barrier Distance t	o Observer:	0.0 feet			Mediu	m Truck			
Observer Height (A	Above Pad):	5.0 feet			Heav	y Truck	s: 8.006	Grade Adi	ustment: 0.0
	d Elevation:	0.0 feet							
	d Elevation:	0.0 feet		L	ane Eq		t Distance (i	n feet)	
R	Road Grade:	0.0%				Auto			
	Left View:	-90.0 degre				m Truck			
	Right View:	90.0 degre	ees		Heav	ry Truck	s: 48.094		
FHWA Noise Mode	l Calculation	าร							
VehicleType	REMEL	Traffic Flow	Dist	tance	Finite	Road	Fresnel	Barrier Atte	en Berm Atten
Autos:	66.51	5.02	2	0.13		-1.20	-4.6	9 0.0	0.000
Medium Trucks:	77.72			0.15		-1.20	-4.8		
Heavy Trucks:	82.99	-16.17	,	0.15		-1.20	-5.3	4 0.0	0.000
Unmitigated Noise	Levels (with	hout Topo and	l barrie	r attenu	ıation)				
VehicleType	Leq Peak Ho	ur Leq Da	у	Leq Ev	ening	Leq	Night	Ldn	CNEL
Autos:		0.5	68.6		66.8		60.7	69.4	
Medium Trucks:		4.5	62.9		56.6		55.0	63.5	
Heavy Trucks:		5.8	64.4		55.3		56.6	64.9	
Vehicle Noise:	72	2.5	70.7		67.5		62.9	71.5	71.9
Centerline Distanc	e to Noise C	ontour (in fee	t)						
·				70 di			dBA	60 dBA	55 dBA
			Ldn:	75	. –	1	62	348	750
			NFI:	80			73	373	803

Tuesday, February 03, 2015

	FHV	WA-RD-77-108	HIGH	HWAY	NOISE P	REDICTI	ON M	ODEL			
Scenario Road Name Road Segmen	,	,				Project I Job Nu			n Springs		
SITE S	SPECIFIC IN	IPUT DATA			04- 0	N nditions (L INPUT	s	
Average Daily T Peak Hour I	. ,	26,900 vehicle 10% 2,690 vehicle			Ме	edium Tru eavy Truc	icks (2	Autos: Axles):	15 15		
	nicle Speed:	40 mph			Vehicle	Mix					
Near/Far Lan	ie Distance:	72 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data							utos:	77.5%		9.6%	
Bari	rier Height:	0.0 feet				edium Tr		84.8%		10.3%	1.84%
Barrier Type (0-Wa	all, 1-Berm):	0.0				Heavy Tr	ucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dis		60.0 feet			Noise S	ource Ele	evatio	ns (in f	eet)		
Centerline Dist. t		60.0 feet				Autos		0.000	,		
Barrier Distance t	o Observer:	0.0 feet			Mediu	m Trucks		2.297			
Observer Height (A	,	5.0 feet				v Trucks		3.006	Grade Ad	justment	0.0
	d Elevation:	0.0 feet				•					
	d Elevation:	0.0 feet			Lane Eq				feet)		
F	Road Grade:	0.0%				Autos		3.260			
	Left View:	-90.0 degre				m Trucks		3.076			
	Right View:	90.0 degre	es		Heav	/y Trucks	: 48	3.094			
FHWA Noise Mode											
VehicleType	REMEL	Traffic Flow		stance		Road	Fres		Barrier At		m Atten
Autos:	66.51	2.86		0.1		-1.20		-4.69		000	0.000
Medium Trucks:	77.72	-14.38		0.1		-1.20		-4.88		000	0.000
Heavy Trucks:	82.99	-18.34		0.1	15	-1.20		-5.34	0.0	000	0.000
Unmitigated Noise								-			
	Leq Peak Hοι			Leq E	vening	Leq I			Ldn		NEL
Autos:	68		66.4		64.6		58		67.:	_	67.8
Medium Trucks:	62		60.8		54.4		52		61.	-	61.6
Heavy Trucks: Vehicle Noise:	63 70		62.2 68.6		53.2 65.3		54 60		62.i	_	62.9
					03.3		00	.0	09.	,	09.1
Centerline Distanc	e to Noise Co	ontour (in feet	!)	70	dBA	65 0	1BA	1	60 dBA	55	dBA
			L		54						
			Ldn: CNFI:				6		250	F	38

Tuesday, February 03, 2015

	FH	WA-RD-77-10	HIGH	IWAY I	NOISE PI	REDICT	ION MC	DEL			
Scenar Road Nam Road Segmei		,					Name: lumber:		n Springs		
	SPECIFIC II	NPUT DATA							L INPUT	s	
Highway Data					Site Cor	ditions	(Hard =	= 10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	19,100 vehicle	:S					Autos:	15		
Peak Hour	Percentage:	10%			Me	dium Tri	ucks (2	Axles):	15		
Peak H	lour Volume:	1,910 vehicle	:S		He	avy Truc	cks (3+	Axles):	15		
Ve	hicle Speed:	40 mph		ŀ	Vehicle	Mix					
Near/Far La	ne Distance:	72 feet		H		icleType	,	Dav	Evening	Night	Daily
Site Data							Autos:	77.5%	- 0	9.6%	97.42%
Rai	rrier Height:	0.0 feet			М	edium Ti	rucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-W	-	0.0			-	Heavy Ti	rucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dis		60.0 feet		ŀ	Noise S	ourco El	lovation	ne (in f	not)		
Centerline Dist.	to Observer:	60.0 feet		ŀ	NOISE S	Auto:		.000	(
Barrier Distance	to Observer:	0.0 feet			Modiu	m Truck:		.000			
Observer Height (Above Pad):	5.0 feet				vy Truck		.006	Grade Ad	iuetman	t- 0.0
Pa	ad Elevation:	0.0 feet			rical	ry Truck	3. 0	.000	Orace Au	usuncn	. 0.0
Roa	ad Elevation:	0.0 feet			Lane Eq	uivalen	t Distar	ice (in i	feet)		
1	Road Grade:	0.0%				Auto	s: 48	.260			
	Left View:	-90.0 degre	es		Mediu	m Truck	s: 48	.076			
	Right View:	90.0 degre	es		Heav	y Truck	s: 48	.094			
FHWA Noise Mode	el Calculation	15									
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fres	nel	Barrier Att	en Be	rm Atten
Autos:	66.51			0.1	3	-1.20		-4.69	0.0	000	0.000
Medium Trucks:	77.72	-15.87		0.1	5	-1.20		-4.88	0.0	000	0.000
Heavy Trucks:	82.99	-19.82		0.1	5	-1.20		-5.34	0.0	000	0.000
Unmitigated Noise	e Levels (with	hout Topo and	barrie	er attei	nuation)						
VehicleType	Leq Peak Ho	ur Leq Da	V	Leq E	vening	Leq	Night		Ldn	С	NEL
Autos:	6	6.8	64.9		63.1		57.	1	65.7	7	66.3
Medium Trucks:	-	0.8	59.3		52.9		51.	4	59.8	3	60.1
Heavy Trucks:	6	2.1	60.7		51.7		52.	9	61.3	3	61.4
Vehicle Noise:	6	8.8	67.1		63.8		59.	3	67.8	3	68.2
Centerline Distant	ce to Noise C	ontour (in fee	t)								
				70	dBA	65	dBA	6	0 dBA	55	5 dBA
			Ldn:	4	13	_	92		199		428
		C	NEL:	4	16	g	9		213		459

	FH\	WA-RD-77-108	HIGH	IWAY N	OISE P	REDICT	TION M	ODEL			
Scenario Road Name Road Segmen		,					t Name. Number.		n Springs		
	SPECIFIC IN	IPUT DATA							L INPUT	s	
Highway Data					Site Coi	nditions	(Hard		oft = 15)		
Average Daily	. ,		:S					Autos:	15		
Peak Hour I		10%					rucks (2				
	our Volume:	1,320 vehicle	:S		He	eavy Iru	icks (3+	Axles):	15		
	nicle Speed:	35 mph		1	/ehicle	Mix					
Near/Far Lar	ne Distance:	58 feet			Vel	icleTyp	е	Day	Evening	Night	Daily
Site Data							Autos:	77.5%	12.9%	9.6%	97.42%
Bar	rier Height:	0.0 feet			M	edium 7	rucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wa		0.0				Heavy 1	rucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dis	t. to Barrier:	55.0 feet		1	Voise S	ource E	levatio	ns (in f	eet)		
Centerline Dist. t	o Observer:	55.0 feet				Auto		0.000	,		
Barrier Distance t		0.0 feet			Mediu	m Truck		2.297			
Observer Height (/	,	5.0 feet			Hea	vy Truck	ks: 8	3.006	Grade Adj	iustment.	0.0
	d Elevation:	0.0 feet					4 D!-4-	/!	E4)		
	d Elevation:	0.0 feet		- 4	.ane Eq	uivaier Auto	t Dista		reet)		
F	Road Grade:	0.0%			Modis	Auto m Truci		7.000 6.811			
	Right View:	-90.0 degre 90.0 degre				vy Truci		5.830			
FHWA Noise Mode	l Calculation	ıs									
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	snel	Barrier Att	en Ber	m Atten
Autos:	64.30	0.35		0.30)	-1.20		-4.67	0.0	000	0.00
Medium Trucks:	75.75	-16.89		0.33	3	-1.20		-4.87	0.0	000	0.00
Heavy Trucks:	81.57	-20.85		0.32	2	-1.20		-5.38	0.0	000	0.00
Unmitigated Noise	Levels (with	out Topo and	barri	er atten	uation)						
	Leq Peak Ho			Leg Ev		Leq	Night		Ldn		NEL
Autos:	63		61.8		60.1		54		62.7		63.
Medium Trucks:		3.0	56.5		50.1		48		57.0		57.
Heavy Trucks:		1.8	58.4		49.4		50		59.0		59.
Vehicle Noise:		5.0	64.3		60.8		56	.4	65.0)	65.
Centerline Distanc	e to Noise C	ontour (in fee	t)					1			
			L	70 c			dBA	(60 dBA		dBA
		_	Ldn:	25			55		118	_	54
		С	NEL:	27	′		58		126	2	71

	FHV	VA-RD-77-108	HIGHW	ay no	ISE P	REDICT	ION MOD	EL			
Scenario Road Name Road Segmen		•					t Name: C Number: 8		n Springs		
	PECIFIC IN	PUT DATA							L INPUTS	6	
Highway Data				Sit	te Cor	ditions	(Hard = 1	10, S	oft = 15)		
Average Daily 1 Peak Hour I Peak Ho	. ,	19,400 vehicle 10% 1,940 vehicle					A rucks (2 A. icks (3+ A.	,	15		
Veh	icle Speed:	40 mph		Vo	hicle	Miv					
Near/Far Lan	e Distance:	72 feet		VC		icleType	o 1	Dav	Evening	Night	Daily
Site Data					VCII			7.5%		9.6	,
	rier Height:	0.0 feet			М	edium T		4.8%		10.3	
Barrier Type (0-Wa	-	0.0 reet				Heavy T		6.5%		10.89	
Centerline Dis	. ,	60.0 feet									
Centerline Dist. t		60.0 feet		No	ise S		levations	•	eet)		
Barrier Distance t		0.0 feet				Auto					
Observer Height (A		5.0 feet				m Truck					
	d Flevation:	0.0 feet			Heav	ry Truck	s: 8.0	06	Grade Adj	ustme	nt: 0.0
	d Elevation:	0.0 feet		La	ne Ea	uivalen	t Distanc	e (in	feet)		
	oad Grade:	0.0%				Auto			,		
	Left View:	-90.0 degre	es		Mediu	m Truck					
	Right View:	90.0 degre			Heav	y Truck	s: 48.0	94			
FHWA Noise Mode	l Calculation	s									
VehicleType	REMEL	Traffic Flow	Distar	псе	Finite	Road	Fresne	e/	Barrier Atte	en B	erm Atten
Autos:	66.51	1.44		0.13		-1.20	-	4.69	0.0	00	0.000
Medium Trucks:	77.72	-15.80		0.15		-1.20	-	4.88	0.0	00	0.000
Heavy Trucks:	82.99	-19.76		0.15		-1.20	-	5.34	0.0	00	0.000
Unmitigated Noise	Levels (with	out Topo and	barrier a	attenua	ation)						
VehicleType	Leq Peak Hou	ır Leq Day	/ L	eq Eve	ning	Leq	Night		Ldn		CNEL
Autos:	66	.9	65.0		63.2		57.2		65.8		66.4
Medium Trucks:	60		59.4		53.0		51.5		59.9		60.1
Heavy Trucks:	62		60.8		51.7		53.0		61.3		61.5
Vehicle Noise:	68	.9	67.2		63.9		59.3		67.9		68.3
Centerline Distanc	e to Noise Co	ontour (in feet)								
				70 dB.	Α		dBA	6	60 dBA	5	55 dBA
			Ldn:	43		_	93		201		433
			NFI:	46			00		215		463

Tuesday, February 03, 2015

	FH\	VA-RD-77-108	HIGHWA	Y NOIS	E PREDICT	ION MC	DEL			
Road Nam	io: Existing Wine: Day St. nt: s/o Cottony	,				t Name: lumber:		on Springs		
SITE	SPECIFIC IN	IPUT DATA			-	NOISE	MODE	L INPUTS	5	
Highway Data				Site	Conditions	(Hard =	: 10, S	oft = 15)		
	Traffic (Adt): Percentage: lour Volume:	8,200 vehicles 10% 820 vehicles			Medium Ti Heavy Tru	ucks (2	/	15		
Ve	hicle Speed:	35 mph		Vehi	ele Mix					
Near/Far La	ne Distance:	36 feet			VehicleTyp		Dav	Evening	Night	Dailv
Site Data						Autos:	77.5%		9.6%	. ,
	rrier Height:	0.0 feet			Medium 7		84.89		10.3%	
Barrier Type (0-W	. ,	0.0			Heavy 7	rucks:	86.5%	6 2.7%	10.8%	0.74%
Centerline Dis		44.0 feet		Nois	Source E	levation	s (in t	eet)		
Centerline Dist.		44.0 feet			Auto	s: 0.	000			
Barrier Distance		0.0 feet		Me	dium Truck	s: 2	297			
Observer Height (,	5.0 feet		F	leavy Truck	s: 8.	006	Grade Adj	ustmen	t: 0.0
	ad Elevation:	0.0 feet								
	ad Elevation:	0.0 feet		Lane	Equivalen			feet)		
,	Road Grade:	0.0%			Auto		460			
	Left View:	-90.0 degree			dium Truck		.241			
	Right View:	90.0 degree	:S	<i>F</i>	leavy Truck	s: 40	.262			
FHWA Noise Mode	el Calculation	s								
VehicleType	REMEL	Traffic Flow	Distanc	e Fi	nite Road	Fresi	nel	Barrier Atte	en Be	rm Atten
Autos:	64.30	-1.72		1.28	-1.20		-4.61	0.0	00	0.000
Medium Trucks:	75.75	-18.96		1.31	-1.20		-4.87	0.0	00	0.000
Heavy Trucks:	81.57	-22.92		1.31	-1.20		-5.50	0.0	00	0.000
Unmitigated Noise				tenuatio	on)					
VehicleType	Leq Peak Hou			q Evenir	,	Night		Ldn		NEL
Autos:	62		80.8		9.0	52.		61.6		62.2
Medium Trucks:	56		55.4		9.0	47.	-	55.9		56.2
Heavy Trucks:	58		57.3		8.3	49.	_	57.9		58.0
Vehicle Noise:	64	.9	53.2	5	9.7	55.	4	63.9	1	64.3
Centerline Distanc	ce to Noise Co	ontour (in feet)	_	70 -/04		-/0.4	_	00 -ID4	-	-104
			dn:	70 dBA 17		dBA 37		60 dBA 80		5 dBA 172
		-	Lan: IFI :	17		3 <i>7</i> 40		80 85		172 184
		Ch	IEL:	18		+0		65		104

	FHW	4-RD-77-108	HIGH	WAY I	NOISE PI	REDICT	ION MO	DEL			
Scenario: Existii Road Name: Day S Road Segment: s/o Ba	it.	Project					Name: (umber:)		n Springs		
SITE SPECIF	IC INP	UT DATA							L INPUT	s	
Highway Data					Site Con	ditions	•				
Average Daily Traffic (A	dt): 7	,500 vehicles	3					Autos:	15		
Peak Hour Percenta	•	10%					ucks (2 A	,	15		
Peak Hour Volui	ne:	750 vehicles	8		He	avy Trud	cks (3+ A	(xles	15		
Vehicle Spe	ed:	35 mph		ŀ	Vehicle i	Wix					
Near/Far Lane Distar	ice:	36 feet		ŀ		icleType		Dav	Evenina	Niaht	Dailv
Site Data								77.5%		9.6%	- /
Barrier Heig	ebe.	0.0 feet			M	edium Ti		84.8%		10.3%	1.84%
Barrier Type (0-Wall, 1-Ber		0.0 feet			F	leavy Ti	rucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barr		44.0 feet									
Centerline Dist. to Obser		44.0 feet			Noise So	ource El	evation	s (in fe	eet)		
Barrier Distance to Obser		0.0 feet				Auto	s: 0.0	000			
		5.0 feet			Mediu	n Truck	s: 2.2	297			
Observer Height (Above Pa Pad Elevat	,	0.0 feet			Heav	y Truck	s: 8.0	006	Grade Adj	iustment	0.0
Road Elevat		0.0 feet		ŀ	Lane Eq	uivalen	· Dietani	o (in	foot)		
Road Gra		0.0%		H	Luiio Lq	Auto					
I eft Vi		-90.0 degree			Mediu	n Truck					
Right Vi		90.0 degree				y Truck					
riight vi	CW.	30.0 degree	:5		11001	y Truck	3. 40.	202			
FHWA Noise Model Calcul											
VehicleType REME		Traffic Flow	Dis	stance		Road	Fresn	_	Barrier Att		m Atten
	34.30	-2.11		1.2		-1.20		-4.61		000	0.000
	5.75	-19.35		1.3	31	-1.20		-4.87	0.0	000	0.000
Medium Trucks: 7											0.000
	31.57	-23.30		1.3	31	-1.20		-5.50	0.0	000	0.000
Heavy Trucks: 8 Unmitigated Noise Levels	(withou	ut Topo and		er attei	nuation)			-5.50			
Heavy Trucks: 8 Unmitigated Noise Levels VehicleType Leq Pea	(witho u k Hour	ut Topo and Leq Day		er attei	nuation) vening		Night		Ldn	C	VEL
Heavy Trucks: 8 Unmitigated Noise Levels VehicleType Leq Pea Autos:	(without k Hour 62.3	ut Topo and Leq Day	60.4	er attei	nuation) Evening 58.6		Night 52.5		<i>Ldn</i> 61.2	Ci	VEL 61.8
Heavy Trucks: E Unmitigated Noise Levels VehicleType Leq Pea Autos: Medium Trucks:	(without k Hour 62.3 56.5	ut Topo and Leq Day	60.4 55.0	er attei	nuation) Evening 58.6 48.6		Night 52.5 47.1		Ldn 61.2 55.6	Ci	VEL 61.8 55.8
Heavy Trucks: E Unmitigated Noise Levels VehicleType Leq Pea Autos: Medium Trucks: Heavy Trucks:	(without k Hour 62.3 56.5 58.4	ut Topo and Leq Day	50.4 55.0 57.0	er attei	nuation) Evening 58.6 48.6 47.9		Night 52.5 47.1 49.2		Ldn 61.2 55.6 57.5	Ci	VEL 61.8 55.8 57.6
Heavy Trucks: E Unmitigated Noise Levels VehicleType Leq Pea Autos: Medium Trucks: Heavy Trucks: Vehicle Noise:	(without k Hour 62.3 56.5 58.4 64.5	ut Topo and Leq Day	50.4 55.0 57.0 62.8	er attei	nuation) Evening 58.6 48.6		Night 52.5 47.1		Ldn 61.2 55.6	Ci	VEL 61.8 55.8 57.6
Heavy Trucks: E Unmitigated Noise Levels VehicleType Leq Pea Autos: Medium Trucks: Heavy Trucks:	(without k Hour 62.3 56.5 58.4 64.5	ut Topo and Leq Day	50.4 55.0 57.0 62.8	er attei Leq E	nuation) Evening 58.6 48.6 47.9	Leq	Night 52.5 47.1 49.2		Ldn 61.2 55.6 57.5	Ci	
Heavy Trucks: E Unmitigated Noise Levels VehicleType Leq Pea Autos: Medium Trucks: Heavy Trucks: Vehicle Noise:	(without k Hour 62.3 56.5 58.4 64.5	Leq Day	50.4 55.0 57.0 62.8	er attei Leq E	58.6 48.6 47.9 59.3	Leq	Night 52.5 47.1 49.2 55.0		Ldn 61.2 55.6 57.5 63.5	C 2 2 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	NEL 61.8 55.8 57.6 63.9

	FHW.	A-RD-77-108	HIGH	WAY N	IOISE PE	REDICT	ON MO	DDEL			
Scenario: Existii Road Name: Eucal Road Segment: s/o To	ptus A	v.					Name: umber:		n Springs		
SITE SPECIF	C INP	UT DATA							L INPUT	S	
Highway Data					Site Con	ditions	(Hard :	= 10, S	oft = 15)		
Average Daily Traffic (A Peak Hour Percenta Peak Hour Volui	ge:	2,000 vehicle 10% ,200 vehicle				dium Tru avy Truc		,	15		
Vehicle Spe	ed:	40 mph		,	Vehicle I	Wix					
Near/Far Lane Distar	ce:	48 feet		H		icleType		Dav	Evening	Night	Daily
Site Data				_			lutos:	77.5%	-	9.6%	
Barrier Heid	ht.	0.0 feet			Me	edium Ti	ucks:	84.8%	4.9%	10.3%	
Barrier Type (0-Wall, 1-Ber	n):	0.0			F	leavy Ti	ucks:	86.5%	2.7%	10.8%	0.749
Centerline Dist. to Barr		50.0 feet		1	Noise Sc	urce El	evatio	ns (in f	eet)		
Centerline Dist. to Obser		50.0 feet				Auto	s: 0	.000			
Barrier Distance to Obser		0.0 feet			Mediur	n Truck	s: 2	.297			
Observer Height (Above Pa		5.0 feet			Heav	y Truck	s: 8	.006	Grade Ad	justmen	t: 0.0
Pad Elevat Road Elevat		0.0 feet		-	Lane Eq	uivalon	Dieta	aco (in	foot)		
Road Elevat Road Gra		0.0 feet 0.0%		-	Laire Ly	Auto		.147	ieei)		
Left Vi		-90.0 degre			Modiuu	n Truck		.947			
Right Vi		90.0 degree				y Truck		.966			
FHWA Noise Model Calcul	tions										
VehicleType REME	L 7	Traffic Flow	Dis	tance	Finite	Road	Fres	nel	Barrier Att	en Be	rm Atten
Autos: 6	6.51	-0.65		0.7	1	-1.20		-4.65	0.0	000	0.00
	7.72	-17.89		0.74		-1.20		-4.87		000	0.00
,	2.99	-21.84		0.73		-1.20		-5.43	0.0	000	0.00
Unmitigated Noise Levels								_		1	
VehicleType Leq Pea		Leq Day		Leq E		Leq	Night	_	Ldn		NEL
Autos:	65.4		63.5		61.7		55.		64.3	-	64.
Medium Trucks:	59.4		57.9 59.3		51.5 50.2		50.	-	58.4 59.1		58.
Heavy Trucks: Vehicle Noise:	60.7		59.3 65.7		62.4		51. 57.		66.4	_	60.
Centerline Distance to Noi	o Con	tour (in foot	1								
Gernerille Distance to Noi	e con	nour (III reet		70 c	/BA	65	dBA	-	60 dBA	55	dBA
			Ldn:	2			2	`	133		286

	FH	WA-RD-77-108	HIGH	WAY N	OISE P	REDICT	ION MO	DEL			
Scenario Road Name Road Segment		,					Name: lumber:		n Springs		
SITE S	PECIFIC IN	IPUT DATA				r	NOISE N	/IODE	L INPUT	S	
Highway Data				S	ite Cor	nditions	(Hard =	10, Sc	oft = 15)		
Average Daily T	raffic (Adt):	900 vehicle	S					Autos:	15		
Peak Hour F	Percentage:	10%			Ме	edium Tr	ucks (2 A	(xles	15		
Peak Ho	ur Volume:	90 vehicle	S		He	avy Tru	cks (3+ A	(xles	15		
Veh	icle Speed:	35 mph		v	'ehicle	Miv					
Near/Far Lan	e Distance:	36 feet		-		icleType		Dav	Evening	Night	Daily
Site Data					-			77.5%	-	9.69	,
Rarr	ier Height:	0.0 feet			М	edium T	rucks:	84.8%	4.9%	10.39	6 1.84%
Barrier Type (0-Wa		0.0				Heavy T	rucks:	86.5%	2.7%	10.89	6 0.74%
Centerline Dist	. ,	44.0 feet			laina C	auraa E	levation	o (in f	2041		
Centerline Dist. to	Observer:	44.0 feet		^	ioise s	Auto		000	ei)		
Barrier Distance to	Observer:	0.0 feet			Modiu	m Truck		297			
Observer Height (A	bove Pad):	5.0 feet				vy Truck		200	Grade Ad	iuetmar	t: 0.0
Pad	d Elevation:	0.0 feet								asunor	i. 0.0
Road	d Elevation:	0.0 feet		L	ane Eq	uivalen	t Distan	ce (in :	feet)		
R	oad Grade:	0.0%				Auto					
	Left View:	-90.0 degre	es			m Truck					
	Right View:	90.0 degre	es		Hea	vy Truck	s: 40.	262			
FHWA Noise Mode	Calculation	IS									
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fresn	iel	Barrier Att	en Be	erm Atten
Autos:	64.30	-11.32		1.28		-1.20		-4.61	0.0	000	0.000
Medium Trucks:	75.75	-28.56		1.31		-1.20		-4.87	0.0	000	0.000
Heavy Trucks:	81.57	-32.51		1.31		-1.20		-5.50	0.0	000	0.000
Unmitigated Noise	Levels (with	out Topo and	barrie	er attenu	ıation)						
VehicleType I	eq Peak Ho	ur Leq Day	/	Leq Ev	ening	Leq	Night		Ldn	(CNEL
Autos:	53		51.2		49.4		43.3		52.0		52.6
Medium Trucks:		'.3	45.8		39.4		37.9		46.4		46.6
Heavy Trucks:).2	47.7		38.7		40.0		48.3		48.4
Vehicle Noise:	55	5.3	53.6		50.1		45.8	3	54.3	3	54.7
Centerline Distance	e to Noise C	ontour (in feet)								
			L	70 d	BA		dBA	6	60 dBA	5	5 dBA
		_	Ldn:	4			8		18		39
		C	NEL:	4			9		20		42

Tuesday, February 03, 2015

	FHW	A-RD-77-108	HIGHWA	Y NOISE P	REDICTION	OM MO	DEL			
Scenario: Road Name: Road Segment:		·.			Project I Job Nu			n Springs		
	ECIFIC INF	PUT DATA						L INPUT	s	
Highway Data				Site Cor	nditions (Hard =	10, Sc			
Average Daily Tra	affic (Adt):	3,800 vehicles					Autos:	15		
Peak Hour Pe	ercentage:	10%			edium Tru					
Peak Hou	r Volume:	880 vehicles		He	eavy Truci	ks (3+ /	Axles):	15		
Vehic	le Speed:	40 mph		Vehicle	Mix					
Near/Far Lane	Distance:	72 feet			nicleType		Day	Evening	Night	Daily
Site Data					A	utos:	77.5%	12.9%	9.6%	97.42%
Rarrie	er Heiaht:	0.0 feet		M	ledium Tru	ıcks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall		0.0			Heavy Tru	ıcks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist.	. ,	60.0 feet		Maia a			- /! #	41		
Centerline Dist. to	Observer:	60.0 feet		Noise S	ource Ele			eet)		
Barrier Distance to		0.0 feet			Autos		000			
Observer Height (Ab	ove Pad):	5.0 feet			m Trucks		297			
	Elevation:	0.0 feet		Hea	vy Trucks	: 8.	006	Grade Adj	ustment	0.0
Road	Elevation:	0.0 feet		Lane Ec	uivalent	Distan	ce (in	feet)		
Ro	ad Grade:	0.0%			Autos	: 48.	260			
	Left View:	-90.0 degree	S	Mediu	m Trucks	48.	076			
R	right View:	90.0 degree		Hea	vy Trucks	48.	094			
FHWA Noise Model	Calculations									
VehicleType	REMEL	Traffic Flow	Distant	ce Finite	Road	Fresr	nel	Barrier Att	en Bei	rm Atten
Autos:	66.51	-1.99		0.13	-1.20		-4.69	0.0	000	0.000
Medium Trucks:	77.72	-19.23		0.15	-1.20		-4.88	0.0	000	0.000
Heavy Trucks:	82.99	-23.19		0.15	-1.20		-5.34	0.0	000	0.000
Unmitigated Noise L	evels (witho	ut Topo and I	barrier a	ttenuation)						
VehicleType Le	eq Peak Hour	Leq Day	Le	q Evening	Leq N	light		Ldn	С	NEL
Autos:	63.4	1 6	31.5	59.8		53.7	7	62.3	3	63.0
Medium Trucks:	57.4	1 5	55.9	49.6		48.0)	56.5	5	56.7
Heavy Trucks:	58.8	3 5	7.3	48.3		49.5	5	57.9	9	58.0
Vehicle Noise:	65.5	5 6	3.7	60.4		55.9)	64.4	1	64.9
Centerline Distance	to Noise Co	ntour (in feet)								
·				70 dBA	65 d	BA	6	60 dBA	55	dBA
		L	dn:	26	55	5		119	2	255
		C٨	IEL:	27	59)		127	2	274

Tuesday, February 03, 2015

	FHV	WA-RD-77-108	HIGI	HWAY I	NOISE PI	REDICT	ION MO	DEL			
Road Nan	io: Existing Wine: Eastridge Ant: e/o Sycamo	۱v.					Name: lumber:		n Springs		
SITE	SPECIFIC IN	IPUT DATA				I.	IOISE I	MODE	L INPUT	s	
Highway Data					Site Cor	ditions	(Hard =	: 10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	16,900 vehicle	es					Autos:	15		
Peak Hour	Percentage:	10%			Me	dium Tr	ucks (2	Axles):	15		
Peak H	lour Volume:	1,690 vehicle	es		He	avy Tru	cks (3+)	Axles):	15		
Ve	hicle Speed:	40 mph		ŀ	Vehicle	Miv					
Near/Far La	ne Distance:	72 feet		H		icleType		Dav	Evenina	Niaht	Dailv
Site Data					¥C//		Autos:	77.5%		9.6%	
	l I I a laula I	0.0 feet			М	edium T		84.8%		10.3%	1.84%
Barrier Type (0-V	rrier Height:	0.0 reet			,	leavy T	rucks:	86.5%	2.7%	10.8%	0.74%
Centerline Di	. ,	60.0 feet									
Centerline Dist.		60.0 feet			Noise S				eet)		
Barrier Distance		0.0 feet				Auto		000			
Observer Height		5.0 feet				m Truck		297			
	ad Elevation:	0.0 feet			Heav	y Truck	s: 8.	006	Grade Ad	iustment.	0.0
	ad Elevation:	0.0 feet		İ	Lane Eq	uivalen	t Distan	ce (in	feet)		
	Road Grade:	0.0%		ı		Auto	s: 48.	260			
	Left View:	-90.0 degre	es		Mediu	m Truck	s: 48.	076			
	Right View:	90.0 degre	es		Heav	y Truck	s: 48.	094			
FHWA Noise Mod	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Di	stance	Finite	Road	Fresi	nel	Barrier Att	en Ber	m Atten
Autos:	66.51	0.84		0.1	3	-1.20		-4.69	0.0	000	0.000
Medium Trucks:	77.72	-16.40		0.1	5	-1.20		-4.88	0.0	000	0.000
Heavy Trucks:	82.99	-20.35		0.1	5	-1.20		-5.34	0.0	000	0.000
Unmitigated Nois											
VehicleType	Leq Peak Hou			Leq E	vening	Leq	Night		Ldn		VEL
Autos:	66		64.4		62.6		56.6	-	65.2	-	65.8
Medium Trucks:	60		58.8		52.4		50.9	-	59.3		59.5
Heavy Trucks: Vehicle Noise:	61		66.6		51.1 63.3		52.4	•	60.7 67.3		60.9
Centerline Distan					55.5		55.	•	37.0	-	07.1
Jenternie Distan	ce to Morse Co	omour (iii lee	'	70	dBA	65	dBA	6	60 dBA	55	dBA
			Ldn:	3	39	8	35		183	3	95

Tuesday, February 03, 2015

	FHW	A-RD-77-108 H	IIGHWAY	NOISE PE	REDICTION I	MODEL		
Scenario: E Road Name: E Road Segment: w	ucalyptus A	Av.			Project Nam Job Numbe		Springs	
SITE SPE	CIFIC IN	PUT DATA			NOIS	E MODEL	. INPUTS	;
Highway Data				Site Con	ditions (Har	d = 10, So	ft = 15)	
Average Daily Traff Peak Hour Perc Peak Hour \	entage:	8,700 vehicles 10% 3,870 vehicles			dium Trucks avy Trucks (3		15 15 15	
Vehicle	Speed:	40 mph		Vehicle I	Miv			
Near/Far Lane D	istance:	72 feet			icleType	Dav	Evening	Night Daily
Site Data					Autos	.,	12.9%	9.6% 97.42%
Barrier	Hoinht:	0.0 feet		Me	edium Trucks	84.8%	4.9%	10.3% 1.84%
Barrier Type (0-Wall, 1		0.0		F	leavy Trucks	86.5%	2.7%	10.8% 0.74%
Centerline Dist. to	Barrier:	60.0 feet		Noise Sc	urce Elevati	ons (in fe	et)	
Centerline Dist. to Ol	bserver:	60.0 feet			Autos:	0.000	/	
Barrier Distance to Ol	bserver:	0.0 feet		Modiuu	n Trucks:	2.297		
Observer Height (Abov	re Pad):	5.0 feet			v Trucks:		Grade Adi	ustment: 0.0
Pad El	evation:	0.0 feet			,			
Road El	evation:	0.0 feet		Lane Eq	uivalent Dist	ance (in fe	eet)	
Road	Grade:	0.0%				48.260		
Le	ft View:	-90.0 degrees		Mediui	n Trucks:	48.076		
Rigi	ht View:	90.0 degrees		Heav	y Trucks:	48.094		
FHWA Noise Model Ca	lculations	;		I				
VehicleType R	EMEL	Traffic Flow	Distance	Finite	Road Fr	esnel E	Barrier Atte	en Berm Atten
Autos:	66.51	4.44	0.	13	-1.20	-4.69	0.0	0.00
Medium Trucks:	77.72	-12.80	0.	15	-1.20	-4.88	0.0	0.00
Heavy Trucks:	82.99	-16.76	0.	15	-1.20	-5.34	0.0	0.00
Unmitigated Noise Lev	vels (witho	ut Topo and b	arrier atte	enuation)				
., .	Peak Hour	, ,		Evening	Leq Night		Ldn	CNEL
Autos:	69.9		3.0	66.2		0.2	68.8	69.
Medium Trucks:	63.9		2.4	56.0	-	4.5	62.9	63.
Heavy Trucks:	65.2		3.8	54.7		6.0	64.3	
Vehicle Noise:	71.9	9 70	0.2	66.9	6	2.3	70.9	71.3
Centerline Distance to	Noise Co	ntour (in feet)						
) dBA	65 dBA) dBA	55 dBA
			dn:	69	148		318	686
		CNE	ΞL:	73	158		341	734

		WA-RD-77-10									
	o: Existing W								n Springs		
Road Nami Road Segmen	e: Eastridge					JOD N	lumber:	8991			
	SPECIFIC II	VPUT DATA							L INPUT	S	
Highway Data					Site Cor	nditions	(Hard:	= 10, S	oft = 15)		
Average Daily	Traffic (Adt):	20,700 vehicle	es					Autos:	15		
Peak Hour	Percentage:	10%				edium Tr	,	,			
	our Volume:	2,070 vehicle	es		He	eavy Tru	cks (3+	Axles):	15		
	nicle Speed:	40 mph		1	/ehicle	Mix					
Near/Far Lar	ne Distance:	72 feet			Veh	icleType	9	Day	Evening	Night	Daily
Site Data							Autos:	77.5%	12.9%	9.6%	97.429
Bar	rier Height:	0.0 feet			М	ledium T	rucks:	84.8%	4.9%	10.3%	1.849
Barrier Type (0-W		0.0				Heavy T	rucks:	86.5%	2.7%	10.8%	0.749
Centerline Dis	t. to Barrier:	60.0 feet		١,	Voise S	ourco E	lovatio	ne (in f	not)		
Centerline Dist.	to Observer:	60.0 feet		,	VUISE SI	Auto		.000	bei)		
Barrier Distance	to Observer:	0.0 feet			Modiu	m Truck		.297			
Observer Height (Above Pad):	5.0 feet				vv Truck		.006	Grade Ad	liustment	0.0
Pa	d Elevation:	0.0 feet				,				,	
	d Elevation:	0.0 feet		1	.ane Eq				feet)		
F	Road Grade:	0.0%				Auto		3.260			
	Left View:	-90.0 degre				m Truck		3.076			
	Right View:	90.0 degre	ees		Heav	vy Truck	s: 48	3.094			
FHWA Noise Mode	el Calculation	18									
VehicleType	REMEL	Traffic Flow		stance		Road	Fres		Barrier At		m Atten
Autos:	66.51		_	0.13		-1.20		-4.69		000	0.00
Medium Trucks:	77.72			0.15		-1.20		-4.88		000	0.00
Heavy Trucks:	82.99	-19.47	7	0.15	5	-1.20		-5.34	0.0	000	0.00
Unmitigated Noise											
VehicleType Autos:	Leq Peak Ho	ur Leq Da 7.2	65.3	Leg Ev			Night 57	4	Ldn 66.		NEL 66.
Autos: Medium Trucks:	-	7.2 1.1	59.6		63.5 53.3		57.		60.	•	60.
Heavy Trucks:	-	2.5	61.0		52.0		53		61.		61.
Vehicle Noise:		9.2	67.4		64.2		59		68.	-	68.
Centerline Distance	e to Noise C	ontour (in fee	of)								
Jones in the Distant		oour (iii iee	/	70 c	lBA	65	dBA	6	60 dBA	55	dBA
			Ldn:	4	5		97		210	4	152

Tuesday, February 03, 2015

	FHW	/A-RD-77-108 I	HIGHWAY	NOISE P	REDICT	ION MOI	DEL			
Scenario: Road Name: Road Segment:		Av.				Name: (lumber: 8		n Springs		
SITE SF	PECIFIC IN	PUT DATA			N	IOISE N	IODE	L INPUT	s	
Highway Data				Site Cor	nditions	(Hard =	10, S	oft = 15)		
Average Daily Tra	affic (Adt): 1	9,200 vehicles				/	Autos:	15		
Peak Hour Pe	ercentage:	10%		Me	edium Tri	ucks (2 A	xles):	15		
Peak Hou	ır Volume:	1,920 vehicles		He	eavy Truc	cks (3+ A	xles):	15		
Vehic	de Speed:	40 mph		Vehicle	Mix					
Near/Far Lane	Distance:	72 feet		Veh	nicleType		Dav	Evening	Night	Daily
Site Data							77.5%	-	9.69	6 97.42%
Rarrie	er Height:	0.0 feet		М	ledium Ti	rucks:	34.8%	4.9%	10.39	6 1.84%
Barrier Type (0-Wall		0.0			Heavy Ti	rucks:	36.5%	2.7%	10.89	6 0.74%
Centerline Dist.	to Barrier:	60.0 feet		Noise S	ource El	levations	(in f	eet)		
Centerline Dist. to	Observer:	60.0 feet			Auto		_	,		
Barrier Distance to		0.0 feet		Mediu	ım Truck					
Observer Height (Ab	,	5.0 feet		Hear	vy Truck	s: 8.0	106	Grade Ad	iustmer	nt: 0.0
	Elevation:	0.0 feet			•					
	Elevation:	0.0 feet		Lane Eq		t Distand		feet)		
	ad Grade:	0.0%			Auto					
	Left View:	-90.0 degree			m Truck					
K	Right View:	90.0 degree	S	Hear	vy Truck	s: 48.0	194			
FHWA Noise Model	Calculations			•						
VehicleType	REMEL	Traffic Flow	Distance		Road	Fresn		Barrier Att		erm Atten
Autos:	66.51	1.39	-	1.13	-1.20		4.69		000	0.000
Medium Trucks:	77.72	-15.84	-).15	-1.20		4.88		000	0.000
Heavy Trucks:	82.99	-19.80).15	-1.20		-5.34	0.0	000	0.000
Unmitigated Noise L										
,,	eq Peak Hour			Evening		Night		Ldn		CNEL
Autos:	66.8		4.9	63.2		57.1		65.7		66.3
Medium Trucks:	60.8		9.3	53.0		51.4		59.9		60.1
Heavy Trucks: Vehicle Noise:	62. ⁻		7.1	51.7 63.8		52.9 59.3		61.3 67.8		61.4 68.3
Centerline Distance									-	
Contonino Distance	10 110.30 00	mou. (m reet)	7	0 dBA	65	dBA	(60 dBA	5.	5 dBA
		L	.dn:	43	9	93		199		430
		CN	EL:	46	9	99		214		460

	FHV	VA-RD-77-108	HIGI	HWAY N	IOISE PI	REDICT	ION MO	DDEL			
Road Nam	io: Existing Wine: Eucalyptus nt: e/o Day St.						Name: lumber:		n Springs		
	SPECIFIC IN	PUT DATA			0:- 0				L INPUT	S	
Highway Data				- 1	Site Cor	aitions	(Hard =				
	Traffic (Adt): 1		S					Autos:			
	Percentage:	10%				dium Tr	,				
	lour Volume:	1,500 vehicles	S		He	avy Tru	cks (3+	Axles):	15		
	hicle Speed:	40 mph		1	Vehicle	Mix					
Near/Far La	ne Distance:	82 feet		F	Veh	icleType	,	Day	Evening	Night	Daily
Site Data							Autos:	77.5%	12.9%	9.6%	97.42%
Ra	rrier Height:	0.0 feet			M	edium T	rucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-W	-	0.0			1	Heavy T	rucks:	86.5%	2.7%	10.8%	0.74%
Centerline Di	st. to Barrier:	67.0 feet			Noise S	nurce F	levatio	ns (in fe	oet)		
Centerline Dist.	to Observer:	67.0 feet		F.	10,00 0	Auto		.000	301)		
Barrier Distance	to Observer:	0.0 feet			Madiu	m Truck		.297			
Observer Height ((Above Pad):	5.0 feet				vy Truck		.006	Grade Ad	iustment	. 0.0
Pi	ad Elevation:	0.0 feet		L	ncar	ry rruck	3. 0	.000	Orado ria,	Juoumoni	. 0.0
Ro	ad Elevation:	0.0 feet		1	Lane Eq	uivalen	t Distar	nce (in :	feet)		
	Road Grade:	0.0%				Auto	s: 53	.226			
	Left View:	-90.0 degree	es			m Truck		.059			
	Right View:	90.0 degree	es		Heav	y Truck	s: 53	1.076			
FHWA Noise Mod	el Calculation	s		-							
VehicleType	REMEL	Traffic Flow	Di	stance		Road	Fres		Barrier Att		m Atten
Autos:	66.51	0.32		-0.5		-1.20		-4.71		000	0.000
Medium Trucks:		-16.92		-0.49	-	-1.20		-4.88		000	0.000
Heavy Trucks:	82.99	-20.87		-0.49	9	-1.20		-5.29	0.0	000	0.000
Unmitigated Nois								_			
VehicleType	Leq Peak Hou			Leg E		Leq	Night		Ldn	_	NEL
Autos:	65		63.2		61.5		55.		64.0		64.6
Medium Trucks:	59		57.6		51.2		49.		58.2	-	58.4
Heavy Trucks: Vehicle Noise:	60		59.0 65.4		50.0 62.1		51. 57.		59.6 66.1		59.7 66.6
Centerline Distant					32.1		51.		00.		00.0
Centernile Distant	CE 10 1401SE CC	nnour (III leet	,	70 c	iBA	65	dBA	6	60 dBA	55	dBA
			Ldn:	3	7	7	79		171	. 3	69
		CI	NEL:	4	0	8	35		183	3	95

	FH\	WA-RD-77-108	HIGHW	AY NO	DISE P	REDICT	ION MOI	EL		
Road Nam	io: Existing W ne: Alessandro nt: w/o Day St	BI.					t Name: 0 Number: 8		Springs	
SITE	SPECIFIC IN	IPUT DATA					NOISE N	IODEI	INPUTS	
Highway Data				S	ite Cor	ditions	(Hard =	10, So	ft = 15)	
Peak Hour Peak H	Traffic (Adt): Percentage: lour Volume: hicle Speed:	26,900 vehicle 10% 2,690 vehicle 45 mph		1/		avy Tru	rucks (2 A icks (3+ A		15 15 15	
Near/Far La	ne Distance:	82 feet				icleTyp		Dav	Evening N	ight Daily
Site Data							Autos:	77.5% 84.8%	12.9%	9.6% 97.42% 0.3% 1.84%
	rrier Height:	0.0 feet				Heavy 1		36.5%		0.8% 0.74%
Barrier Type (0-W Centerline Di		0.0 67.0 feet								0.070 0.1470
Centerline Dist.		67.0 feet		N	oise S	ource E	levations	(in fe	et)	
Barrier Distance Observer Height (to Observer:	0.0 feet 5.0 feet 0.0 feet				Auto m Truck ry Truck	ks: 2.2	97	Grade Adjus	ment: 0.0
Roi	ad Elevation:	0.0 feet		L	ane Eq	uivaler	t Distanc	e (in f	eet)	
,	Road Grade: Left View: Right View:	0.0% -90.0 degree 90.0 degree				Auto m Truck ry Truck	ks: 53.0	59		
FHWA Noise Mod	el Calculation	ıs								
VehicleType	REMEL	Traffic Flow	Distar	nce	Finite	Road	Fresn	el l	Barrier Atten	Berm Atten
Autos:	68.46	2.35		-0.51		-1.20		4.71	0.000	0.00
Medium Trucks:	79.45	-14.89		-0.49		-1.20		4.88	0.000	0.000
Heavy Trucks:	84.25	-18.85		-0.49		-1.20		5.29	0.000	0.000
Unmitigated Nois										
VehicleType	Leq Peak Hou			eq Eve		Leq	Night		Ldn	CNEL
Autos:	69		67.2		65.4		59.4		68.0	68.6
Medium Trucks:			61.4		55.0		53.5		61.9	62.
Heavy Trucks:			62.3		53.3		54.5		62.9	63.0
Vehicle Noise:			69.2		66.0		61.4		69.9	70.4
Centerline Distant	ce to Noise C	ontour (in feet)	70 -11	D.4	0.5	-104		0.404	FF -1D4
			Ldn:	70 dE			dBA		0 dBA 307	55 dBA 661
			Lan: NFI :	71			153		307 329	709
		Ci	v.L.	/ 1			100		023	105

	FH	WA-RD-77-108	HIGH	IWAY N	OISE P	REDICT	TON MODE	-	
	o: Existing W e: Towngate nt: e/o Eucaly	Dr.					t Name: Car lumber: 899		
SITE S	SPECIFIC II	NPUT DATA				- 1	NOISE MOI	DEL INPUT	S
Highway Data				5	Site Cor	ditions	(Hard = 10,	Soft = 15)	
Average Daily	Traffic (Adt):	8,500 vehicle	s				Auto	os: 15	
Peak Hour	Percentage:	10%			Me	dium Ti	rucks (2 Axle	s): 15	
Peak H	our Volume:	850 vehicle	S		He	avy Tru	icks (3+ Axle	s): 15	
Vei	hicle Speed:	40 mph		1	/ehicle	Miv			
Near/Far Lai	ne Distance:	82 feet				icleTyp	e Da	/ Evening	Night Daily
Site Data							Autos: 77.	-	9.6% 97.42%
	rier Height:	0.0 feet			М	edium 7	rucks: 84.		10.3% 1.84%
Barrier Type (0-W		0.0 feet				Heavy 7	rucks: 86.	5% 2.7%	10.8% 0.74%
Centerline Dis	. ,	67.0 feet		_					
Centerline Dist		67.0 feet		,	loise S		levations (i	ı feet)	
Barrier Distance		0.0 feet				Auto			
Observer Height (5.0 feet				m Truck			
	d Flevation:	0.0 feet			Heav	ry Truck	s: 8.006	Grade Ad	justment: 0.0
Ros	d Elevation:	0.0 feet		L	ane Eq	uivalen	t Distance (in feet)	
F	Road Grade:	0.0%				Auto	s: 53.226		
	Left View:	-90.0 degre	es		Mediu	m Truck	s: 53.059		
	Right View:	90.0 degre	es		Heav	y Truck	s: 53.076		
FHWA Noise Mode	el Calculation	18							
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fresnel	Barrier Att	en Berm Atten
Autos:	66.51	-2.15		-0.51		-1.20	-4.7	71 0.0	0.000
Medium Trucks:	77.72			-0.49		-1.20	-4.8		0.000
Heavy Trucks:	82.99			-0.49		-1.20	-5.2	29 0.0	0.000
Unmitigated Noise									
	Leq Peak Ho			Leq Ev		_	Night	Ldn	CNEL
Autos:	-		60.8		59.0		52.9	61.6	
Medium Trucks:		6.6	55.1		48.8		47.2	55.7	
Heavy Trucks:		3.0	56.5		47.5		48.8	57.	
Vehicle Noise:		4.7	62.9		59.7		55.1	63.6	6 64.1
Centerline Distance	e to Noise C	ontour (in feet	t)	70 o	ID A	e c	dBA	60 dBA	55 dBA
			Ldn:	70 d			54	117	253
		0	Lan: NFI:	27			54 58	117	253 271
		C	VLL.	21			50	120	2/1

Tuesday, February 03, 2015

Autos: 77.5% 12.9% 9.6% 97.4%		FH	IWA-RD-77-10	8 HIGI	HWAY	NOISE P	REDICTI	ON M	ODEL			
Autos: 15 Autos: 17:5% Autos: 15 Autos: 17:5% Autos: 18:5% Road Na	me: Alessandr	o Bl.							on Springs			
Average Daily Traffic (Adt): 28,000 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 2,800 vehicles Vehicle Speed: 45 mph Wear/Far Lane Distance: 82 feet Wehicle Type Day Evening Night Dail Vehicle Type Day Evening Night Dail Vehicle Type Night Night Dail Night Dail Night Night Dail Night Nigh		SPECIFIC I	NPUT DATA			Site Co					s	
Site Data	Average Dail Peak Hou Peak V	r Percentage: Hour Volume: 'ehicle Speed:	10% 2,800 vehicle 45 mph			Me He Vehicle	edium Tru eavy Truc Mix	ucks (2 cks (3+	Autos Axles)	: 15 : 15 : 15		
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 67.0 feet Centerline Dist. to Observer: 67.0 feet Barrier Distance to Observer: 0.0 feet Autos: 0.000 Medium Trucks: 8.006 Grade Adjustment: 0.0 feet Autos: 6.0 feet feet feet Autos: 6.0 feet fee		arie Distance.	02 1661			Vel				-		Daily
Centerline Dist. to Observer: Barrier Distance to Observer: 0.0 feet Barrier Distance to Observer: 0.0 feet Country Country	В						ledium Tı	ucks:	84.89	6 4.9%	10.3%	1.84%
Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Carden Road Grade: 0.0% C						Noise S	ource El	evatio	ns (in t	eet)		
Road Elevation:	Barrier Distanc Observer Heigh	e to Observer: (Above Pad):	0.0 feet 5.0 feet				m Trucks	s: 2	2.297	Grade Ad	ljustmen	t: 0.0
Left View:	R	oad Elevation:	0.0 feet			Lane Eq	juivalent	Dista	nce (in	feet)		
VehicleType		Left View:	-90.0 degre				m Trucks	s: 50	3.059			
Autos: 68.46 2.52 -0.51 -1.20 -4.71 0.000 0.0	FHWA Noise Mo	del Calculatio	ns									
Medium Trucks: 79.45	VehicleType	REMEL	Traffic Flow	Di	stance	Finite	Road	Fres	snel	Barrier At	ten Be	rm Atten
Heavy Trucks: 84.25				-								0.000
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 69.3 67.4 65.6 59.6 68.2 61 Medium Trucks: 63.0 61.5 55.2 53.6 62.1 66 Heavy Trucks: 63.9 62.5 53.4 54.7 63.0 66 Vehicle Noise: 71.1 69.4 66.2 61.5 70.1 70 Centerline Distance to Noise Contour (In feet) Ldn: 68 146 315 679				-								0.000
Autos: 69.3 67.4 65.6 59.6 68.2 66 Medium Trucks: 63.0 61.5 55.2 53.6 62.1 66 Heavy Trucks: 63.9 62.5 53.4 54.7 63.0 66 Vehicle Noise: 71.1 69.4 66.2 61.5 70.1 70 Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dBA Ldn: 68 146 315 679	Unmitigated Noi	se Levels (wit	hout Topo and	l barri	ier atte	nuation)						
Medium Trucks: 63.0 61.5 55.2 53.6 62.1 66 Heavy Trucks: 63.9 62.5 53.4 54.7 63.0 66 Vehicle Noise: 71.1 69.4 66.2 61.5 70.1 70 Centerline Distance to Noise Contour (in feet) Image: Contour Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dBA Ldn: 68 146 315 679					Leq E					-		
Heavy Trucks: 63.9 62.5 53.4 54.7 63.0 66 Vehicle Noise: 71.1 69.4 66.2 61.5 70.1 70 Centerline Distance to Noise Contour (in feet)											_	68.8
Vehicle Noise: 71.1 69.4 66.2 61.5 70.1 70 Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dBA Ldn: 68 146 315 679												62.3
70 dBA 65 dBA 60 dBA 55 dBA Ldn: 68 146 315 679									••		_	63.2 70.5
70 dBA 65 dBA 60 dBA 55 dBA Ldn: 68 146 315 679	Centerline Dista	nce to Noise (Contour (in fee	t)								
					70	dBA	65	dBA		60 dBA	55	dBA
CNEL: 73 157 338 728												
			C	NEL:		73	15	57		338		728

Tuesday, February 03, 2015

	FH	WA-RD-77-108	HIGH	WAY N	OISE P	REDICTI	ON MO	DEL			
Road Na	ario: Year 2018 me: Sycamore ent: n/o Eastrid	Canyon Bl.	t				Name: umber:		n Springs		
SITE	SPECIFIC IN	NPUT DATA							L INPUT	S	
Highway Data				S	Site Cor	ditions	(Hard =	10, Sc	oft = 15)		
Average Dail	y Traffic (Adt):	20,600 vehicles	S					Autos:	15		
Peak Hou	ır Percentage:	10%			Me	dium Tru	icks (2 i	Axles):	15		
Peak	Hour Volume:	2,060 vehicles	S		He	avy Truc	ks (3+)	4xles):	15		
١	ehicle Speed:	45 mph		ı	/ehicle	Mix					
Near/Far L	.ane Distance:	48 feet		F.		icleType		Dav	Evenina	Niaht	Dailv
Site Data					*01.		utos:	77.5%		9.6%	. ,
	arrier Height:	0.0 feet			М	edium Tr	ucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-		0.0				Heavy Tr	ucks:	86.5%	2.7%	10.8%	0.74%
Centerline L	Dist. to Barrier:	55.0 feet			loise S	ource El	evation	s (in fe	eet)		
Centerline Dis	t. to Observer:	55.0 feet		- 1	10/36 0	Autos		000	,		
Barrier Distanc	e to Observer:	0.0 feet			Madiu	m Trucks		297			
Observer Heigh	t (Above Pad):	5.0 feet				y Trucks		006	Grade Adj	ustment	. 0.0
	Pad Elevation:	0.0 feet								uoumom	0.0
R	oad Elevation:	0.0 feet		L	ane Eq	uivalent	Distan	ce (in :	feet)		
	Road Grade:	0.0%				Autos	: 49.	739			
	Left View:	-90.0 degree	es		Mediu	m Trucks	: 49.	561			
	Right View:	90.0 degree	es		Hear	y Trucks	3: 49.	579			
FHWA Noise Mo	del Calculation	ıs									
VehicleType	REMEL	Traffic Flow	Dist	tance	Finite	Road	Fresi	nel	Barrier Atte	en Ber	m Atten
Autos	68.46	1.19		-0.07		-1.20		-4.67	0.0	100	0.000
Medium Trucks	3: 79.45	-16.05		-0.05		-1.20		-4.87	0.0	00	0.000
Heavy Trucks	84.25	-20.01		-0.05		-1.20		-5.38	0.0	00	0.000
Unmitigated Noi	se Levels (with	out Topo and	barrie	r atteni	uation)						
VehicleType	Leq Peak Ho	ur Leq Day	,	Leg Ev	ening	Leq	Night		Ldn	C	NEL
Autos	s: 68	3.4	66.5		64.7		58.7	7	67.3		67.9
Medium Trucks	s: 62	2.2	60.6		54.3		52.7	7	61.2	2	61.4
Heavy Trucks	s: 63	3.0	61.6		52.5		53.8	3	62.1		62.3
Vehicle Noise	9: 70	0.2	68.5		65.3		60.	7	69.2	2	69.6
Centerline Dista	nce to Noise C	ontour (in feet)								
			L	70 d		65 (1 6	0 dBA		dBA
			Ldn:	49		10			226		186
		CI	VEL:	52	2	11	12		242	5	521

FI	IWA-RD-77-108	HIGHWA	AY NOISE	PREDICT	ION MO	DDEL			
Scenario: Year 201 Road Name: Box Sprin Road Segment: n/o Eastri	gs Bl.				t Name: lumber:		n Springs		
SITE SPECIFIC	NPUT DATA						L INPUT	S	
Highway Data			Site Co	onditions	(Hard	= 10, S	oft = 15)		
Average Daily Traffic (Adt): Peak Hour Percentage:	7,700 vehicles 10%			fedium Tr		,	15		
Peak Hour Volume:	770 vehicles	3	F	leavy Tru	cks (3+	Axles):	15		
Vehicle Speed:	40 mph		Vehicle	Mix					
Near/Far Lane Distance:	36 feet		Ve	hicleType	9	Day	Evening	Night	Daily
Site Data					Autos:	77.5%	12.9%	9.6%	97.429
Barrier Height:	0.0 feet		- 1	Medium T	rucks:	84.8%	4.9%	10.3%	1.849
Barrier Type (0-Wall, 1-Berm):	0.0			Heavy T	rucks:	86.5%	2.7%	10.8%	0.749
Centerline Dist. to Barrier:	44.0 feet		Noise	Source E	levatio	ns (in f	eet)		
Centerline Dist. to Observer:	44.0 feet			Auto	s: C	.000			
Barrier Distance to Observer:	0.0 feet		Med	um Truck	s: 2	.297			
Observer Height (Above Pad):	5.0 feet		He	avy Truck	s: 8	.006	Grade Ad	justment	0.0
Pad Elevation:	0.0 feet		I one E	quivalen	4 Dioto	naa (in	foot)		
Road Elevation: Road Grade:	0.0 feet		Lane L	Auto		0.460	ieet)		
Road Grade: Left View:	0.0%		Mod	um Truck).460			
Right View:	-90.0 degree 90.0 degree			avy Truck).262			
FHWA Noise Model Calculation	ns								
VehicleType REMEL	Traffic Flow	Distan	ce Fini	e Road	Fres	inel	Barrier Att	en Bei	m Atten
Autos: 66.5	1 -2.57		1.28	-1.20		-4.61	0.0	000	0.00
Medium Trucks: 77.7			1.31	-1.20		-4.87		000	0.00
Heavy Trucks: 82.9			1.31	-1.20		-5.50	0.0	000	0.00
Unmitigated Noise Levels (with									
VehicleType Leq Peak H			q Evening		Night		Ldn		NEL
		52.1	60.	-	54		62.	-	63.
		56.5	50.		48		57.		57.
		57.9	48.	-	50		58.	_	58.
		64.3	61.	U	56	.5	65.0	J	65.
Centerline Distance to Noise	contour (in feet,		70 dBA	65	dBA	Т.	60 dBA	55	dBA
		Ldn:	20		14		95		205
		IFI:							

	FH'	WA-RD-77-108	HIGH	NAY NO	DISE P	REDICT	TION MOI	DEL			
	e: Sycamore		t				t Name: (Number: 8		n Springs		
SITE S	SPECIFIC II	NPUT DATA					NOISE N	ODE	L INPUTS	;	
Highway Data				S	ite Cor	ditions	(Hard =	10, Sc	oft = 15)		
	Fraffic (Adt): Percentage: our Volume:	21,000 vehicle 10% 2,100 vehicle					rucks (2 A icks (3+ A	,			
	nicle Speed:	45 mph		v	ehicle	Mix					
Near/Far Lar	ne Distance:	48 feet		-		icleTyp	٩	Dav	Evening	Night	Daily
Site Data								77.5%	-	9.6%	-
Par	rier Height:	0.0 feet			М	edium 7	rucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wa		0.0			1	Heavy 7	rucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dis	t. to Barrier:	55.0 feet		N	loise S	ource E	levations	s (in fe	eet)		
Centerline Dist. t		55.0 feet				Auto		000	,		
Barrier Distance t		0.0 feet			Mediu	m Truck	ks: 2.2	297			
Observer Height (/	Above Pad): d Flevation:	5.0 feet 0.0 feet			Heav	y Truck	ks: 8.0	006	Grade Adju	ustmen	t: 0.0
	d Flevation:	0.0 feet		L	ane Eq	uivalen	nt Distanc	e (in	feet)		
F	Road Grade:	0.0%				Auto	os: 49.7	739			
	Left View:	-90.0 degre	es		Mediu	m Truck	ks: 49.5	561			
	Right View:	90.0 degre	es		Heav	y Truck	ks: 49.5	579			
FHWA Noise Mode	l Calculation	ıs									
VehicleType	REMEL	Traffic Flow	Dista	ance	Finite	Road	Fresn	el	Barrier Atte	en Be	rm Atten
Autos:	68.46	1.27		-0.07		-1.20		-4.67	0.0	00	0.000
Medium Trucks:	79.45	-15.97		-0.05		-1.20		-4.87	0.0	00	0.000
Heavy Trucks:	84.25	-19.92		-0.05		-1.20		-5.38	0.0	00	0.000
Unmitigated Noise			barrie	r attenu	ation)						
	Leq Peak Ho		_	Leq Eve		_	Night		Ldn		NEL
Autos:			66.6		64.8		58.7		67.4		68.0
Medium Trucks:			60.7		54.4		52.8		61.3		61.5
Heavy Trucks:			61.7		52.6		53.9		62.2		62.4
Vehicle Noise:			68.6		65.4		60.7		69.3		69.7
Centerline Distance	e to Noise C	ontour (in feet)	70 "							
			L	70 dl			dBA	1 6	0 dBA		dBA
			Ldn:	49			106		228		192
		C	NEL:	53		1	114		245		528

Tuesday, February 03, 2015

	FH\	VA-RD-77-108 HIG	HWAY	NOISE PF	REDICTIO	ON MC	DEL				
Scenario: Year 2018 Without Project Road Name: Box Springs Bl. Road Segment: s/o Eastridge Av.					Project Name: Canyon Springs Job Number: 8991						
SITE SPECIFIC INPUT DATA					NOISE MODEL INPUTS						
Highway Data					Site Conditions (Hard = 10, Soft = 15)						
Average Daily Traffic (Adt): 3,100 vehicles					Autos: 15						
Peak Hour Percentage: 10%				Medium Trucks (2 Axles): 15							
Peak Hour Volume: 310 vehicles				Heavy Trucks (3+ Axles): 15							
Vehicle Speed: 40 mph				Vehicle Mix							
Near/Far La	36 feet			icleType		Day	Evening	Night	Daily		
Site Data					A	ıtos:	77.5%	12.9%	9.6%	97.42%	
Ra	rrier Heiaht:	0.0 feet		Me	edium Tru	icks:	84.8%	4.9%	10.3%	1.84%	
Barrier Type (0-V		0.0		F	leavy Tru	icks:	86.5%	2.7%	10.8%	0.74%	
,, ,	Centerline Dist. to Barrier: 44.0 feet				Noise Source Elevations (in feet)						
Centerline Dist. to Observer: 44.0 feet				. ,							
Barrier Distance to Observer: 0.0 feet				Autos: 0.000 Medium Trucks: 2.297							
Observer Height (Above Pad): 5.0 feet				Medium Trucks: 2.297 Heavy Trucks: 8.006 Grade Adjustment: 0.0							
Pad Elevation: 0.0 feet				Heav	y Trucks:	8.	.006	Grade Adj	usuneni	0.0	
Road Elevation: 0.0 feet				Lane Equivalent Distance (in feet)							
Road Grade: 0.0%				Autos: 40.460							
	Left View:	-90.0 degrees		Mediur	n Trucks:	40	.241				
Right View: 90.0 degrees				Heavy Trucks: 40.262							
FHWA Noise Mod	el Calculation	S									
VehicleType	REMEL		istance	Finite		Fresi		Barrier Att		m Atten	
Autos:	66.51	-6.53	1.2		-1.20		-4.61		000	0.000	
Medium Trucks:		-23.76	1.3				-4.87		000	0.000	
Heavy Trucks:	82.99	-27.72	1.3	31	-1.20		-5.50	0.0	000	0.000	
Unmitigated Nois											
VehicleType	Leq Peak Hou			vening	Leq N	_		Ldn		VEL	
Autos:	60		56.4			50.		59.0		59.6	
Medium Trucks:				46.2				53.1			
Heavy Trucks:				44.9			46.2 54.5			54.7	
Vehicle Noise:			ļ	57.1		52.	5	61.1	l	61.5	
Centerline Distan	ce to Noise Co	ontour (in feet)									
) dBA 65 d			6	60 dBA	55 dBA		
				11	24		52			112	
		CNFL		12	26			55	1	19	

Tuesday, February 03, 2015

Tuesday, February 03, 2015 Tuesday, Feb

	FH\	WA-RD-77-108	HIGHV	1 YAW	NOISE P	REDICTION	ON MO	DEL					
Road Nam		Without Projec	t				Name: ımber:		n Springs				
	SPECIFIC IN	IPUT DATA							L INPUT	5			
Highway Data					Site Cor	nditions (Hard =	10, S	oft = 15)				
Average Daily	Traffic (Adt):	31,400 vehicles	3					Autos:	15				
Peak Hour	Percentage:	10%			Me	edium Tru	cks (2 /	4xles):	15				
Peak H	lour Volume:	3,140 vehicles	3		He	eavy Truc	ks (3+ /	4xles):	15				
Ve	hicle Speed:	40 mph		H	Vehicle	Mix							
Near/Far La	ne Distance:	72 feet		ŀ		icleType		Dav	Evenina	Niaht	Dailv		
Site Data					Autos: 77.5% 12.9% 9.6% 9								
Rai	rrier Height:	0.0 feet			М	edium Tr	ucks:	84.8%	4.9%	10.3%	1.84%		
Barrier Type (0-W	-	0.0				Heavy Tr	ucks:	86.5%	2.7%	10.8%	0.74%		
Centerline Dis		60.0 feet		-	Noise Source Elevations (in feet)								
Centerline Dist.	Centerline Dist. to Observer: 60.0 feet Barrier Distance to Observer: 0.0 feet						. ,						
Barrier Distance	to Observer:			Autos: 0.000 Medium Trucks: 2.297									
Observer Height (Above Pad):	5.0 feet			Heavy Trucks: 2.297 Heavy Trucks: 8.006 Grade Adjustment:						t- 0.0		
Pa	ad Elevation:	0.0 feet			пеа	vy Trucks	. 0.	000	Grade Auj	usunen	. 0.0		
Roa	ad Elevation:	0.0 feet			Lane Eq	uivalent	Distan	ce (in	feet)				
	Road Grade:	0.0%				Autos	: 48.	260					
	Left View:	-90.0 degree	es		Mediu	m Trucks	: 48.	076					
	Right View:	90.0 degree	es		Hear	vy Trucks	: 48.	094					
FHWA Noise Mode	el Calculation	ıs											
VehicleType	REMEL	Traffic Flow	Dista	ance	Finite	Road	Fresr	nel	Barrier Atte	en Be	rm Atten		
Autos:	66.51	3.53		0.1	3	-1.20		-4.69	0.0	00	0.000		
Medium Trucks:	77.72	-13.71		0.1	5	-1.20		-4.88	0.0	00	0.000		
Heavy Trucks:	82.99	-17.66		0.1	5	-1.20		-5.34	0.0	00	0.000		
Unmitigated Noise	e Levels (with	out Topo and	barrie	r atter	nuation)								
VehicleType	Leq Peak Hou	ır Leq Day		Leq E	vening	Leq I	Vight		Ldn	С	NEL		
Autos:	69	0.0	67.1		65.3		59.2	2	67.9		68.5		
Medium Trucks:	63	3.0	61.5		55.1		53.5	5	62.0		62.2		
Heavy Trucks:	64		62.9		53.8		55.1		63.4		63.6		
Vehicle Noise:	71	.0	69.3		66.0		61.4	1	70.0		70.4		
Centerline Distant	ce to Noise Co	ontour (in feet)										
			L		dBA	65 0		(60 dBA		dBA		
			Ldn:	60 129 277 59									
		VEL:	6	4	13	В		296	(639			

		WA-RD-77-108		TWATN	OISE P							
		Without Project	ct						n Springs			
Road Nam		O				Job N	lumber.	8991				
		Springs Pkwy	<i>'</i> .									
SITE S Highway Data	SPECIFIC II	NPUT DATA			Site Cor				L INPUT: oft = 15)	S		
· ·	T	07.000	_		nte ooi	iditions	(mara	Autos:	15			
Average Daily	Percentage:	27,800 venicie 10%	s		Mc	dium Ti	uoko (2	Axles):				
	our Volume:	2.780 vehicle				eavy Tru	,		15			
	hicle Speed:	40 mph	55			-	UNO (UT	Axico).	10			
Near/Far Lai		72 feet		ν	/ehicle	Mix						
	ie Distance.	72 1661			VehicleType Day Evening Night						Daily	
Site Data					Autos: 77.5% 12.9% 9.6% 9							
Bar	rier Height:	0.0 feet			Medium Trucks: 84.8% 4.9% 10.3% 1.84							
Barrier Type (0-W	all, 1-Berm):	0.0				Heavy T	rucks:	86.5%	2.7%	10.8%	0.749	
Centerline Dis	st. to Barrier:	60.0 feet		٨	loise S	ource E	levatio	ns (in fe	eet)			
Centerline Dist.	to Observer:	60.0 feet				Auto		.000	,			
Barrier Distance	to Observer:	0.0 feet			Madiu	m Truck		.297				
Observer Height (Above Pad):	5.0 feet				vy Truck		.006	Grade Ad	iustment.	0.0	
Pa	ad Elevation:	0.0 feet				•						
	ad Elevation:	0.0 feet		L	ane Eq			nce (in :	feet)			
F	Road Grade:	0.0%				Auto		3.260				
	Left View:	-90.0 degre				m Truck		3.076				
	Right View:	90.0 degre	es		Heavy Trucks: 48.094							
FHWA Noise Mode	el Calculation			'								
VehicleType	REMEL	Traffic Flow		stance		Road	Fres		Barrier Att		m Atten	
Autos:	66.51	3.00		0.13		-1.20		-4.69		000	0.00	
Medium Trucks:	77.72			0.15		-1.20		-4.88		000	0.00	
Heavy Trucks:	82.99	-18.19		0.15	,	-1.20		-5.34	0.0	000	0.00	
Unmitigated Noise												
	Leq Peak Ho		_	Leq Ev			Night		Ldn		VEL	
Autos:		3.4	66.5		64.8		58		67.3		67.	
Medium Trucks:		2.4	60.9		54.6		53		61.5		61.	
Heavy Trucks:		3.8	62.3		53.3		54		62.9		63.	
Vehicle Noise:).5	68.7		65.4		60	.9	69.4	1	69.	
Centerline Distanc	e to Noise C	ontour (in fee	t)	70	ID 4		-10.4	1 .	10 dD4		-/0.4	
l dn:				70 dBA 65 dBA 60 dBA 55 di								
		_	NFI:		55 118 255 550 59 127 273 589							

							ION MO				
		Without Proje	ct						n Springs		
Road Name		- Oi DI				JOD N	lumber:	8991			
Road Segmen	it: n/o Canyo	n Springs Pkw	у.								
	SPECIFIC II	NPUT DATA							L INPUT	S	
Highway Data				,	Site Cor	ditions	(Hard	= 10, S	oft = 15)		
Average Daily	Traffic (Adt):	44,100 vehicle	es					Autos:	15		
Peak Hour	Percentage:	10%			Me	dium Tr	ucks (2	Axles):	15		
Peak H	our Volume:	4,410 vehicle	es		He	avy Tru	cks (3+	Axles):	15		
	nicle Speed:	40 mph		,	Vehicle	Mix					
Near/Far Lar	ne Distance:	72 feet			Veh	icleType	,	Day	Evening	Night	Daily
Site Data					Autos: 77.5% 12.9% 9.69						97.429
Bar	rier Height:	0.0 feet			М	edium T	rucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-W		0.0				Heavy T	rucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dis	t. to Barrier:	60.0 feet			Noise S	ource F	lovatio	ne (in f	oof)		
Centerline Dist.	to Observer:	60.0 feet		– F	10/30 0	Auto		0.000	<i>(</i>		
Barrier Distance	to Observer:	0.0 feet			Madiu	m Truck		.297			
Observer Height (Above Pad):	5.0 feet				/y Truck		3.006	Grade Ad	iustment	0.0
Pa	d Elevation:	0.0 feet		L	77001	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	0			,	
Roa	d Elevation:	0.0 feet		1	Lane Eq				feet)		
F	Road Grade:	0.0%				Auto		3.260			
	Left View:	-90.0 degre				m Truck		3.076			
	Right View:	90.0 degre	ees		Heav	/y Truck	s: 48	3.094			
FHWA Noise Mode	el Calculation	18									
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	snel	Barrier Att	en Ber	m Atten
Autos:	66.51	5.00)	0.13	3	-1.20		-4.69	0.0	000	0.00
Medium Trucks:	77.72	-12.23	3	0.15	5	-1.20		-4.88	0.0	000	0.00
Heavy Trucks:	82.99	-16.19	9	0.15	5	-1.20		-5.34	0.0	000	0.00
Unmitigated Noise	Levels (with	out Topo and	l barri	er atten	uation)						
VehicleType	Leq Peak Ho	ur Leq Da	y	Leg E	vening	Leq	Night		Ldn	C	NEL
Autos:		0.4	68.5		66.8		60		69.3	-	70.
Medium Trucks:	-	1.4	62.9		56.6		55		63.5		63.
Heavy Trucks:		5.8	64.3		55.3		56		64.9		65.
Vehicle Noise:	72	2.5	70.7		67.4		62	.9	71.4	4	71.
Centerline Distanc	e to Noise C	ontour (in fee	t)								
			L	70 c			dBA	(60 dBA		dBA
			Ldn:	7				'48			
			NFI:		-						801

Tuesday, February 03, 2015

	FH	WA-RD-77-108	HIGH	WAY N	IOISE PE	REDICTI	ON MO	DEL				
	e: Day St.	Without Projectus Pkwy.	t			Project Job Ni			n Springs	3		
	SPECIFIC II	NPUT DATA							L INPU	TS		
Highway Data					Site Con	ditions	Hard :	= 10, S				
Average Daily	Traffic (Adt):	25,300 vehicle	S					Autos:	15			
Peak Hour	Percentage:	10%			Me	dium Tru	icks (2	Axles).	15			
Peak H	lour Volume:		S		He	avy Truc	ks (3+	Axles).	15			
Ve	hicle Speed:	40 mph			Vehicle I	Mix						
Near/Far La	ne Distance:	72 feet		F		icleType		Day	Evening	Nic	ght	Daily
Site Data					Autos: 77.5% 12.9% 9.6% 9							
Pa	rrier Heiaht:	0.0 feet			Me	edium Tr	ucks:	84.8%	4.9%	5 10	0.3%	1.84%
Barrier Type (0-W		0.0			F	Heavy Tr	ucks:	86.5%	2.7%	5 10	0.8%	0.74%
Centerline Di	. ,	60.0 feet		-								
Centerline Dist.		60.0 feet		μ'	voise Sc	ource Ele			eet)			
Barrier Distance	to Observer:	0.0 feet				Autos		.000				
Observer Height	(Above Pad):	5.0 feet				m Trucks		.297				
	ad Elevation:	0.0 feet			Heav	ry Trucks	: 8	.006	Grade A	ajustri	nent:	0.0
Ro	ad Elevation:	0.0 feet		1	Lane Eq	uivalent	Distar	ice (in	feet)			
	Road Grade:	0.0%				Autos	: 48	.260				
	Left View:	-90.0 degre	es		Mediui	m Trucks	: 48	.076				
	Right View:	90.0 degre			Heav	y Trucks	: 48	.094				
FHWA Noise Mod	el Calculation	18										
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	nel	Barrier A	tten	Bern	n Atten
Autos:	66.51			0.13	-	-1.20		-4.69	-	.000		0.000
Medium Trucks:	77.72	-14.65		0.15	5	-1.20		-4.88	C	.000		0.000
Heavy Trucks:	82.99	-18.60		0.15	5	-1.20		-5.34	C	.000		0.000
Unmitigated Nois	e Levels (with	hout Topo and	barri	er atten	uation)							
VehicleType	Leq Peak Ho	ur Leq Day	/	Leq E	/ening	Leq I	Vight		Ldn		CN	EL
Autos:	6	8.0	66.1		64.4		58.	3	66	6.9		67.5
Medium Trucks:	6	2.0	60.5		54.2		52.	6	61	.1		61.3
Heavy Trucks:	6	3.3	61.9		52.9		54.	1	62	2.5		62.6
Vehicle Noise:	7	0.0	68.3		65.0		60.	5	69	0.0		69.5
Centerline Distan	ce to Noise C	ontour (in feet)									
				70 c		65 d	iBA		60 dBA		55 c	lBA
			Ldn:	5	2	11	1		240		51	7
		C	NEL:	5	5	11	9		257		55	3

	FH	WA-RD-77-108	HIG	HWAY	NOISE P	REDICT	ION MO	DEL							
Road Na	ario: Year 2018 me: Day St. ent: s/o Gatewa	•	t				Name: lumber:		n Springs						
	SPECIFIC II	NPUT DATA							L INPUT	S					
Highway Data					Site Cor	ditions	(Hard =	= 10, Sc	oft = 15)						
Average Daily	y Traffic (Adt):	19,900 vehicle	:S					Autos:	15						
Peak Hou	ır Percentage:	10%			Me	dium Tr	ucks (2	Axles):	15						
Peak	Hour Volume:	1,990 vehicle	s		He	avy Tru	cks (3+	Axles):	15						
ν	ehicle Speed:	40 mph			Vehicle	Mix									
Near/Far L	ane Distance:	72 feet				icleType		Dav	Evenina	Niaht	Dailv				
Site Data					Autos: 77.5% 12.9% 9.6% 9										
D	arrier Height:	0.0 feet			Medium Trucks: 84.8% 4.9% 10.3% 1.										
Barrier Type (0-		0.0			Heavy Trucks: 86.5% 2.7% 10.8% 0.74										
	Dist. to Barrier:	60.0 feet			,										
	Centerline Dist. to Observer: 60.0 feet						Noise Source Elevations (in feet)								
	Barrier Distance to Observer: 0.0 feet						Autos: 0.000 Medium Trucks: 2.297								
Observer Height	t (Above Pad):	5.0 feet													
	Pad Elevation:	0.0 feet			Hea	y Truck	s: 8	.006	Grade Ad	ustment.	0.0				
R	oad Elevation:	0.0 feet			Lane Eq	uivalen	t Distar	ice (in	feet)						
	Road Grade:	0.0%				Auto	s: 48	.260							
	Left View:	-90.0 degre	es		Mediu	m Truck	s: 48	.076							
	Right View:	90.0 degre	es		Heavy Trucks: 48.094										
FHWA Noise Mo	del Calculation	18													
VehicleType	REMEL	Traffic Flow	Di	stance	Finite	Road	Fres	nel	Barrier Att	en Ber	m Atten				
Autos				0.	13	-1.20		-4.69	0.0	000	0.000				
Medium Trucks	: 77.72	-15.69		0.	15	-1.20		-4.88	0.0	000	0.000				
Heavy Trucks	82.99	-19.65		0.	15	-1.20		-5.34	0.0	000	0.000				
Unmitigated Noi															
VehicleType	Leq Peak Ho			Leq E	vening	_	Night		Ldn		VEL				
Autos			65.1		63.3		57.	-	65.9		66.5				
Medium Trucks: 61.0 59.5					53.1		51.	-	60.0		60.3				
Heavy Trucks Vehicle Noise			60.9 67.3		51.8 64.0		53. 59.		61.4		61.6 68.4				
Centerline Dista					01.0						00.1				
Dista	10 /10/00 0		,	70	dBA	65	dBA	6	60 dBA	55	dBA				
			Ldn:		44	9	95		204	4	40				
	CNEL:				47	1	02		219	4	71				

	FHWA	-RD-77-108 HIGI	HWAY N	OISE PREDIC	TION MODEL		
Road Name:	Year 2018 Wit Day St. s/o Eucalyptus	,			ct Name: Can Number: 899		
SITE SI	PECIFIC INPU	JT DATA			NOISE MOD	DEL INPUTS	
Highway Data			S	ite Condition	s (Hard = 10,	Soft = 15)	
	ercentage: ur Volume: 1,9	10% 960 vehicles			Auto rucks (2 Axle: ucks (3+ Axle:	s): 15	
	cle Speed:	35 mph	ν	ehicle Mix			
Near/Far Lane	e Distance:	58 feet		VehicleTyp	e Day	Evening I	Night Daily
Site Data					Autos: 77.5	5% 12.9%	9.6% 97.42%
Barri	er Heiaht:	0.0 feet		Medium	Trucks: 84.8	3% 4.9%	10.3% 1.84%
Barrier Type (0-Wal	II, 1-Berm):	0.0		Heavy	Trucks: 86.5	5% 2.7%	10.8% 0.74%
Centerline Dist.	to Barrier:	55.0 feet	۸	loise Source	Flevations (ir	feet)	
Road Ro	Observer: bove Pad): I Elevation: I Elevation: Odd Grade: Left View: Right View: Calculations	55.0 feet 0.0 feet 0.0 feet 0.0 feet 0.0 feet 0.0 feet 0.0% 90.0 degrees 90.0 degrees 2.06	L stance 0.30	Aut Medium Truc Heavy Truc ane Equivale. Aut Medium Truc Heavy Truc Finite Road -1.20	ks: 2.297 ks: 8.006 nt Distance (ios: 47.000 ks: 46.811 ks: 46.830	Barrier Atter	n Berm Atten
Medium Trucks:	75.75	-15.18	0.33	-1.20	-4.8	7 0.00	0.000
Heavy Trucks:	81.57	-19.13	0.32	-1.20	-5.3	0.00	0.000
Unmitigated Noise	Levels (without	t Topo and barri	er attenu	uation)			
	eq Peak Hour	Leq Day	Leg Ev		g Night	Ldn	CNEL
Autos:	65.5	63.6		61.8	55.7	64.4	65.0
Medium Trucks:	59.7	58.2		51.8	50.3	58.7	59.0
Heavy Trucks:	61.6	60.1		51.1	52.4	60.7	60.8
Vehicle Noise:	67.7	66.0		62.5	58.2	66.7	67.1
Centerline Distance	to Noise Cont	our (in feet)					
			70 d	BA 6	5 dBA	60 dBA	55 dBA
	Ldn:			33 71 153 331			331
		CNEL:	35	i	76	164	353

	FH'	WA-RD-77-108	HIGHV	VAY NO	DISE P	REDICT	TON MOI	DEL				
Scenario Road Name Road Segmen	e: Day St.	Without Project ptus Av.	t				t Name: (lumber: 8		Springs			
SITE S	PECIFIC II	NPUT DATA					NOISE N	IODEL	. INPUTS	;		
Highway Data				S	ite Cor	ditions	(Hard =	10, So	ft = 15)			
	Fraffic (Adt): Percentage: our Volume:	19,900 vehicle 10% 1,990 vehicle					ucks (2 A rucks (3+ A	,	15 15 15			
Vel	nicle Speed:	40 mph		1/	ehicle	Miv						
Near/Far Lar	ne Distance:	72 feet		-		icleTyp		Dav	Evening	Night	Daily	
Site Data					VCII			77.5%	12.9%	9.6%	-	
	rier Height:	0.0 feet			М	edium 7	rucks:	34.8%	4.9%	10.3%		
Barrier Type (0-Wa		0.0				Heavy 7	rucks:	36.5%	2.7%	10.8%	0.74%	
Centerline Dis	t. to Barrier:	60.0 feet		N	oise S	ource E	levations	(in fe	et)			
Barrier Distance t Observer Height (/ Pa	Centerline Dist. to Observer: 60.0 feet						Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.006 Grade Adjustment: 0.0 Lane Equivalent Distance (in feet)					
	u ⊑ievalion. Road Grade:	0.0%		-	инс Еч	Auto			JUL)			
r	Left View: Right View:	-90.0 degree				m Truck ry Truck	s: 48.0	76				
FHWA Noise Mode	l Calculation	ıs										
VehicleType	REMEL	Traffic Flow	Dista	nce	Finite	Road	Fresn	el E	Barrier Atte	n Be	rm Atten	
Autos:	66.51	1.55		0.13		-1.20		4.69	0.0	00	0.000	
Medium Trucks:	77.72	-15.69		0.15		-1.20		4.88	0.0	00	0.000	
Heavy Trucks:	82.99	-19.65		0.15		-1.20		5.34	0.0	00	0.000	
Unmitigated Noise			barrier	attenu	ation)							
	Leq Peak Ho			Leq Eve		Leq	Night		Ldn	С	NEL	
Autos:			65.1		63.3		57.3		65.9		66.5	
Medium Trucks:			59.5		53.1		51.6		60.0		60.3	
Heavy Trucks:			60.9		51.8		53.1		61.4		61.6	
Vehicle Noise:			67.3		64.0		59.4		68.0		68.4	
Centerline Distanc	e to Noise C	ontour (in feet)	70								
			L	70 dE			dBA) dBA		dBA	
			Ldn:	44					140			
		C	NEL:	47		1	02		219	4	171	

Tuesday, February 03, 2015

	FH	WA-RD-7	77-108 HIG	HWAY I	NOISE PF	REDICTIC	DM MC	DDEL					
Scenar	io: Year 2018	Without	Project			Project N	lame:	Canyo	n Springs				
Road Nam	e: Day St.					Job Nu	mber:	8991					
Road Segme	nt: s/o Cotton	wood Av.											
	SPECIFIC I	NPUT D	ATA		Cita Can	NC ditions (I			L INPUT	s			
Highway Data					Site Con	aitions (i	Hara :						
Average Daily	. ,							Autos:					
	Percentage:	10%				dium Truc		,					
	lour Volume:	1,570 v			He	avy Truck	ıs (3+	Axles):	15				
	hicle Speed:	35 r		f	Vehicle I	Viix							
Near/Far La	ne Distance:	36 f	eet	İ	Vehi	icleType		Day	Evening	Night	Daily		
Site Data					Autos: 77.5% 12.9% 9.6% 97								
Ra	rrier Heiaht:	0.0	foot		Medium Trucks: 84.8% 4.9% 10.3% 1.84								
Barrier Type (0-W		0.0	1001		F	leavy Tru	icks:	86.5%	2.7%	10.8%	0.74%		
Centerline Di		44.0	feet	-					.,				
Centerline Dist.		44.0	feet	-	Noise Sc	ource Ele			eet)				
Barrier Distance		0.0				Autos:		.000					
Observer Height	(Above Pad):	5.0	feet		Medium Trucks: 2.297 Heavy Trucks: 8,006 Grade Adjustment: 0.0								
	ad Flevation:	0.0			Heav	y Trucks:	8	.006	Grade Ad	justment	0.0		
Ro	ad Elevation:	0.0			Lane Eq	uivalent l	Distar	ice (in	feet)				
	Road Grade:	0.09	6	Ī		Autos:	40	.460					
	Left View:	-90.0	degrees		Mediur	m Trucks:	40	.241					
	Right View:		degrees		Heav	y Trucks:	40	.262					
FHWA Noise Mod	el Calculation	ns											
VehicleType	REMEL	Traffic		istance	Finite		Fres		Barrier Att		m Atten		
Autos:	64.30		1.10	1.2		-1.20		-4.61		000	0.000		
Medium Trucks:	75.75	5 -	16.14	1.3	31	-1.20		-4.87	0.0	000	0.000		
Heavy Trucks:	81.57	-	20.09	1.3	31	-1.20		-5.50	0.0	000	0.000		
Unmitigated Nois	e Levels (wit	hout Top	o and barr	ier atte	nuation)								
VehicleType	Leq Peak Ho	our Le	eq Day	Leq E	vening	Leq N	light		Ldn	C	VEL		
Autos:	6	5.5	63.6		61.8		55.	8	64.4	4	65.0		
Medium Trucks:	5	9.7	58.2		51.9		50.	3	58.8	3	59.0		
Heavy Trucks:	6	1.6	60.2		51.1		52.	4	60.7	7	60.9		
Vehicle Noise:	6	7.7	66.0		62.6		58.	2	66.7	7	67.1		
Centerline Distan	ce to Noise C	Contour (in feet)										
					dBA	65 dl	BA	-	60 dBA	55	dBA		
			Ldn:	2	27	57	_		123	2	65		
			CNFI:	2	28	61			131	2	83		

Tuesday, February 03, 2015

	FH	WA-RD-77-108	HIGH	WAY N	IOISE P	REDICTI	ON MC	DEL				
Road Na	ario: Year 2018 me: Day St. ent: s/o Bay Av	,	t				Name: umber:		n Springs			
SITE	SPECIFIC IN	NPUT DATA							L INPUTS	S		
Highway Data					Site Cor	ditions ((Hard =	: 10, Sc	oft = 15)			
Average Dail	y Traffic (Adt):	15,300 vehicle	S					Autos:	15			
Peak Hou	ır Percentage:	10%			Me	dium Tru	icks (2 .	Axles):	15			
Peak	Hour Volume:	1,530 vehicle	S		He	avy Truc	ks (3+.	Axles):	15			
١	ehicle Speed:	35 mph			Vehicle	Mix						
Near/Far L	.ane Distance:	36 feet		-		icleType		Dav	Evenina	Niaht	Dailv	
Site Data							utos:	77.5%		9.6%	. ,	
	arrier Height:	0.0 feet			Medium Trucks: 84.8% 4.9% 10.3%							
Barrier Type (0-		0.0				Heavy Tr	ucks:	86.5%	2.7%	10.8%	0.74%	
Centerline L	Dist. to Barrier:	44.0 feet		- 17	Noise Source Elevations (in feet)							
Centerline Dis	t. to Observer:	F	Autos: 0.000									
Barrier Distanc	e to Observer:		Medium Trucks: 2.297									
Observer Heigh	t (Above Pad):	5.0 feet			Heavy Trucks: 8.006 Grade Adjustment: 0.0							
	Pad Elevation:	0.0 feet										
R	oad Elevation:	0.0 feet		1	Lane Eq	uivalent			feet)			
	Road Grade:	0.0%				Autos		460				
	Left View:	-90.0 degre	es			m Trucks		241				
	Right View:	90.0 degree	es		Hear	y Trucks	3: 40	262				
FHWA Noise Mo	del Calculation	ıs										
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fresi	nel	Barrier Atte	en Ber	m Atten	
Autos				1.2	-	-1.20		-4.61	0.0	00	0.000	
Medium Trucks	s: 75.75	-16.25		1.3	1	-1.20		-4.87	0.0	00	0.000	
Heavy Trucks	81.57	-20.21		1.3	1	-1.20		-5.50	0.0	00	0.000	
Unmitigated Noi	se Levels (with	out Topo and	barri	er atten	uation)							
VehicleType	Leq Peak Ho	ur Leq Day	,	Leg E	vening	Leq I	Night		Ldn	C	NEL	
Autos	s: 65	5.4	63.5		61.7		55.	6	64.3	3	64.9	
Medium Trucks			58.1		51.7		50.		58.7		58.9	
Heavy Trucks			60.0		51.0		52.	_	60.6		60.7	
Vehicle Noise	e: 67	7.6	65.9		62.4		58.	1	66.6	5	67.0	
Centerline Dista	nce to Noise C	ontour (in feet)									
			L		iBA	65 0		6	0 dBA		dBA	
			Ldn:	_	26 56 121 261							
		Ci	VEL:	2	28 60 129 278					278		

	FHWA	-RD-77-108	HIGH	HWAY N	OISE P	REDICT	TION MOI	DEL			
Scenario: Year 20 Road Name: Eucaly Road Segment: s/o Tov	tus Av	·	t				t Name: (Number: 8		n Springs		
SITE SPECIFIC	INPL	JT DATA					NOISE N	10DE	L INPUTS	5	
Highway Data				5	Site Cor	nditions	(Hard =	10, Sc	oft = 15)		
Average Daily Traffic (Ad Peak Hour Percentag Peak Hour Volum	э:	900 vehicle 10% 690 vehicle					rucks (2 A icks (3+ A		15 15 15		
Vehicle Spee		40 mph		1	/ehicle	Mix					
Near/Far Lane Distanc	e:	48 feet				nicleTyp	e	Dav	Evening	Night	Daily
Site Data								77.5%		9.6%	
Barrier Heigh	4.	0.0 feet			M	ledium 7	rucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Bern		0.0				Heavy 1	rucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrie	r:	50.0 feet		1	Voise S	ource E	levations	(in fe	eet)		
Centerline Dist. to Observe Barrier Distance to Observe Observer Height (Above Pad Pad Elevatic Road Elevatic Road Grac Left Vie	1	Hea ane Eq Mediu	Auto m Truck vy Truck juivaler Auto m Truck vy Truck	ks: 2.2 ks: 8.0 ht Distance ps: 44.1 ks: 43.9	006 e (in 1 147 947	Grade Adju	ustmen	÷ 0.0			
FHWA Noise Model Calcula	ions										
VehicleType REMEL		raffic Flow	Dis	stance		Road	Fresn		Barrier Atte		rm Atten
	.51	0.84		0.71		-1.20		-4.65	0.0		0.000
	.72	-16.40		0.74		-1.20		-4.87	0.0		0.000
	.99	-20.35		0.73		-1.20		-5.43	0.0	00	0.000
Unmitigated Noise Levels (_						Attento		I do	_	N/E/
VehicleType Leq Peak Autos:	66.9	Leq Day	65.0	Leq Ev	ening 63.2		Night 57.1	Ц	Ldn 65.8		NEL 66.4
Autos: Medium Trucks:	60.9		59.3		53.0		51.4		59.9		60.1
Heavy Trucks:	62.2		60.8		51.7		51.4		59.9 61.3		61.4
Vehicle Noise:	68.9		67.1		63.9		59.3		67.9		68.3
Centerline Distance to Nois	Cont	our (in feet	1)								
		,	_	70 c	IBA	65	dBA	6	0 dBA	55	dBA
	Ldn:				36 77 167 360						
CNEL:					39 83 179 385						

		WA-RD-77-10									
		Without Proje	ect						n Springs		
Road Nam		- d DI				JOD IN	lumber:	8991			
Road Segmer	it: s/o Alessa	naro Bi.									
	SPECIFIC II	NPUT DATA	ı						L INPUT	S	
Highway Data				5	Site Cor	nditions	(Hard:	= 10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	12,000 vehicl	es					Autos:	15		
Peak Hour	Percentage:	10%			Me	dium Tr	ucks (2	Axles):	15		
Peak H	our Volume:	1,200 vehicl	es		He	avy Tru	cks (3+	Axles):	15		
Vei	hicle Speed:	35 mph		,	/ehicle	Miv					
Near/Far Lai	ne Distance:	36 feet		F.		icleType		Dav	Evening	Night	Daily
Site Data					Autos: 77.5% 12.9% 9.69						. ,
	rier Height:	0.0 feet			Medium Trucks: 84.8% 4.9% 10.3%						1.849
Barrier Type (0-W	-	0.0				Heavy T	rucks:	86.5%	2.7%	10.8%	0.749
Centerline Dis	. ,	44.0 feet		١.	Voise S			(:- 6	41		
Centerline Dist.	to Observer:	44.0 feet		- '	voise 3	Auto		.000	et)		
Barrier Distance	to Observer:	0.0 feet			14	Auto m Truck		.297			
Observer Height (Above Pad):	5.0 feet				m muck ∕v Truck		.006	Grade Ad	iuctmont	. 0.0
Pa	d Elevation:	0.0 feet			пеач	у тиск	s. c	.000	Grade Au,	jusunent	. 0.0
Roa	d Elevation:	0.0 feet		I	ane Eq	uivalen	t Distai	nce (in	feet)		
F	Road Grade:	0.0%				Auto	s: 40	.460			
	Left View:	-90.0 degr	ees		Mediu	m Truck	s: 40).241			
	Right View:	90.0 degr	ees		Heav	/y Truck	s: 40).262			
FHWA Noise Mode	el Calculation	18									
VehicleType	REMEL	Traffic Flow	Di	stance	Finite	Road	Fres	nel	Barrier Att	en Ber	m Atten
Autos:	64.30	-0.0	7	1.28	3	-1.20		-4.61	0.0	000	0.00
Medium Trucks:	75.75	-17.3	1	1.31	l	-1.20		-4.87	0.0	000	0.00
Heavy Trucks:	81.57	-21.2	6	1.31	l	-1.20		-5.50	0.0	000	0.00
Unmitigated Noise	Levels (with	hout Topo an	d barri	ier atten	uation)						
VehicleType	Leq Peak Ho	ur Leq Da	эy	Leq Ev	rening	Leq	Night		Ldn	C	NEL
Autos:	6-	4.3	62.4		60.6		54	.6	63.2	2	63.
Medium Trucks:	5	8.6	57.0		50.7		49	.1	57.6	6	57.
Heavy Trucks:	6	0.4	59.0		50.0		51.	.2	59.6	6	59.
Vehicle Noise:	6	6.5	64.8		61.4		57	.0	65.5	5	66.
Centerline Distanc	e to Noise C	ontour (in fee	et)								
			I	70 c	IBA	65	dBA	6	60 dBA	55	dBA
	Ldn:				22 48 103 2		22				
			Ldn: CNFI:	22	_		18 51		103	_	222

Tuesday, February 03, 2015

	FH	WA-RD-77-108	HIGHWA	AY NO	DISE PI	REDICT	ION MC	DEL				
Road Nam	e: Eastridge	Without Project Av. nore Canyon Bl.	ı				Name: lumber:		on Springs			
SITE	SPECIFIC II	NPUT DATA				N	IOISE	MODE	L INPUTS	5		
Highway Data				S	ite Con	ditions	(Hard =	: 10, S	oft = 15)			
Average Daily	Traffic (Adt):	29,100 vehicles	8					Autos.	: 15			
Peak Hour	Percentage:	10%			Me	dium Tr	ucks (2	Axles)	: 15			
Peak H	lour Volume:	2,910 vehicles	3		He	avy Tru	cks (3+.	Axles)	: 15			
Ve	hicle Speed:	40 mph		ν	ehicle	Mix						
Near/Far La	ne Distance:	72 feet		F		icleType		Dav	Evening	Night	Dailv	
Site Data							Autos:	77.5%	-	9.69	. ,	
Par	rrier Height:	0.0 feet			М	edium T	rucks:	84.89	6 4.9%	10.39	6 1.84%	
Barrier Type (0-W		0.0			1	Heavy T	rucks:	86.5%	6 2.7%	10.89	6 0.74%	
Centerline Dis	st. to Barrier:	60.0 feet		N	oise So	ource E	levation	s (in t	eet)			
Centerline Dist.	to Observer:	60.0 feet		-		Auto		000	,			
Barrier Distance	to Observer:	0.0 feet			Mediu	m Truck		297				
Observer Height (Observer Height (Above Pad): 5.0 feet					Heavy Trucks: 8.006 Grade Adjustment: 0.0						
	ad Elevation:	0.0 feet		L								
	ad Elevation:	0.0 feet		L.	ane Eq	uivalen			feet)			
ı	Road Grade:	0.0%				Auto		.260				
	Left View:	-90.0 degree				m Truck		.076				
	Right View:	90.0 degree	es		Heav	ry Truck	s: 48	.094				
FHWA Noise Mode	el Calculation											
VehicleType	REMEL	Traffic Flow	Distan		Finite	Road	Fresi		Barrier Atte		erm Atten	
Autos:	66.51			0.13		-1.20		-4.69	0.0		0.000	
Medium Trucks:	77.72			0.15		-1.20		-4.88	0.0		0.000	
Heavy Trucks:	82.99			0.15		-1.20		-5.34	0.0	00	0.000	
Unmitigated Noise											21.51	
VehicleType Autos:	Leq Peak Ho		66.7	eq Eve		Leq	Night		Ldn		ONEL	
Autos: Medium Trucks:			66.7 61.1		65.0 54.8		58. 53.		67.5 61.7		68.1 61.9	
	-		61.1 62.5		54.8		53.	_	61.7		63.2	
Heavy Trucks: Vehicle Noise:	-		68.9		65.6		61.		63.1		70.1	
Centerline Distance	ce to Noise C	ontour (in feet)									
		(111100)	L	70 dl			dBA		60 dBA	5	5 dBA	
			Ldn:	57 61			22		263		567	
	CNEL:					1	31		282		607	

Tuesday, February 03, 2015

	FH	WA-RD-77-108	HIGH	WAY N	IOISE P	REDICTI	ON MC	DEL			
Road Na	ario: Year 2018 me: Eastridge i ent: e/o Sycam	Av.	t				Name: umber:		n Springs		
SITE	SPECIFIC II	NPUT DATA							L INPUT	S	
Highway Data					Site Cor	nditions	(Hard =	: 10, Sc	oft = 15)		
Average Dail	y Traffic (Adt):	27,700 vehicles	S					Autos:	15		
Peak Hou	ır Percentage:	10%			Me	edium Tru	ıcks (2 .	Axles):	15		
Peak	Hour Volume:	2,770 vehicles	S		He	eavy Truc	cks (3+.	Axles):	15		
١	/ehicle Speed:	40 mph		-	Vehicle	Mix					
Near/Far L	.ane Distance:	72 feet		-		icleType		Dav	Evenina	Niaht	Dailv
Site Data							lutos:	77.5%		9.6%	. ,
	arrier Height:	0.0 feet			М	edium Tr	ucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-		0.0 1661				Heavy Tr	ucks:	86.5%	2.7%	10.8%	0.74%
	Dist. to Barrier:	60.0 feet		-	Maiaa C	ource El	o rotio r	o (in f	2041		
Centerline Dis	t. to Observer:	60.0 feet		Ľ,	voise S	Auto:		000	eet)		
Barrier Distanc	e to Observer:	0.0 feet			A 4 15 -	Autos m Trucks		297			
Observer Heigh	t (Above Pad):	5.0 feet						.006	Grade Adj	i rodeno nd	
	Pad Elevation:	0.0 feet			Hea	vy Trucks	s: 8.	000	Grade Adj	usuneni	. 0.0
R	oad Elevation:	0.0 feet		1	Lane Eq	uivalent	Distan	ce (in	feet)		
	Road Grade:	0.0%				Autos	s: 48	.260			
	Left View:	-90.0 degree	es		Mediu	m Trucks	s: 48	.076			
	Right View:	90.0 degree	es		Hea	vy Trucks	s: 48	.094			
FHWA Noise Mo	del Calculation	18									
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fresi		Barrier Atte	en Ber	m Atten
Autos				0.13	3	-1.20		-4.69	0.0	00	0.000
Medium Trucks	s: 77.72			0.1	5	-1.20		-4.88	0.0	00	0.000
Heavy Trucks	82.99	-18.21		0.1	5	-1.20		-5.34	0.0	00	0.000
Unmitigated Noi	se Levels (with	out Topo and	barri	er atten	uation)						
VehicleType	Leq Peak Ho	ur Leq Day	,	Leq E	vening	Leq	Night		Ldn	C	NEL
Autos	s: 68	3.4	66.5		64.8		58.	7	67.3	3	67.9
Medium Trucks	s: 62	2.4	60.9		54.5		53.	0	61.5	,	61.7
Heavy Trucks	s: 63		62.3		53.3		54.	5	62.9)	63.0
Vehicle Noise	e: 70	0.4	68.7		65.4		60.	9	69.4	1	69.9
Centerline Dista	nce to Noise C	ontour (in feet)								
				70 d	IBA	65	dBA	6	60 dBA	55	dBA
			Ldn:	5	-		18		255	_	49
		CI	VEL:	5	9	12	27		273	5	87

	FHWA-RD-77-	108 HIGHW	AY NOISE PRE	EDICTION MOI	DEL	
Scenario: Year 2 Road Name: Eucal Road Segment: w/o V	ptus Av.	,	F	Project Name: (Job Number: 8	Canyon Springs 3991	
SITE SPECIF	C INPUT DAT	Α		NOISE N	ODEL INPUTS	;
Highway Data			Site Cond	itions (Hard =	10, Soft = 15)	
Average Daily Traffic (A Peak Hour Percenta Peak Hour Volui	ge: 10% ne: 4,580 veh	icles		um Trucks (2 A y Trucks (3+ A		
Vehicle Spe			Vehicle Mi	ix		
Near/Far Lane Distar	ce: 72 fee		Vehic	leType .	Day Evening	Night Daily
Site Data				Autos:	77.5% 12.9%	9.6% 97.42%
Barrier Heid	ht: 0.0 fe	et	Med	lium Trucks:	84.8% 4.9%	10.3% 1.84%
Barrier Type (0-Wall, 1-Ber			He	eavy Trucks:	86.5% 2.7%	10.8% 0.74%
Centerline Dist. to Barr	ier: 60.0 fe	et	Noise Sou	rce Elevations	(in feet)	
Centerline Dist. to Obser	rer: 60.0 fe	et		Autos: 0.0		
Barrier Distance to Obser	rer: 0.0 fe	et	Medium		97	
Observer Height (Above Pa	id): 5.0 fe	et				stment: 0.0
Pad Elevat	0.0 10	et	,			
Road Elevat		et	Lane Equi	valent Distanc	. ,	
Road Gra	0.070			Autos: 48.2		
Left Vi	00.0 00	5	Medium			
Right Vi	ew: 90.0 de	grees	Heavy	Trucks: 48.0)94	
FHWA Noise Model Calcul	ations					
VehicleType REME	L Traffic Flo	w Distan	ce Finite R	load Fresn	el Barrier Atte	n Berm Atten
Autos: 6	6.51 5	.17	0.13	-1.20	-4.69 0.0	0.00
Medium Trucks: 7	7.72 -12	.07	0.15	-1.20	-4.88 0.0	0.00
Heavy Trucks: 8	2.99 -16	.03	0.15	-1.20	-5.34 0.0	0.00
Unmitigated Noise Levels	without Topo a	and barrier a	ttenuation)			
VehicleType Leq Pea	Hour Leq	Day Le	q Evening	Leq Night	Ldn	CNEL
Autos:	70.6	68.7	66.9	60.9	69.5	70.
Medium Trucks:	64.6	63.1	56.7	55.2		63.9
Heavy Trucks:	65.9	64.5	55.5	56.7	65.1	65.2
Vehicle Noise:	72.6	70.9	67.6	63.1	71.6	72.0
Centerline Distance to Noi	se Contour (in	feet)				
			70 dBA	65 dBA	60 dBA	55 dBA
		Ldn:	77	165	356	767
		CNEL:	82	177	381	821

	FH'	WA-RD-77-108	HIGHV	VAY NO	DISE P	REDICT	ION MOI	DEL			
	e: Eastridge /		t				t Name: (lumber: 8		on Springs		
SITE S	SPECIFIC II	NPUT DATA					NOISE N	10DE	L INPUTS	5	
Highway Data				S	ite Cor	nditions	(Hard =	10, S	oft = 15)		
Average Daily	Fraffic (Adt):	34,400 vehicle	s				,	Autos.	15		
Peak Hour I	Percentage:	10%			Me	edium Tr	ucks (2 A	xles)	15		
Peak Ho	our Volume:	3,440 vehicle	s		He	avy Tru	cks (3+ A	xles)	15		
Vel	nicle Speed:	40 mph		1/	ehicle	Miss					
Near/Far Lar	e Distance:	72 feet		V		iviix nicleType		Dav	Evening	Night	Daily
Site Data					VCI			77.59	Ü	9.69	-
				-	M	ledium T		77.37 84.89		10.39	
	rier Height:	0.0 feet				Heavy T		86.5%		10.89	
Barrier Type (0-Wa		0.0				incury i	ruons.	00.07	0 2.170	10.07	0 0.7470
Centerline Dis Centerline Dist. t		60.0 feet 60.0 feet		N	loise S	ource E	levation	s (in t	eet)		
Barrier Distance t		0.0 feet				Auto	s: 0.0	000			
Observer Height (5.0 feet			Mediu	m Truck	s: 2.2	297			
	d Flevation:	0.0 feet			Hea	vy Truck	s: 8.0	006	Grade Adj	ustmer	nt: 0.0
	d Elevation:	0.0 feet		1.	ane Fo	uivalen	t Distanc	e (in	feet)		
	Coad Grade:	0.0%		F	u110 Eq	Auto			1001)		
,	Left View:	-90.0 degre	00		Mediu	m Truck					
	Right View:	90.0 degre				vy Truck					
FHWA Noise Mode	l Calculation	18									
VehicleType	REMEL	Traffic Flow	Dista	ance	Finite	Road	Fresn	el	Barrier Atte	en Be	erm Atten
Autos:	66.51	3.93		0.13		-1.20		-4.69	0.0	00	0.000
Medium Trucks:	77.72	-13.31		0.15		-1.20		-4.88	0.0	00	0.000
Heavy Trucks:	82.99			0.15		-1.20		-5.34	0.0	00	0.000
Unmitigated Noise	Levels (with	nout Topo and	barrier	attenu	ıation)						
.,	Leq Peak Ho			Leq Eve			Night		Ldn		CNEL
Autos:		9.4	67.5		65.7		59.6		68.3		68.9
Medium Trucks:			61.8		55.5		53.9		62.4		62.6
Heavy Trucks:		1.7	63.3		54.2		55.5		63.8		63.9
Vehicle Noise:		1.4	69.7		66.4		61.8		70.4		70.8
Centerline Distanc	e to Noise C	ontour (in feet)	70 -	D.4	0.5	-/D.4		00 -ID4	_	5 dBA
			Ldn:	70 dl			dBA 37	<u> </u>	60 dBA 294	5	
		0	Lan: NFI:	63 68			37 46		294 315		634 679
		C	VEL:	80		1	40		315		0/9

Tuesday, February 03, 2015

	FH	IWA-RD-77-10	8 HIGH	WAY	NOISE PI	REDICTIO	ON MOD	EL		
Road Nam	e: Eucalyptu	3 Without Proje s Av. Springs Pkwy.					lame: C mber: 89		n Springs	
	SPECIFIC I	NPUT DATA							L INPUTS	
Highway Data					Site Con	ditions (i	Hard = 1	0, Sc	oft = 15)	
Average Daily Peak Hour	Traffic (Adt): Percentage:	28,500 vehicl 10%	es		Ме	dium Truc		utos: des):	15 15	
Peak H	lour Volume:	2,850 vehicl	es		He	avy Truck	(3+ A)	des):	15	
Ve	hicle Speed:	40 mph		ł	Vehicle	Miv				
Near/Far La	ne Distance:	72 feet				icleType	Γ.)ay	Evening 1	Vight Daily
Site Data								7.5%	-	9.6% 97.429
Par	rrier Height:	0.0 feet			M	edium Tru	icks: 8	4.8%	4.9%	10.3% 1.849
Barrier Type (0-W	/all, 1-Berm):	0.0			I	Heavy Tru	icks: 8	6.5%	2.7%	10.8% 0.74%
Centerline Di		60.0 feet		ĺ	Noise So	ource Ele	vations	(in fe	eet)	
Centerline Dist. Barrier Distance Observer Height (to Observer:	60.0 feet 0.0 feet 5.0 feet				Autos: m Trucks: vy Trucks:	2.29	97	Grade Adjus	stment: 0.0
Pa	ad Elevation:	0.0 feet								
Roa	ad Elevation:	0.0 feet			Lane Eq	uivalent l		•	feet)	
i i	Road Grade:	0.0%				Autos:				
	Left View:	-90.0 degr	ees			m Trucks:		76		
	Right View:	90.0 degr	ees		Heav	y Trucks:	48.09	94		
FHWA Noise Mode	el Calculatio	ns								
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fresne	1	Barrier Atten	Berm Atten
Autos:	66.5	1 3.1	1	0.1	13	-1.20	-4	4.69	0.00	0.00
Medium Trucks:	77.72	2 -14.1	3	0.1	15	-1.20	-4	4.88	0.00	0.00
Heavy Trucks:	82.99	9 -18.0	9	0.1	15	-1.20	-4	5.34	0.00	0.00
Unmitigated Noise	e Levels (wit			er atte	nuation)					
VehicleType	Leq Peak Ho	our Leq Da	ay .	Leq E	vening	Leq N	light		Ldn	CNEL
Autos:		8.5	66.6		64.9		58.8		67.5	68.
Medium Trucks:		2.5	61.0		54.7		53.1		61.6	61.
Heavy Trucks:		3.9	62.4		53.4		54.7		63.0	63.
Vehicle Noise:		0.6	68.8		65.6		61.0		69.5	70.
Centerline Distant	ce to Noise (Contour (in fee	et)				-			
			L		dBA	65 d		6	i0 dBA	55 dBA
			Ldn:		56	120			260	559
		(CNEL:		60	129	9		278	599

Scenario: Year 2018 Without Project Project Name: Canyon Springs Road Name: Eucalyptus Av. Road Segment: elo Day St. SITE SPECIFIC INPUT DATA Highway Data Average Daily Traffic (Adt): 29,700 vehicles Project Name: Canyon Springs Job Number: 8991 NOISE MODEL INPUTS Site Conditions (Hard = 10, Soft = 15) Average Daily Traffic (Adt): 29,700 vehicles	
Highway Data Site Conditions (Hard = 10, Soft = 15)	
Average Daily Traffic (Adt): 29,700 vehicles Autos: 15	
Peak Hour Percentage: 10% Medium Trucks (2 Axles): 15	
Peak Hour Volume: 2,970 vehicles Heavy Trucks (3+ Axles): 15	
Vehicle Speed: 40 mph Vehicle Mix	
Noor/For Land Distance: 92 feet	iaht Dailv
	9.6% 97.42%
Barrier Height: 0.0 feet Medium Trucks: 84.8% 4.9% 1	0.3% 1.84%
	0.8% 0.74%
Centerline Dist. to Barrier: 67.0 feet Noise Source Elevations (in feet)	
Centerline Dist. to Observer: 67.0 feet Autos: 0.000	
Barrier Distance to Observer: 0.0 feet Medium Trucks: 2.297	
Observer Height (Above Pad): 5.0 feet Heavy Trucks: 8.006 Grade Adjust	ment: 0.0
Pad Elevation: 0.0 feet	
Road Elevation: 0.0 feet Lane Equivalent Distance (in feet)	
Road Grade: 0.0% Autos: 53.226	
Left View: -90.0 degrees Medium Trucks: 53.059	
Right View: 90.0 degrees Heavy Trucks: 53.076	
FHWA Noise Model Calculations	
VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten	Berm Atten
Autos: 66.51 3.29 -0.51 -1.20 -4.71 0.000	0.000
Medium Trucks: 77.72 -13.95 -0.49 -1.20 -4.88 0.000	
Heavy Trucks: 82.99 -17.91 -0.49 -1.20 -5.29 0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)	
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn	CNEL
,, , , , , , , , , , , , , , , , , , , ,	67.6
Autos: 68.1 66.2 64.4 58.4 67.0	
Autos: 68.1 66.2 64.4 58.4 67.0 Medium Trucks: 62.1 60.6 54.2 52.7 61.1	
Autos: 68.1 66.2 64.4 58.4 67.0 Medium Trucks: 62.1 60.6 54.2 52.7 61.1 Heavy Trucks: 63.4 62.0 52.9 54.2 62.5	62.7
Autos: 68.1 66.2 64.4 58.4 67.0 Medium Trucks: 62.1 60.6 54.2 52.7 61.1 Heavy Trucks: 63.4 62.0 52.9 54.2 62.5 Vehicle Noise: 70.1 68.4 65.1 60.5 69.1	62.7
Autos: 68.1 66.2 64.4 58.4 67.0 Medium Trucks: 62.1 60.6 54.2 52.7 61.1 Heavy Trucks: 63.4 62.0 52.9 54.2 62.5	61.4 62.7 69.5
Autos: 68.1 66.2 64.4 58.4 67.0 Medium Trucks: 62.1 60.6 54.2 52.7 61.1 Heavy Trucks: 63.4 62.0 52.9 54.2 62.5 Vehicle Noise: 70.1 68.4 65.1 60.5 69.1 Centerline Distance to Noise Contour (in feet)	62.7 69.5

Tuesday, February 03, 2015

FHWA	-RD-77-108 HIGHV	AY NOISE PREDICTION M	ODEL	
Scenario: Year 2018 Wi Road Name: Alessandro Bl Road Segment: w/o Day St.		Project Name. Job Number.	Canyon Springs 8991	
SITE SPECIFIC INP	UT DATA		MODEL INPUTS	
Highway Data		Site Conditions (Hard	= 10, Soft = 15)	
Average Daily Traffic (Adt): 41,	100 vehicles		Autos: 15	
Peak Hour Percentage:	10%	Medium Trucks (2	,	
Peak Hour Volume: 4,	110 vehicles	Heavy Trucks (3+	Axles): 15	
Vehicle Speed:	45 mph	Vehicle Mix		
Near/Far Lane Distance:	82 feet	VehicleType	Day Evening I	Night Daily
Site Data		Autos:	77.5% 12.9%	9.6% 97.42%
Barrier Height:	0.0 feet	Medium Trucks:	84.8% 4.9%	10.3% 1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5% 2.7%	10.8% 0.74%
Centerline Dist. to Barrier:	67.0 feet	Noise Source Elevatio	ns (in foot)	
Centerline Dist. to Observer:	67.0 feet		1.000	
Barrier Distance to Observer:	0.0 feet		.297	
Observer Height (Above Pad):	5.0 feet		.006 Grade Adjus	stment: 0.0
Pad Elevation:	0.0 feet			
Road Elevation:	0.0 feet	Lane Equivalent Dista	. ,	
Road Grade:	0.0%		3.226	
	-90.0 degrees		3.059	
Right View:	90.0 degrees	Heavy Trucks: 53	3.076	
FHWA Noise Model Calculations				
// .	raffic Flow Dista			
Autos: 68.46	4.19	-0.51 -1.20	-4.71 0.00	
Medium Trucks: 79.45 Heavy Trucks: 84.25	-13.05 -17.01	-0.49 -1.20 -0.49 -1.20	-4.88 0.00 -5.29 0.00	
*			-5.29 0.00	0.000
VehicleType Leg Peak Hour		eq Evening Leq Night	Ldn	CNEL
Autos: 70.9	69.0	67.3 61		70.4
Medium Trucks: 64.7	63.2	56.8 55		64.0
Heavy Trucks: 65.6	64.1	55.1 56		64.8
Vehicle Noise: 72.8	71.0	67.9 63		72.2
Centerline Distance to Noise Cont	tour (in feet)			
		70 dBA 65 dBA	60 dBA	55 dBA
	Ldn:	88 189	407	877
	Lan:	00 109	407	0//

	FHV	VA-RD-77-108	HIGH	WAY N	IOISE P	REDICTI	ON MO	DEL			
Road Nan	nio: Year 2018 ne: Towngate Int: e/o Eucalyp	Or.					Name: umber:		n Springs		
	SPECIFIC IN	IPUT DATA							L INPUT	S	
Highway Data					Site Cor	ditions ((Hard =	: 10, S	oft = 15)		
Average Daily	Traffic (Adt): 1	13,400 vehicle	3					Autos:	15		
Peak Hour	Percentage:	10%			Me	dium Tru	icks (2	Axles):	15		
Peak H	lour Volume:	1,340 vehicle	3		He	avy Truc	ks (3+)	Axles):	15		
Ve	hicle Speed:	40 mph		-	Vehicle	Miv					
Near/Far La	ne Distance:	82 feet		F		icleType		Day	Evening	Night	Daily
Site Data						A	utos:	77.5%	12.9%	9.6%	97.42%
Ra	rrier Heiaht:	0.0 feet			М	edium Tr	ucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-W		0.0				Heavy Tr	ucks:	86.5%	2.7%	10.8%	0.74%
Centerline Di	st. to Barrier:	67.0 feet			Noisa S	ource Ele	ovation	e (in f	oof)		
Centerline Dist.	to Observer:	67.0 feet		ľ	10/30 0	Autos		000			
Barrier Distance	to Observer:	0.0 feet			Madiu	m Trucks		297			
Observer Height	(Above Pad):	5.0 feet				v Trucks		006	Grade Ad	iustment	. 0.0
P	ad Elevation:	0.0 feet		L							
Ro	ad Elevation:	0.0 feet		1	Lane Eq	uivalent			feet)		
	Road Grade:	0.0%				Autos		.226			
	Left View:	-90.0 degree	es			m Trucks		.059			
	Right View:	90.0 degree	es		Heav	y Trucks	: 53.	.076			
FHWA Noise Mod	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dist	tance	Finite	Road	Fresi	nel	Barrier Att	en Ber	m Atten
Autos:	66.51	-0.17		-0.5	1	-1.20		-4.71	0.0	000	0.000
Medium Trucks:	77.72	-17.41		-0.49	9	-1.20		-4.88	0.0	000	0.000
Heavy Trucks:	82.99	-21.36		-0.49	9	-1.20		-5.29	0.0	000	0.000
Unmitigated Nois	e Levels (with	out Topo and	barrie	r atten	uation)						
VehicleType	Leq Peak Hou	ır Leq Day		Leq E	vening	Leq I	Vight		Ldn	C	NEL
Autos:	64	.6	62.7		61.0		54.9	9	63.5	5	64.1
Medium Trucks:	58	.6	57.1		50.7		49.2	2	57.7	,	57.9
Heavy Trucks:	59	.9	58.5		49.5		50.7	7	59.1		59.2
Vehicle Noise:	66	.6	64.9		61.6		57.	1	65.6	3	66.1
Centerline Distan	ce to Noise Co	ontour (in feet)								
				70 /		65 /			SO ADA		ADA

 veet
 70 dBA
 65 dBA
 60 dBA
 55 dBA

 Ldn:
 34
 74
 159
 342

 CNEL:
 37
 79
 170
 366

Tuesday, February 03, 2015

	FH	WA-RD-77-108	HIGH	WAY I	NOISE P	REDICTI	ON M	ODEL			
Road Na	nrio: Year 2018 me: Alessandr ent: e/o Day St		t			Project Job N			on Springs		
SITE Highway Data	SPECIFIC II	NPUT DATA			Site Cor				L INPUT	s	
Average Daily Peak Hou Peak V	/ Traffic (Adt): ir Percentage: Hour Volume: 'ehicle Speed: ane Distance:	40,700 vehicle 10% 4,070 vehicle 45 mph 82 feet			Me He Vehicle	edium Tru eavy Truc Mix	icks (2 :ks (3+	Autos: Axles): Axles):	15 15 15		
	and Distance.	02 1001			Veh	icleType		77.5%	Evening	Night 9.6%	Daily
Barrier Type (0-1	arrier Height: Wall, 1-Berm):	0.0 feet 0.0				edium Tr Heavy Tr		84.8% 86.5%	4.9%	10.3%	1.84%
	ist. to Barrier:	67.0 feet		ŀ	Noise S	ource El	evatio	ns (in f	eet)		
Centerline Dist Barrier Distance Observer Height	e to Observer:	67.0 feet 0.0 feet 5.0 feet 0.0 feet				Autos m Trucks y Trucks	3: 2	0.000 2.297 3.006	Grade Ad	ljustment	t: 0.0
R	oad Elevation:	0.0 feet		Ī	Lane Eq	uivalent	Dista	nce (in	feet)		
	Road Grade: Left View: Right View:	0.0% -90.0 degre 90.0 degre				Autos m Trucks y Trucks	s: 50	3.226 3.059 3.076			
FHWA Noise Mo	del Calculation	ns									
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fres	snel	Barrier Att	ten Bei	rm Atten
Autos	: 68.46	4.14		-0.5	51	-1.20		-4.71	0.0	000	0.000
Medium Trucks Heavy Trucks				-0.4 -0.4	-	-1.20 -1.20		-4.88 -5.29		000	0.000
Unmitigated Nois						-1.20		-0.23	0.0	500	0.000
VehicleType	Leg Peak Ho				vening	Leq	Night	T	Ldn	С	NEL
Autos		0.9	69.0		67.2		61	.2	69.8	В	70.4
Medium Trucks	: 6	4.7	63.2		56.8		55	.3	63.7	7	63.9
Heavy Trucks	: 6	5.5	64.1		55.1		56	.3	64.7	7	64.8
Vehicle Noise	7	2.7	71.0		67.8		63	.2	71.	7	72.2
Centerline Distar	nce to Noise C	Contour (in fee	t)								
			L	_	dBA		dBA		60 dBA		dBA
			Ldn:	-	37	18			404		371
		C	NEL:	Ş	93	20	JΊ		434	(934

	FHW	/A-RD-77-108	HIGHV	WAY N	NOISE P	REDICTI	ON MC	DDEL			
Road Nam	io: Year 2018 V ne: Sycamore C nt: n/o Eastridg	Canyon Bl.					Name: umber:		n Springs		
SITE Highway Data	SPECIFIC IN	PUT DATA			Cita Car	N nditions			L INPUT	S	
					Site Coi	iuitions	(naru =				
	Traffic (Adt): 2		S					Autos:	15		
	Percentage:	10%				edium Tru			15		
		2,120 vehicle	S		He	eavy Truc	cks (3+	Axles):	15		
	hicle Speed:	45 mph			Vehicle	Mix					
Near/Far La	ne Distance:	48 feet			Veh	icleType		Day	Evening	Nigh	Daily
Site Data							lutos:	77.5%	12.9%	9.6	% 97.42
Ra	rrier Height:	0.0 feet			М	edium Tı	ucks:	84.8%	4.9%	10.3	% 1.849
Barrier Type (0-W	-	0.0				Heavy Tr	ucks:	86.5%	2.7%	10.8	% 0.74
Centerline Di	st. to Barrier:	55.0 feet		- 1	Noise S	ource El	evation	ns (in fe	eet)		
Centerline Dist.	to Observer:	55.0 feet		F		Autos		.000	,		
Barrier Distance	to Observer:	0.0 feet			Mediu	m Trucks	3: 2	.297			
Observer Height ((Above Pad):	5.0 feet			Hear	vy Trucks	s: 8	.006	Grade Ad	iustme	nt: 0.0
Pa	ad Elevation:	0.0 feet									
	ad Elevation:	0.0 feet		Ľ	Lane Eq	uivalent			feet)		
	Road Grade:	0.0%				Autos		.739			
	Left View:	-90.0 degre				m Trucks		.561			
	Right View:	90.0 degre	es		Hear	vy Trucks	s: 49	.579			
FHWA Noise Mod	el Calculations	5									
VehicleType	REMEL	Traffic Flow	Dista	ance	Finite	Road	Fres	nel	Barrier Att	en E	erm Atter
Autos:	68.46	1.31		-0.0	7	-1.20		-4.67	0.0	000	0.00
Medium Trucks:	79.45	-15.93		-0.0	5	-1.20		-4.87	0.0	000	0.00
Heavy Trucks:	84.25	-19.88		-0.0	5	-1.20		-5.38	0.0	000	0.00
Unmitigated Noise	e Levels (with	out Topo and	barrie	r atten	nuation)						
VehicleType	Leq Peak Hou	r Leq Day	/	Leq E	vening	Leq	Night		Ldn		CNEL
Autos:	68.	5	66.6		64.8		58.	8	67.	4	68
Medium Trucks:	62.	-	60.8		54.4		52.	9	61.3	3	61
Heavy Trucks:	63.		61.7		52.7		53.	9	62.3	3	62
Vehicle Noise:	70.	3	68.6		65.4		60.	8	69.	3	69
Centerline Distant	ce to Noise Co	ntour (in feet)								
					dBA		dBA	6	60 dBA		55 dBA
			Ldn:	-	0		07		230		495
		Ci	NEL:	5	3	11	14		247		531

	FH\	WA-RD-77-108	HIGHV	VAY N	OISE P	REDICTI	ION MO	DEL			
	e: Year 2018 e: Box Spring t: n/o Eastrid	s Bl.					Name: (umber:)		Springs		
SITE S	PECIFIC IN	IPUT DATA				N	IOISE N	/IODEL	INPUTS	5	
Highway Data				5	ite Cor	nditions	(Hard =	10, Soi	ft = 15)		
	Percentage: our Volume:	7,900 vehicles 10% 790 vehicles				edium Tru eavy Truc	ucks (2 A		15 15 15		
	icle Speed:	40 mph		١	'ehicle	Mix					
Near/Far Lan	e Distance:	36 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data						F	Autos:	77.5%	12.9%	9.6%	97.42%
Barr	ier Heiaht:	0.0 feet			M	edium Tr	rucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wa		0.0				Heavy Ti	rucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist	t. to Barrier:	44.0 feet			loise S	ource El	evation	s (in fe	et)		
Centerline Dist. to		44.0 feet				Autos		000	,		
Barrier Distance to	Observer:	0.0 feet			Mediu	m Trucks		297			
Observer Height (A	lbove Pad):	5.0 feet				vv Trucks			Grade Adji	ustmen	t: 0.0
	d Elevation:	0.0 feet				,					
	d Elevation:	0.0 feet		L	ane Eq	uivalent			eet)		
R	oad Grade:	0.0%				Autos					
	Left View:	-90.0 degree				m Trucks					
	Right View:	90.0 degree	es		Hear	vy Trucks	s: 40.	262			
FHWA Noise Model	l Calculation										
VehicleType	REMEL	Traffic Flow	Dista	nce	Finite	Road	Fresn	el E	Barrier Atte	en Be	rm Atten
Autos:	66.51	-2.46		1.28		-1.20		-4.61	0.0	00	0.00
Medium Trucks:	77.72			1.31		-1.20		-4.87	0.0		0.00
Heavy Trucks:	82.99	-23.66		1.31		-1.20		-5.50	0.0	00	0.00
Unmitigated Noise	Levels (with	out Topo and	barrier	atten	uation)						
,,	Leq Peak Hou			Leq Ev		,	Night		Ldn		NEL
Autos:	64		62.2		60.5		54.4		63.0		63.
Medium Trucks:	58		56.6		50.3		48.7		57.2		57.
Heavy Trucks:	59	1.4	58.0		49.0		50.2	!	58.6		58.
Vehicle Noise:	66	5.1	64.4		61.1		56.6		65.1		65.
Centerline Distance	e to Noise C	ontour (in feet,)					,			
				70 a			dBA	60) dBA		dBA
			Ldn:	21			5		97		208
		CI	VEL:	22	2	4	8		103	2	223

	FH	WA-RD-77-108	HIGH	WAY NO	DISE P	REDICT	ION MO	DEL			
	e: Sycamore						t Name: lumber:		n Springs		
SITE S	SPECIFIC II	NPUT DATA			· O				L INPUT:	S	
Average Daily T	Traffic (Adt): Percentage: our Volume:	10% 2,120 vehicle		3	Мє	dium Tr	-	Autos: Axles).	15 15		
	nicle Speed:	45 mph		V	ehicle	Mix					
Near/Far Lar	ne Distance:	48 feet			Veh	icleType	9	Day	Evening	Night	Daily
Site Data							Autos:	77.5%	12.9%	9.6%	97.42%
Bar	rier Height:	0.0 feet			M	edium T	rucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wa	all, 1-Berm):	0.0				Heavy T	rucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dis	t. to Barrier:	55.0 feet		N	loise S	ource E	levation	s (in f	eet)		
Centerline Dist. t	to Observer:	55.0 feet		-	0,00 0	Auto		000	001)		
Barrier Distance t	to Observer:	0.0 feet			Mediu	m Truck	s: 2	297			
Observer Height (/	,	5.0 feet			Hear	/y Truck	s: 8.	006	Grade Adj	ustmen	t: 0.0
	d Elevation:	0.0 feet									
	d Elevation:	0.0 feet		L	ane Eq		t Distan		teet)		
F	Road Grade:	0.0%			14	Auto m Truck		.739 .561			
	Left View: Right View:	-90.0 degre 90.0 degre				y Truck		.579			
FHWA Noise Mode	el Calculation	18									
VehicleType	REMEL	Traffic Flow	Dist	tance	Finite	Road	Fresi	nel	Barrier Att	en Be	rm Atten
Autos:	68.46	1.31		-0.07		-1.20		-4.67	0.0	000	0.00
Medium Trucks:	79.45			-0.05		-1.20		-4.87		000	0.000
Heavy Trucks:	84.25	-19.88		-0.05		-1.20		-5.38	0.0	000	0.00
Unmitigated Noise	Levels (with	hout Topo and	barrie	r attenu	ıation)						
	Leq Peak Ho	ur Leq Da		Leq Eve		Leq	Night		Ldn		NEL
Autos:	-	8.5	66.6		64.8		58.8	-	67.4		68.0
Medium Trucks:	-	2.3	60.8		54.4		52.9	-	61.3		61.0
Heavy Trucks:		3.1	61.7		52.7		53.9		62.3		62.4
Vehicle Noise:		0.3	68.6		65.4		60.8	В	69.3	3	69.
Centerline Distanc	e to Noise C	ontour (in fee	t)	70.0			10.4			-	
			Later	70 dl			dBA		60 dBA		dBA
		_	Ldn:	50			07		230		495 - 24
		C	NEL:	53		1	14		247		531

Tuesday, February 03, 2015

	FHW	VA-RD-77-108	HIGHWA	Y NOISE P	REDICTION	ON MODE	L		
	o: Year 2018 V e: Box Springs t: s/o Eastridg	BI.				lame: Car mber: 899	nyon Springs 11		
SITE S	PECIFIC IN	PUT DATA			NO	DISE MO	DEL INPUT	ΓS	
Highway Data				Site Cor	nditions (i	Hard = 10,	Soft = 15)		
Average Daily 7	raffic (Adt):	3,300 vehicles	S			Aut	os: 15		
Peak Hour F	Percentage:	10%		Me	edium Truc	ks (2 Axle	s): 15		
Peak Ho	our Volume:	330 vehicles	3	He	avy Truck	s (3+ Axle	s): 15		
Veh	icle Speed:	40 mph		Vehicle	Miv				
Near/Far Lan	e Distance:	36 feet			nicleType	Da	y Evening	Nig	ht Daily
Site Data				VC/			5% 12.9%		.6% 97.42%
	rier Heiaht:	0.0 feet		- M	ledium Tru		8% 4.9%		.3% 1.84%
Barrier Type (0-Wa		0.0 reet 0.0			Heavy Tru		5% 2.7%		.8% 0.74%
Centerline Dis	. ,	44.0 feet							
Centerline Dist. to		44.0 feet		Noise S	ource Ele				
Barrier Distance to		0.0 feet			Autos:				
Observer Height (A		5.0 feet			m Trucks:				
	d Elevation:	0.0 feet		Hea	vy Trucks:	8.006	Grade A	ajustn	nent: 0.0
Roa	d Elevation:	0.0 feet		Lane Ec	uivalent l	Distance (in feet)		
R	Road Grade:	0.0%			Autos:	40.460	1		
	Left View:	-90.0 degree	es	Mediu	m Trucks:	40.241			
	Right View:	90.0 degree	es	Hea	vy Trucks:	40.262	!		
FHWA Noise Mode	I Calculations	3		-					
VehicleType	REMEL	Traffic Flow	Distanc	e Finite	Road	Fresnel	Barrier A	tten	Berm Atten
Autos:	66.51	-6.25		1.28	-1.20	-4.0		.000	0.000
Medium Trucks:	77.72	-23.49		1.31	-1.20	-4.8		.000	0.000
Heavy Trucks:	82.99	-27.45		1.31	-1.20	-5.8	50 0	.000	0.000
Unmitigated Noise				,					
	Leq Peak Hou			g Evening	Leq N	•	Ldn		CNEL
Autos:	60.		58.4	56.7		50.6	59		59.8
Medium Trucks:	54.	-	52.8	46.5		44.9	53		53.6
Heavy Trucks: Vehicle Noise:	55. 62.		54.2 60.6	45.2 57.3		46.4 52.8	54 61		54.9 61.8
Centerline Distance				57.5	,	J2.0	01	.0	01.0
Cerneriine Distanc	e to Noise Co	mour (m reet,		70 dBA	65 d	BA	60 dBA		55 dBA
			Ldn:	12	25	· ·	54		116
		CI	VEL:	12	27		58		124

	Fŀ	IWA-RD)-77-108 HI	GHWAY	NOISE P	REDICTION	ON MOI	DEL			
Road Na	ario: Year 2018 me: Day St. ent: n/o SR-60		roject			Project I Job Nu			n Springs		
	SPECIFIC I	NPUT	DATA						L INPUT	s	
Highway Data					Site Cor	ditions (Hard =	10, Sc	oft = 15)		
Average Dail	y Traffic (Adt):	34,100	vehicles				/	Autos:	15		
Peak Hot	ır Percentage:	10	%		Me	dium Tru	cks (2 A	(xles	15		
Peak	Hour Volume:	3,410	vehicles		He	avy Truci	ks (3+ A	(xles	15		
1	ehicle Speed:	40	mph		Vehicle	Mix					
Near/Far L	ane Distance:	72	feet			icleType		Dav	Evening	Niaht	Dailv
Site Data							utos:	77.5%	-	9.6%	97.42%
F	arrier Height:	0	0 feet		М	edium Tru	icks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-		0.0				Heavy Tru	icks:	86.5%	2.7%	10.8%	0.74%
Centerline I	Dist. to Barrier:	60.	0 feet		Noise S	ource Ele	vation	s (in fe	eet)		
Centerline Dis	t. to Observer:	60.	0 feet		710700 0	Autos.		000	,01,		
Barrier Distance	e to Observer:	0.0	0 feet		Mediu	m Trucks		297			
Observer Heigh	t (Above Pad):	5.	0 feet			vy Trucks.		006	Grade Ad	iustment	0.0
	Pad Elevation:		0 feet								
R	oad Elevation:		0 feet		Lane Eq	uivalent			feet)		
	Road Grade:		0%			Autos.					
	Left View:	-90.	0 degrees			m Trucks.					
	Right View:	90.	0 degrees		Hear	y Trucks.	48.0	094			
FHWA Noise Mo	del Calculatio	ns									
VehicleType	REMEL			Distance	Finite	Road	Fresn		Barrier Att	en Ber	m Atten
Auto			3.89	-	.13	-1.20		-4.69	0.0		0.000
Medium Trucks		_	-13.35	0.	.15	-1.20		-4.88		000	0.000
Heavy Trucks			-17.31		.15	-1.20		-5.34	0.0	000	0.000
Unmitigated No.								,			
VehicleType	Leq Peak Ho		Leq Day		Evening	Leq N			Ldn		NEL
Autos		9.3	67.		65.7		59.6		68.2		68.8
Medium Trucks		3.3	61.		55.4		53.9		62.4		62.6
Heavy Trucks Vehicle Noise		4.6 1.3	63.		54.2 66.3		55.4 61.8		63.8 70.3		63.9 70.8
Centerline Dista				-	00.0		00	•	. 0.0	•	. 5.0
Ochterille Dista	ince to Noise C	Jointoui	(III IGGL)	70) dBA	65 d	BA	6	0 dBA	55	dBA
			Ld	n:	63	13	6		293	6	30

	FHWA	A-RD-77-108 HIG	HWAY N	OISE PR	EDICT	ION MODE	L	
Road Name	o: Year 2018 Wi e: Day St. nt: s/o Canyon S	,				Name: Ca lumber: 89	nyon Springs 91	
SITE S	SPECIFIC INP	UT DATA			ı	IOISE MO	DEL INPUTS	5
Highway Data			5	ite Con	ditions	(Hard = 10), Soft = 15)	
Peak Hour	Traffic (Adt): 32, Percentage: our Volume: 3,	,900 vehicles 10% ,290 vehicles				Au ucks (2 Axi cks (3+ Axi	,	
Vel	hicle Speed:	40 mph	1	ehicle I	Niv			
Near/Far Lar	ne Distance:	72 feet	F.		cleType	e Di	ay Evening	Night Daily
Site Data				*0111			7.5% 12.9%	9.6% 97.42%
Par	rier Height:	0.0 feet		Me	dium T	rucks: 84	1.8% 4.9%	10.3% 1.84%
Barrier Type (0-W		0.0		H	leavy T	rucks: 86	5.5% 2.7%	10.8% 0.74%
Centerline Dis		60.0 feet		laisa Sa	urco E	levations ((in foot)	
Roa	to Observer: Above Pad): Id Elevation: Id Elevation: Road Grade: Left View: Right View:	60.0 feet 0.0 feet 0.0 feet 0.0 feet 0.0 feet 0.0 feet 0.0 feet 0.0% -90.0 degrees 90.0 degrees 77affic Flow Di 3.73 -13.51 -17.46		Mediur. Heav. ane Equ Mediur. Heav.	Auto n Truck y Truck uivalen Auto n Truck y Truck	s: 0.00 s: 2.29 s: 8.00 t Distance s: 48.26 s: 48.07 s: 48.09	0 7 6 Grade Adj (in feet) 0 6 4	00 0.000 00 0.000
Unmitigated Noise						T		01/5/
VehicleType Autos:	Leq Peak Hour 69.2	Leq Day 67.3	Leq Ev	ening 65.5	Leq	Night 59.5	Ldn 68.1	CNEL 68.7
Medium Trucks:	63.2	61.7		55.3		59.5	62.2	
Heavy Trucks:	64.5	63.1		55.3		55.3	63.6	
Vehicle Noise:	71.2	69.5		66.2		61.6	70.2	
				30.2		31.0	70.2	70.0
Centerline Distance	e to Noise Con	tour (in feet)	70 a	DΛ	65	dBA	60 dBA	55 dBA
		Ldn:	70 0			33	286	615
		CNFI:	66			33 42	306	659
		CIVEL.	00	,	'	44	300	059

	FH'	WA-RD-77-108	HIGH	WAY N	OISE P	REDICT	ION MO	DEL			
Scenario Road Name Road Segmen	: Day St.	With Project n Springs Pkwy	<i>r</i> .				t Name: lumber:		on Springs		
	PECIFIC II	NPUT DATA							L INPUT	S	
Average Daily T Peak Hour F Peak Ho	, ,	49,200 vehicle 10% 4,920 vehicle			Ме	edium Tı	rucks (2 icks (3+	Autos Axles)	15		
	icle Speed:	40 mph		1	/ehicle	Mix					
Near/Far Lan	e Distance:	72 feet			Vel	nicleTyp	е	Day	Evening	Night	Daily
Site Data							Autos:	77.5%		9.69	
Barı	ier Height:	0.0 feet			M	ledium 7	rucks:	84.89		10.39	
Barrier Type (0-Wa	all, 1-Berm):	0.0				Heavy 7	rucks:	86.5%	6 2.7%	10.89	6 0.74%
Centerline Dis	t. to Barrier:	60.0 feet		1	Voise S	ource E	levation	ıs (in t	eet)		
Centerline Dist. to		60.0 feet				Auto		.000	,		
Barrier Distance to	Observer:	0.0 feet			Mediu	ım Truck	(s: 2	297			
Observer Height (A	,	5.0 feet			Hea	vy Truck	s: 8	.006	Grade Ad	ljustmer	t: 0.0
	d Elevation:	0.0 feet			one Fe	ivalar	t Distar	oo (in	footl		
	d Elevation:	0.0 feet		-	ane Ec	Auto		.260	ieei)		
K	load Grade:	0.0%			Modis	m Truck		.076			
	Right View:	-90.0 degre 90.0 degre				vy Truck		.094			
FHWA Noise Mode	I Calculation	ıs									
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fres	nel	Barrier At	ten Be	erm Atten
Autos:	66.51	5.48		0.13	3	-1.20		-4.69	0.0	000	0.000
Medium Trucks:	77.72			0.15		-1.20		-4.88		000	0.000
Heavy Trucks:	82.99	-15.71		0.15	5	-1.20		-5.34	0.0	000	0.000
Unmitigated Noise	Levels (with	out Topo and	barrie	er atten	uation)						
VehicleType I	Leq Peak Ho			Leq Ev	rening	Leq	Night		Ldn		CNEL
Autos:).9	69.0		67.3		61.	_	69.	-	70.4
Medium Trucks:	-	1.9	63.4		57.0		55.	-	64.	-	64.2
Heavy Trucks:		3.2	64.8		55.8		57.		65.		65.5
Vehicle Noise:		2.9	71.2		67.9)	63.	4	71.	9	72.4
Centerline Distance	e to Noise C	ontour (in fee	t)					_		_	
			L	70 c			dBA		60 dBA	5	5 dBA
		_	Ldn:	80			73		374		805
		С	NEL:	86	j .	1	86		400		862

Tuesday, February 03, 2015

	FH	WA-RD-77-108	HIGH	IWAY N	IOISE PI	REDICTI	ON MC	DEL			
Scenari Road Nam Road Segmei	e: Day St.	With Project					Name: umber:		n Springs		
		NPUT DATA				N	OISE	MODE	L INPU	rs	
Highway Data					Site Con	ditions					
Average Daily	Traffic (Adt):	30,300 vehicle	s					Autos	15		
	Percentage:	10%			Me	dium Tru	icks (2	Axles).	15		
Peak H	lour Volume:	3,030 vehicle	s		He	avy Truc	ks (3+	Axles).	15		
Ve	hicle Speed:	40 mph			Vehicle I	Miv					
Near/Far La	ne Distance:	72 feet		H		icleType		Day	Evening	Nig	ht Daily
Site Data				-	****		utos:	77.5%			6% 97.42
		0.0 feet			М	edium Tr		84.89			3% 1.84
Barrier Type (0-W	rrier Height:	0.0 reet 0.0				Heavy Tr		86.5%			8% 0.74
Centerline Di		60.0 feet		L							
Centerline Dist.		60.0 feet		1	Voise So	ource Ele			eet)		
Barrier Distance		0.0 feet				Autos		.000			
Observer Height (5.0 feet				m Trucks	-	.297			
	ad Elevation:	0.0 feet			Heav	ry Trucks	: 8	.006	Grade A	ajustm	ent: 0.0
Roa	ad Elevation:	0.0 feet		1	Lane Eq	uivalent	Distar	ice (in	feet)		
	Road Grade:	0.0%				Autos	: 48	.260			
	Left View:	-90.0 degree	es		Mediu	m Trucks	: 48	.076			
	Right View:	90.0 degree	es		Heav	y Trucks	: 48	.094			
FHWA Noise Mod	el Calculation	18									
VehicleType	REMEL	Traffic Flow	Dis	stance		Road	Fres		Barrier A		Berm Atte
Autos:	66.51			0.13	-	-1.20		-4.69	-	.000	0.0
Medium Trucks:	77.72			0.15		-1.20		-4.88		.000	0.0
Heavy Trucks:	82.99	-17.82		0.15	Ō	-1.20		-5.34	0	.000	0.0
Unmitigated Noise	e Levels (with	hout Topo and	barrie	er atten	uation)						
VehicleType	Leq Peak Ho		_	Leg E		Leq I			Ldn		CNEL
Autos:	-		66.9		65.1		59.		67		68
Medium Trucks:			61.3		54.9		53.		61		62
Heavy Trucks:			62.7		53.7		54.		63		63
Vehicle Noise:			69.1		65.8		61.	3	69	.8	70
Centerline Distant	ce to Noise C	ontour (in feet)					_			
			L	70 c		65 (60 dBA		55 dBA
			Ldn:	5	-	12			270		583
		Cl	VEL:	6	2	13	54		289		624

Tuesday, February 03, 2015

	FHV	VA-RD-77-108	HIGH	WAY I	NOISE P	REDICTI	ON MC	DEL				
Road Nam	io: Year 2018 \ ne: Day St. nt: s/o Gatewa	,					Name: umber:		n Springs			
SITE	SPECIFIC IN	PUT DATA				N	OISE	MODE	L INPUT	S		
Highway Data					Site Conditions (Hard = 10, Soft = 15)							
Average Daily	Traffic (Adt): 2	2,200 vehicle	S					Autos:	15			
Peak Hour	Percentage:	10%			Me	dium Tru	icks (2	Axles):	15			
Peak H	lour Volume:	2,220 vehicle	S		He	avy Truc	ks (3+.	Axles):	15			
Ve	hicle Speed:	40 mph		H	Vehicle	Miv						
Near/Far La	ne Distance:	72 feet		ŀ		icleType		Dav	Evenina	Niaht	Dailv	
Site Data					V C/		lutos:	77.5%	- 3	9.69	,	
		0.0 feet			М	edium Tr		84.8%		10.39		
Barrier Type (0-W	rrier Height:	0.0 1661				Heavy Tr	ucks:	86.5%	2.7%	10.89	6 0.74%	
Centerline Di		60.0 feet		L								
Centerline Dist.		60.0 feet		L	Noise S	ource El		٠,	eet)			
Barrier Distance		0.0 feet				Autos		.000				
Observer Height		5.0 feet				m Trucks		297				
	ad Elevation:	0.0 feet			Hear	vy Trucks	s: 8.	.006	Grade Ad	ustmer	nt: 0.0	
	ad Elevation:	0.0 feet		ľ	Lane Eq	uivalent	Distan	ce (in	feet)			
	Road Grade:	0.0%		Ī		Autos	s: 48	.260				
	Left View:	-90.0 degree	es		Mediu	m Trucks	s: 48	.076				
	Right View:	90.0 degre			Hear	vy Trucks	s: 48	.094				
FHWA Noise Mod	el Calculation:	S										
VehicleType	REMEL	Traffic Flow	Dist	tance	Finite	Road	Fresi	nel	Barrier Att	en Be	erm Atten	
Autos:	66.51	2.02		0.1	3	-1.20		-4.69	0.0	00	0.000	
Medium Trucks:	77.72	-15.21		0.1	15	-1.20		-4.88	0.0	100	0.000	
Heavy Trucks:	82.99	-19.17		0.1	15	-1.20		-5.34	0.0	00	0.000	
Unmitigated Noise	e Levels (with	out Topo and	barrie	r attei	nuation)							
VehicleType	Leq Peak Hou	r Leq Day	,	Leq E	vening	Leq	Night		Ldn	(CNEL	
Autos:	67.	5	65.6		63.8		57.	7	66.4	ļ	67.0	
Medium Trucks:	61.	5	59.9		53.6		52.	0	60.5	;	60.7	
Heavy Trucks:	62.	-	61.4		52.3		53.		61.9		62.0	
Vehicle Noise:	69.	.5	67.7		64.5		59.	9	68.5	5	68.9	
Centerline Distant	ce to Noise Co	ntour (in feet)									
			L		dBA		dBA	(60 dBA	5	5 dBA	
			Ldn:		17		02		220		473	
		Ci	VEL:	Ę	51	10	09		235		507	

		VA-RD-77-108	HIGHW	ATNU	лос гі						
	o: Year 2018	With Project							n Springs		
Road Nam						Job N	lumber:	8991			
Road Segmer	it: s/o Eucalyp	itus Av.									
	SPECIFIC IN	IPUT DATA							L INPUT	S	
Highway Data				Si	ite Con	ditions	(Hard :		oft = 15)		
Average Daily	. ,		3					Autos:			
	Percentage:	10%				dium Tr					
	our Volume:	2,110 vehicles	3		He	avy Tru	cks (3+	Axles):	15		
	hicle Speed:	35 mph		Ve	ehicle l	Иiх					
Near/Far Lai	ne Distance:	58 feet			Veh	icleType	9	Day	Evening	Night	Daily
Site Data						,	Autos:	77.5%	6 12.9%	9.6%	6 97.42%
Bar	rier Height:	0.0 feet			M	edium T	rucks:	84.8%	4.9%	10.39	6 1.84%
Barrier Type (0-W		0.0			F	leavy T	rucks:	86.5%	6 2.7%	10.89	6 0.74%
Centerline Dis		55.0 feet		N	oise So	ource E	levatio	ns (in f	eet)		
Centerline Dist.		55.0 feet				Auto		.000	,		
Barrier Distance	to Observer:	0.0 feet			Mediu	m Truck	s: 2	.297			
Observer Height (5.0 feet			Heav	y Truck	s: 8	.006	Grade Ad	ustmer	t: 0.0
	d Elevation:	0.0 feet		-		•					
	d Elevation:	0.0 feet		Lá	ane Eq	uivalen			feet)		
F	Road Grade:	0.0%				Auto		.000			
	Left View:	-90.0 degree				m Truck		.811			
	Right View:	90.0 degree	es		Heav	ry Truck	s: 46	.830			
FHWA Noise Mode	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Distar	псе	Finite	Road	Fres	nel	Barrier Att	en Be	erm Atten
Autos:	64.30	2.38		0.30		-1.20		-4.67		00	0.000
Medium Trucks:	75.75	-14.86		0.33		-1.20		-4.87		00	0.000
Heavy Trucks:	81.57	-18.81		0.32		-1.20		-5.38	0.0	00	0.000
Unmitigated Noise				attenu	ation)						
, , ,	Leq Peak Hou	.,.,	_	eq Eve	-	Leq	Night		Ldn		CNEL
Autos:	65		63.9		62.1		56.		64.7		65.3
Medium Trucks:	60		58.5		52.2		50.	-	59.1		59.
Heavy Trucks:	61		60.5		51.4		52.	•	61.0		61.2
Vehicle Noise:	68	.0	66.3		62.9		58	.5	67.0)	67.4
Centerline Distand	e to Noise Co	ontour (in feet)								
				70 dE	BA		dBA	- (60 dBA		5 dBA
			Ldn:	35		7	75		161		347
			IFI:	37			30		172		371

	FHV	VA-RD-77-108	HIGH	1 YAWI	IOISE P	REDICTI	ON MC	DEL			
Scenari	o: Year 2018	With Project				Project	Name:	Canyo	n Springs		
Road Nam						Job N	umber:	8991			
Road Segmer	nt: n/o Eucalyp	itus Av.									
SITE : Highway Data	SPECIFIC IN	PUT DATA			Sito Cor	N nditions			L INPUT	S	
				- '	Site Coi	iditions	•				
Average Daily			S					Autos:	15		
	Percentage:	10%				dium Tru		,			
	our Volume:	2,250 vehicle	S		He	avy Truc	cks (3+.	Axles):	15		
	hicle Speed:	40 mph			Vehicle	Mix					
Near/Far Lai	ne Distance:	72 feet			Veh	icleType	1	Day	Evening	Night	Daily
Site Data						A	lutos:	77.5%	12.9%	9.6%	97.429
Rar	rier Height:	0.0 feet			М	edium Tı	ucks:	84.8%	4.9%	10.3%	1.84
Barrier Type (0-W		0.0				Heavy Ti	rucks:	86.5%	2.7%	10.8%	0.74
Centerline Dis	st. to Barrier:	60.0 feet		1	Noise S	ource El	evation	s (in f	eet)		
Centerline Dist.	to Observer:	60.0 feet				Auto		000	,		
Barrier Distance	to Observer:	0.0 feet			Mediu	m Truck	s: 2	297			
Observer Height (.	Above Pad):	5.0 feet			Heav	vy Trucks	s· 8	006	Grade Ad	iustment	0.0
Pa	ad Elevation:	0.0 feet									
	ad Elevation:	0.0 feet		1	Lane Eq	uivalent			feet)		
F	Road Grade:	0.0%				Autos		.260			
	Left View:	-90.0 degre				m Trucks		.076			
	Right View:	90.0 degre	es		Heav	y Trucks	s: 48	.094			
FHWA Noise Mode											
VehicleType	REMEL	Traffic Flow		tance		Road	Fresi		Barrier Att		m Atter
Autos:	66.51	2.08		0.13	-	-1.20		-4.69		000	0.00
Medium Trucks:	77.72	-15.16		0.1		-1.20		-4.88		000	0.00
Heavy Trucks:	82.99	-19.11		0.1	-	-1.20		-5.34	0.0	000	0.00
Unmitigated Noise			_					1			
,,	Leq Peak Hou			Leq E	vening	_	Night		Ldn		NEL
Autos:	67		65.6		63.9		57.		66.4		67
Medium Trucks:	61		60.0		53.6		52.		60.6	-	60
Heavy Trucks: Vehicle Noise:	62 69		61.4		52.4 64.5		53. 60.	_	62.0	_	62 69
Centerline Distance	e to Noise Co	ntour (in fee	F)								
comenine Distant	110/38 00	Jui (iii leei	,	70 (dBA	65	dBA	(60 dBA	55	dBA
			Ldn:	4	8	10	03		222	4	78
			NFI:	5			10		237		11

Tuesday, February 03, 2015

FI	IWA-RD-77-108 HI	GHWAY	NOISE P	REDICTIO	N MODEL		
Scenario: Year 201: Road Name: Day St. Road Segment: s/o Cotto	•				lame: Cany mber: 8991	on Springs	
SITE SPECIFIC	NPUT DATA					EL INPUTS	
Highway Data			Site Cor	nditions (F	lard = 10, S	Soft = 15)	
Average Daily Traffic (Adt):	16,800 vehicles				Autos	: 15	
Peak Hour Percentage:	10%				ks (2 Axles)		
Peak Hour Volume:	1,680 vehicles		He	avy Truck	s (3+ Axles,): 15	
Vehicle Speed:	35 mph		Vehicle	Mix			
Near/Far Lane Distance:	36 feet		Veh	icleType	Day	Evening N	light Daily
Site Data					tos: 77.5°		9.6% 97.42%
Barrier Height:	0.0 feet		М	edium Tru	cks: 84.8°	% 4.9% 1	0.3% 1.84%
Barrier Type (0-Wall, 1-Berm):	0.0		-	Heavy Tru	cks: 86.5°	% 2.7% 1	0.8% 0.74%
Centerline Dist. to Barrier:	44.0 feet		Noise S	ource Ele	vations (in	feet)	
Centerline Dist. to Observer:	44.0 feet			Autos:	0.000	,	
Barrier Distance to Observer:	0.0 feet		Mediu	m Trucks:	2.297		
Observer Height (Above Pad):	5.0 feet		Heav	y Trucks:	8.006	Grade Adjus	tment: 0.0
Pad Elevation:	0.0 feet						
Road Elevation:	0.0 feet		Lane Eq		Distance (in	reet)	
Road Grade:	0.0%			Autos:	40.460		
Left View:	-90.0 degrees			m Trucks:			
Right View:	90.0 degrees		Heav	y Trucks:	40.262		
FHWA Noise Model Calculation	ns						
VehicleType REMEL		Distance		Road	Fresnel	Barrier Atten	
Autos: 64.3			28	-1.20	-4.61		
Medium Trucks: 75.7			31	-1.20	-4.87		
Heavy Trucks: 81.5			31	-1.20	-5.50	0.000	0.000
Unmitigated Noise Levels (with		_	,				
VehicleType Leq Peak H			Evening	Leq N	•	Ldn	CNEL
	55.8 63		62.1		56.1	64.7	65.3
	50.0 58		52.1		50.6	59.1	59.3
,	61.9 60 68.0 66		51.4 62.8		52.7 58.5	61.0 67.0	61.1 67.4
Centerline Distance to Noise		-					****
	,	70	dBA	65 dE	BA	60 dBA	55 dBA
	Ld	n:	28	60		129	277
	CNE	L:	30	64		138	296

Tuesday, February 03, 2015

	FH\	WA-RD-77-10	B HIGI	HWAY	NOISE PI	REDICT	ION MO	DEL					
Road Nar	rio: Year 2018 ne: Day St. ent: s/o Bay Av	,					Name: umber:		n Springs				
	SPECIFIC IN	IPUT DATA							L INPUT	s			
Highway Data					Site Conditions (Hard = 10, Soft = 15)								
Average Daily	Traffic (Adt):	16,100 vehicle	es					Autos:	15				
Peak Hou	Percentage:	10%				dium Tr		,	15				
Peak I	lour Volume:	1,610 vehicle	es		He	avy Tru	cks (3+)	Axles):	15				
Ve	ehicle Speed:	35 mph		F	Vehicle	Mix							
Near/Far La	ane Distance:	36 feet		-		icleType		Dav	Evenina	Niaht	Dailv		
Site Data					*011		Autos:	77.5%	- 5	9.6%	- /		
		0.0 feet			М	edium T	rucks:	84.8%		10.3%	1.84%		
	rrier Height:	0.0 reet				Heavy T	rucks:	86.5%		10.8%			
Barrier Type (0-V	vali, 1-Berm): ist. to Barrier:	0.0 44.0 feet								10.070	0.7 170		
				L	Noise S	ource E	evation	s (in fe	eet)				
	Centerline Dist. to Observer: 44.0 feet				Autos: 0.000								
	Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet				Mediu	m Truck	s: 2.	297					
	(ADOVE Pau). Pad Elevation:	0.0 feet			Heav	ry Truck	s: 8.	006	Grade Adj	iustment.	0.0		
	ad Elevation:	0.0 feet		F	Lane Eq	uivələn	Nietan	co (in	foot)				
/\c	Road Grade:	0.0%		F	24/10/24	Auto		460	001)				
	Left View:	-90.0 degre	200		Madiu	m Truck		241					
	Right View:	90.0 degre				vy Truck		262					
	ragni view.	50.0 degre	:03		rical	ry rruck	3. 40.	202					
FHWA Noise Mod					1								
VehicleType	REMEL	Traffic Flow	_	stance		Road	Fresi		Barrier Att		m Atten		
Autos.				1.2	-	-1.20		-4.61		000	0.000		
Medium Trucks.				1.3		-1.20		-4.87		000	0.000		
Heavy Trucks.	81.57	-19.99)	1.3	11	-1.20		-5.50	0.0	000	0.000		
Unmitigated Nois								,					
VehicleType	Leq Peak Hou		_	Leq E	vening	Leq	Night		Ldn		VEL		
Autos.		.6	63.7		61.9		55.9		64.5		65.1		
Medium Trucks.		0.8	58.3		52.0		50.4		58.9		59.1		
Heavy Trucks. Vehicle Noise		.7	66.1		51.2 62.7		52.5 58.3		60.8		61.0		
Centerline Distan					U		55.	-	30.0	-	07.2		
Contenine Distal	U NOISE C	ontour (iii lee	'/	70	dBA	65	dBA	6	0 dBA	55	dBA		
			Ldn:	- 2	27	5	i8	•	125	2	70		
		_	NFI:		9		2		134		88		

	FH\	WA-RD-77-108 HI	GHWAY	NOISE PE	REDICTION I	MODEL		
	o: Year 2018 e: Eucalyptus at: s/o Townga	Av.			Project Nam Job Numbe		Springs	
SITE S	SPECIFIC IN	IPUT DATA			NOIS	E MODEI	INPUTS	i
Highway Data				Site Con	ditions (Har	d = 10, So	ft = 15)	
Peak Hour	Traffic (Adt): Percentage: our Volume:	17,800 vehicles 10% 1,780 vehicles			dium Trucks avy Trucks (3		15 15 15	
Vel	nicle Speed:	40 mph		Vehicle I	Miv			
Near/Far Lar	ne Distance:	48 feet			icleType	Dav	Evening	Night Daily
Site Data					Autos edium Trucks	77.5%	12.9%	9.6% 97.42% 10.3% 1.84%
	rier Height:	0.0 feet			leavy Trucks		2.7%	10.8% 0.74%
Barrier Type (0-W		0.0		,	leavy Trucks	. 00.576	2.1 /0	10.0% 0.747
Centerline Dist		50.0 feet 50.0 feet		Noise Sc	ource Elevat	ions (in fe	et)	
Barrier Distance t		0.0 feet			Autos:	0.000		
				Mediur	n Trucks:	2.297		
Observer Height (Above Paa): d Flevation:	5.0 feet		Heav	y Trucks:	8.006	Grade Adju	stment: 0.0
	d Elevation:	0.0 feet		I ano Ea	uivalent Dist	anco (in f	not)	
	a ⊑ievation: Road Grade:	0.0 feet 0.0%		Lane Ly		44.147	eei)	
,	Left View:	-90.0 degrees		Modiuu		43.947		
	Right View:	90.0 degrees				43.966		
FHWA Noise Mode	l Calculation	ıs						
VehicleType	REMEL	Traffic Flow	Distance	Finite	Road Fr	esnel l	Barrier Atte	n Berm Atten
Autos:	66.51	1.06	0.	71	-1.20	-4.65	0.00	0.00
Medium Trucks:	77.72	-16.17	0.	74	-1.20	-4.87	0.00	0.00
Heavy Trucks:	82.99	-20.13	0.	73	-1.20	-5.43	0.00	0.00
Unmitigated Noise	Levels (with	out Topo and ba	rrier atte	nuation)				
	Leq Peak Hοι			Evening	Leq Nigh		Ldn	CNEL
Autos:	67		-	63.4		7.4	66.0	66.
Medium Trucks:	61			53.2		1.7	60.1	60.
Heavy Trucks:	62			51.9		3.2	61.5	61.
Vehicle Noise:	69		.4	64.1		9.5	68.1	68.
Centerline Distanc	e to Noise Co	ontour (in feet)						
				dBA	65 dBA		0 dBA	55 dBA
		Ld		37	80		173	372
		CNE	L:	40	86		185	399

		WA-RD-77-10									
	io: Year 2018	With Project							n Springs		
Road Nam						Job N	lumber.	8991			
Road Segme	nt: s/o Alessa	naro BI.									
	SPECIFIC II	NPUT DATA							L INPUT	S	
Highway Data					Site Cor	nditions	(Hard	= 10, S	oft = 15)		
Average Daily	Traffic (Adt):	12,200 vehicl	es					Autos:	15		
Peak Hour	Percentage:	10%			Me	edium Tr	ucks (2	Axles):	15		
Peak H	lour Volume:	1,220 vehicl	es		He	eavy Tru	cks (3+	Axles):	15		
Ve	hicle Speed:	35 mph		-	Vehicle	Mix					
Near/Far La	ne Distance:	36 feet		-		icleType	9	Dav	Evening	Night	Daily
Site Data							Autos:	77.5%		9.6%	97.429
	rrier Height:	0.0 feet			M	edium T	rucks:	84.8%	4.9%	10.3%	1.849
Barrier Type (0-W	-	0.0				Heavy T	rucks:	86.5%	2.7%	10.8%	0.749
Centerline Di	. ,	44.0 feet			Noise S			/ 6	41		
Centerline Dist.	to Observer:	44.0 feet			Noise S	Auto		ns (in 10).000	eet)		
Barrier Distance	to Observer:	0.0 feet			Modiu	m Truck		2.297			
Observer Height (Above Pad):	5.0 feet				m Truck vv Truck		3.006	Grade Ad	iiiietmant	. 0.0
Pa	ad Elevation:	0.0 feet			rica	vy IIIuch	s. c	5.000	Orado Ad	Justineni	0.0
Roa	ad Elevation:	0.0 feet		,	Lane Eq	uivalen	t Dista	nce (in	feet)		
	Road Grade:	0.0%				Auto	s: 40	0.460			
	Left View:	-90.0 degr	ees			m Truck		0.241			
	Right View:	90.0 degr	ees		Hea	vy Truck	s: 40	0.262			
FHWA Noise Mod	el Calculation	าร									
VehicleType	REMEL	Traffic Flow	Di	stance	Finite	Road	Fres	snel	Barrier Att	en Ber	m Atten
Autos:	64.30		-	1.2	-	-1.20		-4.61		000	0.00
Medium Trucks:	75.75		-	1.3		-1.20		-4.87		000	0.00
Heavy Trucks:	81.57	-21.1	9	1.3	1	-1.20		-5.50	0.0	000	0.00
Unmitigated Noise											
VehicleType	Leq Peak Ho			Leq E	vening		Night		Ldn	_	NEL
Autos:	-	4.4	62.5		60.7		54	**	63.3		63.
Medium Trucks:	-	8.6	57.1		50.8		49	-	57.		57.
Heavy Trucks:		0.5	59.1		50.0		51		59.6	-	59.
Vehicle Noise:	66	6.6	64.9		61.5		57	.1	65.6	5	66.
Centerline Distant	ce to Noise C	ontour (in fee	et)	-	10.4		10.4				/D.4
			l		dBA		dBA	(60 dBA		dBA
			Ldn: CNFL:	2	-		18 52		104 111	_	24 39

Tuesday, February 03, 2015

Fi	IWA-RD-77-108 HIC	SHWAY	NOISE PI	REDICTIO	N MODEL					
Scenario: Year 2018 Road Name: Eastridge Road Segment: w/o Sycar	Av.				ame: Canyo nber: 8991	on Springs				
SITE SPECIFIC I	NPUT DATA					EL INPUTS				
Highway Data			Site Con	ditions (F	lard = 10, S	oft = 15)				
Average Daily Traffic (Adt):	29,300 vehicles		Autos: 15							
Peak Hour Percentage:	10%				ks (2 Axles)					
Peak Hour Volume:	2,930 vehicles		He	avy Truck	s (3+ Axles)	: 15				
Vehicle Speed:	40 mph		Vehicle	Mix						
Near/Far Lane Distance:	72 feet		Veh	icleType	Day	Evening N	light Daily			
Site Data					tos: 77.5%		9.6% 97.42%			
Barrier Height:	0.0 feet		M	edium Truc	cks: 84.89	6 4.9% 1	0.3% 1.84%			
Barrier Type (0-Wall, 1-Berm):	0.0		ı	Heavy True	cks: 86.5%	6 2.7% 1	0.8% 0.74%			
Centerline Dist. to Barrier:	60.0 feet		Noise So	ource Elev	ations (in	feet)				
Centerline Dist. to Observer:	60.0 feet			Autos:	0.000					
Barrier Distance to Observer:	0.0 feet		Mediu	m Trucks:	2.297					
Observer Height (Above Pad):	5.0 feet		Heav	y Trucks:	8.006	Grade Adjus	tment: 0.0			
Pad Elevation:	0.0 feet			-						
Road Elevation:	0.0 feet		Lane Eq		Distance (in	reet)				
Road Grade:	0.0%			Autos:	48.260					
Left View:	-90.0 degrees			m Trucks:	48.076					
Right View:	90.0 degrees		Heav	y Trucks:	48.094					
FHWA Noise Model Calculation	ns									
VehicleType REMEL		Distance		Road	Fresnel	Barrier Atten	Berm Atten			
Autos: 66.5		0.1		-1.20	-4.69					
Medium Trucks: 77.7		0.1		-1.20	-4.88					
Heavy Trucks: 82.9		0.1		-1.20	-5.34	0.000	0.000			
Unmitigated Noise Levels (with										
VehicleType Leq Peak H			ening	Leq Ni	•	Ldn	CNEL			
	88.7 66.8		65.0		58.9	67.6	68.2			
	32.7 61.2		54.8		53.2	61.7	61.9			
,	64.0 62.6 70.7 69.0		53.5 65.7		54.8 61.1	63.1 69.7	63.3 70.1			
Centerline Distance to Noise					-					
	,	70	dBA	65 dE	BA	60 dBA	55 dBA			
	Ldn	c :	57	123		264	570			
	CNEL	.: (61	131		283	610			

	FH	WA-RD-77-108	HIG	HWAY	NOISE P	REDICT	ION MC	DEL				
Road Na	ario: Year 2018 me: Eastridge . ent: e/o Sycam	Av.					Name: lumber:		n Springs			
	SPECIFIC II	NPUT DATA							L INPUT	s		
Highway Data					Site Cor	ditions	(Hard =	= 10, Sc	oft = 15)			
Average Dail	y Traffic (Adt):	28,600 vehicle	es					Autos:	15			
Peak Hou	ır Percentage:	10%			Me	dium Tr	ucks (2	Axles):	15			
Peak	Hour Volume:	2,860 vehicle	es		He	avy Tru	cks (3+	Axles):	15			
١	ehicle Speed:	40 mph		-	Vehicle	Mix						
Near/Far L	ane Distance:	72 feet		f		icleType		Dav	Evenina	Niaht	Dailv	
Site Data							Autos:	77.5%		9.6%		
	arrier Height:	0.0 feet			М	edium T	rucks:	84.8%		10.3%	1.84%	
Barrier Type (0-		0.0				Heavy T	rucks:	86.5%	2.7%	10.8%	0.74%	
,, ,	Dist. to Barrier:	60.0 feet										
	t. to Observer:	60.0 feet		-	Noise S			٠,	eet)			
Barrier Distanc	e to Observer:	0.0 feet				Auto		.000				
Observer Heigh	t (Above Pad):	5.0 feet			Medium Trucks: 2.297 Heavy Trucks: 8.006 Grade Adjustment: 0.0							
	Pad Elevation:	0.0 feet			Hear	ry Truck	s: 8	.006	Grade Ad	ustment	0.0	
R	oad Elevation:	0.0 feet			Lane Eq	uivalen	t Distar	ce (in	feet)			
	Road Grade:	0.0%				Auto	s: 48	.260				
	Left View:	-90.0 degre	es		Mediu	m Truck	s: 48	.076				
	Right View:	90.0 degre	es		Hear	y Truck	s: 48	.094				
FHWA Noise Mo	del Calculation	ns										
VehicleType	REMEL	Traffic Flow		stance	Finite	Road	Fres		Barrier Att	en Ber	m Atten	
Autos		3.12		0.1	3	-1.20		-4.69	0.0	000	0.000	
Medium Trucks	i: 77.72	-14.11		0.1	5	-1.20		-4.88	0.0	000	0.000	
Heavy Trucks	82.99	-18.07		0.1	15	-1.20		-5.34	0.0	000	0.000	
Unmitigated Noi												
VehicleType	Leq Peak Ho		_	Leg E	vening	Leq	Night		Ldn		VEL	
Autos		8.6	66.7		64.9		58.	-	67.5		68.1	
Medium Trucks		2.6	61.0		54.7		53.		61.6		61.8	
Heavy Trucks Vehicle Noise		3.9 0.6	62.5 68.8		53.4 65.6		54. 61.		63.0 69.6		63.1 70.0	
Centerline Dista					23.0			-	50.			
Ocintornile Dista	100 10 110/30 0	ontour (III lee	',	70	dBA	65	dBA	6	60 dBA	55	dBA	
			Ldn:	į	56	1	21		260	5	61	
		С	NEL:	6	60	1	29		279	6	00	

	FH\	WA-RD-77-108	HIGHW	AY NOISE F	REDICTION	MODEL		
	: Year 2018 : Eucalyptus : w/o Valley	Av.			Project Nai Job Numl		Springs	
SITE SI	PECIFIC IN	IPUT DATA			NOI	SE MODE	L INPUTS	3
Highway Data				Site Co.	nditions (Ha	rd = 10, So	ft = 15)	
	Percentage: ur Volume:	10% 5,400 vehicles			edium Trucks eavy Trucks		15 15 15	
Vehi	icle Speed:	40 mph		Vehicle	Mix			
Near/Far Lane	e Distance:	72 feet		Vei	hicleType	Day	Evening	Night Daily
Site Data					Auto	s: 77.5%	12.9%	9.6% 97.42%
Rarri	ier Heiaht:	0.0 feet		Λ.	ledium Truck	s: 84.8%	4.9%	10.3% 1.84%
Barrier Type (0-Wai		0.0			Heavy Truck	s: 86.5%	2.7%	10.8% 0.74%
Centerline Dist.	to Barrier:	60.0 feet		Noise S	ource Eleva	tions (in fe	et)	
Centerline Dist. to	Observer:	60.0 feet		110,000	Autos:	0.000		
Barrier Distance to	Observer:	0.0 feet		Modiu	ım Trucks:	2.297		
Observer Height (A	bove Pad):	5.0 feet			vv Trucks:		Grade Adii	ustment: 0.0
Pad	d Elevation:	0.0 feet			,			
Road	d Elevation:	0.0 feet		Lane Ed	quivalent Di	stance (in f	eet)	
Ro	oad Grade:	0.0%			Autos:	48.260		
	Left View:	-90.0 degree	es	Mediu	ım Trucks:	48.076		
F	Right View:	90.0 degree	es	Hea	vy Trucks:	48.094		
FHWA Noise Model	Calculation	ıs						
VehicleType	REMEL	Traffic Flow	Distar	ce Finite	Road F	resnel	Barrier Atte	en Berm Atten
Autos:	66.51	5.88		0.13	-1.20	-4.69	0.0	0.00
Medium Trucks:	77.72	-11.35		0.15	-1.20	-4.88	0.0	0.00
Heavy Trucks:	82.99	-15.31		0.15	-1.20	-5.34	0.0	0.00
Unmitigated Noise	Levels (with	out Topo and	barrier a	ttenuation)				
	.eq Peak Hοι	, ,		eq Evening	Leq Nig		Ldn	CNEL
Autos:	71		69.4	67.7		61.6	70.2	70.
Medium Trucks:	65		63.8	57.4		55.9	64.4	64.
Heavy Trucks:	66		65.2	56.2		57.4	65.8	
Vehicle Noise:	73	3.3	71.6	68.3	3	63.8	72.3	72.
Centerline Distance	to Noise Co	ontour (in feet)					
				70 dBA	65 dBA	6	0 dBA	55 dBA
			Ldn:	86	184		397	856
		CI	VEL:	92	198		426	917

	FHWA	-RD-77-108	HIGH	WAY N	IOISE P	REDICT	ION MO	DEL			
Scenario: Year 2 Road Name: Eastri Road Segment: e/o Bo	ge Av.	,					t Name: lumber:		n Springs		
SITE SPECIFI Highway Data	CINPL	JT DATA			Cito Con		NOISE I		L INPUT	S	
Average Daily Traffic (A Peak Hour Percenta Peak Hour Volur Vehicle Spe	ie: 3,	700 vehicles 10% 570 vehicles 40 mph			Ме Не	edium Ti eavy Tru		Autos: Axles):	15 15		
Near/Far Lane Distan	e:	72 feet			Vehicle Veh	icleTyp	۵ ا	Dav	Evening	Night	Daily
Site Data					ver		Autos:	77.5%	-	9.69	,
Barrier Heig Barrier Type (0-Wall, 1-Ber		0.0 feet 0.0				edium 1 Heavy 1		84.8% 86.5%		10.39 10.89	
Centerline Dist. to Barr	er:	60.0 feet		-	Noise S	ource E	levation	s (in f	eet)		
Centerline Dist. to Obsern Barrier Distance to Obsern Observer Height (Above Pe Pad Elevati Road Elevati Road Gra Left Vi Right Vi	er: d): on: on: de: w: -	60.0 feet 0.0 feet 5.0 feet 0.0 feet 0.0 feet 0.0 feet 0.0% 90.0 degree		1	Hea Lane Eq Mediu	Auto m Truck y Truck uivalen Auto m Truck y Truck	(s: 2. (s: 8. at Distan (s: 48.	000 297 006 ce (in 260 076 094	Grade Ad	justmer	nt: 0.0
FHWA Noise Model Calcula	tions										
VehicleType REME		raffic Flow	Dis	tance		Road	Fresi		Barrier Att		erm Atten
Medium Trucks: 7	3.51 7.72 2.99	4.09 -13.15 -17.11		0.13 0.15 0.15	5	-1.20 -1.20 -1.20		-4.69 -4.88 -5.34	0.0	000	0.000 0.000 0.000
Unmitigated Noise Levels	withou	t Topo and	barrie	er atten	uation)						
VehicleType Leq Pear	Hour	Leq Day	,	Leq E	vening	Leq	Night		Ldn	(CNEL
Autos:	69.5		67.6		65.9		59.8	-	68.4	•	69.0
Medium Trucks:	63.5		62.0		55.6		54.1		62.6	-	62.8
Heavy Trucks: Vehicle Noise:	64.8 71.5		63.4 69.8		54.4 66.5		55.6 62.0		64.0 70.5	_	64.1 71.0
Centerline Distance to Noi					00.0		02.	-			, , , ,
Centerline Distance to Noi	e cont	our (III leet,	,	70 0	dBA	65	dBA		60 dBA	5	5 dBA
			Ldn:	6	5	1	40	-	302	1	650
		CI	VEL:	7	0	1	50		323		696

Tuesday, February 03, 2015

	Fŀ	IWA-RD-77-10	8 HIGHV	VAY N	IOISE PI	REDICTIO	N MODE	L		
Road Na	rio: Year 2018 me: Eucalyptu ent: e/o Valley	,					lame: Cai mber: 899	nyon Springs 91		
SITE	SPECIFIC I	NPUT DATA						DEL INPUT	S	
Highway Data					Site Con	ditions (l	Hard = 10	, Soft = 15)		
Average Daily	/ Traffic (Adt):	30,600 vehicle	es				Aut	os: 15		
Peak Hou	r Percentage:	10%			Me	dium Truc	ks (2 Axle	es): 15		
Peak	Hour Volume:	3,060 vehicle	es		He	avy Truck	s (3+ Axle	es): 15		
V	ehicle Speed:	40 mph		-	Vehicle	Mix				
Near/Far L	ane Distance:	72 feet		F		icleType	Da	y Evening	Night	Daily
Site Data				\dashv	****			5% 12.9%	9.69	
	arrier Height:	0.0 feet			М	edium Tru		8% 4.9%		
Barrier Type (0-1		0.0 reet				Heavy Tru		5% 2.7%		
,, ,	ist, to Barrier:	60.0 feet								
Centerline Dist		60.0 feet		1	Noise So		vations (i			
Barrier Distance		0.0 feet				Autos:				
Observer Height						m Trucks:				
	Pad Flevation:	0.0 feet			Heav	y Trucks:	8.006	Grade Ad	djustmen	t: 0.0
Ri	nad Flevation:	0.0 feet		1	Lane Eq	uivalent l	Distance	(in feet)		
	Road Grade:	0.0%		Ī		Autos:	48.260)		
	Left View:	-90.0 degre	ees		Mediu	m Trucks:	48.076	6		
	Right View:	90.0 degre			Heav	y Trucks:	48.094	ŀ		
FHWA Noise Mo	del Calculatio	ns								
VehicleType	REMEL	Traffic Flow	Dista	nce	Finite	Road	Fresnel	Barrier At	ten Be	erm Atten
Autos	: 66.5	1 3.42	2	0.13	3	-1.20	-4.	69 0.	000	0.000
Medium Trucks	: 77.7	2 -13.82	2	0.15	5	-1.20	-4.	88 0.	000	0.000
Heavy Trucks	: 82.9	9 -17.78	3	0.15	5	-1.20	-5.	34 0.	000	0.000
Unmitigated Nois	se Levels (wit	thout Topo and	d barrier	atten	uation)					
VehicleType	Leq Peak Ho	our Leq Da	y L	Leq E	vening	Leq N	ight	Ldn	(CNEL
Autos	: 6	88.9	67.0		65.2		59.1	67.	8	68.4
Medium Trucks		52.8	61.3		55.0		53.4	61.		62.1
Heavy Trucks		64.2	62.7		53.7		55.0	63.		63.4
Vehicle Noise	: 7	0.9	69.1		65.9		61.3	69.	9	70.3
Centerline Distar	nce to Noise (Contour (in fee	et)							
				70 c		65 di		60 dBA		5 dBA
			Ldn:	5	-	126		272		586
		(CNEL:	6	3	135	5	291		628

	FHV	VA-RD-77-108	HIGHV	NAY N	NOISE P	REDICTI	ON MC	DEL			
Road Nam	io: Year 2018 ' le: Eucalyptus nt: e/o Day St.						Name: umber:		n Springs		
SITE :	SPECIFIC IN	IPUT DATA			04- 0	N nditions			L INPUT	S	
• •					Site Coi	iditions	(naru =				
Average Daily			S					Autos:	15		
	Percentage:	10%				edium Tru			15		
	lour Volume:	3,130 vehicle	S		He	eavy Truc	cks (3+	Axles):	15		
	hicle Speed:	40 mph			Vehicle	Mix					
Near/Far La	ne Distance:	82 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data						A	Autos:	77.5%	12.9%	9.6	% 97.42%
Rai	rrier Height:	0.0 feet			М	edium Tr	ucks:	84.8%	4.9%	10.3	% 1.84%
Barrier Type (0-W		0.0				Heavy Tr	ucks:	86.5%	2.7%	10.8	% 0.74%
Centerline Dis	st. to Barrier:	67.0 feet		H	Noise S	ource El	ovation	ne (in fa	not)		
Centerline Dist.	to Observer:	67.0 feet		H.	WOISE S	Autos		.000	(
Barrier Distance	to Observer:	0.0 feet			Modiu	m Trucks		.000			
Observer Height (Above Pad):	5.0 feet				vy Trucks	–	.006	Grade Ad	iuotmo	nt: 0.0
Pa	ad Elevation:	0.0 feet			пеа	vy Trucks	s. o	.000	Grade Au	Jusuiie	n. 0.0
Roa	ad Elevation:	0.0 feet			Lane Eq	uivalent	Distar	ice (in i	feet)		
	Road Grade:	0.0%				Autos	s: 53	.226			
	Left View:	-90.0 degree	es		Mediu	m Trucks	s: 53	.059			
	Right View:	90.0 degre	es		Hear	vy Trucks	s: 53	.076			
FHWA Noise Mode	el Calculation	s		_							
VehicleType	REMEL	Traffic Flow	Dista	ance	Finite	Road	Fres	nel	Barrier Att	en B	erm Atten
Autos:	66.51	3.52		-0.5	1	-1.20		-4.71	0.0	000	0.000
Medium Trucks:	77.72	-13.72		-0.4	9	-1.20		-4.88	0.0	000	0.000
Heavy Trucks:	82.99	-17.68		-0.4	9	-1.20		-5.29	0.0	000	0.000
Unmitigated Noise	e Levels (with	out Topo and	barrier	r atten	nuation)						
VehicleType	Leq Peak Hou	ır Leq Day	, I	Leq E	vening	Leq	Night		Ldn		CNEL
Autos:	68	.3	66.4		64.7		58.	6	67.2	2	67.8
Medium Trucks:	62	.3	60.8		54.4		52.	9	61.3	3	61.6
Heavy Trucks:	63		62.2		53.2		54.		62.8		62.9
Vehicle Noise:	70	.3	68.6		65.3		60.	8	69.3	3	69.8
Centerline Distant	ce to Noise Co	ontour (in feet)			r		1			
					dBA		dBA	6	60 dBA		55 dBA
			Ldn:	-	0		30		280		603
		Ci	VEL:	6	5	13	39		299		645

Tuesday, February 03, 2015

	FHW	/A-RD-77-108	HIGHWAY	NOISE P	REDICT	ION MODE	L	
	o: Year 2018 V e: Alessandro I ht: w/o Day St.					t Name: Car lumber: 899	nyon Springs 1	
SITE S	SPECIFIC IN	PUT DATA			ľ	NOISE MO	DEL INPUT	S
Highway Data				Site Cor	nditions	(Hard = 10,	Soft = 15)	
Average Daily Peak Hour	Percentage:	10%				Auto ucks (2 Axle	s): 15	
		4,130 vehicles		He	eavy Tru	cks (3+ Axle	s): 15	
	nicle Speed:	45 mph		Vehicle	Mix			
Near/Far Lar	ne Distance:	82 feet		Vel	icleType	e Da	y Evening	Night Daily
Site Data						Autos: 77.	5% 12.9%	9.6% 97.42%
Bar	rier Heiaht:	0.0 feet		M	edium T	rucks: 84.	8% 4.9%	10.3% 1.84%
Barrier Type (0-W		0.0			Heavy T	rucks: 86.	5% 2.7%	10.8% 0.74%
Centerline Dis		67.0 feet		Noise S	ource E	levations (i	n feet)	
Centerline Dist. t		67.0 feet			Auto	s: 0.000		
Barrier Distance t		0.0 feet		Mediu	m Truck			
Observer Height (,	5.0 feet			vy Truck		Grade Adj	ustment: 0.0
	d Elevation:	0.0 feet		1 5-		t Distance ((I f4)	
	d Elevation:	0.0 feet		Lane Eq	uivaien Auto			
-	Road Grade:	0.0%		A 4 15-	Auto m Truck			
	Left View: Right View:	-90.0 degree 90.0 degree			m Truck vy Truck			
FHWA Noise Mode	el Calculations	;		1				
VehicleType	REMEL	Traffic Flow	Distance	Finite	Road	Fresnel	Barrier Atte	en Berm Atten
Autos:	68.46	4.21	-0	.51	-1.20	-4.7	71 0.0	0.000
Medium Trucks:	79.45	-13.03	-0	.49	-1.20	-4.8	38 0.0	0.000
Heavy Trucks:	84.25	-16.99	-0	.49	-1.20	-5.2	29 0.0	0.000
Unmitigated Noise	Levels (witho	out Topo and	barrier att	enuation)				
	Leq Peak Hour			Evening		Night	Ldn	CNEL
Autos:	71.0		69.1	67.3		61.2	69.9	
Medium Trucks:	64.7		33.2	56.9		55.3	63.8	
Heavy Trucks:	65.6		64.2	55.1		56.4	64.7	
Vehicle Noise:	72.8	8 7	71.1	67.9		63.2	71.8	72.2
Centerline Distance	e to Noise Co	ntour (in feet)						
				0 dBA		dBA	60 dBA	55 dBA
			dn:	88		89	408	879
		CN	IEL:	94	2	:03	438	943

	FH'	WA-RD-77-108	HIGHV	VAY N	OISE P	REDICT	ION MOI	DEL			
	e: Towngate						: Name: (lumber: 8		n Springs		
SITE S	SPECIFIC II	NPUT DATA				I.	NOISE N	/IODE	L INPUTS	S	
Highway Data				S	ite Cor	ditions	(Hard =	10, Sc	oft = 15)		
	Traffic (Adt): Percentage: our Volume:	14,800 vehicle 10% 1,480 vehicle					ucks (2 A	,	15 15 15		
Vel	nicle Speed:	40 mph	-					/			
Near/Far Lar		82 feet		V	ehicle						
	io Diolarioo.	02 1001			Veh	icleType		Day	Evening	Night	Daily
Site Data								77.5%		9.69	
Bar	rier Height:	0.0 feet				edium T		84.8%		10.3%	
Barrier Type (0-Wa	all, 1-Berm):	0.0				Heavy T	rucks:	86.5%	2.7%	10.89	6 0.74%
Centerline Dis	t. to Barrier:	67.0 feet		Λ.	loise S	ource F	levations	s (in fe	opt)		
Centerline Dist. t	to Observer:	67.0 feet		Ë	0.00	Auto		000	,,,,		
Barrier Distance t	to Observer:	0.0 feet			Modiu	m Truck		97			
Observer Height (/	Above Pad):	5.0 feet				vy Truck		006	Grade Adj	iietman	#: 0 O
Pa	d Elevation:	0.0 feet			rica	ry Truck	3. 0.0	,00	Orado Adj	usuncn	i. 0.0
Roa	d Elevation:	0.0 feet		L	ane Eq	uivalen	t Distand	ce (in i	feet)		
F	Road Grade:	0.0%				Auto	s: 53.2	226			
	Left View:	-90.0 degre	es		Mediu	m Truck	s: 53.0	059			
	Right View:	90.0 degre	es		Heav	y Truck	s: 53.0	076			
FHWA Noise Mode	el Calculation	18									
VehicleType	REMEL	Traffic Flow	Dista	ance	Finite	Road	Fresn	el	Barrier Atte	en Be	erm Atten
Autos:	66.51	0.26		-0.51		-1.20		-4.71	0.0	00	0.000
Medium Trucks:	77.72	-16.98		-0.49		-1.20		-4.88	0.0	00	0.000
Heavy Trucks:	82.99	-20.93		-0.49		-1.20		-5.29	0.0	00	0.000
Unmitigated Noise	Levels (with	nout Topo and	barrier	attenu	ıation)						
VehicleType	Leq Peak Ho	ur Leq Da	/	Leq Ev	ening	Leq	Night		Ldn	(CNEL
Autos:	65	5.1	63.2		61.4		55.3		64.0	Ì	64.6
Medium Trucks:	59	9.0	57.5		51.2		49.6		58.1		58.3
Heavy Trucks:	60	0.4	58.9		49.9		51.2		59.5	,	59.6
Vehicle Noise:	67	7.1	65.3		62.1		57.5		66.1		66.5
Centerline Distance	e to Noise C	ontour (in fee	t)								
				70 di	BA	65	dBA	6	i0 dBA	5	5 dBA
			Ldn:	37		7	79		170		366
		С	NEL:	39		8	34		182		392

Tuesday, February 03, 2015

Scenario: Year 2018 With Project Project Name: Road Name: Alessandro Bl. Job Number: Road Segment: e/o Day St. SITE SPECIFIC INPUT DATA NOISE Highway Data Site Conditions (Hard :		n Springs			
		L INPUTS	S		
Average Daily Traffic (Adt): 41,100 vehicles Peak Hour Percentage: 10% Medium Trucks (2 Peak Hour Volume: 4,110 vehicles Vehicle Speed: 45 mph Venical case Districts	Autos: Axles): Axles):	15 15 15			
venicie i ype	Day	Evening	Night	Daily	
Barrier Height: 0.0 feet Medium Trucks: Barrier Type (0-Wall, 1-Berm): 0.0 Heavy Trucks:	77.5% 84.8% 86.5%	4.9%	9.6% 10.3% 10.8%	1.84%	
Centerline Dist. to Barrier: 67.0 feet Noise Source Elevation	ns (in fe	eet)			
Barrier Distance to Observer: 0.0 feet Medium Trucks: 2	0.000 2.297 3.006	Grade Adj	iustment	: 0.0	
Road Elevation: 0.0 feet Lane Equivalent Distant	nce (in f	feet)			
Left View: -90.0 degrees Medium Trucks: 53	Medium Trucks: 53.059				
FHWA Noise Model Calculations					
VehicleType REMEL Traffic Flow Distance Finite Road Fres	inel	Barrier Atte	en Bei	m Atten	
Autos: 68.46 4.19 -0.51 -1.20	-4.71	0.0		0.000	
Medium Trucks: 79.45 -13.05 -0.49 -1.20 Heavy Trucks: 84.25 -17.01 -0.49 -1.20	-4.88 -5.29	0.0		0.000	
Unmitigated Noise Levels (without Topo and barrier attenuation)					
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night		Ldn		NEL	
Autos: 70.9 69.0 67.3 61.	-	69.8		70.4	
Medium Trucks: 64.7 63.2 56.8 55.		63.8		64.0	
Heavy Trucks: 65.6 64.1 55.1 56. Vehicle Noise: 72.8 71.0 67.9 63.		64.7 71.8		64.8 72.2	
Centerline Distance to Noise Contour (in feet)					
70 dBA 65 dBA	6	i0 dBA	55	dBA	
Ldn: 88 189		407		377	
CNFL: 94 203		436	9	940	

	FH\	WA-RD-77-108	HIGH	HWAY I	NOISE P	REDICT	ION MO	DEL			
Road Na	nrio: Year 2035 me: Sycamore ent: n/o Eastrid	Canyon Bl.	t				Name: lumber:		n Springs		
	SPECIFIC IN	IPUT DATA							L INPUT	S	
Highway Data					Site Cor	nditions	(Hard =	= 10, Sc	oft = 15)		
Average Dail	Traffic (Adt):	21,700 vehicle	S					Autos:	15		
Peak Hou	r Percentage:	10%			Me	edium Tr	ucks (2	Axles):	15		
Peak	Hour Volume:	2,170 vehicle	S		He	eavy Trui	cks (3+	Axles):	15		
V	ehicle Speed:	45 mph		ŀ	Vehicle	Mix					
Near/Far L	ane Distance:	48 feet		ŀ		icleType		Dav	Evenina	Niaht	Dailv
Site Data							Autos:	77.5%	- 3	9.6%	
	arrier Height:	0.0 feet			М	edium T	rucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-		0.0				Heavy T	rucks:	86.5%	2.7%	10.8%	0.74%
Centerline L	Dist. to Barrier:	55.0 feet		ŀ	Noise S	ource E	levatio	ns (in f	eet)		
Centerline Dis	t. to Observer:	55.0 feet		l l		Auto		.000	,		
Barrier Distance	e to Observer:	0.0 feet			Mediu	m Truck		297			
Observer Heigh	(Above Pad):	5.0 feet				vy Truck		.006	Grade Ad	iustment	0.0
	Pad Elevation:	0.0 feet		L		•					
R	oad Elevation:	0.0 feet		L	Lane Eq	uivalen			feet)		
	Road Grade:	0.0%				Auto		.739			
	Left View:	-90.0 degre	es			m Truck		.561			
	Right View:	90.0 degree	es		Hear	vy Truck	s: 49	.579			
FHWA Noise Mo	del Calculation	s									
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	nel	Barrier Att	en Ber	m Atten
Autos		1.41		-0.0	7	-1.20		-4.67	0.0	000	0.000
Medium Trucks	79.45	-15.82		-0.0	15	-1.20		-4.87	0.0	000	0.000
Heavy Trucks	: 84.25	-19.78		-0.0	15	-1.20		-5.38	0.0	000	0.000
Unmitigated Noi											
VehicleType	Leq Peak Hou			Leq E	vening		Night		Ldn		VEL
Autos			66.7		64.9		58.	-	67.5		68.1
Medium Trucks			60.9		54.5		53.	-	61.4		61.7
Heavy Trucks Vehicle Noise			61.8 68.7		52.8 65.6		54. 60.	_	62.4		62.5 69.9
Centerline Dista					00.0		00.		00	•	00.0
Contonine Dista		omour (m reet		70	dBA	65	dBA	6	60 dBA	55	dBA
			Ldn:	Ę	50	1	08	•	233	5	03
		Ci	NEL:	5	54	1	16		250	5	40

	FH\	WA-RD-77-108	HIG	HWAY N	OISE PI	REDICT	ION M	ODEL			
Road Nan	io: Year 2035 ne: Box Spring nt: n/o Eastrid	s Bl.	t				t Name lumber		n Springs		
	SPECIFIC IN	IPUT DATA							L INPUT	S	
Highway Data				5	Site Cor	ditions	(Hard	= 10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	8,100 vehicle	S					Autos:	15		
Peak Hour	Percentage:	10%						2 Axles):			
Peak F	lour Volume:	810 vehicle	s		He	avy Tru	icks (3-	+ Axles):	15		
Ve	hicle Speed:	40 mph		1	/ehicle	Mix					
Near/Far La	ne Distance:	36 feet			Veh	icleTyp	е	Day	Evening	Night	Daily
Site Data							Autos:	77.5%	12.9%	9.6%	97.42%
Ra	rrier Height:	0.0 feet			М	edium 7	rucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-VI		0.0			1	Heavy 7	rucks:	86.5%	2.7%	10.8%	0.74%
Centerline Di	st. to Barrier:	44.0 feet			loise Si	ource F	levatio	ons (in f	oet)		
Centerline Dist.	to Observer:	44.0 feet		F	.0.00 0	Auto		0.000	301)		
Barrier Distance	to Observer:	0.0 feet			Madiu	m Truck		2.297			
Observer Height	(Above Pad):	5.0 feet				vy Truck		8.006	Grade Ad	liustment	0.0
P	ad Elevation:	0.0 feet				•				,	
Ro	ad Elevation:	0.0 feet		L	ane Eq			nce (in	feet)		
	Road Grade:	0.0%				Auto		0.460			
	Left View:	-90.0 degree	es		Mediu	m Truck	rs: 4	0.241			
	Right View:	90.0 degre	es		Heav	ry Truck	rs: 4	0.262			
FHWA Noise Mod	el Calculation	s									
VehicleType	REMEL	Traffic Flow	D	istance	Finite	Road	Fre	snel	Barrier Att	en Ber	m Atten
Autos:	66.51	-2.35		1.28	3	-1.20		-4.61	0.0	000	0.000
Medium Trucks:	77.72	-19.59		1.31		-1.20		-4.87	0.0	000	0.000
Heavy Trucks:	82.99	-23.55		1.31		-1.20		-5.50	0.0	000	0.000
Unmitigated Nois	e Levels (with	out Topo and	barr	ier atten	uation)						
VehicleType	Leq Peak Hou	ır Leq Day	/	Leq Ev	ening	Leq	Night		Ldn	CI	VEL
Autos:	64	-	62.3		60.6		54		63.		63.7
Medium Trucks:	58	.2	56.7		50.4		48	3.8	57.3	3	57.5
Heavy Trucks:	59	.6	58.1		49.1		50).3	58.	7	58.8
Vehicle Noise:	66	2	64.5		61.2		5.0	6.7	65.3	2	65.7

70 dBA 65 dBA 21 46 23 49

Ldn: CNEL:

	FH)	WA-RD-77-108	HIGHWA	Y NOISE F	REDICT	ION MODI	EL		
	e: Sycamore		t			t Name: Ca lumber: 89	anyon Springs 191		
SITE S	SPECIFIC IN	IPUT DATA					DEL INPUT	'S	
Highway Data				Site Co	nditions	(Hard = 1	0, Soft = 15)		
Average Daily	Traffic (Adt):	22,100 vehicle	s			AL	itos: 15		
Peak Hour	Percentage:	10%		M	edium Tr	ucks (2 Ax	les): 15		
Peak H	our Volume:	2,210 vehicle	s	Н	eavy Tru	cks (3+ Ax	les): 15		
Vei	hicle Speed:	45 mph		Vehicle	Miss				
Near/Far Lai	ne Distance:	48 feet			hicleType	, D	ay Evening	Night	Daily
Site Data				VC.			7.5% 12.9%		
		0.0 feet		۸.	1edium T		1.8% 4.9%		
	rier Height:	0.0 reet 0.0			Heavy T		6.5% 2.7%		
Barrier Type (0-W Centerline Dis	. ,	55.0 feet						10.0	0.7 170
Centerline Dist		55.0 feet		Noise S	iource E	levations	(in feet)		
Barrier Distance		0.0 feet			Auto	s: 0.00	0		
Observer Height (5.0 feet		Media	ım Truck	s: 2.29	7		
	ad Flevation:	0.0 feet		Hea	vy Truck	s: 8.00	6 Grade Ad	djustmei	nt: 0.0
	ad Elevation:	0.0 feet		I ane F	nuivalen	t Distance	(in feet)		
	Road Grade:	0.0%		Luno L	Auto		. ,		
,	Left View:	-90.0 degre	00	Medii	ım Truck		-		
	Right View:	90.0 degre			vy Truck				
FHWA Noise Mode	el Calculation	ıs							
VehicleType	REMEL	Traffic Flow	Distant	ce Finite	e Road	Fresnel	Barrier At	ten B	erm Atten
Autos:	68.46	1.49	-	0.07	-1.20	-4	.67 0.	000	0.000
Medium Trucks:	79.45	-15.75	-	0.05	-1.20	-4	.87 0.	000	0.000
Heavy Trucks:	84.25			0.05	-1.20	-5	i.38 0.	000	0.000
Unmitigated Noise									
	Leq Peak Ho			q Evening		Night	Ldn		CNEL
Autos:	68		66.8	65.0		59.0	67.		68.2
Medium Trucks:	62		61.0	54.6	-	53.0	61.	-	61.7
Heavy Trucks:			61.9	52.8		54.1	62.		62.6
Vehicle Noise:			68.8	65.0	3	61.0	69.	5	70.0
Centerline Distance	e to Noise C	ontour (in feet		70 dBA	05	dBA	00 -ID4		5 dBA
						10	60 dBA	1 5	
			Ldn: NFI:	51 55		10	236 254		509 546
		Ci	VEL:	აა	1	10	254		J40

Tuesday, February 03, 2015

	FH\	WA-RD-77-108 I	HIGHWAY	NOISE P	REDICTION	N MODEL			
Road Na	ario: Year 2035 me: Box Spring ent: s/o Eastrid	s Bl.				lame: Cany mber: 8991	on Springs		
SITE	SPECIFIC IN	IPUT DATA			NO	DISE MOD	EL INPUT	S	
Highway Data				Site Cor	nditions (i	Hard = 10,	Soft = 15)		
Average Dail	y Traffic (Adt):	3,300 vehicles				Auto	s: 15		
Peak Hot	ır Percentage:	10%		Me	edium Truc	ks (2 Axles	:): 15		
Peak	Hour Volume:	330 vehicles		He	avy Truck	s (3+ Axles	:): 15		
١	/ehicle Speed:	40 mph		Vehicle	Miv				-
Near/Far L	ane Distance:	36 feet			icleType	Dav	Evening	Night E	Daily
Site Data				VOI		itos: 77.5	-		7.42%
				М	edium Tru				.84%
Barrier Type (0-	arrier Height:	0.0 feet 0.0			Heavy Tru).74%
,, ,	vvali, 1-berrii). Dist. to Barrier:	44.0 feet							
	t. to Observer:	44.0 feet		Noise S		vations (in	feet)		
Barrier Distanc		0.0 feet			Autos:				
Observer Heigh		5.0 feet			m Trucks:				
	Pad Flevation:	0.0 feet		Heav	vy Trucks:	8.006	Grade Ad	justment: 0.	3
	oad Elevation:	0.0 feet		Lane Eq	uivalent l	Distance (i	n feet)		=
	Road Grade:	0.0%			Autos:	40.460	,		
	Left View:	-90.0 degree	s	Mediu	m Trucks:	40.241			
	Right View:	90.0 degree		Heav	vy Trucks:	40.262			
FHWA Noise Mo			l l						
VehicleType	REMEL	Traffic Flow	Distance		Road	Fresnel	Barrier Att		
Autos		-6.25	1.2		-1.20	-4.6			0.000
Medium Trucks		-23.49	1.3		-1.20	-4.8			0.000
Heavy Trucks		-27.45	1.3		-1.20	-5.5	0.0	000	0.000
Unmitigated Noi								01/5	
VehicleType	Leq Peak Hou			vening	Leq N	•	Ldn	CNEL	
Autos Medium Trucks			8.4 2.8	56.7		50.6 44.9	59.2		59.8
	-		i4.2	46.5 45.2		44.9	53.4 54.8		53.6 54.9
Heavy Trucks Vehicle Noise			60.6	57.3		52.8	61.3		61.8
Centerline Dista				00		02.0	51.0	-	55
ocincinile Dista	ince to NOISE O	moui (iii ieei)	70	dBA	65 d	BA	60 dBA	55 dB.	4
		L	dn:	12	25		54	116	
		CN	EL:	12	27		58	124	

Tuesday, February 03, 2015

Tuesday, February 03, 2015

55 dBA 212 227

60 dBA

98 105

	Fŀ	IWA-RD-77-108	HIGH	WAY N	IOISE P	REDICTION	ON MO	DEL			
Road Na	ario: Year 2035 me: Day St. ent: n/o SR-60	Without Project	t				Name: umber:		n Springs		
	SPECIFIC I	NPUT DATA							L INPUT	s	
Highway Data					Site Cor	ditions (Hard =	10, Sc	oft = 15)		
Average Dail	y Traffic (Adt):	33,100 vehicle	S					Autos:	15		
Peak Hou	ır Percentage:	10%			Me	dium Tru	icks (2 A	Axles):	15		
Peak	Hour Volume:	3,310 vehicle	s		He	avy Truc	ks (3+ A	Axles):	15		
١	ehicle Speed:	40 mph		-	Vehicle	Miv					
Near/Far L	.ane Distance:	72 feet		-		icleType		Dav	Evening	Niaht	Dailv
Site Data							utos:	77.5%	-	9.6%	. ,
	arrier Height:	0.0 feet			М	edium Tr	ucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-		0.0				Heavy Tr	ucks:	86.5%	2.7%	10.8%	0.74%
Centerline I	Dist. to Barrier:	60.0 feet		H	Noise S	ource Ele	avation	e (in fa	not)		
Centerline Dis	t. to Observer:	60.0 feet		F.	10/36 0	Autos		000	,,,,		
Barrier Distance	e to Observer:	0.0 feet			Madiu	m Trucks		297			
Observer Heigh	t (Above Pad):	5.0 feet				vy Trucks		006	Grade Ad	iuetmant	. 0.0
	Pad Elevation:	0.0 feet			rica	ry Trucks	. 0.	500	Orace Au	usuncin	. 0.0
R	oad Elevation:	0.0 feet		1	Lane Eq	uivalent	Distan	ce (in :	feet)		
	Road Grade:	0.0%				Autos	: 48.	260			
	Left View:	-90.0 degre	es		Mediu	m Trucks	: 48.	076			
	Right View:	90.0 degre	es		Hear	y Trucks	: 48.	094			
FHWA Noise Mo	del Calculatio	ns									
VehicleType	REMEL	Traffic Flow		tance	Finite	Road	Fresr	_	Barrier Att	en Ber	m Atten
Auto				0.13	3	-1.20		-4.69	0.0	000	0.000
Medium Trucks	s: 77.72	2 -13.48		0.1	5	-1.20		-4.88	0.0	000	0.000
Heavy Trucks	82.9	9 -17.44		0.1	5	-1.20		-5.34	0.0	000	0.000
Unmitigated No.	se Levels (wit	hout Topo and	barrie	er atten	uation)						
VehicleType	Leq Peak Ho	our Leq Day		Leq E		Leq I	Vight		Ldn		NEL
Auto		9.2	67.3		65.5		59.5		68.1		68.7
Medium Trucks		3.2	61.7		55.3		53.8		62.2	-	62.5
Heavy Trucks		4.5	63.1		54.1		55.3		63.7		63.8
Vehicle Noise			69.5		66.2		61.7	r	70.2	2	70.6
Centerline Dista	nce to Noise (Contour (in feet)	70	AD V	65.0	JD A		O dDA		dD A
			I dn:	70 0				1 6	00 dBA		dBA 18
		_					-	618 662			
	CNEL:					66 143 307 6				002	

FH	WA-RD-77-108 HIG	HWAY NOISE	PREDICTION MO	DEL	
Scenario: Year 2035 Road Name: Day St. Road Segment: s/o Canyo	*		Project Name: Job Number:	Canyon Springs 8991	
SITE SPECIFIC II	NPUT DATA			MODEL INPUTS	5
Highway Data		Site C	onditions (Hard =	10, Soft = 15)	
Average Daily Traffic (Adt):	29,500 vehicles			Autos: 15	
Peak Hour Percentage:	10%	1	Medium Trucks (2)	Axles): 15	
Peak Hour Volume:	2,950 vehicles		Heavy Trucks (3+)	4 <i>xles):</i> 15	
Vehicle Speed:	40 mph	Vehic	le Mix		
Near/Far Lane Distance:	72 feet		ehicleType	Day Evening	Night Daily
Site Data			Autos:	77.5% 12.9%	9.6% 97.42%
Barrier Height:	0.0 feet		Medium Trucks:	84.8% 4.9%	10.3% 1.84%
Barrier Type (0-Wall, 1-Berm):	0.0		Heavy Trucks:	86.5% 2.7%	10.8% 0.74%
Centerline Dist. to Barrier:	60.0 feet	Maine	Source Elevation	o (in foot)	
Centerline Dist. to Observer:	60.0 feet	Noise			
Barrier Distance to Observer:	0.0 feet			000 297	
Observer Height (Above Pad):	5.0 feet				ustment: 0.0
Pad Elevation:	0.0 feet	THE	avy Trucks. 6.	006 Grade Adji	adament. 0.0
Road Elevation:	0.0 feet	Lane	Equivalent Distan	ce (in feet)	
Road Grade:	0.0%			260	
Left View:	-90.0 degrees			076	
Right View:	90.0 degrees	He	eavy Trucks: 48.	094	
FHWA Noise Model Calculation	ıs				
VehicleType REMEL	Traffic Flow Di	stance Fin	ite Road Fresi	nel Barrier Atte	en Berm Atten
Autos: 66.51	3.26	0.13	-1.20	-4.69 0.0	0.000
Medium Trucks: 77.72		0.15	-1.20	-4.88 0.0	
Heavy Trucks: 82.99	-17.94	0.15	-1.20	-5.34 0.0	0.000
Unmitigated Noise Levels (with			*		
VehicleType Leq Peak Ho		Leq Evening	, ,	Ldn	CNEL
	3.7 66.8	65			
	2.7 61.2	54			
,	1.0 62.6	53			
Vehicle Noise: 70	0.7 69.0	65	5.7 61.2	2 69.7	70.1
Centerline Distance to Noise C	ontour (in feet)				
	Į	70 dBA	65 dBA	60 dBA	55 dBA
	Ldn:	57	123	266	572
	CNEL:	61	132	284	613

	FHW	A-RD-77-108	HIGH	WAY N	OISE P	REDICT	TION MOD	EL			
Scenario: Year 2 Road Name: Day S Road Segment: n/o Ca		,					t Name: C Number: 8		Springs		
SITE SPECIFI	CINP	UT DATA							_ INPUTS	6	
Highway Data				S	ite Cor	nditions	(Hard = 1	10, So	ft = 15)		
Average Daily Traffic (Ad Peak Hour Percenta Peak Hour Volun	ie: ie: 4	10% I,660 vehicle					A rucks (2 A icks (3+ A	/	15 15 15		
Vehicle Spe		40 mph		ν	'ehicle	Mix					
Near/Far Lane Distan	e:	72 feet			Veh	icleTyp	e L	Day	Evening	Night	Daily
Site Data							Autos: 7	7.5%	12.9%	9.69	% 97.42%
Barrier Heig	nt.	0.0 feet			M	edium 7	rucks: 8	4.8%	4.9%	10.39	% 1.84%
Barrier Type (0-Wall, 1-Ber		0.0				Heavy 7	Frucks: 8	6.5%	2.7%	10.89	% 0.74%
Centerline Dist. to Barr	er:	60.0 feet		۸	loise S	ource E	levations	(in fe	et)		
Centerline Dist. to Observ	er:	60.0 feet				Auto		•	,		
Barrier Distance to Observ	er:	0.0 feet			Mediu	m Truck					
Observer Height (Above Pa	ver Height (Above Pad): 5.0 feet Pad Flevation: 0.0 feet					vy Truck			Grade Adj	ustmei	nt: 0.0
Pad Elevati	n:	0.0 feet									
Road Elevati	n:	0.0 feet		L	ane Eq	uivalen	t Distanc	e (in f	eet)		
Road Gra	le:	0.0%				Auto					
Left Vie	W:	-90.0 degre	es			m Truck					
Right Vie	W:	90.0 degre	es		Hea	vy Truck	ks: 48.0	94			
FHWA Noise Model Calcula	tions			, t							
VehicleType REME	. 1	Traffic Flow	Dis	stance	Finite	Road	Fresne	el l	Barrier Atte	en B	erm Atten
	3.51	5.24		0.13		-1.20		4.69	0.0		0.000
	7.72	-11.99		0.15		-1.20		4.88	0.0		0.000
Heavy Trucks: 8	2.99	-15.95		0.15		-1.20	7	5.34	0.0	00	0.000
Unmitigated Noise Levels	withou	ut Topo and	barri	er attenı	ıation)						
VehicleType Leq Peal				Leq Ev			Night		Ldn		CNEL
Autos:	70.7		68.8		67.0		61.0		69.6		70.2
Medium Trucks:	64.7		63.2		56.8		55.3		63.7		64.0
Heavy Trucks:	66.0		64.6		55.5		56.8		65.1		65.3
Vehicle Noise:	72.7		71.0		67.7		63.1		71.7		72.1
Centerline Distance to Nois	e Con	ntour (in feet)								
			L	70 d			dBA		0 dBA	5	5 dBA
			Ldn:	78			167		360		776
	CNEL:				83 179 386 8				831		

Tuesday, February 03, 2015

	FHV	VA-RD-77-108 HI	GHWAY	NOISE P	REDICTI	ON MOD	EL				
Road Nar	rio: Year 2035 \ me: Day St. ent: s/o Campus	,				Name: Ca Imber: 89		Springs			
SITE	SPECIFIC IN	PUT DATA			N	OISE MO	DDEI	INPUTS	5		
Highway Data				Site Cor	nditions (Hard = 1	0, So	ft = 15)			
Average Daily	Traffic (Adt): 2	26,900 vehicles				Au	ıtos:	15			
Peak Hou	r Percentage:	10%		Me	edium Tru	cks (2 Ax	les):	15			
Peak I	Hour Volume:	2,690 vehicles		He	eavy Truc	ks (3+ Ax	les):	15			
V	ehicle Speed:	40 mph		Vehicle	Mix						
Near/Far La	ane Distance:	72 feet			icleType	D	ay	Evening	Night	Daily	
Site Data					A	utos: 7	7.5%	12.9%	9.6%	97.42%	
Ba	arrier Height:	0.0 feet		M	ledium Tr	ucks: 8	4.8%	4.9%	10.3%	1.84%	
Barrier Type (0-V	Vall, 1-Berm):	0.0			Heavy Tr	ucks: 8	6.5%	2.7%	10.8%	0.74%	
Centerline D	list. to Barrier:	60.0 feet		Noise S	ource Ele	evations	(in fe	et)			
Centerline Dist.		60.0 feet		Autos: 0.000							
Barrier Distance		0.0 feet		Medium Trucks: 2.297							
	server Height (Above Pad): 5.0 feet				Heavy Trucks: 8.006 Grade Adjustment: 0.0						
	Pad Elevation: 0.0 feet										
Ro	oad Elevation:	0.0 feet		Lane Eq		Distance	•	eet)			
	Road Grade:	0.0%		14	Autos m Trucks		-				
	Left View:	-90.0 degrees					-				
	Right View:	90.0 degrees		неа	vy Trucks	: 48.05	14				
FHWA Noise Mod	del Calculation										
VehicleType	REMEL		Distance		Road	Fresne		Barrier Atte		m Atten	
Autos.		2.86	0.		-1.20		1.69	0.0		0.000	
Medium Trucks.		-14.38	0.		-1.20		1.88	0.0		0.000	
Heavy Trucks.	82.99	-18.34	0.	15	-1.20	-5	5.34	0.0	00	0.000	
Unmitigated Nois	e Levels (with	out Topo and ba	rrier atte	nuation)							
VehicleType	Leq Peak Hou			vening	Leq I	_		Ldn		VEL	
Autos.				64.6		58.6		67.2		67.8	
Medium Trucks.			-	54.4		52.9		61.3		61.6	
Heavy Trucks			_	53.2		54.4		62.8		62.9	
Vehicle Noise.	: 70	.3 68	.6	65.3		60.8		69.3	•	69.7	
Centerline Distance to Noise Contour (in feet)											
					70 dBA 65 dBA			60 dBA 55 dBA			
	Ldn:			54 116		-	250		_	538	
	CNEL:			58	12	4		267	5	576	

Tuesday, February 03, 2015

	FH	WA-RD-77-108	HIGH	WAY N	IOISE P	REDICTI	ON MC	DEL			
Road Na	ario: Year 2035 ime: Day St. ient: s/o Gatew	Without Project	t				Name: umber:		n Springs		
SITI	SPECIFIC II	NPUT DATA							L INPUT	S	
Highway Data					Site Cor	nditions	(Hard =	: 10, Sc	oft = 15)		
Average Dail	ly Traffic (Adt):	21,000 vehicle	S					Autos:	15		
Peak Hot	ır Percentage:	10%			Me	edium Tru	icks (2 .	Axles):	15		
Peak	Hour Volume:	2,100 vehicle	S		He	eavy Truc	ks (3+.	Axles):	15		
\	/ehicle Speed:	40 mph		-	Vehicle	Mix					
Near/Far L	ane Distance:	72 feet		-		icleType		Dav	Evenina	Niaht	Dailv
Site Data							utos:	77.5%	12.9%	9.6%	97.42%
	arrier Height:	0.0 feet			М	edium Tr	ucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-		0.0				Heavy Tr	ucks:	86.5%	2.7%	10.8%	0.74%
Centerline I	Dist. to Barrier:	60.0 feet		- 1	Noise S	ource El	evation	s (in f	eet)		
Centerline Dis	t. to Observer:	60.0 feet		F		Autos		000	,		
Barrier Distanc	e to Observer:	0.0 feet			Mediu	m Trucks		297			
Observer Heigh	t (Above Pad):	5.0 feet			Hear	vy Trucks	: 8	006	Grade Ad	iustment	0.0
	Pad Elevation:	0.0 feet		L							
R	load Elevation:	0.0 feet		1	Lane Eq	uivalent			feet)		
	Road Grade:	0.0%				Autos		.260			
	Left View:	-90.0 degre	es			m Trucks		.076			
	Right View:	90.0 degre	es		Hear	vy Trucks	: 48	.094			
FHWA Noise Mo	del Calculation	ns									
VehicleType	REMEL	Traffic Flow	Dis	tance		Road	Fresi		Barrier Att		m Atten
Auto				0.13	-	-1.20		-4.69	0.0		0.000
Medium Trucks				0.1	-	-1.20		-4.88	0.0		0.000
Heavy Trucks				0.1	-	-1.20		-5.34	0.0	000	0.000
Unmitigated No.											
VehicleType	Leq Peak Ho			Leg E		Leq i			Ldn		NEL
Autos			65.3		63.6		57.	-	66.1		66.7
Medium Trucks			59.7		53.3		51.	-	60.3		60.5
Heavy Trucks			61.1 67.5		52.1		53.	_	61.7		61.8 68.7
Vehicle Noise					64.2		59.	/	68.2	<u> </u>	68.7
Centerline Dista	nce to Noise C	contour (in feet)	70 0	HRΔ	65.0	·IRΔ		60 dBA	55	dBA
			I dn:	4		9		1 ,	212		56
		C	VEL:	4	-	10	-		227		188
		0.			-		-				

	io: Voor 2025 l	Without Project			Project Nai	no: Cari	n Springs		
	io: Year 2035 i ne: Dav St.	williout Project			Job Numb		iii opiings		
	nt: s/o Eucalyp	itus Av			JOD IVUITIL	ici. 0551			
	,,			1					
	SPECIFIC IN	PUT DATA		04- 0			L INPUTS	5	
Highway Data				Site Con	ditions (Ha				
,	. ,	21,000 vehicles				Autos			
	Percentage:	10%			dium Trucks	, ,,,			
	lour Volume:	2,100 vehicles		He	avy Trucks	3+ Axies)	: 15		
	hicle Speed:	35 mph		Vehicle I	Mix				
Near/Far La	ne Distance:	58 feet		Veh	icleType	Day	Evening	Night D	aily
Site Data					Auto	s: 77.5%	6 12.9%	9.6% 97	.429
Ba	rrier Height:	0.0 feet		Me	edium Truck	s: 84.89	6 4.9%	10.3% 1	.849
Barrier Type (0-W		0.0		F	leavy Truck	s: 86.59	6 2.7%	10.8% 0).74%
Centerline Di	st. to Barrier:	55.0 feet		Noise St	ource Eleva	tions (in t	oot)		
Centerline Dist.	to Observer:	55.0 feet		140/36/30	Autos:	0.000	eei)		
Barrier Distance	to Observer:	0.0 feet		Modius	m Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet			v Trucks:	8.006	Grade Adi	ustment: 0.0	n
Pa	ad Elevation:	0.0 feet			,				_
Ro	ad Elevation:	0.0 feet		Lane Eq	uivalent Dis		feet)		
	Road Grade:	0.0%			Autos:	47.000			
	Left View:	-90.0 degrees			m Trucks:	46.811			
	Right View:	90.0 degrees		Heav	y Trucks:	46.830			
FHWA Noise Mod	el Calculation	•							
VehicleType	REMEL	Traffic Flow	Distance	Finite	Road F	resnel	Barrier Atte	en Berm A	Atten
Autos:	64.30	2.36	0.	.30	-1.20	-4.67	0.0	00	0.00
Medium Trucks:	75.75	-14.88	0.	.33	-1.20	-4.87	0.0	00	0.00
	81.57	-18.83	0.	.32	-1.20	-5.38	0.0	00	0.00
Heavy Trucks:			arrier atte	enuation)					
,	e Levels (with	out Topo and ba					Ldn	CNEL	-
,	e Levels (with Leq Peak Hou			Evening	Leq Nigi	nt			65
Unmitigated Nois		ır Leq Day	Leq	Evening 62.1	Leq Nigi	56.0	64.7		
Unmitigated Noise VehicleType	Leq Peak Hou	r Leq Day .8 63	Leq 3.9	Ü	Leq Nigl				
Unmitigated Noise VehicleType Autos:	Leq Peak Hou	r Leq Day .8 63 .0 58	Leq 3.9 3.5	62.1	Leq Nigl	56.0	64.7		59.
VehicleType Autos: Medium Trucks:	Leq Peak Hou 65 60	Leq Day .8 63 .0 58 .9 60	Leq 3.9 3.5 0.4	62.1 52.1	Leq Nigl	56.0 50.6	64.7 59.0	1	59. 61.
Unmitigated Nois VehicleType Autos: Medium Trucks: Heavy Trucks: Vehicle Noise:	Leq Peak Hou 65 60 61 68	Leq Day .8 63 .0 58 .9 60 .0 66	Leq 3.9 3.5 0.4	62.1 52.1 51.4	Leq Nigl	56.0 50.6 52.7	64.7 59.0 61.0	1	59. 61.
Unmitigated Nois VehicleType Autos: Medium Trucks: Heavy Trucks: Vehicle Noise:	Leq Peak Hou 65 60 61 68	Leq Day .8 63 .0 58 .9 60 .0 66	Leq 3.9 3.5 0.4	62.1 52.1 51.4	Leq Nigl	56.0 50.6 52.7 58.5	64.7 59.0 61.0	1	59. 61.
Unmitigated Nois VehicleType Autos: Medium Trucks: Heavy Trucks:	Leq Peak Hou 65 60 61 68	Leq Day .8 63 .0 58 .9 60 .0 66	Leq 3.9 3.5).4 5.3	62.1 52.1 51.4 62.8		56.0 50.6 52.7 58.5	64.7 59.0 61.0 67.0	1	59. 61.

	FH\	VA-RD-77-108	HIGHV	VAY NO	DISE P	REDICT	ON MO	DEL			
Scenari Road Nam Road Segmen	e: Day St.	Without Project	t				Name: umber:		n Springs		
	SPECIFIC IN	PUT DATA							L INPUT	S	
Highway Data				S	ite Cor	ditions	(Hard =	10, Sc	oft = 15)		
Average Daily	Traffic (Adt): 2	21,000 vehicle	S					Autos:	15		
Peak Hour	Percentage:	10%			Me	dium Tri	ıcks (2 /	Axles):	15		
Peak H	our Volume:	2,100 vehicle	S		He	avy Truc	cks (3+ A	Axles):	15		
	nicle Speed:	40 mph		V	ehicle	Mix					
Near/Far Lar	ne Distance:	72 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data						-	Autos:	77.5%	12.9%	9.6%	97.42
Bar	rier Height:	0.0 feet			М	edium Ti	ucks:	84.8%	4.9%	10.3%	1.849
Barrier Type (0-W	-	0.0			- 1	Heavy Ti	rucks:	86.5%	2.7%	10.8%	0.749
Centerline Dis	t. to Barrier:	60.0 feet		A/	laica S	ource El	ovation	c (in fe	not)		
Centerline Dist.	to Observer:	60.0 feet		/*	0136 31	Auto:		000	ei)		
Barrier Distance	to Observer:	0.0 feet			Madiu	m Truck		297			
Observer Height (Above Pad):	5.0 feet				vy Truck		006	Grade Ad	iustment	0.0
Pa	d Elevation:	0.0 feet									
	d Elevation:	0.0 feet		L	ane Eq	uivalen			feet)		
F	Road Grade:	0.0%				Auto		260			
	Left View:	-90.0 degre				m Truck		076			
	Right View:	90.0 degre	es		Heav	y Truck	s: 48.	094			
FHWA Noise Mode	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dista			Road	Fresr		Barrier Att		rm Atten
Autos:	66.51	1.78		0.13		-1.20		-4.69		000	0.00
Medium Trucks:	77.72	-15.46		0.15		-1.20		-4.88		000	0.00
Heavy Trucks:	82.99	-19.41		0.15		-1.20		-5.34	0.0	000	0.00
Unmitigated Noise	Levels (with	out Topo and	barrier	attenu	ıation)						
	Leq Peak Hou			Leq Eve		_	Night		Ldn		NEL
Autos:	67		65.3		63.6		57.5		66.1		66
Medium Trucks:	61	_	59.7		53.3		51.8		60.3	-	60
Heavy Trucks: Vehicle Noise:	62 69		61.1 67.5		52.1 64.2		53.3 59.7		61.7		61.
vernicle Noise:		_			04.2		59.7		68.2	<u> </u>	68
	e to Noise Co	ontour (in feet)								
Centerline Distanc				70 dF	RΔ	65	dRΔ	6	O ARA	55	dRΔ
Centerline Distanc		-	I dn:	70 dE			dBA 8	6	0 dBA 212		dBA 156

Tuesday, February 03, 2015

	FH\	WA-RD-77-108	HIGH	WAY I	NOISE P	REDICTI	ON MOI	DEL			
Road Na.	ario: Year 2035 me: Day St. ent: s/o Cottony	,	t				Name: 0 umber: 8		Springs		
SITE	SPECIFIC IN	IPUT DATA				N	OISE N	IODE	LINPUT	s	
Highway Data					Site Cor	ditions	Hard =	10, So	ft = 15)		
Average Dail	Y Traffic (Adt):	17,500 vehicle	S				A	Autos:	15		
Peak Hou	ır Percentage:	10%			Me	dium Tru	cks (2 A	xles):	15		
Peak	Hour Volume:	1,750 vehicle	S		He	avy Truc	ks (3+ A	xles):	15		
ν	ehicle Speed:	35 mph		ŀ	Vehicle	Mix					
Near/Far L	ane Distance:	36 feet		f		icleType		Day	Evening	Night	Daily
Site Data						A	utos:	77.5%	12.9%	9.6%	97.42%
B	arrier Height:	0.0 feet			М	edium Tr	ucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-		0.0			1	Heavy Tr	ucks:	86.5%	2.7%	10.8%	0.74%
Centerline E	Dist. to Barrier:	44.0 feet		ŀ	Noise S	ource Flo	evations	in fe	et)		
Centerline Dist	t. to Observer:	44.0 feet		f	710,00	Autos			01/		
Barrier Distance	e to Observer:	0.0 feet			Mediu	m Trucks					
Observer Height	. ,	5.0 feet				v Trucks	-		Grade Ad	ustment	0.0
	Pad Elevation:	0.0 feet		ļ		•					
R	oad Elevation:	0.0 feet		-	Lane Eq				eet)		
	Road Grade:	0.0%				Autos					
	Left View:	-90.0 degree				m Trucks					
	Right View:	90.0 degree	es		Heav	y Trucks	: 40.2	262			
FHWA Noise Mo	del Calculation	ıs		1							
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fresn	el i	Barrier Att	en Bei	m Atten
Autos	: 64.30	1.57		1.2	28	-1.20		-4.61	0.0	000	0.000
Medium Trucks				1.3		-1.20		-4.87	0.0		0.000
Heavy Trucks	: 81.57	-19.62		1.3	31	-1.20		-5.50	0.0	000	0.000
Inmitigated Noi	se Levels (with	out Topo and	barrie	er atte	nuation)						
VehicleType	Leq Peak Hou	ur Leq Day	,	Leq E	vening	Leq I	Vight		Ldn	C	VEL
Autos			64.1		62.3		56.2		64.9		65.5
Medium Trucks			58.7		52.3		50.8		59.2		59.5
Heavy Trucks			60.6		51.6		52.8		61.2		61.3
Vehicle Noise	: 68	3.2	66.5		63.0		58.6		67.2	-	67.6
Centerline Dista	nce to Noise C	ontour (in feet)							,	
			L		dBA	65 6		6	0 dBA		dBA
Ldn:			_	29 61					285		
		CI	VEL:	3	30	6	ô		141	3	04

Tuesday, February 03, 2015

	FH	WA-RD-77-108	HIG	HWAY	NOISE P	REDICT	ION M	ODEL			
Road Na	ario: Year 2035 nme: Day St. nent: s/o Bay Av	, , , , ,	t				Name: lumber:		n Springs		
	SPECIFIC I	NPUT DATA							L INPUT	s	
Highway Data					Site Cor	nditions	(Hard	= 10, Sc	oft = 15)		
Average Dail	ly Traffic (Adt):	17,800 vehicle	:S					Autos:	15		
Peak Ho	ır Percentage:	10%				edium Tr					
Peak	Hour Volume:	1,780 vehicle	s		He	eavy Tru	cks (3+	Axles):	15		
	/ehicle Speed:	35 mph			Vehicle	Mix					
Near/Far L	ane Distance:	36 feet			Vet	icleType	9	Dav	Evening	Night	Dailv
Site Data							Autos:	77.5%		9.6%	97.42%
F	arrier Height:	0.0 feet			M	edium T	rucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-	-	0.0				Heavy T	rucks:	86.5%	2.7%	10.8%	0.74%
Centerline I	Dist. to Barrier:	44.0 feet			Noise S	nurce F	levatio	ns (in f	oet)		
Centerline Dis	t. to Observer:	44.0 feet				Auto		.000.	301)		
Barrier Distanc	e to Observer:	0.0 feet			Mediu	m Truck		.297			
Observer Heigh	t (Above Pad):	5.0 feet				vy Truck		3.006	Grade Ad	iustmen	t: 0.0
	Pad Elevation:	0.0 feet				•					
R	oad Elevation:	0.0 feet			Lane Eq				feet)		
	Road Grade:	0.0%				Auto		0.460			
	Left View:	-90.0 degre	es			m Truck).241			
	Right View:	90.0 degre	es		Hea	vy Truck	s: 40).262			
FHWA Noise Mo	del Calculation	ns									
VehicleType	REMEL	Traffic Flow	Di	stance	Finite	Road	Fres	inel	Barrier Att	en Be	rm Atten
Auto	s: 64.30	1.64		1.2	28	-1.20		-4.61	0.0	000	0.000
Medium Trucks	s: 75.75	-15.59		1.3	31	-1.20		-4.87	0.0	000	0.000
Heavy Trucks	s: 81.57	-19.55		1.3	31	-1.20		-5.50	0.0	000	0.000
Unmitigated No.	ise Levels (with	hout Topo and	barr	ier atte	nuation)						
VehicleType	Leq Peak Ho	ur Leq Daj	<i>y</i>	Leq E	vening	Leq	Night		Ldn	С	NEL
Auto	s: 6	6.0	64.1		62.4		56	.3	64.9	9	65.5
Medium Trucks		0.3	58.8		52.4		50		59.3	-	59.5
Heavy Trucks	s: 6	2.1	60.7		51.7		52	.9	61.3	3	61.4
Vehicle Noise	9: 6	8.3	66.5		63.1		58	.7	67.2	2	67.7
Centerline Dista	nce to Noise C	ontour (in fee	t)				10.4				
			1 -1		dBA		dBA	(60 dBA		dBA
			Ldn:			288 308					
		C	NEL:		31		oo		143		308

	FHW	A-RD-77-108 HI	GHWAY N	IOISE PI	REDICT	ION MOD	EL	
Road Name	o: Year 2035 W e: Eucalyptus A nt: s/o Towngat	٩v.				t Name: C lumber: 89	anyon Springs 991	
	SPECIFIC INF	PUT DATA					ODEL INPUT	S
Highway Data				Site Cor	ditions	(Hard = 1	0, Soft = 15)	
	Percentage:	7,800 vehicles 10% 1,780 vehicles 40 mph				Ai rucks (2 Ax cks (3+ Ax	,	
Near/Far Lar		48 feet	1	Vehicle I				
	ie Distance.	46 leet		Veh	icleType		ay Evening	Night Daily
Site Data Barrier Type (0-Wa	rier Height: all, 1-Berm):	0.0 feet 0.0			edium T Heavy T	rucks: 8	7.5% 12.9% 4.8% 4.9% 6.5% 2.7%	9.6% 97.42% 10.3% 1.84% 10.8% 0.74%
Centerline Dis	t. to Barrier:	50.0 feet	,	Vaisa S	nurce F	levations	(in foot)	
Roa	o Observer:	50.0 feet 0.0 feet 5.0 feet 0.0 feet 0.0 feet 0.0% -90.0 degrees 90.0 degrees	1	Heav L ane Eq Mediu	Auto m Truck ry Truck uivalen Auto m Truck ry Truck	s: 2.29 s: 8.00 t Distance s: 44.14 s: 43.94	97 96 Grade Adj e (in feet) 17	iustment: 0.0
FHWA Noise Mode								
VehicleType			Distance		Road	Fresne		
Autos:	66.51	1.06	0.7		-1.20			0.000
Medium Trucks: Heavy Trucks:	77.72 82.99	-16.17 -20.13	0.74		-1.20 -1.20			0.000 0.000
Unmitigated Noise	Levels (witho	ut Topo and ba	rrier atten	uation)				
VehicleType	Leq Peak Hour	Leq Day	Leg Ev	ening/	Leq	Night	Ldn	CNEL
Autos:	67.1	1 65.	2	63.4		57.4	66.0	66.6
Medium Trucks:	61.1			53.2		51.7	60.1	
Heavy Trucks:	62.4			51.9		53.2	61.5	
Vehicle Noise:	69.1	1 67.	4	64.1		59.5	68.1	68.5
Centerline Distance	e to Noise Co	ntour (in feet)						
			70 c	IBA	65	dBA	60 dBA	55 dBA
		Ldi	n: 3	7	- 1	30	173	372
		CNE	L: 41	0	8	36	185	399

	FH'	WA-RD-77-108	HIGH	WAY N	OISE P	REDICT	TION MODEL			
Road Nam		Without Project	t				t Name: Can lumber: 899			
SITE	SPECIFIC II	NPUT DATA				- 1	NOISE MOI	DEL INPUTS	S	
Highway Data				S	ite Cor	ditions	(Hard = 10,	Soft = 15)		
Average Daily	Traffic (Adt):	12,600 vehicles	s				Auto	os: 15		
Peak Hour	Percentage:	10%			Ме	dium Ti	rucks (2 Axle	s): 15		
Peak H	lour Volume:	1,260 vehicles	s		He	avy Tru	icks (3+ Axle	s): 15		
Ve	hicle Speed:	35 mph		1/	ehicle	Miv				
Near/Far La	ne Distance:	36 feet		-		icleTyp	e Dav	/ Evening	Night	Daily
Site Data					VCII		Autos: 77.		9.6%	-
		0.0 feet			М	edium 7			10.3%	
Barrier Type (0-W	rrier Height:	0.0 reet 0.0				Heavy 7			10.8%	
Centerline Di		44.0 feet								•11 1/0
Centerline Dist.		44.0 feet		٨	loise S		levations (ii	ı feet)		
Barrier Distance		0.0 feet				Auto				
Observer Height (5.0 feet				m Truck				
	ad Flevation:	0.0 feet			Heav	y Truck	s: 8.006	Grade Adj	ustmen	: 0.0
Roa	ad Elevation:	0.0 feet		L	ane Eq	uivalen	t Distance (in feet)		
	Road Grade:	0.0%				Auto	s: 40.460	-		
	Left View:	-90.0 degree	es		Mediu	m Truck	s: 40.241			
	Right View:	90.0 degree	es		Heav	y Truck	s: 40.262			
FHWA Noise Mode	el Calculation	ıs		-						
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fresnel	Barrier Atte	en Be	rm Atten
Autos:	64.30	0.14		1.28		-1.20	-4.6	61 0.0	000	0.000
Medium Trucks:	75.75	-17.09		1.31		-1.20	-4.8	37 0.0	000	0.000
Heavy Trucks:	81.57			1.31		-1.20	-5.5	50 0.0	000	0.000
Unmitigated Noise			barrie	er attenu	uation)					
VehicleType	Leq Peak Ho		_	Leq Ev		Leq	Night	Ldn		NEL
Autos:			62.6		60.9		54.8	63.4		64.0
Medium Trucks:			57.3		50.9		49.4	57.8		58.0
Heavy Trucks:			59.2		50.2		51.4	59.8		59.9
Vehicle Noise:			65.0		61.6		57.2	65.7	'	66.2
Centerline Distant	ce to Noise C	ontour (in feet)	70.	10.4			00 104		
			L	70 di			dBA	60 dBA		dBA
	Ldn:							229		
		CNEL:				24 53 114 245				

Tuesday, February 03, 2015

Site Data		FH	łWA-RD-77-10	8 HIG	HWAY	NOISE P	REDICTI	ON M	ODEL			
Autos: 15 Autos: 15 Autos: 15	Road Nar	ne: Eastridge	Av.							on Springs		
Average Daily Traffic (Adt): 31,600 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 3,160 vehicles Peak Hour Volume: 3,160 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 72 feet Vehicle Type Day Evening Night Distance Night Distance Noise Source Elevations: 10,3% Night Distance Noise Source Elevations: 10,0% Nois		SPECIFIC I	NPUT DATA			Site Cor					s	
Site Data	Average Daily Peak Hou Peak I	r Percentage: Hour Volume: ehicle Speed:	10% 3,160 vehicle 40 mph			Ме Не	edium Tru eavy Truc	icks (2	Autos: Axles).	15		
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 feet Heavy Trucks: 84.8% 4.9% 10.3% 1 Heavy Trucks: 86.5% 2.7% 10.8% 0.0 feet Heavy Trucks: 86.5% 2.7% 10.8% 0.0 feet Earrier Distance to Observer: 60.0 feet Autos: 0.00 feet Autos: 0.00 feet Heavy Trucks: 8.06 Grade Adjustment: 0.0 feet Autos: 48.260 Heavy Trucks: 48.260 Heavy Trucks: 48.006 Grade Adjustment: 0.0 feet Autos: 48.260 Heavy Trucks: 48.006 Hea	Near/Far L	ane Distance:	72 feet			Veh	nicleType		Day	Evening	Night	Daily
Centerline Dist. to Observer: Barrier Distance to Observer: Borrier Distance to Observer: Description: 0.0 feet Pad Elevation: 0.0 feet Road Grade: 0.0% Centerline Distance to Noise Pad; 0.0 feet Road Grade: 0.0% Centerline Distance to Noise Pad; 0.0 feet Road Grade: 0.0% Centerline Distance Pad; 0.0 feet Road Grade: 0.0% Centerline Distance Pad; 0.0% Centerline Distance Pad; 0.0% Centerline Distance Pad; 0.0% Centerline Distance Pad; 0.0% Centerline Distance Pad; 0.0% Centerline Distance Pad; 0.0% Centerline Distance Pad; 0.0% Centerline Distance Pad; 0.0% Centerline Distance Pad; 0.0% Centerline Distance Pad; 0.0% Centerline Distance Pad; 0.0% Centerline Distance Pad; 0.0% Centerline Distance Venice Pad; 0.0% Centerline	Ва						ledium Tr	ucks:	84.8%	6 4.9%	10.3%	1.84%
Autos: 0.000	Centerline D	ist. to Barrier:	60.0 feet			Noise S	ource El	evatio	ns (in f	eet)		
Road Grade:	Barrier Distance Observer Height	to Observer: (Above Pad):	0.0 feet 5.0 feet			Mediu	Autos ım Trucks	s: (s: 2	2.297		ljustmen	t: 0.0
Left View:	Ro	oad Elevation:	0.0 feet			Lane Eq	uivalent	Dista	nce (in	feet)		
VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berm Autos: 66.51 3.56 0.13 -1.20 -4.69 0.000		Left View:	-90.0 degre				m Trucks	s: 48	3.076			
Medium Trucks: 66.51 3.56 0.13 -1.20 -4.69 0.000 Medium Trucks: 77.72 -13.68 0.15 -1.20 -4.68 0.000 Heavy Trucks: 82.99 -17.64 0.15 -1.20 -5.34 0.000 Unmitigated Noise Levels (without Topo and barrier attenuation) VehicleType	FHWA Noise Mod	del Calculatio	ns									
Medium Trucks: 77.72 -13.68 0.15 -1.20 -4.88 0.000 Heavy Trucks: 82.99 -17.64 0.15 -1.20 -5.34 0.000 Unmitigated Noise Levels (without Topo and barrier attenuation) Vehicle Type Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 69.0 67.1 65.3 59.3 67.9 Medium Trucks: 63.0 61.5 55.1 53.6 62.0 Heavy Trucks: 64.3 62.9 53.8 55.1 63.5 Vehicle Noise: 71.0 69.3 66.0 61.5 70.0 Centerline Distance to Noise Contour (in feet)	VehicleType	REMEL	Traffic Flow	Di	istance	Finite	Road	Fres	snel	Barrier At	ten Be	rm Atten
Heavy Trucks: 82.99	Autos	66.5	1 3.56	6	0.1	13	-1.20		-4.69	0.0	000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 69.0 67.1 66.3 59.3 67.9 Medium Trucks: 63.0 61.5 55.1 53.6 62.0 Heavy Trucks: 64.3 62.9 53.8 55.1 63.5 Vehicle Noise: 71.0 69.3 66.0 61.5 70.0 Centerline Distance to Noise Contour (in feet)												0.000
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 69.0 67.1 65.3 59.3 67.9 Medium Trucks: 63.0 61.5 55.1 56.6 62.0 Heavy Trucks: 64.3 62.9 53.8 55.1 63.5 Vehicle Noise: 71.0 69.3 66.0 61.5 70.0 Centerline Distance to Noise Contour (in feet)			hout Tono and	d harr	ior atto	nuation)						
Autos: 69.0 67.1 65.3 59.3 67.9 Medium Trucks: 63.0 61.5 55.1 53.6 62.0 Heavy Trucks: 64.3 62.9 53.8 55.1 63.5 Vehicle Noise: 71.0 69.3 66.0 61.5 70.0 Centerline Distance to Noise Contour (in feet)							Leg	Night		Ldn	С	NEL
Heavy Trucks: 64.3 62.9 53.8 55.1 63.5 Vehicle Noise: 71.0 69.3 66.0 61.5 70.0 Centerline Distance to Noise Contour (in feet)									.3	67.	9	68.5
Vehicle Noise: 71.0 69.3 66.0 61.5 70.0 Centerline Distance to Noise Contour (in feet)	Medium Trucks	: 6	3.0	61.5		55.1		53	.6	62.	0	62.3
Centerline Distance to Noise Contour (in feet)	Heavy Trucks	: 6	4.3	62.9		53.8		55	.1	63.	5	63.6
. , ,	Vehicle Noise	: 7	1.0	69.3		66.0)	61	.5	70.	0	70.4
70 dBA 65 dBA 60 dBA 55 dB _A	Centerline Distar	nce to Noise (Contour (in fee	et)								
				Ţ								
Ldn: 60 129 278 599												
CNEL: 64 138 298 641		CNEL:				64 138 298 641				641		

Tuesday, February 03, 2015

Tuesday, February 03, 2015 Tuesday,

	FH	WA-RD-77-108	HIGH	WAY N	OISE PI	REDICTION	OM MO	DEL			
Road Na	me: Eastridge	Without Project Av. nore Canyon Bl.	t				Vame: imber:		n Springs		
	SPECIFIC I	NPUT DATA							L INPUT	S	
Highway Data				S	Site Cor	ditions (Hard =	10, Sc	oft = 15)		
Average Dail	ly Traffic (Adt):	29,200 vehicle	S					Autos:	15		
Peak Hot	ur Percentage:	10%			Me	dium Tru	cks (2 A	Axles):	15		
Peak	Hour Volume:	2,920 vehicle	S		He	avy Truc	ks (3+ A	Axles):	15		
1	/ehicle Speed:	40 mph		ı	/ehicle	Mix					
Near/Far L	ane Distance:	72 feet		F		icleType		Dav	Evening	Niaht	Dailv
Site Data							utos:	77.5%	-	9.6%	
	arrier Height:	0.0 feet			М	edium Tru	ıcks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-	-	0.0 feet			1	leavy Tru	ıcks:	86.5%	2.7%	10.8%	0.74%
,, ,	Dist. to Barrier:	60.0 feet			laisa S	ource Ele	wation	c (in f	not)		
Centerline Dis	t. to Observer:	60.0 feet		,	ioise si	Autos		000	ei)		
Barrier Distance	e to Observer:	0.0 feet			Modiu	m Trucks		297			
Observer Heigh	t (Above Pad):	5.0 feet				v Trucks		297	Grade Ad	isetmant	
	Pad Elevation:	0.0 feet			rical	y Trucks	. 0.	000	Orace Au	usunon.	0.0
R	oad Elevation:	0.0 feet		L	ane Eq	uivalent	Distan	ce (in i	feet)		
	Road Grade:	0.0%				Autos	: 48.	260			
	Left View:	-90.0 degree	es		Mediu	m Trucks	: 48.	076			
	Right View:	90.0 degree	es		Heav	y Trucks	: 48.	094			
FHWA Noise Mo	del Calculation	ns									
VehicleType	REMEL	Traffic Flow	Dist	tance	Finite	Road	Fresr	nel	Barrier Att	en Ber	m Atten
Auto				0.13	}	-1.20		-4.69	0.0	00	0.000
Medium Trucks	s: 77.72	2 -14.02		0.15	,	-1.20		-4.88	0.0	00	0.000
Heavy Trucks	s: 82.99	-17.98		0.15	,	-1.20		-5.34	0.0	00	0.000
Unmitigated No.	ise Levels (with	hout Topo and	barrie	r atteni	uation)						
VehicleType	Leq Peak Ho			Leq Ev		Leq N			Ldn		VEL
Auto			66.8		65.0		58.9		67.6		68.2
Medium Trucks			61.1		54.8		53.2		61.7		61.9
Heavy Trucks			62.5		53.5		54.8		63.1		63.2
Vehicle Noise	9: 7	0.7	68.9		65.7		61.1	l	69.6	i	70.1
Centerline Dista	nce to Noise C	Contour (in feet)					_			
			L	70 d		65 a		1 6	0 dBA		dBA
			Ldn:	57		12	_		264	-	68
		Ci	NEL:	61	I	13	1		282	6	80

	FH	WA-RD-77-108	HIGHV	VAY N	DISE PREI	DICTIO	ON MOD	EL			
	e: Eucalyptus		t				Vame: C mber: 8		Springs		
SITE S	PECIFIC IN	NPUT DATA				NO	DISE M	ODE	INPUTS		
Highway Data				S	ite Condit	ions (Hard = 1	0, So	ft = 15)		
	. ,	48,500 vehicle 10% 4,850 vehicle 40 mph			Heavy	/ Truck	A cks (2 A ks (3+ A		15 15 15		
Near/Far Lar		72 feet		V	ehicle Mix						
	ic Distance.	72 1001			Vehicle)ay	-	Night	Daily
Barrier Type (0-Wa	rier Height: all, 1-Berm):	0.0 feet 0.0				Au um Tru vy Tru	icks: 8	7.5% 4.8% 6.5%		9.6% 10.3% 10.8%	97.42% 1.84% 0.74%
Centerline Dis		60.0 feet		Ν	oise Sour	ce Ele	vations	(in fe	et)		
Roa	o Observer:	60.0 feet 0.0 feet 5.0 feet 0.0 feet 0.0 feet 0.0%		L	Medium T Heavy T ane Equiv	rucks:	2.29 8.00	97 06 e (in t	Grade Adju	stment:	0.0
	Left View: Right View:	-90.0 degre 90.0 degre			Medium T Heavy T	rucks:	48.0	76			
FHWA Noise Mode										_	
VehicleType	REMEL	Traffic Flow	Dista		Finite Ro		Fresne		Barrier Atter		n Atten
Autos:	66.51	5.42		0.13		1.20		4.69	0.00		0.000
Medium Trucks: Heavy Trucks:	77.72 82.99			0.15 0.15		1.20 1.20		4.88 5.34	0.00		0.000
Unmitigated Noise	Levels (with	out Topo and	barrier	attenu	ıation)						
VehicleType	Leq Peak Ho	ur Leq Day	/ 1	Leg Eve	ening	Leq N	light		Ldn	CN	IEL
Autos:	70).9	69.0		67.2		61.1		69.8		70.4
Medium Trucks:		1.8	63.3		57.0		55.4		63.9		64.1
Heavy Trucks:		3.2	64.7		55.7		57.0		65.3		65.4
Vehicle Noise:			71.1		67.9		63.3		71.9		72.3
Centerline Distanc	e to Noise C	ontour (in feet	:)								
			L	70 di		65 d		6	0 dBA		dBA
		_	Ldn:	80		17:	_		370		97
		C	NEL:	85		18	4		396	8	53

	FH'	WA-RD-77-108	HIGH	WAY N	DISE P	REDICT	TON MOI	DEL			
	e: Eastridge /		t				t Name: (lumber: 8		n Springs		
SITE S	SPECIFIC II	NPUT DATA				- 1	NOISE N	IODE	L INPUTS	5	
Highway Data				S	ite Cor	ditions	(Hard =	10, S	oft = 15)		
	Traffic (Adt): Percentage: our Volume:	36,200 vehicle 10% 3,620 vehicle					rucks (2 A rucks (3+ A		15		
	nicle Speed:	40 mph		ν	ehicle	Mix					
Near/Far Lar	ne Distance:	72 feet		-		icleTyp	۵	Dav	Evening	Night	Daily
Site Data								77.5%	-	9.69	,
Par	rier Height:	0.0 feet			М	edium 7	rucks:	34.8%	4.9%	10.39	6 1.84%
Barrier Type (0-Wa		0.0				Heavy 7	rucks:	36.5%	2.7%	10.89	6 0.74%
Centerline Dis	t. to Barrier:	60.0 feet			loise S	ource F	levations	(in f	eet)		
Centerline Dist. t	to Observer:	60.0 feet		Ë	0,00	Auto		•	001)		
Barrier Distance t	to Observer:	0.0 feet			Mediu	m Truck					
Observer Height (/	Above Pad):	5.0 feet				/y Truck			Grade Adj	ustmer	t: 0.0
Pa	d Elevation:	0.0 feet									
Roa	d Elevation:	0.0 feet		L	ane Eq	uivalen	t Distanc	e (in	feet)		
F	Road Grade:	0.0%				Auto					
	Left View:	-90.0 degre	es			m Truck					
	Right View:	90.0 degre	es		Heav	y Truck	s: 48.0	94			
FHWA Noise Mode	l Calculation	ıs									
VehicleType	REMEL	Traffic Flow	Dist	ance	Finite	Road	Fresn	e/	Barrier Atte	en Be	erm Atten
Autos:	66.51	4.15		0.13		-1.20		4.69	0.0	00	0.000
Medium Trucks:	77.72	-13.09		0.15		-1.20		4.88	0.0	00	0.000
Heavy Trucks:	82.99	-17.05		0.15		-1.20		5.34	0.0	00	0.000
Unmitigated Noise			barrie	r attenu	ıation)						
	Leq Peak Ho			Leq Ev			Night		Ldn		CNEL
Autos:		9.6	67.7		65.9		59.9		68.5		69.1
Medium Trucks:		3.6	62.1		55.7		54.2		62.6		62.9
Heavy Trucks:		1.9	63.5		54.4		55.7		64.0		64.2
Vehicle Noise:		1.6	69.9		66.6		62.0		70.6		71.0
Centerline Distanc	e to Noise C	ontour (in feet	!)	70 '	D.4	-	-ID 4		00 -ID4	-	C -(D.4
			,	70 di			dBA		60 dBA	5	5 dBA
		_	Ldn:	66			41		304		656
		C	NEL:	70		1	51		326		702

Tuesday, February 03, 2015

	FH	WA-RD-77-108	HIG	HWAY	NOISE P	REDICTI	ON M	ODEL			
Road Na	me: Eucalyptu:	Without Projects SAv. Springs Pkwy.	ct			Project Job No			on Springs		
SITE Highway Data	SPECIFIC I	NPUT DATA			Site Cor	N nditions			oft = 15)	s	
Average Daily Peak Hou Peak V	r Percentage: Hour Volume: ehicle Speed:	30,100 vehicle 10% 3,010 vehicle 40 mph			Ме	edium Tru eavy Truc	icks (2	Autos Axles)	: 15 : 15		
Near/Far L	ane Distance:	72 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data Barrier Type (0-1	arrier Height: Wall, 1-Berm):	0.0 feet 0.0				A edium Tr Heavy Tr		77.5% 84.8% 86.5%	6 4.9%		1.84%
	ist. to Barrier:	60.0 feet			Noise S	ource Ele	evatio	ns (in t	eet)		
Centerline Dist Barrier Distance Observer Height	e to Observer:	60.0 feet 0.0 feet 5.0 feet 0.0 feet			Mediu	Autos m Trucks yy Trucks	i: (0.000 2.297 3.006	Grade Ad	ljustment	: 0.0
R	oad Elevation:	0.0 feet			Lane Eq	uivalent	Dista	nce (in	feet)		
	Road Grade: Left View: Right View:	0.0% -90.0 degre 90.0 degre				Autos m Trucks y Trucks	: 48	3.260 3.076 3.094			
FHWA Noise Mo	del Calculatio	ns									
VehicleType	REMEL	Traffic Flow	Di	stance	Finite	Road	Fres	snel	Barrier Att	ten Bei	m Atten
Autos	: 66.51	3.35		0.1	13	-1.20		-4.69	0.0	000	0.000
Medium Trucks	: 77.72	-13.89		0.1	15	-1.20		-4.88	0.0	000	0.000
Heavy Trucks	: 82.99	-17.85		0.1	15	-1.20		-5.34	0.0	000	0.000
Unmitigated Noi:	se Levels (with	hout Topo and	barri	ier atte	nuation)						
VehicleType	Leq Peak Ho			Leq E	ening	Leq I			Ldn		NEL
Autos		8.8	66.9		65.1		59		67.		68.3
Medium Trucks	-	2.8	61.3		54.9		53		61.	-	62.1
Heavy Trucks Vehicle Noise		4.1 0.8	62.7 69.1		53.6 65.8		54 61		63.: 69.:		63.4 70.2
Centerline Distar					00.0		01	-	00.		70.2
Centeriine Distai	ice to Noise C	ontour (in fee	'/	70	dBA	65 (iBA		60 dBA	55	dBA
			Ldn:		58	12			269		80
		С	NEL:		62	13	34		288	6	321

Tuesday, February 03, 2015

Tuesday, February 03, 2015 Tuesday, F

	FH\	WA-RD-77-108	HIGI	I YAWH	NOISE PI	REDICT	ION MC	DEL			
Road Nar	rio: Year 2035 ne: Eucalyptus ent: e/o Day St.	Av.	t				Name: lumber:		n Springs		
	SPECIFIC IN	IPUT DATA							L INPUT	s	
Highway Data					Site Cor	ditions	•				
Average Daily	Traffic (Adt):	31,300 vehicle	S					Autos:	15		
Peak Hou	Percentage:	10%				dium Tr		,	15		
Peak I	Hour Volume:	3,130 vehicle	S		He	avy Tru	cks (3+ .	Axles):	15		
Ve	ehicle Speed:	40 mph			Vehicle	Mix					
Near/Far La	ane Distance:	82 feet		İ	Veh	icleType	,	Dav	Evenina	Niaht	Dailv
Site Data							Autos:	77.5%		9.6%	
	rrier Height:	0.0 feet			М	edium T	rucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-V	-	0.0			1	Heavy T	rucks:	86.5%	2.7%	10.8%	0.74%
Centerline D	ist. to Barrier:	67.0 feet			Noise S	ource E	levation	s (in fe	eet)		
Centerline Dist.	to Observer:	67.0 feet		İ		Auto		000	,		
Barrier Distance	to Observer:	0.0 feet			Mediu	m Truck	s: 2	297			
Observer Height	(Above Pad):	5.0 feet			Heav	vy Truck	s: 8.	006	Grade Ad	iustment.	0.0
	ad Elevation:	0.0 feet		L							
Ro	ad Elevation:	0.0 feet		L	Lane Eq	uivalen		_ •	feet)		
	Road Grade:	0.0%				Auto		.226			
	Left View:	-90.0 degre	es			m Truck		.059			
	Right View:	90.0 degre	es		Heav	y Truck	s: 53	.076			
FHWA Noise Mod	lel Calculation	ıs									
VehicleType	REMEL	Traffic Flow	Di	stance	Finite	Road	Fresi	nel	Barrier Att	en Ber	m Atten
Autos.		3.52		-0.5	1	-1.20		-4.71	0.0	000	0.000
Medium Trucks.	77.72	-13.72		-0.4	9	-1.20		-4.88	0.0	000	0.000
Heavy Trucks.	82.99	-17.68		-0.4	9	-1.20		-5.29	0.0	000	0.000
Unmitigated Nois								_			
VehicleType	Leq Peak Hou			Leq E	vening	Leq	Night		Ldn		VEL
Autos.		1.3	66.4		64.7		58.	-	67.2	-	67.8
Medium Trucks.		2.3	60.8		54.4		52.	-	61.3		61.6
Heavy Trucks. Vehicle Noise.			62.2 68.6		53.2 65.3		54. 60.	•	62.8 69.3		62.9 69.8
Centerline Distan	ce to Noise C	ontour (in feet	1)								
				70	dBA	65	dBA	6	0 dBA	55	dBA
			Ldn:	6	60	1	30		280	6	03
		_	NFI:		55	4	39		299		45

	FHWA	-RD-77-108 HIGI	HWAY N	OISE PREDIC	TION MODEL		
	o: Year 2035 Wi e: Alessandro Bl et: w/o Day St.				t Name: Can Number: 8991		
SITE S	SPECIFIC INP	UT DATA			NOISE MOD	EL INPUTS	
Highway Data			S	ite Condition:	s (Hard = 10,	Soft = 15)	
Peak Hour I Peak Ho		700 vehicles 10% 970 vehicles 45 mph			Auto rucks (2 Axles ucks (3+ Axles	s): 15	
Near/Far Lar	ne Distance:	82 feet	F*	VehicleTyp	e Dav	Evening 1	light Daily
Site Data Barrier Type (0-Wa	rier Height: all, 1-Berm):	0.0 feet 0.0		Medium 1	Autos: 77.5 Trucks: 84.8	% 12.9% % 4.9%	9.6% 97.42% 10.3% 1.84% 10.8% 0.74%
Centerline Dis	t. to Barrier:	67.0 feet	٨	loise Source E	Elevations (in	feet)	
Roa	o Observer: Above Pad): Id Elevation: Id Elevation: Road Grade: Left View:	67.0 feet 0.0 feet 5.0 feet 0.0 feet 0.0 feet 0.0 feet 0.0 feet 0.0% -90.0 degrees 90.0 degrees	L	Auto Medium Truco Heavy Truco ane Equivaler Auto Medium Truco Heavy Truco	ks: 2.297 ks: 8.006 nt Distance (i ps: 53.226 ks: 53.059	Grade Adjus n feet)	stment: 0.0
FHWA Noise Mode	el Calculations						
VehicleType	REMEL T	raffic Flow Di	stance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	5.01	-0.51				
Medium Trucks: Heavy Trucks:	79.45 84.25	-12.23 -16.18	-0.49 -0.49				
Unmitigated Noise	Levels (withou	t Topo and barri	ier atteni	uation)			
VehicleType	Leq Peak Hour	Leq Day	Leq Ev	ening Led	n Night	Ldn	CNEL
Autos:	71.8	69.9		68.1	62.0	70.7	71.3
Medium Trucks:	65.5	64.0		57.7	56.1	64.6	64.8
Heavy Trucks:	66.4	65.0		55.9	57.2	65.5	65.7
Vehicle Noise:	73.6	71.9		68.7	64.0	72.6	73.0
Centerline Distanc	e to Noise Cont	tour (in feet)					
			70 d		5 dBA	60 dBA	55 dBA
		Ldn:	99		214	462	995
		CNEL:	10	7 :	230	495	1,067

	FH	WA-RD-77-10	B HIGH	-IWAY N	OISE P	REDICTIO	ON MO	DEL			
	e: Towngate		ct			Project N Job Nu			n Springs		
	PECIFIC II	NPUT DATA							L INPUT	s	
Highway Data				S	ite Co	nditions (i					
Average Daily 1	, ,		es			- di T		Autos:	15 15		
Peak Hour I	ercentage: our Volume:	10% 1.480 vehicle				edium Truc eavy Truck		,	15		
	icle Speed:	1,480 venicie 40 mph	28			-	18 (3+7	4xies).	15		
Near/Far Lan		82 feet		ı	ehicle/						т
	o Biolarioo.	02 1001			Vel	nicleType		Day	Evening	Night	Daily
Site Data						Au Iedium Tru	itos:	77.5% 84.8%		9.6%	
	rier Height:	0.0 feet				ieaium Tru Heavy Tru		86.5%		10.3%	
Barrier Type (0-Wa	. ,	0.0				neavy IIu	CKS.	00.5%	2.170	10.6%	0.747
Centerline Dis Centerline Dist. t		67.0 feet 67.0 feet		٨	loise S	ource Ele	vation	s (in fe	eet)		
Barrier Distance t		0.0 feet				Autos:	0.	000			
Observer Height (A		5.0 feet				ım Trucks:		297			
	d Flevation:	0.0 feet			Hea	vy Trucks:	8.	006	Grade Ad	justmen	t: 0.0
	d Elevation:	0.0 feet		L	ane Ed	uivalent l	Distan	ce (in	feet)		
F	load Grade:	0.0%				Autos:	53.	226			
	Left View:	-90.0 degre	ees		Mediu	m Trucks:	53.	059			
	Right View:	90.0 degre	ees		Hea	vy Trucks:	53.	076			
FHWA Noise Mode	l Calculation	18									
VehicleType	REMEL	Traffic Flow		stance		Road	Fresi		Barrier Att		rm Atten
Autos:	66.51			-0.51		-1.20		-4.71		000	0.00
Medium Trucks:	77.72			-0.49		-1.20		-4.88		000	0.00
Heavy Trucks:	82.99			-0.49		-1.20		-5.29	0.0	000	0.00
VehicleType	Levels (witt Leg Peak Ho		_	er atten Leg Ev		Leg N	liaht	1	Ldn		NEL
Autos:		5.1	63.2	204 20	61.4		55.3	3	64.0		64.
Medium Trucks:	-	9.0	57.5		51.2		49.6	-	58.	-	58.
Heavy Trucks:	60	0.4	58.9		49.9	1	51.2	2	59.5	5	59.
Vehicle Noise:	67	7.1	65.3		62.1		57.5	5	66.	1	66.
Centerline Distanc	e to Noise C	ontour (in fee	t)								
			L	70 d		65 d		6	i0 dBA		dBA
			Ldn:	37		79			170		366
		C	NEL:	39	9	84			182		392

Tuesday, February 03, 2015

	FH\	WA-RD-77-108	HIGHWAY	NOISE P	REDICTIO	N MODEL				
Road Nar	rio: Year 2035 ne: Alessandro ent: e/o Day St.					lame: Cany mber: 8991	on Springs			
	SPECIFIC IN	IPUT DATA					EL INPUTS	6		
Highway Data				Site Cor	nditions (F	lard = 10,	Soft = 15)			
Average Daily	Traffic (Adt):	42,800 vehicles	3			Auto	s: 15			
Peak Hou	Percentage:	10%		Me	edium Truc	ks (2 Axles): 15			
Peak I	Hour Volume:	4,280 vehicles	3	He	eavy Truck	s (3+ Axles): 15			
Ve	ehicle Speed:	45 mph		Vehicle	Mix					
Near/Far La	ane Distance:	82 feet			icleType	Day	Evening	Night	Daily	
Site Data					Au	tos: 77.5	% 12.9%	9.6%	97.42%	
Ba	rrier Height:	0.0 feet		M	edium Tru	cks: 84.8	% 4.9%	10.3%	1.84%	
Barrier Type (0-V		0.0			Heavy Tru	cks: 86.5	% 2.7%	10.8%	0.74%	
Centerline D	ist. to Barrier:	67.0 feet		Noise S	ource Fle	vations (in	foot)			
Centerline Dist.	to Observer:	67.0 feet		110/30 0	Autos:		1001)			
Barrier Distance	to Observer:	0.0 feet		Madiu	m Trucks:	2.297				
Observer Height	(Above Pad):	5.0 feet			vy Trucks:	8.006	Grade Adju	ustment:	0.0	
F	ad Elevation:	0.0 feet			-					
Ro	ad Elevation:	0.0 feet		Lane Eq		Distance (ii	n feet)			
	Road Grade:	0.0%			Autos:					
	Left View:	-90.0 degree			m Trucks:					
	Right View:	90.0 degree	es	Hea	vy Trucks:	53.076				
FHWA Noise Mod	lel Calculation	s		1						
VehicleType	REMEL	Traffic Flow	Distance	e Finite	Road	Fresnel	Barrier Atte	en Bern	Atten	
Autos:		4.36).51	-1.20	-4.7			0.000	
Medium Trucks:		-12.87	-	1.49	-1.20	-4.8			0.000	
Heavy Trucks:	84.25	-16.83	-0	1.49	-1.20	-5.29	9 0.0	00	0.000	
Unmitigated Nois	e Levels (with	out Topo and	barrier att	enuation)						
VehicleType	Leq Peak Hou			Evening	Leq N	-	Ldn	CN		
Autos:			69.2	67.4		61.4	70.0		70.6	
Medium Trucks:			63.4	57.0		55.5	63.9		64.2	
Heavy Trucks:			64.3	55.3		56.5	64.9		65.0	
Vehicle Noise:	73	.0	71.2	68.1		63.4	71.9		72.4	
Centerline Distan	ce to Noise C	ontour (in feet))							
				0 dBA	65 dE		60 dBA	55 a		
			Ldn:	90 194			418		901	
		CN	IEL:	97	208	3	448	96	6	

Tuesday, February 03, 2015

FHV	VA-RD-77-108	HIGHWA	Y NOISE P	REDICTI	ON MOI	DEL			
Scenario: Year 2035 \ Road Name: Sycamore (Road Segment: n/o Eastridg	Canyon Bl.				Name: (umber: 8		n Springs		
SITE SPECIFIC IN	PUT DATA						L INPUT	S	
Highway Data			Site Co	nditions	(Hard =	10, Sc	oft = 15)		
Average Daily Traffic (Adt): 2	2,300 vehicles	3			,	Autos:	15		
Peak Hour Percentage:	10%		Me	edium Tru	icks (2 A	lxles):	15		
Peak Hour Volume:	2,230 vehicles	3	He	eavy Truc	ks (3+ A	lxles):	15		
Vehicle Speed:	45 mph		Vehicle	Mix					
Near/Far Lane Distance:	48 feet			nicleType		Dav	Evenina	Niaht	Dailv
Site Data				- A	utos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	0.0 feet		N	ledium Tr	ucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0			Heavy Tr	ucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	55.0 feet		Noise S	ource El	evation	s (in fe	opt)		
Centerline Dist. to Observer:	55.0 feet		710,000	Autos		000	,,,,		
Barrier Distance to Observer:	0.0 feet		Madii	ım Trucks		97			
Observer Height (Above Pad):	5.0 feet			vy Trucks		006	Grade Ad	iustment	. 00
Pad Elevation:	0.0 feet		1100	vy Trucke	. 0.0	,00	Orado riaj	dourion	. 0.0
Road Elevation:	0.0 feet		Lane Ed	quivalent	Distanc	e (in i	feet)		
Road Grade:	0.0%			Autos	: 49.7	739			
Left View:	-90.0 degree	es	Mediu	ım Trucks	: 49.5	561			
Right View:	90.0 degree	es	Hea	vy Trucks	: 49.5	579			
FHWA Noise Model Calculation	s		1						
VehicleType REMEL	Traffic Flow	Distanc	e Finite	Road	Fresn	_	Barrier Att	en Bei	rm Atten
Autos: 68.46	1.53		0.07	-1.20		-4.67	0.0		0.000
Medium Trucks: 79.45	-15.71	-(0.05	-1.20		-4.87	0.0	000	0.000
Heavy Trucks: 84.25	-19.66	-(0.05	-1.20		-5.38	0.0	000	0.000
Unmitigated Noise Levels (with	out Topo and	barrier at	tenuation)						
VehicleType Leq Peak Hou	- , ,		Evening	Leq	Vight		Ldn		NEL
Autos: 68		66.8	65.1		59.0		67.6		68.2
Medium Trucks: 62		61.0	54.6		53.1		61.5		61.8
Heavy Trucks: 63 Vehicle Noise: 70	-	61.9 68.8	52.9 65.7		54.1 61.0		62.5 69.5		62.6 70.0
			05.7		01.0	'	69.5	,	70.0
Centerline Distance to Noise Co	ntour (in feet,			0.5	10.4		60 dBA		dBA
Centernine Distance to Noise Co		/	'0 dBA	65 (1BA	1 6	ou aba	55	
Centernite Distance to Noise Co		Ldn:	70 dBA 51	11		6	238		112 512

Tuesday, February 03, 2015

				DISE PREDICT					
Scenario: Year 200		t			t Name: C Jumber: 8		Springs		
Road Name: Box Spri Road Segment: n/o East				JOD I	vurnber: 8	991			
SITE SPECIFIC	INPUT DAT	Α					INPUTS	i	
Highway Data			S	ite Conditions	•				
Average Daily Traffic (Adt)		cles				utos:	15		
Peak Hour Percentage				Medium T			15 15		
Peak Hour Volume Vehicle Speed				Heavy Tru	ICKS (3+ A	xies):	15		
Venicie Speed Near/Far Lane Distance			ν	ehicle Mix					
Near/Far Lane Distance	: 36 feet			VehicleTyp	e L	Day	Evening	Night	Daily
Site Data						77.5%	12.9%	9.6%	
Barrier Height	: 0.0 fee	ŧ		Medium 1		34.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm)	0.0			Heavy 1	rucks: 8	36.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier		t	Ν	loise Source E	levations	(in fe	et)		
Centerline Dist. to Observer		-		Auto		•	,		
Barrier Distance to Observer		-		Medium Truci	ks: 2.2	97			
Observer Height (Above Pad)		-		Heavy Truci	ks: 8.0	06	Grade Adju	ıstment.	0.0
Pad Elevation	. 0.0 100	-		ane Equivaler	4 Diotono	o (in f	0.041		
Road Elevation Road Grade	. 0.0 100	t	L	arie Equivalei Auto			eet)		
Road Grade Left View	. 0.070			Medium Truci					
Right View	. 00.0 00	,		Heavy Truci					
rugin view	. 90.0 de	grees		ricavy rraci	1010.2	.02			
FHWA Noise Model Calculati	ons								
VehicleType REMEL	Traffic Flo	w Dist	ance	Finite Road	Fresne	el l	Barrier Atte	n Ber	m Atten
Autos: 66.			1.28			4.61	0.00		0.00
Medium Trucks: 77.			1.31			4.87	0.00		0.000
Heavy Trucks: 82.	99 -23	44	1.31	-1.20	-	5.50	0.00	00	0.000
Unmitigated Noise Levels (w	ithout Topo a	nd barrie	r attenu	ıation)					
VehicleType Leq Peak F	Hour Leq	Day	Leg Eve	ening Lec	Night		Ldn	CI	VEL
Autos:	64.3	62.4		60.7	54.6		63.2		63.8
Medium Trucks:	58.3	56.8		50.5	48.9		57.4		57.
Heavy Trucks:	59.7	58.2		49.2	50.5		58.8		58.9
Vehicle Noise:	66.4	64.6		61.3	56.8		65.3		65.
Centerline Distance to Noise	Contour (in f	eet)							
	,		70 dl	BA 65	dBA	6	0 dBA	55	dBA
		Ldn:	22	!	46		100	2	15

Scenario	: Year 2035	With Project				Project	Namo	Canvo	n Springs		
	: Sycamore						lumber:		ii opiiigs		
Road Segmen						00011	iumber.	0001			
		NPUT DATA				-	IOISE	MODE	L INPUT	s	
Highway Data				s	ite Con				oft = 15)		
Average Daily 7	raffic (Adt):	22,200 vehicle	es					Autos:	15		
Peak Hour F		10%			Me	dium Tr	ucks (2	Axles):	15		
Peak Ho	our Volume:	2,220 vehicle	es		He	avy Tru	cks (3+	Axles):	15		
Veh	icle Speed:	45 mph		v	ehicle	Miv					
Near/Far Lan	e Distance:	48 feet		ľ		icleType	ę	Dav	Evening	Night	Daily
Site Data							Autos:	77.5%	-	9.6%	,
Rarı	ier Height:	0.0 feet			M	edium T	rucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wa	-	0.0			I	Heavy T	rucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dis	t. to Barrier:	55.0 feet		_	loise So	ource E	levatio	ns (in f	eet)		
Centerline Dist. to	Observer:	55.0 feet				Auto		.000	,		
Barrier Distance to	Observer:	0.0 feet			Mediu	m Truck		297			
Observer Height (A	,	5.0 feet			Heav	y Truck	s: 8	.006	Grade Ad	ustment	0.0
	d Elevation:	0.0 feet		_							
	d Elevation:	0.0 feet		L	ane Eq				feet)		
R	oad Grade:	0.0%				Auto		.739			
	Left View:	-90.0 degre				m Truck).561			
	Right View:	90.0 degre	ees		Heav	ry Truck	s: 49).579			
FHWA Noise Mode	l Calculation	ıs									
VehicleType	REMEL	Traffic Flow		tance		Road	Fres		Barrier Att		m Atten
Autos:	68.46			-0.07		-1.20		-4.67	0.0		0.00
Medium Trucks:	79.45			-0.05		-1.20		-4.87		000	0.00
Heavy Trucks:	84.25			-0.05		-1.20		-5.38	0.0	000	0.00
Unmitigated Noise								-			
VehicleType I	Leq Peak Ho	ur Leq Da 3.7	66.8	Leq Ev	ening 65.0	Leq	Night 59	^	Ldn 67.6		NEL 68.
Medium Trucks:		2.5	61.0		54.6		53		61.5		61.
Heavy Trucks:		3.3	61.9		52.9		54		62.5		62.
Vehicle Noise:).5	68.8		65.7		61		69.5		70.
O	a to Noise C	ontour (in for	<i>t</i>)		,,,,,		-	-			
	E TO MOUSE C	ontour (III lee	u	70 d	DΛ	65	dBA	Т.	60 dBA	55	dBA
Centerline Distance											
Centerline Distanc			Ldn:	70 d.			10		237		11

Tuesday, February 03, 2015

FH	WA-RD-77-108 HI	SHWAY	NOISE P	REDICTION	ON MODE	L	
Road Name: Box Sprin	Scenario: Year 2035 With Project Road Name: Box Springs Bl. Road Segment: s/o Eastridge Av. SITE SPECIFIC INPUT DATA					nyon Springs 91	
	NPUT DATA					DEL INPUTS	
Highway Data			Site Con	ditions (, Soft = 15)	
Average Daily Traffic (Adt):	3,400 vehicles				Aut		
Peak Hour Percentage:	10%		1		cks (2 Axle	,	
Peak Hour Volume:	340 vehicles		He	avy Iruc	ks (3+ Axle	es): 15	
Vehicle Speed:	40 mph		Vehicle I	Mix			
Near/Far Lane Distance:	36 feet		Veh	icleType	Da	y Evening	Night Daily
Site Data				Α	utos: 77	5% 12.9%	9.6% 97.42%
Barrier Height:	0.0 feet		M	edium Tru	ucks: 84	8% 4.9%	10.3% 1.84%
Barrier Type (0-Wall, 1-Berm):	0.0		1	Heavy Tru	ucks: 86	5% 2.7%	10.8% 0.74%
Centerline Dist. to Barrier:	44.0 feet		Noise S	ource Fla	evations (i	n foot)	
Centerline Dist. to Observer:	44.0 feet		110/30 00	Autos			
Barrier Distance to Observer:	0.0 feet		Madiu	m Trucks			
Observer Height (Above Pad):	5.0 feet			vy Trucks			stment: 0.0
Pad Elevation:	0.0 feet						
Road Elevation:	0.0 feet		Lane Eq		Distance	(in feet)	
Road Grade:	0.0%			Autos			
Left View:	-90.0 degrees			m Trucks			
Right View:	90.0 degrees		Heav	y Trucks	: 40.262	!	
FHWA Noise Model Calculation	าร		I.				
VehicleType REMEL		Distance		Road	Fresnel	Barrier Atte	
Autos: 66.5			28	-1.20	-4.		
Medium Trucks: 77.72			31	-1.20	-4.		
Heavy Trucks: 82.99	-27.32	1.3	31	-1.20	-5.	50 0.00	0.000
Unmitigated Noise Levels (wit							
VehicleType Leq Peak Ho			Evening	Leq N		Ldn	CNEL
	0.5 58.0		56.8		50.7	59.4	60.0
	4.5 53.0		46.6		45.0	53.5	53.7
,	5.8 54.4		45.3 57.5		46.6 52.9	54.9 61.5	55.1 61.9
Centerline Distance to Noise C		-	2.10			51.0	51.0
Common Distance to NOISE C	oour (iii ieet)	70	dBA	65 d	IBA	60 dBA	55 dBA
	Ldr):	12	26	3	55	119
	CNEL	.:	13	27	7	59	127

	F⊦	IWA-RD-77-108	HIGH	WAY N	IOISE PI	REDICTION	ON MO	DEL			
Road Na	ario: Year 2035 me: Day St. ent: n/o SR-60	,					Name: ımber:		n Springs		
	SPECIFIC I	NPUT DATA							L INPUT	S	
Highway Data					Site Cor	ditions (Hard =	10, Sc	oft = 15)		
Average Dail	y Traffic (Adt):	35,800 vehicle	S					Autos:	15		
Peak Hot	ır Percentage:	10%			Me	dium Tru	cks (2 A	Axles):	15		
Peak	Hour Volume:	3,580 vehicle	S		He	avy Truc	ks (3+ A	Axles):	15		
1	/ehicle Speed:	40 mph		-	Vehicle	Mix					
Near/Far L	.ane Distance:	72 feet		F		icleType		Dav	Evening	Niaht	Dailv
Site Data							utos:	77.5%	-	9.6%	. ,
	arrier Height:	0.0 feet			М	edium Tr	ucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-		0.0 feet			1	Heavy Tr	ucks:	86.5%	2.7%	10.8%	0.74%
,, ,	Dist. to Barrier:	60.0 feet		-	Maisa S	ource Ele	vation	c (in f	not)		
Centerline Dis	t. to Observer:	60.0 feet		H.	voise 3	Autos		000	ei)		
Barrier Distance	e to Observer:	0.0 feet			Modiu	Autos m Trucks		297			
Observer Heigh	t (Above Pad):	5.0 feet				n Trucks vy Trucks		297	Grade Ad	iuetmont	. 0.0
_	Pad Elevation:	0.0 feet			пеан	ry Trucks	. 0.1	JUG	Grade Au	Justineni	. 0.0
R	oad Elevation:	0.0 feet		1	Lane Eq	uivalent	Distan	ce (in :	feet)		
	Road Grade:	0.0%				Autos	: 48.	260			
	Left View:	-90.0 degre	es		Mediu	m Trucks	: 48.	076			
	Right View:	90.0 degre	es		Heav	y Trucks	: 48.	094			
FHWA Noise Mo	del Calculatio	ns									
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fresr	nel	Barrier Att	en Ber	m Atten
Auto				0.13	3	-1.20		-4.69	0.0	000	0.000
Medium Trucks	s: 77.72	2 -13.14		0.1	5	-1.20		-4.88	0.0	000	0.000
Heavy Trucks	3: 82.9	9 -17.09		0.1	5	-1.20		-5.34	0.0	000	0.000
Unmitigated No.	se Levels (wit	hout Topo and	barrie	er atten	uation)						
VehicleType	Leq Peak Ho	our Leq Day		Leq E		Leq I	Vight		Ldn	_	NEL
Auto		9.5	67.6		65.9		59.8	3	68.4		69.0
Medium Trucks		3.5	62.0		55.7		54.1		62.6	-	62.8
Heavy Trucks		4.8	63.4		54.4		55.6		64.0		64.1
Vehicle Noise			69.8		66.5		62.0)	70.5)	71.0
Centerline Dista	nce to Noise (Contour (in feet)	70	AD V	65.0	ID A		O dDA		dD A
			I dn:	70 d		14		1 6	302		dBA 51
		0	Lan: NFI:	7	-	14	-		302		i51 i97
		C	vEL:	/	U	15	U		324	6	9/

	FH	WA-RD-77-108	HIGHW	AY NO	ISE P	REDICT	ION MOI	DEL			
Road Nam		With Project n Springs Pkwy					t Name: 0 lumber: 8		Springs		
SITE	SPECIFIC IN	NPUT DATA							INPUTS	;	
Highway Data				Si	te Con	ditions	(Hard =	10, Soft	t = 15)		
Average Daily	Traffic (Adt):	34,500 vehicle	s				A	lutos:	15		
Peak Hour	Percentage:	10%			Me	dium Tı	rucks (2 A	xles):	15		
Peak H	lour Volume:	3,450 vehicle	s		He	avy Tru	icks (3+ A	xles):	15		
Ve	hicle Speed:	40 mph		Ve	ehicle i	Mix					
Near/Far La	ne Distance:	72 feet		-		icleTyp	9	Day E	Evening	Night	Daily
Site Data								77.5%	12.9%	9.6%	97.42%
Rai	rier Heiaht:	0.0 feet			Me	edium 7	rucks: 8	34.8%	4.9%	10.3%	1.84%
Barrier Type (0-W		0.0			F	leavy 7	rucks: 8	36.5%	2.7%	10.8%	0.74%
Centerline Dis	st. to Barrier:	60.0 feet		No	nise Sr	nurce F	levations	(in fee	it)		
Centerline Dist.	to Observer:	60.0 feet				Auto		•	7		
Barrier Distance	to Observer:	0.0 feet			Mediu	m Truck					
Observer Height (5.0 feet				y Truck		06 G	arade Adju	ustment:	0.0
	ad Elevation:	0.0 feet		-		•					
	ad Elevation:	0.0 feet		Lá	ne Eq		t Distanc		et)		
,	Road Grade:	0.0%			A 4	Auto m Truck					
	Left View: Right View:	-90.0 degre				m Truck vy Truck					
	Rigiti view.	90.0 degree	es		пеач	y Truck	is. 40.U	194			
FHWA Noise Mode											
VehicleType	REMEL	Traffic Flow	Distan		Finite	Road	Fresn		arrier Atte		m Atten
Autos:	66.51			0.13		-1.20		4.69	0.00		0.000
Medium Trucks:	77.72			0.15		-1.20		4.88	0.00		0.000
Heavy Trucks:	82.99			0.15		-1.20		-5.34	0.00	00	0.000
Unmitigated Noise											
VehicleType	Leq Peak Ho	, ,		eq Eve		Leq	Night	L	.dn		VEL
Autos:			67.5		65.7		59.7		68.3		68.9
Medium Trucks:			61.9 63.3		55.5 54.2		54.0 55.5		62.4 63.8		62.6 64.0
Heavy Trucks: Vehicle Noise:			69.7		66.4		55.5 61.8		70.4		70.8
					06.4		61.8		70.4		70.8
Centerline Distant	ce to Noise C	ontour (in feet)	70 -/5	24	0.5	-10.4		-10.4		-(D.4
			I do	70 dE	SA		dBA		dBA		dBA
			Ldn: NFI:	64 68			37 47		95 316		35 80
		Ci	vĽL.	08		1	41	d	110	ь	00

0 :	V 0005	WA-RD-77-108							- 0		
		With Project					t Name: lumber:		n Springs		
Road Name: Road Segment:	.,	Springe Dhus	,			JOD IN	iumber:	8991			
		, , ,									
	PECIFIC IN	IPUT DATA							L INPUT	S	
Highway Data				8	site Con	ditions	(Hard :		oft = 15)		
Average Daily Tra			:S					Autos:			
Peak Hour Pe		10%				dium Tr	,	,			
	ır Volume:	5,170 vehicle	:S		He	avy Tru	cks (3+	Axles):	15		
	de Speed:	40 mph		ν	/ehicle	Vlix					
Near/Far Lane	Distance:	72 feet			Veh	icleType	9	Day	Evening	Night	Daily
Site Data							Autos:	77.5%	12.9%	9.6%	97.429
Barrie	er Height:	0.0 feet			M	edium T	rucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall		0.0			I	leavy T	rucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist.		60.0 feet		۸	loise So	ource E	levatio	ns (in f	eet)		
Centerline Dist. to		60.0 feet				Auto	s: 0	.000			
Barrier Distance to		0.0 feet			Mediu	m Truck	s: 2	.297			
Observer Height (Ab	,	5.0 feet			Heav	y Truck	s: 8	.006	Grade Adj	ustment	0.0
	Elevation:	0.0 feet		-		·		-			
	Elevation:	0.0 feet		L	ane Eq				feet)		
	ad Grade:	0.0%				Auto		.260			
	Left View:	-90.0 degre				n Truck		.076			
K	Right View:	90.0 degre	es		Heav	y Truck	s: 48	.094			
FHWA Noise Model											
VehicleType	REMEL	Traffic Flow	_	tance		Road	Fres		Barrier Att		m Atten
Autos:	66.51	5.70		0.13		-1.20		-4.69	0.0		0.00
Medium Trucks:	77.72			0.15		-1.20		-4.88		000	0.00
Heavy Trucks:	82.99			0.15		-1.20		-5.34	0.0	000	0.00
Unmitigated Noise L	•							1			
-,	eq Peak Hou			Leq Ev		Leq	Night	<u> </u>	Ldn		NEL
Autos:	71		69.2		67.5		61.		70.0		70.
Medium Trucks:	65 66		63.6 65.0		57.3 56.0		55 57		64.2 65.6	-	64. 65.
Heavy Trucks:		• •					-				
Vehicle Noise:	73		71.4		68.1		63	.b	72.1		72.0
	to Noise Co	ontour (in fee	t)	70.			dBA		60 dBA		dBA
Centerline Distance				70 a		65					
Centerline Distance			I dn:	70 d			79	١,	386		32 32

Tuesday, February 03, 2015

	FH	IWA-RD-77-	108 HIG	HWAY	NOISE PI	REDICTIO	N MODE			
Scenari Road Nam Road Segmei		,	:t				lame: Car mber: 899	nyon Springs 1		
SITE	SPECIFIC I	NPUT DAT	Ά			NO	DISE MOI	DEL INPUT	s	
Highway Data					Site Con	ditions (i	Hard = 10,	Soft = 15)		
Average Daily	Traffic (Adt):	31,800 veh	icles				Auto	os: 15		
Peak Hour	Percentage:	10%			Me	dium Truc	ks (2 Axle	s): 15		
Peak H	lour Volume:	3,180 veh	icles		He	avy Truck	s (3+ Axle	s): 15		
Ve	hicle Speed:	40 mph	n		Vehicle	Miv				
Near/Far La	ne Distance:	72 feet				icleType	Da	y Evening	Night	Daily
Site Data					Veri		itos: 77.		9.69	
					M	edium Tru				
Barrier Type (0-W	rrier Height:	0.0 fee	et			Heavy Tru				
Centerline Dis		60.0 fee	. 4							
Centerline Dist.		60.0 fee			Noise So	ource Ele	vations (i	n feet)		
Barrier Distance		0.0 fee				Autos:				
Observer Height (5.0 fee				m Trucks:				
	ad Flevation:	0.0 fee			Heav	y Trucks:	8.006	Grade Ac	ljustmer	nt: 0.0
	ad Elevation:	0.0 fee			Lane Eq	uivalent l	Distance (in feet)		
	Road Grade:	0.0%				Autos:	48.260	,		
	Left View:	-90.0 de	arees		Mediu	m Trucks:	48.076			
	Right View:	90.0 de			Heav	y Trucks:	48.094			
FHWA Noise Mode	el Calculation	ns								
VehicleType	REMEL	Traffic Flo		istance		Road	Fresnel	Barrier At		erm Atten
Autos:	66.51		.58	0.1		-1.20	-4.0		000	0.000
Medium Trucks:	77.72			0.1		-1.20	-4.8		000	0.000
Heavy Trucks:	82.99			0.1		-1.20	-5.3	34 0.	000	0.000
Unmitigated Noise										
VehicleType	Leq Peak Ho				vening	Leq N	v	Ldn		CNEL
Autos:		9.0	67.1		65.4		59.3	67.		68.5
Medium Trucks:	-	3.0	61.5		55.1		53.6	62.		62.3
Heavy Trucks: Vehicle Noise:		4.3 1.0	62.9 69.3		53.9 66.0		55.1 61.5	63. 70.	-	63.6 70.5
Centerline Distance					23.0			70.		. 0.0
			/	70	dBA	65 d	BA	60 dBA	5	5 dBA
			Ldn:		60	130)	279	-	602
			CNEL:		64	139	9	299		644

Tuesday, February 03, 2015

	FH	WA-RD-77-108	HIG	HWAY	NOISE P	REDICTI	ION MO	DDEL			
Road Na	rio: Year 2035 me: Day St. ent: s/o Gatew	,					Name: lumber:		n Springs		
	SPECIFIC II	NPUT DATA			04- 0				L INPUT	S	
Highway Data					Site Cor	iaitions	(Hara :				
	. ,	23,400 vehicle	S					Autos:	15		
	r Percentage:	10%				edium Tru					
	Hour Volume:	,	S		He	eavy Truc	cks (3+	Axles):	15		
	ehicle Speed:	40 mph			Vehicle	Mix					
Near/Far L	ane Distance:	72 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data							Autos:	77.5%	12.9%	9.69	6 97.42%
R:	arrier Height:	0.0 feet			М	edium Tr	rucks:	84.8%	4.9%	10.39	6 1.84%
Barrier Type (0-1	Vall, 1-Berm):	0.0				Heavy Tr	rucks:	86.5%	2.7%	10.89	6 0.74%
	ist. to Barrier:	60.0 feet			Noise S	ource El	levatio	ns (in f	eet)		
Centerline Dist		60.0 feet				Autos	s: 0	.000			
Barrier Distance		0.0 feet			Mediu	m Trucks	s: 2	.297			
Observer Height	. ,	5.0 feet			Hear	vy Trucks	s: 8	.006	Grade Ad	iustmer	t: 0.0
	Pad Elevation:	0.0 feet				·					
Ro	oad Elevation:	0.0 feet			Lane Eq	uivalent			feet)		
	Road Grade:	0.0%				Autos		.260			
	Left View:	-90.0 degre				m Trucks		.076			
	Right View:	90.0 degre	es		Hear	vy Trucks	s: 48	1.094			
FHWA Noise Mod	del Calculation	ns									
VehicleType	REMEL	Traffic Flow	Di	stance		Road	Fres		Barrier Att		erm Atten
Autos					13	-1.20		-4.69		000	0.000
Medium Trucks					15	-1.20		-4.88		000	0.000
Heavy Trucks					15	-1.20		-5.34	0.0	000	0.000
Unmitigated Nois											
VehicleType	Leq Peak Ho		_	Leq I	Evening		Night		Ldn		CNEL
Autos			65.8		64.0		58.	-	66.6		67.2
Medium Trucks			60.2		53.8		52.	-	60.7		61.0
Heavy Trucks Vehicle Noise			61.6 68.0		52.5 64.7		53. 60.	-	62.1		62.3 69.1
Centerline Distar					04.7		00.		00.1		05.1
Centernine Distar	ice to Noise C	ontour (III leei	,	70	dBA	65	dBA	6	60 dBA	5	5 dBA
			Ldn:		49	10	06		228		490
		C	NEL:		52	11	13		244		525

	FH\	WA-RD-77-108	HIGHW	AY NO	DISE PRE	DICT	ION MOI	EL			
Scenari Road Nam Road Segmer		,					Name: 0 lumber: 8		Springs		
SITE	SPECIFIC IN	NPUT DATA							INPUTS	;	
Highway Data				S	ite Condi	tions	(Hard =	10, Soi	ft = 15)		
Average Daily Peak Hour	Traffic (Adt): : Percentage:	22,400 vehicle 10%	S		Mediu	ım Tr	ucks (2 A	utos: xles):	15 15		
Peak H	our Volume:	2,240 vehicle	s		Heav	y Tru	cks (3+ A	xles):	15		
Ve	hicle Speed:	35 mph		1/	ehicle Miz						
Near/Far Lai	ne Distance:	58 feet		V.	Vehicle			Day	Evening	Night	Daily
Site Data				_	vernor			77.5%	12.9%	9.6%	97.42%
					Medi	-		34.8%	4.9%	10.3%	1.84%
Barrier Type (0-W	rier Height:	0.0 feet 0.0						36.5%	2.7%	10.8%	0.74%
Centerline Dis	. ,	55.0 feet									
Centerline Dist.		55.0 feet		N	oise Soul	rce E	levations	(in fee	et)		
Barrier Distance		0.0 feet				Auto					
Observer Height (5.0 feet			Medium						
	ad Flevation:	0.0 feet			Heavy	Truck	s: 8.0	06	Grade Adji	ustment:	0.0
	d Elevation:	0.0 feet		Li	ane Equiv	valen	t Distanc	e (in fe	eet)		
	Road Grade:	0.0%				Auto		_			
	Left View:	-90.0 degre	es		Medium	Truck	s: 46.8	11			
	Right View:	90.0 degre			Heavy	Truck	s: 46.8	30			
FHWA Noise Mode	el Calculation	ıs									
VehicleType	REMEL	Traffic Flow	Dista	nce	Finite R	oad	Fresn	el E	Barrier Atte	en Ber	m Atten
Autos:	64.30	2.64		0.30		1.20		4.67	0.0	00	0.000
Medium Trucks:	75.75	-14.60		0.33	-	1.20		4.87	0.0	00	0.000
Heavy Trucks:	81.57	-18.55		0.32	-	1.20		5.38	0.0	00	0.000
Unmitigated Noise											
VehicleType	Leq Peak Hou			eq Eve		Leq	Night		Ldn	CI	VEL
Autos:			64.1		62.4		56.3		64.9		65.6
Medium Trucks:			58.8		52.4		50.9		59.3		59.6
Heavy Trucks:			60.7		51.7		52.9		61.3		61.4
Vehicle Noise:	68	3.3	66.6		63.1		58.7		67.3		67.7
Centerline Distance	e to Noise C	ontour (in feet)								
				70 dE			dBA) dBA		dBA
			Ldn:	36			8		168		61
		Ci	NEL:	39		8	33		179	3	86

	FHV	VA-RD-77-108	HIG	HWAY I	NOISE P	REDICTION	ON MODE	L			
Road Nam	io: Year 2035 \ ne: Day St. nt: n/o Eucalyp	•					Vame: Ca Imber: 899		prings		
SITE	SPECIFIC IN	PUT DATA					DISE MO			s	
Highway Data					Site Cor	nditions (Hard = 10	, Soft	= 15)		
Average Daily	Traffic (Adt): 2	3,700 vehicles	S				Au	tos:	15		
Peak Hour	Percentage:	10%			Me	edium Tru	cks (2 Axle	es):	15		
Peak H	lour Volume:	2,370 vehicles	S		He	eavy Truci	ks (3+ Axle	es):	15		
Ve	hicle Speed:	40 mph		-	Vehicle	Miv					
Near/Far La	ne Distance:	72 feet		ŀ		icleType	Da	w F	vening	Night	Daily
Site Data					V C/				12.9%	9.6%	,
		0.0.6			М	edium Trı		.8%	4.9%	10.3%	
Barrier Type (0-W	rrier Height:	0.0 feet 0.0				Heavy Tru	ıcks: 86	.5%	2.7%	10.8%	
Centerline Di	. ,	60.0 feet									•
Centerline Dist.		60.0 feet			Noise S		evations ()		
Barrier Distance		0.0 feet				Autos					
Observer Height		5.0 feet				m Trucks					
	ad Flevation:	0.0 feet			Hea	vy Trucks	8.006	G G	ade Ad	iustment	: 0.0
	ad Elevation:	0.0 feet		f	Lane Eq	uivalent	Distance	(in fee	t)		
	Road Grade:	0.0%				Autos.	48,260)			
	Left View:	-90.0 degree	es		Mediu	m Trucks	48.076	3			
	Right View:	90.0 degree			Hea	vy Trucks	48.09	4			
FHWA Noise Mod	el Calculation:	s									
VehicleType	REMEL	Traffic Flow	Di	stance	Finite	Road	Fresnel	Ba	rrier Att	en Bei	m Atten
Autos:	66.51	2.31		0.1	3	-1.20	-4.	69	0.0	000	0.000
Medium Trucks:	77.72	-14.93		0.1	5	-1.20	-4.	88	0.0	000	0.000
Heavy Trucks:	82.99	-18.89		0.1	5	-1.20	-5.	34	0.0	000	0.000
Unmitigated Nois	e Levels (with	out Topo and	barr	ier atte	nuation)						
VehicleType	Leq Peak Hou	r Leq Day	,	Leq E	vening	Leq N	light	Lo	dn	C	NEL
Autos:	67.	.7	65.8		64.1		58.0		66.6	3	67.3
Medium Trucks:	61.		60.2		53.9		52.3		60.8		61.0
Heavy Trucks:	63.	.1	61.6		52.6		53.8		62.2	2	62.3
Vehicle Noise:	69	.8	68.0		64.7		60.2		68.7	7	69.2
Centerline Distant	ce to Noise Co	ntour (in feet)	70	dD A	65.0		60.	10.4		dDA

 veet
 70 dBA
 65 dBA
 60 dBA
 55 dBA

 Ldn:
 49
 107
 230
 495

 CNEL:
 53
 114
 246
 529

Tuesday, February 03, 2015

F	HWA-RD-77-108	HIGHWAY	NOISE P	REDICT	ION MODEL		
Scenario: Year 203 Road Name: Day St. Road Segment: s/o Cotto	,				Name: Cany umber: 8991	on Springs	
SITE SPECIFIC	INPUT DATA			N	IOISE MODI	EL INPUTS	
Highway Data			Site Cor	nditions	(Hard = 10, S	Soft = 15)	
Average Daily Traffic (Adt) Peak Hour Percentage Peak Hour Volume	10% 1,860 vehicles				Autos ucks (2 Axles) cks (3+ Axles)	: 15	
Vehicle Speed			Vehicle	Mix			
Near/Far Lane Distance	36 feet		Veh	icleType	Day	Evening N	ight Daily
Site Data Barrier Height				ledium Ti Heavv Ti		% 4.9% 1	9.6% 97.42% 0.3% 1.84% 0.8% 0.74%
Barrier Type (0-Wall, 1-Berm)				ileavy ii	ucks. 00.5	70 Z.770 I	0.076 0.7476
Centerline Dist. to Barrier			Noise S	ource El	evations (in	feet)	
Centerline Dist. to Observer				Auto	s: 0.000		
Barrier Distance to Observer			Mediu	m Truck	s: 2.297		
Observer Height (Above Pad)			Hear	vy Truck	s: 8.006	Grade Adjust	tment: 0.0
Pad Elevation							
Road Elevation	0.0 1001		Lane Eq		t Distance (in	feet)	
Road Grade				Auto			
Left View Right View	oo.o aog.oc			m Truck vy Truck			
FHWA Noise Model Calculation	ons		1				
VehicleType REMEL	Traffic Flow	Distance	e Finite	Road	Fresnel	Barrier Atten	Berm Atten
Autos: 64.3	1.84	1	.28	-1.20	-4.61	0.000	0.000
Medium Trucks: 75.3	5 -15.40	1	.31	-1.20	-4.87	0.000	0.000
Heavy Trucks: 81.5	-19.36	1	.31	-1.20	-5.50	0.000	0.000
Unmitigated Noise Levels (w.	thout Topo and	barrier att	enuation)				
VehicleType Leq Peak F	our Leq Day	Leq	Evening	Leq	Night	Ldn	CNEL
Autos:	66.2	64.3	62.5		56.5	65.1	65.7
Medium Trucks:	60.5	58.9	52.6		51.0	59.5	59.7
Heavy Trucks:	62.3	60.9	51.9	1	53.1	61.5	61.6
Vehicle Noise:	68.4	66.7	63.3		58.9	67.4	67.9
Centerline Distance to Noise	Contour (in feet)						
			0 dBA		dBA	60 dBA	55 dBA
		Ldn:	30	-	4	138	297
	Ch	IEL:	32	6	18	147	317

Tuesday, February 03, 2015

	FHW.	A-RD-77-108	HIGH	- YAWI	NOISE PI	REDICT	ION MO	DEL			
Scenario: Year 2 Road Name: Day St Road Segment: s/o Bay		ith Project					Name: (umber:)		n Springs		
SITE SPECIFIC	INP	UT DATA							L INPUT	s	
Highway Data					Site Con	ditions	•				
Average Daily Traffic (Ad	t): 18	,600 vehicles	3					Autos:	15		
Peak Hour Percentag	e:	10%					ucks (2 A	,	15		
Peak Hour Volum	e: 1	,860 vehicles	3		He	avy Trud	cks (3+ A	(xles	15		
Vehicle Spee	d:	35 mph		ŀ	Vehicle	Mix					
Near/Far Lane Distant	e:	36 feet		f		icleType		Dav	Evenina	Niaht	Dailv
Site Data								77.5%		9.6%	. ,
Barrier Heigi	.4.	0.0 feet			Me	edium Ti		84.8%		10.3%	
Barrier Type (0-Wall, 1-Berr		0.0 feet			F	leavy Ti	rucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barri		44.0 feet		L							• • • • • • • • • • • • • • • • • • • •
Centerline Dist. to Observ		44.0 feet			Noise So				eet)		
Barrier Distance to Observ		0.0 feet				Auto	s: 0.0	000			
Observer Height (Above Pa		5.0 feet			Mediu	n Truck	s: 2.2	297			
Pad Elevation	-	0.0 feet			Heav	y Truck	s: 8.0	006	Grade Adj	iustment	0.0
Road Elevatio		0.0 feet		ŀ	Lane Eq	uivalen	Distant	ce (in	feet)		
Road Grad		0.0%		f	zano zq	Auto					
I eft Vie		-90.0 degree	e e		Mediu	n Truck:					
Right Vie		90.0 degree				y Truck					
		Jo.o degree	,,,		7,007	y maon.	J. 10.				
FHWA Noise Model Calcula		1			1						
VehicleType REME	_	raffic Flow	Dis	stance		Road	Fresn	_	Barrier Att		m Atten
	1.30	1.84		1.2		-1.20		-4.61		000	0.000
	5.75	-15.40		1.3		-1.20		-4.87		000	0.000
Heavy Trucks: 8	.57	-19.36		1.3	31	-1.20		-5.50	0.0	000	0.000
				av a44a	nuntion						
Unmitigated Noise Levels (_			
Unmitigated Noise Levels (VehicleType Leq Peak	Hour	Leq Day			vening	Leq	Night		Ldn		NEL
Unmitigated Noise Levels (VehicleType Leq Peak Autos:	Hour 66.2	Leq Day	64.3		vening 62.5	Leq	56.5		65.1	1	65.7
Unmitigated Noise Levels (VehicleType Leq Peak Autos: Medium Trucks:	Hour 66.2 60.5	Leq Day	64.3 58.9		vening 62.5 52.6	Leq	56.5 51.0		65.1 59.5	5	65.7 59.7
Unmitigated Noise Levels (VehicleType Leq Peak Autos:	Hour 66.2	Leq Day	64.3		vening 62.5	Leq	56.5)	65.1	5	65.7 59.7 61.6
Unmitigated Noise Levels (VehicleType Leq Peak Autos: Medium Trucks: Heavy Trucks: Vehicle Noise:	Hour 66.2 60.5 62.3 68.4	Leq Day	64.3 58.9 60.9 66.7		62.5 52.6 51.9	Leq	56.5 51.0 53.1)	65.1 59.5 61.5	5	65.7 59.7 61.6
Unmitigated Noise Levels (VehicleType Leq Peak Autos: Medium Trucks: Heavy Trucks:	Hour 66.2 60.5 62.3 68.4	Leq Day	64.3 58.9 60.9 66.7	Leq E	62.5 52.6 51.9		56.5 51.0 53.1)	65.1 59.5 61.5	5	65.7 59.7 61.6 67.9
Unmitigated Noise Levels (VehicleType Leq Peak Autos: Medium Trucks: Heavy Trucks: Vehicle Noise:	Hour 66.2 60.5 62.3 68.4	Leq Day	64.3 58.9 60.9 66.7	Leq E	62.5 52.6 51.9 63.3	65	56.5 51.0 53.1 58.9)	65.1 59.5 61.5	55	65.7 59.7 61.6 67.9

FI	HWA-RD-77-108	HIGHWA	/ NOISE PRE	DICTION MOI	DEL	
Scenario: Year 203 Road Name: Eucalypti Road Segment: s/o Town	ıs Av.			Project Name: (Job Number: 8	Canyon Springs 3991	
SITE SPECIFIC	NPUT DATA			NOISE N	ODEL INPUTS	;
Highway Data			Site Cond	itions (Hard =	10, Soft = 15)	
Average Daily Traffic (Adt): Peak Hour Percentage: Peak Hour Volume:	10% 1,840 vehicle			um Trucks (2 A ry Trucks (3+ A		
Vehicle Speed:	40 mph		Vehicle Mi	x		
Near/Far Lane Distance:	48 feet		Vehici	еТуре	Day Evening	Night Daily
Site Data				Autos:	77.5% 12.9%	9.6% 97.42%
Barrier Height:	0.0 feet		Mea	lium Trucks:	84.8% 4.9%	10.3% 1.84%
Barrier Type (0-Wall, 1-Berm):	0.0		He	avy Trucks:	86.5% 2.7%	10.8% 0.74%
Centerline Dist. to Barrier:	50.0 feet		Noise Sou	rce Elevation:	(in feet)	
Centerline Dist. to Observer:	50.0 feet				000	
Barrier Distance to Observer:	0.0 feet		Medium		97	
Observer Height (Above Pad):	5.0 feet				nne Grade Adju	stment: 0.0
Pad Elevation:	0.0 feet		,			
Road Elevation:	0.0 feet		Lane Equi	valent Distant	, ,	
Road Grade:	0.070			Autos: 44.		
Left View: Right View:	-90.0 degree		Medium Heavy	Trucks: 43.9 Trucks: 43.9		
FHWA Noise Model Calculation	ne					
VehicleType REMEL	Traffic Flow	Distanc	e Finite R	oad Fresn	el Barrier Atte	n Berm Atten
Autos: 66.5	1 1.21	(0.71	-1.20	-4.65 0.00	0.00
Medium Trucks: 77.7	2 -16.03	().74	-1.20	-4.87 0.00	0.000
Heavy Trucks: 82.9	9 -19.99	().73	-1.20	-5.43 0.00	0.000
Unmitigated Noise Levels (wi	thout Topo and	barrier at	tenuation)			
VehicleType Leq Peak H	our Leq Day	/ Lec	Evening	Leq Night	Ldn	CNEL
Autos:	67.2	65.3	63.6	57.5	66.1	66.7
Medium Trucks:	31.2	59.7	53.4	51.8	60.3	60.5
		61.1	52.1	53.3		61.8
Vehicle Noise:	9.2	67.5	64.2	59.7	68.2	68.7
Centerline Distance to Noise	Contour (in feet					
			'0 dBA	65 dBA	60 dBA	55 dBA
		Ldn:	38	82	177	381
	C	NFI:	41	88	189	408

	FH	WA-RD-77-108	HIGH	VAY NO	DISE PI	REDICTIO	N MO	DEL			
Scenario. Road Name.		With Project				Project N			n Springs		
Road Segment		ndro Bl.									
	PECIFIC II	NPUT DATA							L INPUT	S	
Highway Data				Si	ite Con	ditions (l					
Average Daily Ti	' '		es					Autos:	15		
Peak Hour P		10%				dium Truc	- (/	15		
	ur Volume:	1,280 vehicle	es		He	avy Truck	s (3+ A	(xles	15		
	icle Speed:	35 mph		Ve	ehicle i	Mix					
Near/Far Lane	e Distance:	36 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data						AL	tos:	77.5%	12.9%	9.6%	97.429
Rarri	ier Height:	0.0 feet			M	edium Tru	cks:	84.8%	4.9%	10.3%	1.849
Barrier Type (0-Wa	II, 1-Berm):	0.0			I	Heavy Tru	cks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist.		44.0 feet		N	oise S	ource Ele	vation	s (in fe	eet)		
Centerline Dist. to		44.0 feet				Autos:	0.0	000			
Barrier Distance to		0.0 feet			Mediu	m Trucks:	2.2	297			
Observer Height (A.	,	5.0 feet			Heav	y Trucks:	8.0	006	Grade Ad	justment	: 0.0
	l Elevation:	0.0 feet		-		·		-			
	l Elevation:	0.0 feet		Lá	ane Eq	uivalent l			leet)		
Ro	oad Grade:	0.0%				Autos:					
	Left View:	-90.0 degre				m Trucks:					
,	Right View:	90.0 degre	es		Heav	y Trucks:	40.2	262			
FHWA Noise Model	Calculation	ıs									
VehicleType	REMEL	Traffic Flow	Dista		Finite	Road	Fresn		Barrier Att		rm Atten
Autos:	64.30			1.28		-1.20		-4.61		000	0.00
Medium Trucks:	75.75			1.31		-1.20		-4.87		000	0.00
Heavy Trucks:	81.57			1.31		-1.20		-5.50	0.0	000	0.00
Unmitigated Noise	•										
,,	eq Peak Ho			Leq Eve		Leq N	_		Ldn		NEL
Autos:	-	4.6	62.7		60.9		54.9		63.5	-	64.
Medium Trucks:		3.8	57.3		51.0		49.4		57.9	-	58.
Heavy Trucks:		0.7 6.8	59.3 65.1		50.2 61.7		51.5 57.3		59.8 65.8		60. 66.
Vahiala Maiss:	10	J.O			01.7		57.3	'	55.60	,	00.
Vehicle Noise:											
Vehicle Noise: Centerline Distance	to Noise C	ontour (in fee	t)	70 dF	3 <i>A</i>	65 di	BA .	6	iO dBA	55	dBA
	to Noise C	ontour (in fee	t) Ldn:	70 dE	ВА	65 di	ВА	6	0 dBA		dBA 231

Tuesday, February 03, 2015

	FH\	VA-RD-77-108 H	IGHWAY I	NOISE P	REDICTION	ON MODEL	-					
Road Na.	nrio: Year 2035 me: Eastridge A ent: w/o Sycam	v.				lame: Can mber: 899	yon Springs 1					
SITE	SPECIFIC IN	IPUT DATA					DEL INPUTS	5				
Highway Data				Site Conditions (Hard = 10, Soft = 15)								
Average Daily	y Traffic (Adt):	31,800 vehicles				Auto	os: 15					
Peak Hou	ır Percentage:	10%		Me	dium Trud	cks (2 Axle	s): 15					
Peak	Hour Volume:	3,180 vehicles		He	avy Truck	ks (3+ Axle	s): 15					
ν	ehicle Speed:	40 mph		Vehicle	Mix							
Near/Far L	ane Distance:	72 feet	-		icleType	Day	/ Evening	Night Daily				
Site Data						utos: 77.5		9.6% 97.42%				
R	arrier Height:	0.0 feet		М	edium Tru	icks: 84.8	8% 4.9%	10.3% 1.84%				
Barrier Type (0-		0.0		1	Heavy Tru	icks: 86.5	5% 2.7%	10.8% 0.74%				
Centerline L	Dist. to Barrier:	60.0 feet	-	Noise S	ource Ele	vations (ir	n feet)					
Centerline Dist	t. to Observer:	60.0 feet			Autos		,					
Barrier Distance	e to Observer:	0.0 feet		Mediu	m Trucks							
Observer Height	(Above Pad):	5.0 feet			vy Trucks:		Grade Adi	ustment: 0.0				
	Pad Elevation:	0.0 feet										
R	oad Elevation:	0.0 feet		Lane Eq		Distance (in feet)					
	Road Grade:	0.0%			Autos:							
	Left View:	-90.0 degrees			m Trucks:							
	Right View:	90.0 degrees		Heav	y Trucks:	48.094						
FHWA Noise Mo	del Calculation	s										
VehicleType	REMEL	Traffic Flow	Distance	Finite	Road	Fresnel	Barrier Atte	en Berm Atten				
Autos	: 66.51	3.58	0.1	13	-1.20	-4.6	9 0.0	0.000				
Medium Trucks	: 77.72	-13.65	0.1	15	-1.20	-4.8	38 0.0	0.000				
Heavy Trucks	: 82.99	-17.61	0.1	15	-1.20	-5.3	34 0.0	0.000				
Unmitigated Noi	se Levels (with	out Topo and ba	arrier atte	nuation)								
VehicleType	Leq Peak Hou	ır Leq Day	Leq E	vening	Leq N	light	Ldn	CNEL				
Autos	: 69	.0 67	.1	65.4		59.3	67.9	68.5				
Medium Trucks	: 63	.0 61	.5	55.1		53.6	62.1	62.3				
Heavy Trucks	: 64	.3 62	.9	53.9		55.1	63.5	63.6				
Vehicle Noise	: 71	.0 69	.3	66.0		61.5	70.0	70.5				
Centerline Dista	nce to Noise Co	ontour (in feet)										
			70	dBA	65 d	BA	60 dBA	55 dBA				
		Lo	In: 6	60	13	0	279	602				
		CNE	L: 6	64	13	9	299	644				

	FH	WA-RD-77-108	HIGH	WAY N	IOISE P	REDICTI	ON MO	DEL			
Road Na	ario: Year 2035 me: Eastridge i ent: e/o Sycam	Av.					Name: umber:		n Springs		
SITI	SPECIFIC II	NPUT DATA							L INPUT	S	
Highway Data					Site Cor	nditions ((Hard =	: 10, Sc	oft = 15)		
Average Dail	y Traffic (Adt):	30,100 vehicle:	S					Autos:	15		
Peak Hot	ır Percentage:	10%			Me	edium Tru	icks (2 i	4xles):	15		
Peak	Hour Volume:	3,010 vehicles	S		He	eavy Truc	ks (3+)	4xles):	15		
1	ehicle Speed:	40 mph			Vehicle	Mix					
Near/Far L	.ane Distance:	72 feet			Ver	icleType		Dav	Evenina	Niaht	Dailv
Site Data							utos:	77.5%	12.9%	9.6%	97.42%
F	arrier Height:	0.0 feet			М	edium Tr	ucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-		0.0				Heavy Tr	ucks:	86.5%	2.7%	10.8%	0.74%
Centerline I	Dist. to Barrier:	60.0 feet			Noise S	ource Ele	evation	s (in fe	eet)		
Centerline Dis	t. to Observer:	60.0 feet		ľ		Autos		000	,		
Barrier Distanc	e to Observer:	0.0 feet			Mediu	m Trucks		297			
Observer Heigh	t (Above Pad):	5.0 feet			Hear	vy Trucks	: 8.	006	Grade Adj	ustment	: 0.0
	Pad Elevation:	0.0 feet		L							
R	oad Elevation:	0.0 feet		L.	Lane Eq	uivalent			feet)		
	Road Grade:	0.0%				Autos		260			
	Left View:	-90.0 degree	es			m Trucks		076			
	Right View:	90.0 degree	es		Hear	vy Trucks	s: 48.	094			
FHWA Noise Mo	del Calculation	ıs									
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fresi		Barrier Atte	en Ber	m Atten
Auto				0.1	3	-1.20		-4.69	0.0	00	0.000
Medium Trucks	s: 77.72	-13.89		0.1	5	-1.20		-4.88	0.0	00	0.000
Heavy Trucks	82.99	-17.85		0.1	5	-1.20		-5.34	0.0	100	0.000
Unmitigated No.			barrie	er atten	uation)			,			
VehicleType	Leq Peak Ho		_	Leq E		Leq I			Ldn		NEL
Auto			66.9		65.1		59.		67.7		68.3
Medium Trucks			61.3		54.9		53.4		61.8		62.1
Heavy Trucks			62.7		53.6		54.9		63.2		63.4
Vehicle Noise			69.1		65.8		61.2	2	69.8	3	70.2
Centerline Dista	nce to Noise C	ontour (in feet)	70	alD A	65.0	JD A		60 dBA		dDA
			I dn:	70 (dBA	12		t	269		dBA 80
			ver:	6	-	13			288	_	80 321
		Ci	VEL:	6	4	13	94		200	6) <u>∠</u> I

	FHWA-R	RD-77-108 HIGI	HWAY N	DISE PREDIC	TION MODEL		
Scenario: Y Road Name: E Road Segment: w		,			et Name: Can Number: 899		
	CIFIC INPUT	T DATA				DEL INPUTS	
Highway Data			S	ite Condition	s (Hard = 10,	Soft = 15)	
Average Daily Traff Peak Hour Perd	. , .	00 vehicles		Medium T	Auto rucks (2 Axle		
Peak Hour		0 vehicles			ıcks (3+ Axle	,	
		10 mph			JONS (OT PIXIO	3). 10	
Near/Far Lane D		2 feet	ν	ehicle Mix	1		
	istance. I	Z leet		VehicleTyp			Night Daily
Site Data					Autos: 77.5		9.6% 97.42%
Barrier	Height: (0.0 feet		Medium			10.3% 1.84%
Barrier Type (0-Wall, 1	1-Berm): (0.0		Heavy	Trucks: 86.5	5% 2.7%	10.8% 0.74%
Centerline Dist. to		0.0 feet	٨	loise Source I	Elevations (ir	feet)	
Centerline Dist. to O		0.0 feet		Aut	os: 0.000	-	
Barrier Distance to O		0.0 feet		Medium Truc	ks: 2.297		
Observer Height (Abor	,	5.0 feet		Heavy Truc	ks: 8.006	Grade Adju	stment: 0.0
		0.0 feet					
Road Ei		0.0 feet	L	ane Equivale		n teet)	
		0.0%		Aut			
		0.0 degrees		Medium Truc			
Rig	ht View: 90	0.0 degrees		Heavy Truc	ks: 48.094		
FHWA Noise Model Ca							
VehicleType R	EMEL Tra	ffic Flow Di	stance	Finite Road	Fresnel	Barrier Atte	n Berm Atten
Autos:	66.51	6.10	0.13				
Medium Trucks:	77.72	-11.14	0.15				
Heavy Trucks:	82.99	-15.10	0.15	-1.20	-5.3	0.00	0.000
Unmitigated Noise Le		-					
	Peak Hour	Leq Day	Leq Ev		g Night	Ldn	CNEL
Autos:	71.5	69.6		67.9	61.8	70.4	71.0
Medium Trucks:	65.5	64.0		57.7	56.1	64.6	64.8
Heavy Trucks:	66.8	65.4		56.4	57.6	66.0	66.1
Vehicle Noise:	73.6	71.8		68.5	64.0	72.5	73.0
Centerline Distance to	Noise Conto	ur (in feet)					
			70 d		5 dBA	60 dBA	55 dBA
		Ldn:	88		191	411	885
		CNEL:	95		204	440	947

	FH	WA-RD-77-108	HIGHWA	Y NOISE F	PREDICT	TION MODI	EL		
Road Nam	io: Year 2035 ne: Eastridge nt: e/o Box Sp	Av.				t Name: Ca Number: 89	anyon Springs 191		
SITE	SPECIFIC II	NPUT DATA					DEL INPUT	s	
Highway Data				Site Co	nditions	6 (Hard = 1	0, Soft = 15)		
Peak Hour	Traffic (Adt): Percentage: lour Volume:	37,500 vehicles 10% 3,750 vehicles				Au rucks (2 Ax icks (3+ Ax	,		
	hicle Speed:	40 mph	,		•	10110 (0171)	100).		
	ne Distance:	72 feet		Vehicle	Mix				
IVCal/I al La	ne Distance.	72 1661		Ve	hicleTyp		ay Evening	Night	Daily
Site Data							7.5% 12.9%	9.6%	
Bai	rrier Height:	0.0 feet		/	∕ledium T	Trucks: 84	1.8% 4.9%	10.3%	1.84%
Barrier Type (0-W	'all, 1-Berm):	0.0			Heavy 1	Trucks: 86	6.5% 2.7%	10.8%	0.74%
Centerline Dis	st. to Barrier:	60.0 feet		Noise S	Source F	Elevations	(in feet)		
Centerline Dist.	to Observer:	60.0 feet		140/30 0	Auto				
Barrier Distance	to Observer:	0.0 feet		Madi	um Truci				
Observer Height (Above Pad):	5.0 feet			avv Truci			iustmen:	t 0.0
Pa	ad Elevation:	0.0 feet			,			Juoumom	. 0.0
Roa	ad Elevation:	0.0 feet		Lane E	quivaler	nt Distance	(in feet)		
	Road Grade:	0.0%			Auto	os: 48.26	0		
	Left View:	-90.0 degree	es	Medi	um Truci	ks: 48.07	6		
	Right View:	90.0 degree	es	Hea	avy Truck	ks: 48.09	4		
FHWA Noise Mode	el Calculation	18		-1					
VehicleType	REMEL	Traffic Flow	Distanc	e Finit	e Road	Fresnel	Barrier Att	en Be	rm Atten
Autos:	66.51	4.30	(0.13	-1.20	-4	.69 0.0	000	0.000
Medium Trucks:	77.72	-12.94	(0.15	-1.20	-4	.88 0.0	000	0.000
Heavy Trucks:	82.99	-16.89		0.15	-1.20	-5	5.34 0.0	000	0.000
Unmitigated Noise	e Levels (with	hout Topo and	barrier at	tenuation)				
VehicleType	Leq Peak Ho	ur Leq Day	Lec	Evening	Leq	Night	Ldn	С	NEL
Autos:	69	9.7	67.8	66.	1	60.0	68.6	3	69.2
Medium Trucks:	63	3.7	62.2	55.	9	54.3	62.8	3	63.0
Heavy Trucks:	65	5.1 (63.6	54.	6	55.8	64.2	2	64.3
Vehicle Noise:	7	1.8	70.0	66.	7	62.2	70.7	7	71.2
Centerline Distant	ce to Noise C	ontour (in feet)							
				70 dBA	65	i dBA	60 dBA	55	ō dBA
			Ldn:	67	1	145	312	(671
		CN	IEL:	72	1	155	334		719

Tuesday, February 03, 2015

	FH	WA-RD-77-10	8 HIGI	HWAY I	NOISE PI	REDICTI	ON MO	DEL			
Road Nam	io: Year 2035 ne: Eucalyptus nt: e/o Valley	. ,					Name: umber:		n Springs		
	SPECIFIC II	NPUT DATA							L INPUT	s	
Highway Data					Site Con	ditions	(Hard =	: 10, S	oft = 15)		
Average Daily	Traffic (Adt):	32,100 vehicl	es					Autos:	15		
Peak Hour	Percentage:	10%				dium Tru					
Peak H	lour Volume:	3,210 vehicl	es		He	avy Truc	ks (3+	Axles):	15		
Ve	hicle Speed:	40 mph		ŀ	Vehicle	Miv					
Near/Far La	ne Distance:	72 feet		ŀ		icleType		Day	Evening	Night	Daily
Site Data						A	utos:	77.5%	12.9%	9.6%	97.42%
Pa	rrier Heiaht:	0.0 feet			М	edium Tr	ucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-W		0.0			- 1	Heavy Tr	ucks:	86.5%	2.7%	10.8%	0.74%
Centerline Di	. ,	60.0 feet		-							
Centerline Dist.		60.0 feet		-	Noise So				eet)		
Barrier Distance		0.0 feet				Autos		.000			
Observer Height	(Above Pad):	5.0 feet				m Trucks	-	.297	0	E t	4. 0.0
	ad Elevation:	0.0 feet			Heav	ry Trucks	: 8	.006	Grade Ad	ijustmen	t: 0.0
Ro	ad Elevation:	0.0 feet		Ī	Lane Eq	uivalent	Distar	ce (in	feet)		
	Road Grade:	0.0%				Autos	: 48	.260			
	Left View:	-90.0 degr	ees		Mediu	m Trucks	: 48	.076			
	Right View:	90.0 degr	ees		Heav	y Trucks	: 48	.094			
FHWA Noise Mod	el Calculation	าร									
VehicleType	REMEL	Traffic Flow		stance	Finite		Fres		Barrier At		rm Atten
Autos:	66.51		-	0.1		-1.20		-4.69		000	0.000
Medium Trucks:	77.72			0.1	-	-1.20		-4.88		000	0.000
Heavy Trucks:	82.99	-17.5	7	0.1	5	-1.20		-5.34	0.0	000	0.000
Unmitigated Nois			l barri	ier atter	nuation)						
VehicleType	Leq Peak Ho	ur Leq Da	y	Leq E	vening	Leq I	Vight		Ldn	(NEL
Autos:	-	9.1	67.2		65.4		59.	-	68.		68.6
Medium Trucks:	-	3.1	61.5		55.2		53.	-	62.		62.3
Heavy Trucks:	6-	4.4	63.0		53.9		55.		63.	-	63.6
Vehicle Noise:	7	1.1	69.3		66.1		61.	5	70.	1	70.5
Centerline Distan	ce to Noise C	ontour (in fee	t)								-
			Į		dBA	65 (- (60 dBA	55	5 dBA
			Ldn:		61	13			281		605
		(NEL:	6	35	14	10		301		648

Tuesday, February 03, 2015

Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 feet Heavy Trucks: 84.8% 4.9% 10.3% 1.849 feavy Trucks: 86.5% 2.7% 10.8% 0.749 feavy Trucks: 86.5% 6.6% feavy Trucks: 86.5% 2.7% 10.8% 0.749 feavy Trucks: 86.5% 6.6% feavy Trucks: 86.5% 6.6% feavy Trucks: 86.5% 6.6% feavy Trucks: 86.5% 6.6% feavy Trucks: 86.5% 6.6% feavy Trucks: 86.5% 6.6% feavy Trucks: 86.5% 6.6% feavy Trucks: 86.5% 6.6% feavy Trucks: 86.5% 6.6% feavy Trucks: 86.5% 6.6% feavy Trucks: 86.5% 6.6% feavy Trucks: 86.5% 6.6% feavy Trucks: 86.5% 6.6% feavy Trucks: 86.5% feavy Truc		FH	IWA-F	RD-77-108	HIGH	WAY N	IOISE P	REDICT	ION MO	ODEL			
Average Daily Traffic (Adt): 32,400 vehicles Peak Hour Percentage: 10% Autos: 15 Medium Trucks (2 Axles): 15	Road Na	me: Eucalyptu	s Av.	Project							n Springs		
Average Daily Traffic (Adt): 32,400 vehicles Peak Hour Percentage: 10% Medium Trucks (2 Axles): 15 Heavy Trucks (3+Axles): 15 Wehicle Speed: 40 mph Near/Far Lane Distance: 82 feet Wehicle Type Day Evening Night Daily Vehicle Type Day Evening Night Daily Night Daily Night Daily Night Daily Night Daily Night Daily Night Daily Night		SPECIFIC I	NPU	T DATA			04- 0					S	
Peak Hour Volume: 3,240 vehicles Peak Hour Volume: 3,240 vehicles Peak Hour Volume: 3,240 vehicles Vehicle Mix Vehicle Vehic	• •						Site Cor	aitions	(Hard :				
Peak Hour Volume:					3								
Vehicle Speed: Near/Far Lane Distance: 82 feet Vehicle Mix Vehicle Type Day Evening Night Daily Daily									,				
Near/Far Lane Distance: 82 feet Near/Far Lane Distance: 82 feet Near/Far Lane Distance: 82 feet Near/Far Lane Distance: 10.0 feet Autos: 77.5% 12.9% 9.6% 97.42% 10.3% 18.49% 10.3% 18.49% 10.3% 18.49% 10.3% 18.49% 10.3% 18.49% 10.3% 18.49% 10.3% 18.49% 10.3% 18.49% 10.3% 18.49% 10.3% 18.49% 10.3% 10.3% 18.49% 10.3% 18.49% 10.3% 10.3% 18.49% 10.3% 10.3% 18.49% 10.3%	Peak	Hour Volume:	3,24	40 vehicles	6		He	eavy Tru	cks (3+	Axles):	15		
Site Data Sarrier Height: O.0 feet Barrier Height: O.0 feet Barrier Type (0-Wall, 1-Berm): O.0 feet Centerline Dist. to Barrier: 67.0 feet Centerline Dist. to Observer: 67.0	1	ehicle Speed:	4	40 mph			Vehicle	Mix					
Barrier Height: 0.0 feet Medium Trucks: 84.8% 4.9% 10.3% 18.4%	Near/Far L	.ane Distance:	8	82 feet			Ver	icleTvpe	9	Dav	Evenina	Niaht	Dailv
Barrier Trype (0-Wall, 1-Berm): 0.0 feet Heavy Trucks: 86.5% 2.7% 10.8% 0.749	Site Data									77.5%	Ü		97.42%
Barrier Type (0-Wall, 1-Berm): Contertine Dist. to Barrier: 67.0 feet		arrior Hoight:		n n foot			М	edium T	rucks:	84.8%	4.9%	10.3%	1.84%
Centerline Dist. to Observer: Barrier Distance to Observer: 0.0 feet Barrier Distance to Observer: 0.0 feet Barrier Distance to Observer Height (Above Pad'): 5.0 feet Pad Elevation: 0.0 feet Road Clevation: 0.0 feet Roa		-						Heavy T	rucks:	86.5%	2.7%	10.8%	0.74%
Autos: 0.000 Auto	Centerline L	Dist. to Barrier:	6	7.0 feet			Noise S	ource F	levatio	ne (in fa	oof)		
Medium Trucks: 2.297 Medium Trucks: 8.006 Grade Adjustment: 0.0	Centerline Dis	t. to Observer:	6	7.0 feet		F.	110/36 0				JUL)		
Diserver Height (Above Pad): 5.0 feet Heavy Trucks: 8.006 Grade Adjustment: 0.0 feet Road Elevation: 0.0 feet Lane Equivalent Distance (in feet)	Barrier Distanc	e to Observer:		0.0 feet			Modiu						
Pad Elevation: 0.0 feet Lane Equivalent Distance (in feet)	Observer Heigh	t (Above Pad):		5.0 feet							Grado Ad	liustmon	- 00
Road Grade:		Pad Elevation:		0.0 feet			i ica	y IIUCK	.s. 0	.000	Orado Au	jusunon	. 0.0
Left View:	R	oad Elevation:		0.0 feet			Lane Eq	uivalen	t Distaı	nce (in :	feet)		
Fight View: 90.0 degrees Heavy Trucks: 53.076 FFHWA Noise Model Calculations Vehicle Type REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berm Atten Autos: 66.51 3.67 -0.51 -1.20 -4.71 0.000 0.00 0.00 Medium Trucks: 77.72 -13.57 -0.49 -1.20 -4.88 0.000 0.00		Road Grade:		0.0%				Auto	s: 53	3.226			
		Left View:	-9	0.0 degree	es		Mediu	m Truck	s: 53	3.059			
VehicleType		Right View:	9	0.0 degree	es		Hear	vy Truck	s: 53	3.076			
Autos: 66.51 3.67 -0.51 -1.20 -4.71 0.000 0.00 Medium Trucks: 77.72 -13.57 -0.49 -1.20 -4.88 0.000 0.00 0.00	FHWA Noise Mo	del Calculatio	ns										
Medium Trucks: 77.72 -13.57 -0.49 -1.20 -4.88 0.000 0.00 Heavy Trucks: 82.99 -17.53 -0.49 -1.20 -5.29 0.000 0.00 Unmitigated Noise Levels (without Topo and barrier attenuation) WehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 68.5 66.6 64.8 58.7 67.4 68. Medium Trucks: 62.5 60.9 54.6 53.0 61.5 61.5 Medium Trucks: 63.8 62.4 53.3 54.6 62.9 63. Vehicle Noise: 70.5 68.8 65.5 60.9 69.5 69. Centerline Distance to Noise Contour (in feet)	VehicleType	REMEL	Tra	affic Flow	Dis	stance	Finite		Fres		Barrier Att	en Be	rm Atten
Heavy Trucks: 82.99 -17.53 -0.49 -1.20 -5.29 0.000 0.00	Autos	66.5	1	3.67		-0.5	1	-1.20		-4.71	0.0	000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL			_				-						0.000
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 69.5 66.6 64.8 58.7 67.4 68. Medium Trucks: 62.5 60.9 54.6 53.0 61.5 61. Heavy Trucks: 63.8 62.4 53.3 54.6 62.9 63. Vehicle Noise: 70.5 68.8 65.5 60.9 69.5 69. Centerline Distance to Noise Contour (in feet) Ldn: 62 133 286 617	Heavy Trucks	3: 82.99	9	-17.53		-0.4	9	-1.20		-5.29	0.0	000	0.000
Autos: 68.5 66.6 64.8 58.7 67.4 68. Medium Trucks: 62.5 60.9 54.6 53.0 61.5 61. Heavy Trucks: 63.8 62.4 53.3 54.6 62.9 63. Vehicle Noise: 70.5 68.8 65.5 60.9 69.5 69. Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dBA Ldn: 62 133 286 617	Unmitigated Noi			Topo and	barri	er atten	uation)						
Medium Trucks: 62.5 60.9 54.6 53.0 61.5 61. Heavy Trucks: 63.8 62.4 53.3 54.6 62.9 63. Vehicle Noise: 70.5 68.8 65.5 60.9 69.5 69. Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dBA Ldn: 62 133 286 617	,,, .				_	Leq E						_	
Heavy Trucks: 63.8 62.4 53.3 54.6 62.9 63. Vehicle Noise: 70.5 68.8 65.5 60.9 69.5 69.													68.0
Vehicle Noise: 70.5 68.8 65.5 60.9 69.5 69. Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dBA Ldn: 62 133 286 617												-	61.7
Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dBA Ldn: 62 133 286 617													63.0
70 dBA 65 dBA 60 dBA 55 dBA Ldn: 62 133 286 617							00.0		30.		09.	-	09.8
	Centernne Dista	nce to Noise C	JUNTO	ur (III Teet)	<u> </u>	70 (dBA	65	dBA	6	60 dBA	55	dBA
CNEL: 66 142 306 660					Ldn:	6	2	1	33	_	286		617
				CN	IEL:	6				660			

	FHW	A-RD-77-108	HIGHWA	AY NO	ISE PI	REDICT	TION MOD	EL			
	o: Year 2035 V e: Alessandro I t: w/o Day St.						t Name: C Number: 8		Springs		
SITE S	PECIFIC IN	PUT DATA				- 1	NOISE M	ODE	L INPUTS	i	
Highway Data				Si	te Cor	ditions	(Hard =	10, So	ft = 15)		
	Percentage: our Volume:	10% 4,990 vehicles					A rucks (2 A icks (3+ A		15 15 15		
Veh	nicle Speed:	45 mph		Ve	hicle	Mix					
Near/Far Lan	e Distance:	82 feet			Veh	icleTyp	e L	Dav	Evening	Night	Daily
Site Data								77.5%	12.9%	9.6%	97.42%
Rari	rier Heiaht:	0.0 feet			М	edium 7	rucks: 8	34.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wa		0.0			1	Heavy 7	rucks: 8	36.5%	2.7%	10.8%	0.74%
Centerline Dis		67.0 feet		No	ise S	ource E	levations	(in fe	et)		
	o Observer: Above Pad): d Elevation:	67.0 feet 0.0 feet 5.0 feet 0.0 feet			Heav	Auto m Truck ry Truck	ks: 2.2	97 06	Grade Adju	ıstment:	0.0
	d Elevation:	0.0 feet		Lä	ine Eq		t Distanc		eet)		
	Road Grade: Left View: Right View:	0.0% -90.0 degree 90.0 degree				Auto m Truck vy Truck	ks: 53.0	59			
FHWA Noise Mode	l Calculations	i									
VehicleType	REMEL	Traffic Flow	Distan	ce	Finite	Road	Fresne	el .	Barrier Atte	n Ber	m Atten
Autos:	68.46	5.03	-	0.51		-1.20	-	4.71	0.00	00	0.000
Medium Trucks:	79.45	-12.21		0.49		-1.20	-	4.88	0.00	00	0.000
Heavy Trucks:	84.25	-16.16		-0.49		-1.20	-	5.29	0.00	00	0.000
Unmitigated Noise											
	Leq Peak Hour			q Eve		Leq	Night		Ldn	CI	VEL
Autos:	71.8		69.9		68.1		62.1		70.7		71.3
Medium Trucks:	65.6		64.0		57.7		56.1		64.6		64.8
Heavy Trucks:	66.4		65.0		55.9		57.2		65.5		65.7
Vehicle Noise:	73.6		71.9		68.7		64.1		72.6		73.0
Centerline Distance	e to Noise Co	ntour (in feet)									
				70 dB	Α		dBA	6	0 dBA		dBA
			Ldn:	100			215		463		98
		CN	IEL:	107		2	231		497	1,0	070

Soonari	o: Year 2035	With Project				Project	Nama	Canva	n Springs		
	e: Towngate						ivanie. lumber:		ii Spilligs		
Road Segmen						3001	umber.	0331			
SITE : Highway Data	SPECIFIC II	NPUT DATA	١		Sito Cor	nditions			L INPUT	S	
	T 00 (4 ti)	45 400 11			site Coi	iuitions	(I laiu				
Average Daily	. ,		les					Autos:			
	Percentage:	10%				dium Tr		,			
	our Volume:	1,540 vehic	les		He	avy Tru	cks (3+	Axies):	15		
	hicle Speed:	40 mph		1	Vehicle	Mix					
Near/Far Lai	ne Distance:	82 feet			Veh	icleType	9	Day	Evening	Night	Daily
Site Data						,	Autos:	77.5%	12.9%	9.6%	97.42%
Bar	rier Height:	0.0 feet			М	edium T	rucks:	84.8%	4.9%	10.3%	1.849
Barrier Type (0-W		0.0			1	Heavy T	rucks:	86.5%	2.7%	10.8%	0.749
Centerline Dis	st. to Barrier:	67.0 feet		,	Voisa S	ource E	lovatio	ne (in f	not)		
Centerline Dist.	to Observer:	67.0 feet		ľ	10/30 0	Auto		.000	<i>(</i>		
Barrier Distance	to Observer:	0.0 feet			Mediu	m Truck		.297			
Observer Height (Above Pad):	5.0 feet				/v Truck		.006	Grade Ad	iustment	. 0.0
Pa	ad Elevation:	0.0 feet			ricai	ry Truck	o. c	.000	Orado riaj	Juoumoni	. 0.0
Roa	ad Elevation:	0.0 feet		I	Lane Eq	uivalen	t Distai	nce (in	feet)		
F	Road Grade:	0.0%				Auto	s: 53	.226			
	Left View:	-90.0 degr	ees		Mediu	m Truck	s: 53	.059			
	Right View:	90.0 degr	ees		Heav	/y Truck	s: 53	.076			
FHWA Noise Mode	el Calculation	18									
VehicleType	REMEL	Traffic Flow	Di.	stance	Finite	Road	Fres	nel	Barrier Att	en Ber	m Atten
Autos:	66.51	0.4	4	-0.51	1	-1.20		-4.71	0.0	000	0.00
Medium Trucks:	77.72	-16.8	0	-0.49	9	-1.20		-4.88	0.0	000	0.00
Heavy Trucks:	82.99	-20.7	6	-0.49	9	-1.20		-5.29	0.0	000	0.00
Unmitigated Noise	Levels (with	hout Topo an	d barri	ier atten	uation)						
VehicleType	Leq Peak Ho	ur Leq D	ay	Leq Ev	/ening	Leq	Night		Ldn	C	NEL
Autos:	65	5.2	63.3		61.6		55.	5	64.1	1	64.
Medium Trucks:	59	9.2	57.7		51.4		49	8	58.3	3	58.
Heavy Trucks:	60	0.5	59.1		50.1		51.	3	59.7	7	59.
Vehicle Noise:	67	7.3	65.5		62.2		57	.7	66.2	2	66.
Centerline Distanc	e to Noise C	ontour (in fe	et)								
			I	70 c	IBA	65	dBA	(60 dBA	55	dBA
			I also	38		_	31		174		76
			Ldn: CNEL:	40	-	-	37		187		.02

Tuesday, February 03, 2015

	FH	WA-RD-77-108	HIGHWAY	NOISE F	REDICT	ION MO	DEL		
Road Nar	rio: Year 2035 me: Alessandro ent: e/o Day St	BI.				Name: lumber:		on Springs	
	SPECIFIC II	NPUT DATA						L INPUTS	
Highway Data				Site Co.	nditions	(Hard =	10, S	oft = 15)	
Peak Hou	Traffic (Adt): r Percentage: Hour Volume:	43,100 vehicles 10% 4,310 vehicles			edium Tr eavy Tru	ucks (2)	,	: 15	
	ehicle Speed:	45 mph		Vehicle	Mix				
Near/Far La	ane Distance:	82 feet		Vei	hicleType	,	Day	Evening	Night Daily
Site Data						Autos:	77.5%	6 12.9%	9.6% 97.42%
Ra	arrier Height:	0.0 feet		٨	1edium T	rucks:	84.89	4.9%	10.3% 1.84%
Barrier Type (0-V		0.0			Heavy T	rucks:	86.5%	6 2.7%	10.8% 0.74%
	ist. to Barrier:	67.0 feet		Noise S	ource E	levation	s (in t	eet)	
Centerline Dist		67.0 feet			Auto		000		
Barrier Distance		0.0 feet		Medii	ım Truck		297		
Observer Height	(Above Pad):	5.0 feet		Hea	vy Truck	s· 8	006	Grade Adiu	stment: 0.0
	Pad Elevation:	0.0 feet							
Ro	oad Elevation:	0.0 feet		Lane E	quivalen			feet)	
	Road Grade:	0.0%			Auto		226		
	Left View:	-90.0 degree	es	Mediu	ım Truck	s: 53.	059		
	Right View:	90.0 degree	es	Hea	vy Truck	s: 53.	076		
FHWA Noise Mod	del Calculation	18							
VehicleType	REMEL	Traffic Flow	Distance	e Finite	e Road	Fresi	nel	Barrier Atte	n Berm Atten
Autos.	68.46		-0	.51	-1.20		-4.71	0.00	0.000
Medium Trucks.	79.45	-12.84	-0	.49	-1.20		-4.88	0.00	0.00
Heavy Trucks.	84.25	-16.80	-0	.49	-1.20		-5.29	0.00	0.00
Unmitigated Nois	e Levels (with	nout Topo and	barrier att	enuation)	1				
VehicleType	Leq Peak Ho	ur Leq Day	Leq	Evening	Leq	Night		Ldn	CNEL
Autos.		1.1 (69.2	67.5	5	61.4	1	70.0	70.
Medium Trucks.			63.4	57.0		55.5		64.0	64.2
Heavy Trucks.			64.3	55.3		56.6		64.9	65.0
Vehicle Noise.			71.2	68.1	l	63.4	1	72.0	72.
Centerline Distar	ice to Noise C	ontour (in feet)		O -/D 4	05	-10.4	1	00 -(D4	55 dD4
			l dn:	0 dBA 90		dBA 95		60 dBA 420	55 dBA 905
			Lan: JFI :	90		95 09		420 450	905 970
		Cr	VEL:	97	2	09		450	970

Tuesday, February 03, 2015

Tuesday, February 03, 2015 Tuesday

APPENDIX 8.1:

ON-SITE TRAFFIC NOISE CALCULATIONS



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F	HWA-RD-77-1	08 HIGHWAY	NOISE I	PREDIC	CTION MOD	DEL (CAL\	ENO) -	6/2/2013		
Road Nam	io: First Floor ne: I-215 Fwy lo: Senior Hou		ade			ect Name: Number: Analyst:	8991			
SITE Highway Data	SPECIFIC IN	IPUT DATA		Si	te Conditio			L INPUTS	5	•
Average Daily Peak Hour	Percentage:	10%			Medium	Trucks (2	Autos: Axles):	15 15 15		
Ve	lour Volume: hicle Speed: ne Distance:	65 mph 120 feet	S	Ve	hicle Mix	rucks (3+				
Site Data	no Biolanos.	120 1001			VehicleT _.	/pe Autos:	Day 77.5%	Evening 12.9%	Night 9.6%	Daily 85.50%
	rrier Height:	0.0 feet 0.0				Trucks: Trucks:	84.8%	4.9%	10.3% 10.8%	6.31%
,,,,	st. to Barrier:			N	oise Source	Flovation	e (in fa	of)		
Roa Barri	to Observer:	0.0 feet 5.0 feet 1,571.0 feet 1,545.0 feet		La	Medium Tru Heavy Tru I ne Equival Al Medium Tru	ent Distanutos: 1,42	7.297 3.006 ce (in t 3.073 3.025		ustment	: 0.0
FHWA Noise Mod	el Calculation	s								
VehicleType	REMEL	Traffic Flow	Dista		Finite Road			Barrier Atte	en Ber	m Atten
Autos: Medium Trucks: Heavy Trucks:		7.05 -4.26 -3.13	-	·21.92 ·21.92 ·21.92	-1.3 -1.3 -1.3	20	-4.79 -4.80 -4.82	0.0 0.0 0.0	00	0.000
Unmitigated Noise	e Levels (with	out Topo and	barrier a	attenua	ation)					
VehicleType Autos:	Leq Peak Hou		/ L	eq Eve	ning L 55.8	eq Night 49.	В	Ldn 58.4		NEL 59.0
Medium Trucks:	54	.3	52.8		46.5	44.	9	53.4		53.6
Heavy Trucks:	59		57.5		48.5	49.		58.1		58.2
Vehicle Noise:	62	.9	61.2		57.0	53.	4	61.9)	62.3
Mitigated Noise L										
	Leq Peak Hou			eq Eve		eq Night		Ldn		NEL
Autos:	59		57.6		55.8	49.	-	58.4		59.0
Medium Trucks:	54		52.8		46.5	44.	-	53.4		53.6
Heavy Trucks:	59		57.5		48.5	49.		58.1		58.2
Vehicle Noise:	62	.9	61.2		57.0	53.	4	61.9)	62.3

ı	HWA-RD-77-1	108 HIGHWAY	NOISE PR	EDICTION	MODEL	(CALV	ENO) -	6/2/2013		
Road Nar	rio: First Floor ne: SR-60 Fwy Vo: Senior Hou		çade		Job Nu		3991	n Springs fe		
SITE	SPECIFIC IN	NPUT DATA			NC	DISE N	/IODE	L INPUTS	;	
Highway Data				Site Cor	ditions (l	Hard =	10, Sc	ft = 15)		
Average Daily	Traffic (Adt): 1	47,400 vehicle	s			,	Autos:	15		
Peak Hou	Percentage:	10%		Me	dium Truc	ks (2 A	(xles	15		
Peak I	Hour Volume:	14,740 vehicle	s	He	avy Truck	s (3+ A	(xles	15		
Ve	ehicle Speed:	65 mph		Vehicle	Mix					
Near/Far La	ane Distance:	120 feet			icleType		Dav	Evenina	Night	Daily
Site Data						ıtos:	77.5%	Ü	9.6%	
D-	rrier Heiaht:	0.0 feet		М	edium Tru	icks:	84.8%	4.9%	10.3%	4.519
Barrier Type (0-V		0.0			Heavy Tru	icks:	86.5%	2.7%	10.8%	5.99%
,, ,	ist. to Barrier:									
Centerline Dist.				Noise S	ource Ele		_	eet)		
Barrier Distance	to Observer:	0.0 feet			Autos:					
Observer Height	(Above Pad):	5.0 feet			m Trucks:	, -		Crada Adii	intmont	
	ad Elevation:	1,571.0 feet		Heav	y Trucks:	1,618	.006	Grade Adju	istment.	0.0
Ro	ad Elevation:	1,610.0 feet		Lane Eq	uivalent l	Distand	ce (in i	eet)		
Barı	ier Elevation:	1,571.0 feet			Autos:	2,206	.528			
	Road Grade:	0.0%		Mediu	m Trucks:	2,206	.570			
				Heav	y Trucks:	2,206	.684			
FHWA Noise Mod	lel Calculation	ıs		1						
VehicleType	REMEL	Traffic Flow	Distanc	e Finite	Road	Fresn	el	Barrier Atte	n Ber	m Atten
Autos:	75.54	7.77	-24	1.77	-1.20		4.97	-15.27	79	-18.27
Medium Trucks:	81.71	-5.21	-24	1.77	-1.20		4.98	-15.28	86	-18.28
Heavy Trucks:	85.21	-3.98	-24	1.77	-1.20		4.99	-15.29	93	-18.29
Unmitigated Nois										
VehicleType	Leq Peak Ho			Evening	Leq N	_		Ldn	CI	VEL
Autos:			55.4	53.7		47.6		56.2		56.8
Medium Trucks:			49.0	42.7		41.1		49.6		49.
Heavy Trucks:			53.8	44.8		46.0		54.4		54.
Vehicle Noise:			58.3	54.5		50.5	i	59.0		59.
						Contact.		I do	~	
		ur Leg Da	/ Leq	Evening	Leq N			Ldn 41.0	CI	VEL 41.
VehicleType	Leq Peak Hou		40.0							
Autos:	42	2.1	40.2	38.4		32.3				
VehicleType	42 35	2.1	40.2 33.7 38.5	38.4 27.4 29.5		32.3 25.8 30.8		34.3 39.1		34.

F	HWA-RD-77-10	8 HIGHWAY N	OISE PI	REDICTION	MODE	L (CALV	ENO)	- 6/2/2013		
Road Nan	io: First Floor W ne: Valley Spring lo: Senior Housi	gs Pkwy.	de		Job I	t Name: Vumber: Analyst:	8991	n Springs lfe		
SITE	SPECIFIC INF	PUT DATA				NOISE	ИODE	L INPUTS		
Highway Data				Site Cor	dition	(Hard =	10, Sc	oft = 15)		
Average Daily	Traffic (Adt): 31	1,200 vehicles					Autos:	15		
Peak Hour	Percentage:	10%		Me	dium T	rucks (2)	4xles):	15		
Peak H	lour Volume: 3	3,120 vehicles		He	avy Tr	icks (3+ /	Axles):	15		
Ve	hicle Speed:	40 mph		Vehicle	Mix					
Near/Far La	ne Distance:	48 feet		Veh	icleTyp	e	Day	Evening	Night	Daily
Site Data						Autos:	77.5%		9.6%	,
Ra	rrier Height:	0.0 feet		М	edium	Trucks:	84.8%	4.9%	10.3%	1.849
Barrier Type (0-W	-	0.0			Heavy	Trucks:	86.5%	2.7%	10.8%	0.74
Centerline Di	. ,	345.0 feet		Noise S		lovotion	o (in f	0.041		
Centerline Dist.	to Observer:	345.0 feet		Noise 3		os: 1.553		eel)		
Barrier Distance	to Observer:	0.0 feet		Modiu		ks: 1,555				
Observer Height	(Above Pad):	5.0 feet						Grade Adju	ictmont.	
P	ad Elevation: 1,	,571.0 feet							istriciit.	0.0
Ro	ad Elevation: 1,	,553.0 feet		Lane Eq	uivaleı	nt Distan	ce (in	feet)		
Barr	ier Elevation: 1,	,571.0 feet			Auto		1.932			
	Road Grade:	0.0%			m Truc		1.786			
				Heav	ry Truc	ks: 344	1.491			
FHWA Noise Mod										
VehicleType		Traffic Flow	Distanc	ce Finite	Road	Fresi	nel	Barrier Atte	n Ber	m Atter
Autos:	67.36	3.50		2.68	-1.20		-4.60	0.00		0.00
Medium Trucks:	76.31	-13.74		2.68	-1.20		-4.63	0.00		0.00
Heavy Trucks:	81.16	-17.69	-1:	2.68	-1.20		-4.71	0.00	00	0.00
Unmitigated Nois			_							
VehicleType	Leq Peak Hour			q Evening		Night		Ldn	CI	VEL
Autos: Medium Trucks:	57.0 48.7		5.1 7.2	53.3 40.8		47.3 39.3	-	55.9 47.7		56. 48.
			7.2 8.2	40.8 39.1		39.3 40.4	-	47.7		48. 48.
Heavy Trucks: Vehicle Noise:	49.6		8.2 6.4	39.1 53.7		40.4		48.7 57.2		48. 57.
						48.0	,	57.2		5/
Mitigated Noise L VehicleType	evels (with Top Leg Peak Hour			g Evening	1.00	Night		Ldn	C	VEL
	Leq Peak Hour		5.1	q Evening 53.3		i Nigrit 47.3	1	55.9	CI	VEL 56
	57.0	, 5	J. 1				-			
Autos:	48.7	7 1	7 2	40.8		20.1	2			
	48.7 49.6		7.2 8.2	40.8 39.1		39.3 40.4	-	47.7 48.7		48. 48.

Monday, July 11, 2016

F	HWA-RD-77-10	8 HIGHWAY	NOISE PI	REDICTIO	N MODE	L (CALV	ENO)	- 6/2/2013		
Road Nan	rio: First Floor V ne: SR-60 Fwy Vo: Independent		Façade		Job I	t Name: Number: Number: Nanalyst: N	8991	n Springs lfe		
SITE	SPECIFIC IN	PUT DATA				NOISE N	/IODE	L INPUTS	S	
Highway Data				Site Co	nditions	(Hard =	10, Sc	oft = 15)		
Peak Hour	Traffic (Adt): 14 Percentage: Hour Volume: 1	10%				rucks (2 A icks (3+ A	,	15		
Ve	hicle Speed:	65 mph		Vehicle	Miv					
Near/Far La	ne Distance:	120 feet			hicleTyp	e	Dav	Evening	Night	Daily
Site Data						Autos:	77.5%	12.9%	9.6%	89.50%
Ba	rrier Heiaht:	0.0 feet		1	/ledium	Trucks:	84.8%	4.9%	10.3%	4.51%
Barrier Type (0-V		0.0			Heavy	Trucks:	86.5%	2.7%	10.8%	5.99%
	st. to Barrier: 2			Noise S	Source E	levation	s (in fe	eet)		
Centerline Dist.		,359.0 feet				os: 1,639		,		
Barrier Distance		0.0 feet		Medi	um Truci	ks: 1,641	.297			
Observer Height	(Above Pad): ad Elevation: 1	5.0 feet		Hea	vy Truci	ks: 1,647	.006	Grade Adj	ustment:	0.0
	ad Elevation: 1 ad Elevation: 1	,		Lane E	auivaler	nt Distanc	ce (in	feet)		
	ier Elevation: 1	,				os: 2,364	_			
	Road Grade:	0.0%		Medi	um Truci	ks: 2,364	.211			
				Hea	vy Truci	ks: 2,364	.382			
FHWA Noise Mod	lel Calculations									
VehicleType	REMEL	Traffic Flow	Distanc	e Finit	e Road	Fresn	ıρl	Barrier Atte	en Ren	m Atten
Autos:		7.77		5.22	-1.20		5.02	-15.3		-18.312
Medium Trucks:	81.71	-5.21	-2	5.22	-1.20		5.03	-15.3	18	-18,318
Heavy Trucks:	85.21	-3.98	-2	5.22	-1.20		5.04	-15.3	24	-18.324
Unmitigated Nois	e Levels (witho	out Topo and	barrier at	tenuation)					
VehicleType	Leq Peak Hour	r Leq Day	/ Le	q Evening	Lec	Night		Ldn	CI	VEL
Autos:	56.	9	55.0	53.	2	47.2		55.8	}	56.4
Medium Trucks:	50.	1	48.6	42.	2	40.7		49.1		49.4
Heavy Trucks:	54.	8	53.4	44.	4	45.6		54.0)	54.1
Vehicle Noise:	59.	5	57.8	54.	0	50.0)	58.5	5	58.9
Mitigated Noise L	evels (with Top	oo and barrie	r attenua	tion)						
VehicleType	Leq Peak Hour	r Leq Day	/ Le	q Evening	Leq	Night		Ldn	CI	VEL
Autos:	41.0	6	39.7	37.	9	31.9	1	40.5		41.1
Medium Trucks:	34.	8	33.3	26.	9	25.3		33.8	}	34.0
Heavy Trucks:	39.	5	38.1	29.	0	30.3		38.6	:	38.8
Vehicle Noise:	44.:	2	42.5	38.	7	34.7		43.2	2	43.6

Monday, July 11, 2016 197 Monday, July 11, 2016

	FHWA-RD-77-1	08 HIGHWAY	NOISE PI	REDICTION	MODE	L (CALVI	ENO)	- 6/2/2013		
Road Nar	rio: First Floor one: Day St. Vo: Independe		açade		Job N	t Name: (lumber: 8 Analyst: /	3991	n Springs fe		
	SPECIFIC IN	IPUT DATA		04-0-		NOISE N		L INPUTS		
Highway Data	T 00 (4 10)	00 700 111		Site Coi	laitions		-, -			
,	Traffic (Adt): : r Percentage:	23,700 venicie 10%	S	144	odium T	ucks (2 A	Autos:	15 15		
	r Percentage: Hour Volume:	2.370 vehicle				ucks (2 A cks (3+ A	,	15		
	ehicle Speed:	40 mph	5			CKS (3+ A	ixies).	15		
	ane Distance:	48 feet		Vehicle	Mix					
	arie Distance.	40 1661		Veh	nicleTyp		Day		Night	Daily
Site Data							77.5%			97.42%
Ba	arrier Height:	0.0 feet			ledium 1		84.8%	1.070	10.3%	1.84%
Barrier Type (0-V	Vall, 1-Berm):	0.0			Heavy 1	rucks:	86.5%	2.7%	10.8%	0.74%
	ist. to Barrier:	481.0 feet		Noise S	ource E	levations	s (in fe	eet)		
Centerline Dist		481.0 feet			Auto	s: 1.572	.200	,		
Barrier Distance		0.0 feet		Mediu	m Truck	s: 1,574	.497			
Observer Height	,,	5.0 feet		Hea	vy Truck	s: 1,580	.206	Grade Adjus	stment:	0.0
	Pad Elevation:	,		1 F-		4 Di-4	- /!	4)		
	oad Elevation:	,		Lane Eq		t Distanc	- '	reet)		
Ban	rier Elevation:	,		14-45	Auto m Truck		.442 .418			
	Road Grade:	0.0%			m Truck vy Truck		.404			
FHWA Noise Mod	del Calculation	e								
VehicleType	REMEL	Traffic Flow	Distanc	e Finite	Road	Fresn	el	Barrier Atter	Bern	Atten
Autos.		2.31		4.84	-1.20		-4.85	0.00		0.000
Medium Trucks.	76.31	-14.93	-1	4.84	-1.20		-4.88	0.00	0	0.000
Heavy Trucks.	81.16	-18.89	-1	4.84	-1.20		-4.93	0.00	0	0.000
Unmitigated Nois	se Levels (with	out Topo and	barrier at	tenuation)						
VehicleType	Leq Peak Hou	. , . ,		q Evening		Night		Ldn	CN	
Autos.			51.7	50.0		43.9		52.5		53.1
Medium Trucks.			43.8	37.5		35.9		44.4		44.6
Heavy Trucks.			44.8	35.8		37.0		45.4		45.5
Vehicle Noise.	54	.9	53.1	50.4		45.3		53.8		54.3
Mitigated Noise L										
VehicleType	Leq Peak Hou			q Evening		Night		Ldn	CN	
Autos.			51.7	50.0		43.9		52.5		53.1
Medium Trucks.			43.8	37.5		35.9		44.4		44.6
Heavy Trucks.			44.8	35.8		37.0		45.4		45.5
Vehicle Noise.	: 54	.9	53.1	50.4		45.3		53.8		54.3

FHWA-RD-77-10	08 HIGHWAY I	NOISE PR	EDICTION	MODEL	(CALVEN	O) - 6/2/2013	
Scenario: First Floor V Road Name: Gateway Dr Lot No: Skilled Nurs		ade		Job N	Name: Cal lumber: 899 Analyst: A. N		
SITE SPECIFIC IN	PUT DATA		011 0			DEL INPUTS	S
Highway Data			Site Cor	aitions	•	Soft = 15)	
Average Daily Traffic (Adt): 1		3		-E	Aut		
Peak Hour Percentage: Peak Hour Volume:	10% 1.230 vehicles				ucks (2 Axle cks (3+ Axle	,	
Vehicle Speed:	40 mph	5			XS (3+ AXR	#S). 15	
Near/Far I ane Distance:	40 mpn 48 feet		Vehicle				
	40 1661		Veh	icleType		,	Night Daily
Site Data						.5% 12.9%	9.6% 97.42
Barrier Height:	0.0 feet			edium T		.8% 4.9%	10.3% 1.84
Barrier Type (0-Wall, 1-Berm):	0.0			Heavy T	rucks: 86	.5% 2.7%	10.8% 0.74
Centerline Dist. to Barrier:	77.0 feet		Noise S	ource El	levations (i	n feet)	
Centerline Dist. to Observer:	77.0 feet				s: 1.572.20		
Barrier Distance to Observer:	0.0 feet		Mediu	m Truck	s: 1,574.49	7	
Observer Height (Above Pad):	5.0 feet		Heav	y Truck	s: 1,580.20	6 Grade Adj	iustment: 0.0
Pad Elevation: 1	,						
Road Elevation: 1			Lane Eq		Distance	,	
Barrier Elevation: 1 Road Grade:	,572.5 feet 0.0%		14-45	Auto m Truck			
Road Grade:	0.0%			y Truck		-	
			77041	y much	3. 70.21	7	
FHWA Noise Model Calculations			•				
VehicleType REMEL	Traffic Flow	Distanc		Road	Fresnel	Barrier Atte	
Autos: 67.36	-0.54	-	2.60	-1.20	-4.		
Medium Trucks: 76.31	-17.78	-	2.59	-1.20	-4.		
Heavy Trucks: 81.16	-21.73	-2	2.59	-1.20	-5.	22 0.0	0.00
Unmitigated Noise Levels (with	out Topo and	barrier at	enuation)				
VehicleType Leq Peak Hou	r Leq Day	Leq	Evening	Leq	Night	Ldn	CNEL
Autos: 63.		61.1	59.4		53.3	61.9	62
Medium Trucks: 54.		53.2	46.9		45.3	53.8	
Heavy Trucks: 55.		54.2	45.2		46.4	54.8	
Vehicle Noise: 64.	3 (62.5	59.7		54.7	63.2	63
Mitigated Noise Levels (with Top	oo and barrier	attenuati	on)				
VehicleType Leq Peak Hou	r Leq Day	Leq	Evening	Leq	Night	Ldn	CNEL
Autos: 63.	0 6	61.1	59.4		53.3	61.9	62
Medium Trucks: 54.	7 5	53.2	46.9		45.3	53.8	54.
Heavy Trucks: 55.	6 5	54.2	45.2		46.4	54.8	54.
Vehicle Noise: 64.	3 6	62.5	59.7		54.7	63.2	63

F	HWA-RD-77-108	HIGHWAY NOI	SE PRE	DICTION	MODEL	(CALV	ENO) -	6/2/2013		
	io: First Floor Wi	th Wall						n Springs		
	e: Day St. lo: Skilled Nursin	- F F				ımber: l nalyst: l				
LOUN	o. Skilled Nursii	y-East Façade			А	iaiyst. i	4. VVOI	ie		
	SPECIFIC INP	UT DATA						L INPUTS		
Highway Data				Site Con	ditions	Hard =	10, Sc	oft = 15)		
Average Daily	Traffic (Adt): 23	700 vehicles					Autos:	15		
	Percentage:	10%			dium Tru		/	15		
Peak H	lour Volume: 2	370 vehicles		He	avy Truc	ks (3+ A	xles):	15		
Ve	hicle Speed:	40 mph		Vehicle I	Wix					
Near/Far La	ne Distance:	48 feet		Veh	icleType		Dav	Evening	Night	Daily
Site Data						utos:	77.5%		_	97.42
Ra	rrier Height:	0.0 feet		Me	edium Tr	ucks:	84.8%	4.9%	10.3%	1.849
Barrier Type (0-W		0.0		F	leavy Tr	ucks:	86.5%	2.7%	10.8%	0.74
Centerline Di	. ,	177.0 feet						.,		
Centerline Dist.	to Observer:	177.0 feet		Noise Sc				eet)		
Barrier Distance		0.0 feet				: 1,572				
Observer Height ((Above Pad):	5.0 feet			n Trucks			O		0.0
	ad Elevation: 1.5	572.5 feet		Heav	y Trucks	: 1,580	.206	Grade Adju	stment:	0.0
Roa	ad Elevation: 1,5	72.2 feet	ĺ	Lane Eq	uivalent	Distan	e (in t	eet)		
Barn	ier Elevation: 1,5	72.5 feet	ĺ		Autos	: 175	.445			
	Road Grade:	0.0%		Mediur	n Trucks	: 175	.391			
				Heav	y Trucks	: 175	.386			
FHWA Noise Mod										
VehicleType			istance		Road	Fresn		Barrier Atte		n Atter
Autos:	67.36	2.31	-8.2		-1.20		-4.81	0.00		0.00
Medium Trucks:	76.31	-14.93	-8.2		-1.20		-4.88	0.00		0.00
Heavy Trucks:	81.16	-18.89	-8.2	28	-1.20		-5.04	0.00	00	0.00
VehicleType	•	•			1 1	E auto t		Ldn	CN	
Autos:	Leq Peak Hour 60.2	Leq Day 58.3		vening 56.5	Leq I	vignt 50.5		59.1	CIV	EL 59
Medium Trucks:	51.9	50.3		44.0		42.5		51.0		51
Heavy Trucks:	52.8	51.4		42.3		43.6		51.9		52
Vehicle Noise:	61.4	59.6		56.9		51.8		60.4		60
Mitigated Noise L	evels (with Ton	and harrier atte	onustio	n)						
VehicleType	Leg Peak Hour	Leq Day		vening	Leg I	Viaht		Ldn	CN	EL
Autos:	60.2	58.3	,	56.5	. 7	50.5	_	59.1		59
Medium Trucks:	51.9	50.4		44.0		42.5		51.0		51
Heavy Trucks:	52.8	51.4		42.3		43.6		51.9		52
Vehicle Noise:	61.4	59.6								60

Monday, July 11, 2016

F	HWA-RD-77-1	08 HIGHWAY	NOISE PRI	EDICTION	MODE	L (CALVE	ENO) - 6/2	2/2013				
Road Nan	rio: First Floor ne: Gateway D lo: Assisted Li	r.	ade		Job N	Name: 0 lumber: 8 Analyst: F		orings				
SITE	SPECIFIC IN	IPUT DATA			I.	IOISE N	IODEL II	NPUTS	S			
Highway Data				Site Cor	ditions	(Hard =	10, Soft =	: 15)				
Peak Hour	Traffic (Adt): Percentage: Hour Volume:	12,300 vehicle 10% 1,230 vehicle				A ucks (2 A cks (3+ A	xles):	15 15 15				
	hicle Speed:	40 mph	5			uno (ot A	Ales).	13				
	ne Distance:	48 feet		Vehicle								
	ine Distance.	40 1661		Veh	icleType		-	ening	Night	Daily		
Site Data								12.9%	9.6%			
Ва	rrier Height:	0.0 feet			edium T		84.8%	4.9%	10.3%			
Barrier Type (0-W	. ,	0.0		4	Heavy T	rucks:	86.5%	2.7%	10.8%	0.74%		
	st. to Barrier:	72.0 feet		Noise Source Elevations (in feet)								
Centerline Dist. Barrier Distance		72.0 feet 0.0 feet		Autos: 1,567.250								
				Mediu	m Truck	s: 1,569.	.547					
Observer Height	(Above Pad): ad Elevation:	5.0 feet 1 572 5 feet		Heav	y Truck	s: 1,575.	.256 Gr	ade Adj	ustment:	0.0		
	ad Elevation:	,		Lane Eq	uivalen	t Distanc	e (in feet)				
Barr	ier Elevation:	1,572.5 feet			Auto	s: 68.	.652					
	Road Grade:	0.0%		Mediu	m Truck	s: 68.	.347					
				Heav	y Truck	s: 67	919					
FHWA Noise Mod	lel Calculation	s										
VehicleType	REMEL	Traffic Flow	Distance	Finite	Road	Fresn	el Bai	rier Atte	en Ber	m Atten		
Autos:	67.36	-0.54		.17	-1.20		4.37	0.0		0.000		
Medium Trucks:	76.31	-17.78	-2.	.14	-1.20		4.52	0.0	100	0.000		
Heavy Trucks:	81.16	-21.73	-2.	.10	-1.20		4.91	0.0	00	0.000		
Unmitigated Nois	e Levels (with	out Topo and	barrier atte	enuation)								
VehicleType	Leq Peak Hou	ır Leq Daj	/ Leq	Evening	Leq	Night	Ld	n	CI	VEL		
Autos:	63	.5	61.6	59.8		53.7		62.4	i	63.0		
Medium Trucks:	55	.2	53.7	47.3		45.8		54.2		54.5		
Heavy Trucks:	56	.1	54.7	45.7		46.9		55.3	}	55.4		
Vehicle Noise:	64	.7	62.9	60.2		55.1		63.7	,	64.2		
Mitigated Noise L	evels (with To	po and barrie	r attenuatio	on)								
VehicleType	Leq Peak Hou	ır Leq Daj	/ Leq	Evening	Leq	Night	Ld	n	CI	VEL		
Autos:	63	.5	61.6	59.8		53.7		62.4		63.0		
Medium Trucks:	Medium Trucks: 55.2 53.7			47.3		45.8		54.2		54.5		
Heavy Trucks:	56	.1	54.7	45.7		46.9		55.3	}	55.4		
Vehicle Noise:				60.2 55.1 63.7 6					64.2			

Monday, July 11, 2016 198 Monday, July 11, 2016

F	HWA-RD-77-1	108 HIGHWAY	NOISE F	REDI	ICTION	MODEL	(CALV	ENO) -	6/2/2013		
Road Nam	io: First Floor e: Gateway D io: Hospital Ph		açade			Job No	Name: umber: nalyst:	8991	Springs		
SITE	SPECIFIC IN	NPUT DATA				N	OISE N	/IODEI	LINPUTS	5	
Highway Data				S	ite Cond	ditions	(Hard =	10, So	ft = 15)		
Average Daily	Traffic (Adt):	12,300 vehicle	s					Autos:	15		
Peak Hour	Percentage:	10%			Med	dium Tru	icks (2 A	(xles	15		
Peak H	our Volume:	1,230 vehicle	s		Hea	avy Truc	ks (3+ A	(xles	15		
Ve	hicle Speed:	40 mph		V	ehicle N	/liv					
Near/Far La	ne Distance:	48 feet		-		cleTvpe		Dav	Evening	Night	Dailv
Site Data					¥ C////	,,	lutos:	77.5%	0	9.6%	. ,
					Me	edium Tr		84.8%		10.3%	1.84%
	rier Height:	0.0 feet				leavy Tr		86.5%		10.8%	0.74%
Barrier Type (0-W Centerline Dis	. ,	0.0 90.0 feet				,					
Centerline Dist		90.0 feet		Ν	loise So	urce El	evation	s (in fe	et)		
Barrier Distance		0.0 feet				Autos	: 1,556	.300			
		5.0 feet			Mediun	n Trucks	: 1,558	.597			
Observer Height (ad Elevation:				Heavy	y Trucks	: 1,564	.306	Grade Adj	ustment.	0.0
	ad Elevation:			1.	ane Equ	ıivalent	Distan	ce (in f	pet)		
	er Elevation:	,		F	ano Equ	Autos		5.868	001)		
-	er Elevation. Road Grade:	0.0%			Modium	n Trucks		.774			
'	Road Grade.	0.0%				y Trucks		5.804			
					ricav)	y macke	. 00	.004			
FHWA Noise Mode	el Calculation	ıs									
VehicleType	REMEL	Traffic Flow	Distar	ice	Finite I	Road	Fresn	iel l	Barrier Atte	en Ber	m Atten
Autos:	67.36	-0.54		-3.70		-1.20		-4.77	0.0	00	0.000
Medium Trucks:	76.31	-17.78		-3.69		-1.20		-4.90	0.0	00	0.000
Heavy Trucks:	81.16	-21.73		-3.70		-1.20		-5.21	0.0	00	0.000
Unmitigated Noise	e Levels (with	out Topo and	barrier a	ttenu	iation)						
VehicleType	Leq Peak Ho	ur Leq Day	/ Le	eq Eve	ening	Leq I	Vight		Ldn	CI	VEL
Autos:	61	1.9	60.0		58.3		52.2	2	60.8	,	61.4
Medium Trucks:	53	3.6	52.1		45.8		44.2	2	52.7		52.9
Heavy Trucks:	54	1.5	53.1		44.1		45.3	3	53.7		53.8
Vehicle Noise:	63	3.2	61.4		58.6		53.5	i	62.1		62.6
Mitigated Noise Le	evels (with To	po and barrie	r attenua	tion)							
VehicleType	Leq Peak Ho	ur Leq Day	/ Le	eq Eve	ening	Leq I	Vight		Ldn	CI	VEL
Autos:	61	1.9	60.0		58.3		52.2	2	60.8	1	61.4
Medium Trucks:	53	3.6	52.1		45.8		44.2	2	52.7		52.9
Heavy Trucks:	54	1.5	53.1		44.1		45.3	3	53.7		53.8
Vehicle Noise:	63	3.2	61.4		58.6		53.5	5	62.1		62.6

Road Name Lot N	o: First Floor e: Valley Spri	With Wall									
SITE S Highway Data	o: Hospital Ph	ngs Pkwy. nase 1-West Fa	açade			Job ∧	Name: lumber: Analyst:	8991	n Springs life		
Highway Data	SPECIFIC IN	IPUT DATA							L INPUTS	;	
				- 1	Site Con	ditions	(Hard =	10, S	oft = 15)		
Average Daily	Traffic (Adt):	31,200 vehicle	S					Autos.			
	Percentage:	10%					ucks (2 /	,			
	our Volume:	3,120 vehicle	S		He	avy Tru	cks (3+ A	Axles).	15		
	hicle Speed:	40 mph		1	Vehicle I	Mix					
Near/Far Lar	ne Distance:	48 feet			Veh	icleType	,	Day	Evening	Night	Daily
Site Data							Autos:	77.5%	6 12.9%	9.6%	97.429
Rar	rier Heiaht:	0.0 feet			М	edium T	rucks:	84.89	6 4.9%	10.3%	1.849
Barrier Type (0-W		0.0				Heavy T	rucks:	86.5%	6 2.7%	10.8%	0.749
Centerline Dis	. ,	95.0 feet		-	Noise S	ourco E	lovation	c (in f	inot)		
Centerline Dist.	to Observer:	95.0 feet		ť	140/36 30		s: 1.548		eei)		
Barrier Distance t	to Observer:	0.0 feet			Modiu		s: 1,540				
Observer Height (A	Above Pad):	5.0 feet					s: 1,556		Grade Adj	istment	. 0.0
Pa	ad Elevation:	1,556.0 feet		L						3011110111	0.0
Roa	ad Elevation:	1,548.6 feet		1	Lane Eq				feet)		
Barrie	er Elevation:	1,556.0 feet				Auto		2.751			
F	Road Grade:	0.0%				m Truck		2.472			
					Heav	y Truck	s: 92	2.023			
FHWA Noise Mode	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fresr	nel	Barrier Atte	en Ber	m Atten
Autos:	67.36	3.50		-4.13	3	-1.20		-4.39	0.0	00	0.00
Medium Trucks:	76.31	-13.74		-4.1	1	-1.20		-4.50	0.0	00	0.00
Heavy Trucks:	81.16	-17.69		-4.08	В	-1.20		-4.79	0.0	00	0.00
Unmitigated Noise	Levels (with	out Topo and	barrie	er atten	uation)						
VehicleType	Leq Peak Ho	ır Leq Day	/	Leg E	vening	Leq	Night		Ldn	CI	NEL
Autos:	65		63.6		61.9		55.8		64.4		65.0
Medium Trucks:	57		55.8		49.4		47.9		56.3		56.
Heavy Trucks:	58		56.8		47.7		49.0		57.3		57.
Vehicle Noise:	66	i.8	65.0		62.3		57.2	2	65.7		66.
Mitigated Noise Le	evels (with To	po and barrie	r atter	nuation)						
	Leq Peak Ho	. , . ,		Leq E		Leq	Night		Ldn		NEL
Autos:	65		63.6		61.9		55.8		64.4		65.
Medium Trucks:	57		55.8		49.4		47.9		56.3		56.
Heavy Trucks:	58	1.2	56.8		47.7		49.0)	57.3		57.

F	HWA-RD-77-10	8 HIGHWAY NO	DISE PRE	EDICTION	MODEL (CA	LVENO)	- 6/2/2013	
Road Nan	io: First Floor W ne: I-215 Fwy lo: Hospital Pha		de		Project Nam Job Numbe Analys			
SITE Highway Data	SPECIFIC INF	PUT DATA		Sito Con	NOIS ditions (Hare		L INPUTS	;
	T (7 (4 t) 40			Site Con	uluons (Hai	Autos:		
,	Traffic (Adt): 130 Percentage:	10%		Mo	dium Trucks			
	Percentage: lour Volume: 13				avy Trucks (3			
		,			, ,	+ AXIES).	15	
	hicle Speed: ne Distance:	65 mph		Vehicle I	Viix			
ivear/Far La	ne Distance:	120 feet		Veh	icleType	Day	Evening	Night Daily
Site Data					Autos	,		9.6% 85.50
Ва	rrier Height:	0.0 feet			edium Trucks	,		10.3% 6.31
Barrier Type (0-W	/all, 1-Berm):	0.0		F	Heavy Trucks	: 86.5%	6 2.7%	10.8% 8.19
Centerline Di	st. to Barrier: 1,	260.0 feet		Noise Sc	urce Elevati	one (in f	oot)	
Centerline Dist.	to Observer: 1,	260.0 feet		740/36 00	Autos: 1.		<i>cci)</i>	
Barrier Distance	to Observer:	0.0 feet		Madiuu	n Trucks: 1.			
Observer Height	'Above Pad):	5.0 feet			y Trucks: 1,		Grade Adii	ustment: 0.0
P	ad Elevation: 1,	556.0 feet						
Ro	ad Elevation: 1,	539.0 feet		Lane Eq	uivalent Dist		feet)	
Barr	ier Elevation: 1,	556.0 feet			Autos: 1,			
	Road Grade:	0.0%			n Trucks: 1,			
				Heav	y Trucks: 1,:	258.648		
FHWA Noise Mod				'				
VehicleType			Distance			esnel	Barrier Atte	
Autos:	75.54	7.05	-21.		-1.20	-4.82	0.0	
Medium Trucks:	81.71	-4.26	-21.		-1.20	-4.83	0.0	
Heavy Trucks:	85.21	-3.13	-21.		-1.20	-4.85	0.0	0.00
Unmitigated Nois			_					
VehicleType	Leq Peak Hour 60.3	. , . ,		Evening	Leq Night	_	Ldn 59.2	CNEL 59
Autos:				56.6	-	0.6		
Medium Trucks:	55.1			47.3		5.7 0.6	54.2 58.9	
Heavy Trucks: Vehicle Noise:	59.8 63.7			49.3 57.8		4.2	58.9 62.7	
Mitigated Noise L								
VehicleType	Leg Peak Hour			Evening	Leg Night		Ldn	CNEL
Autos:	60.3			56.6	, ,	0.6	59.2	59
Medium Trucks:	55.1	53.	.6	47.3	4	5.7	54.2	54
Heavy Trucks:	59.8	58.	.3	49.3	5	0.6	58.9	59

Monday, July 11, 2016

F	HWA-RD-77-10	8 HIGHWAY	NOIS	E PREC	OCTION	MODE	L (CALV	ENO) -	6/2/2013		
Road Nan	io: First Floor W ne: I-215 Fwy lo: Medical Offic		est Faç	ade		Job N	t Name: lumber: Analyst:	8991	n Springs fe		
SITE	SPECIFIC INF	PUT DATA				- 1	NOISE N	/IODE	L INPUT	S	
Highway Data					Site Con	ditions	(Hard =	10, Sc	ft = 15)		
Average Daily	Traffic (Adt): 130	0,900 vehicle	s					Autos:	15		
Peak Hour	Percentage:	10%			Me	dium Tı	ucks (2 A	Axles):	15		
Peak H	lour Volume: 13	3,090 vehicle	s		He	avy Tru	cks (3+ A	Axles):	15		
Ve	hicle Speed:	65 mph		-	Vehicle I	Wix					
Near/Far La	ne Distance:	120 feet		H		icleTvp	ρ .	Dav	Evening	Night	Dailv
Site Data					* 011	- 71	Autos:	77.5%	Ü	9.6%	,
D-		0.0 feet			Medium Trucks: 84.8% 4.9% 10.3% 6						
Barrier Type (0-W	rrier Height:	0.0 feet 0.0			ŀ	leavv 7	rucks:	86.5%	2.7%	10.8%	8.19%
	st. to Barrier: 1					,					
	to Observer: 1			1	Voise Sc		levation		eet)		
Barrier Distance		0.0 feet					s: 1,536				
Observer Height		5.0 feet					s: 1,538				
	ad Elevation: 1	.552.0 feet			Heav	y Truck	s: 1,544	.006	Grade Ad	ustment:	0.0
Ro	ad Elevation: 1	536.0 feet		1	Lane Eq	uivalen	t Distan	ce (in t	feet)		
Barr	ier Elevation: 1	,552.0 feet				Auto	s: 1,116	5.586			
	Road Grade:	0.0%			Mediur	n Truck	s: 1,116	.545			
					Heav	y Truck	s: 1,116	.464			
					-						
FHWA Noise Mod											
VehicleType		Traffic Flow	Dis	tance	Finite		Fresr		Barrier Att		m Atten
Autos:	75.54	7.05		-20.34		-1.20		-4.81	0.0		0.000
Medium Trucks:	81.71 85.21	-4.26 -3.13		-20.34	20.34 -1.20 -4.82 0.000 20.34 -1.20 -4.85 0.000						0.000
Heavy Trucks:	85.21	-3.13		-20.34	+	-1.20		-4.85	0.0	100	0.000
Unmitigated Nois	e Levels (witho	ut Topo and	barrie	er atten	uation)						
VehicleType	Leq Peak Hour	Leq Day	/	Leq Ev	ening/	Leq	Night		Ldn	CI	VEL
Autos:	61.1		59.2		57.4		51.3		60.0		60.6
Medium Trucks:	55.9	-	54.4		48.0		46.5		55.0		55.2
Heavy Trucks:	60.5		59.1		50.1		51.3	3	59.7		59.8
Vehicle Noise:	64.5	5	62.8		58.5		55.0)	63.5	5	63.9
Mitigated Noise L	evels (with Top	o and barrie	r atter	nuation)						
VehicleType	Leg Peak Hour	Leq Day	/	Leg Ev	ening	Leq	Night		Ldn	CI	VEL
Autos:	Autos: 61.1 59.2						51.3	3	60.0)	60.6
Medium Trucks:	Medium Trucks: 55.9 54.4				48.0		46.5	5	55.0)	55.2
Heavy Trucks: 60.5 59.1			50.1 51.3 59.7		•	59.8					
Vehicle Noise: 64.5 62.8											

Monday, July 11, 2016 199 Monday, July 11, 2016

ı	FHWA-RD-77-1	108 HIGHWAY	NOISE PR	EDICTION	MODE	L (CALV	ENO)	- 6/2/2013		
Road Nar	rio: First Floor ne: Valley Spri Vo: Medical Of		st Façade		Job N	t Name: lumber: Analyst:	8991	n Springs lfe		
	SPECIFIC IN	IPUT DATA		04- 0-		NOISE N		L INPUTS		
Highway Data	T 77 (4 1)	04.000 1:1		Site Coi	iaitions		Autos:	/		
	r Percentage:	31,200 vehicle 10%	S	144	olium T	ucks (2 A				
	Hour Volume:	3.120 vehicle				cks (3+ A	,			
	ehicle Speed:	40 mph	5		•	UNS (ST A	wies).	13		
	ane Distance:	48 feet		Vehicle	Mix					
	ine Distance.	40 1661		Veh	icleTyp		Day		Night	Daily
Site Data							77.5%		9.6%	
Ba	rrier Height:	0.0 feet			edium 7		84.8%		10.3%	1.84%
Barrier Type (0-V	Vall, 1-Berm):	0.0			Heavy 1	rucks:	86.5%	6 2.7%	10.8%	0.74%
	ist. to Barrier:	93.0 feet		Noise S	ource E	levation	s (in f	eet)		
Centerline Dist	to Observer:	93.0 feet				s: 1.549		,		
Barrier Distance		0.0 feet		Mediu		s: 1.551				
Observer Height	,,	5.0 feet		Hea	y Truck	s: 1,557	.406	Grade Adju	stment:	0.0
	Pad Elevation:	,		1 5-		4 Di-4	/!	f4)		
	ad Elevation:	,		Lane Eq		t Distan		teet)		
Bari	rier Elevation:	,			Auto		1.171			
	Road Grade:	0.0%			m Truck		0.006 0.851			
				Hea	ry Truck	is: 89	1.851			
FHWA Noise Mod	lel Calculation	ıs								
VehicleType	REMEL	Traffic Flow	Distance	Finite	Road	Fresn	iel	Barrier Atte	n Ber	m Atten
Autos.	67.36	3.50	-3	.94	-1.20		-4.62	0.00	00	0.000
Medium Trucks.	76.31	-13.74	-3	.93	-1.20		-4.74	0.00	00	0.000
Heavy Trucks.	81.16	-17.69	-3	.92	-1.20		-5.04	0.00	00	0.000
Unmitigated Nois	e Levels (with	out Topo and	barrier att	enuation)						
VehicleType	Leq Peak Ho	ur Leq Day	Leq	Evening	Leq	Night		Ldn	CI	VEL
Autos.			63.8	62.1		56.0		64.6		65.2
Medium Trucks.			55.9	49.6		48.0		56.5		56.7
Heavy Trucks.			56.9	47.9		49.1		57.5		57.6
Vehicle Noise.	67	' .0	65.2	62.4		57.4		65.9		66.4
Mitigated Noise L	evels (with To	po and barrie								
VehicleType	Leq Peak Ho			Evening	Leq	Night		Ldn	CI	VEL
Autos.			63.8	62.1		56.0		64.6		65.2
Medium Trucks.			55.9	49.6		48.0		56.5		56.7
Heavy Trucks.			56.9	47.9		49.1		57.5		57.6
Vehicle Noise.	67	7.0	65.2	62.4		57.4		65.9		66.4

	HWA-RD-77-1	oo moonwan	NOIDE I IX		LINODEL	(0/12	,	0/ E/ E 0 1 3				
	rio: First Floor \							n Springs				
	ne: Valley Sprir					ımber:						
Lot N	Vo: Medical Off	ice Bldg. 4-We	st Façade		Α	nalyst:	A. Wo	ilte				
	SPECIFIC IN	PUT DATA		04- 0-				L INPUT	S			
Highway Data				Site Coi	nditions							
	Traffic (Adt): 3		S				Autos:					
	Percentage:	10%			edium Tru		,					
	lour Volume:	3,120 vehicles	S	He	eavy Truc	ks (3+)	4xles):	15				
	ehicle Speed:	40 mph		Vehicle	Mix							
Near/Far La	ane Distance:	48 feet		Vel	nicleType		Day	Evening	Night	Daily		
Site Data				Autos: 77.5% 12.9% 9.6% 97.42								
Ba	rrier Height:	0.0 feet		Medium Trucks: 84.8% 4.9% 10.3% 1.849								
Barrier Type (0-V		0.0			Heavy Tr	ucks:	86.5%	6 2.7%	10.8%	0.74%		
	ist. to Barrier:	183.0 feet		Noise Source Elevations (in feet)								
Centerline Dist.		183.0 feet		Autos: 1,549.400								
	arrier Distance to Observer: 0.0 feet				m Trucks	: 1,55	1.697					
	bserver Height (Above Pad): 5.0 feet				vy Trucks	: 1,55	7.406	Grade Adj	iustment.	0.0		
	ad Elevation:	,					,,					
	ad Elevation:	,		Lane Ec	uivalent			teet)				
	ier Elevation:	,			Autos		1.579					
	Road Grade:	0.0%			m Trucks		1.497					
				Hea	vy Trucks	: 18	1.420					
FHWA Noise Mod	lel Calculation	s		1								
VehicleType	REMEL	Traffic Flow	Distance	Finite	Road	Fresi	nel	Barrier Att	en Ber	m Atten		
Autos:	67.36	3.50	-8	8.50 -1.20 -4.76 0.000					0.000			
Medium Trucks:	76.31	-13.74	-8	.50	-1.20		-4.82	0.0	000	0.000		
Heavy Trucks:	81.16	-17.69	-8	.50	-1.20		-4.97	0.0	000	0.000		
Unmitigated Nois												
VehicleType	Leq Peak Hou			Evening	Leq I			Ldn		VEL		
Autos:			59.3	57.5		51.4		60.1		60.7		
	Medium Trucks: 52.9 51.4			45.0		43.		51.9		52.2		
	Heavy Trucks: 53.8 52.3		43.3		44.		52.9		53.0			
Vehicle Noise:			60.6	57.9)	52.	3	61.4	1	61.9		
•	rigated Noise Levels (with Topo and barrier attenuate				1		,					
VehicleType	Leq Peak Hou			Evening	Leq I			Ldn		VEL		
	Autos: 61.2 59.3			57.5 51.4 60.1			60.7					
Medium Trucks:			51.4	45.0		43.		51.9		52.2		
Heavy Trucks:	Heavy Trucks: 53.8 52.3				43.3 44.6 52.9					53.0		
Vehicle Noise:	62	60.6	57.9 52.8 61.4				61.9					

Scenario: First Floor With Wall Road Name: Eucalyptus Av. Lot No: Medical Office Bidg. 3-South Façade Site Specific INPUT DATA Site Conditions (Hard = 10, Soft = 15)	F	HWA-RD-77-1	08 HIGHWAY	NOISE PI	REDICTION	MODE	L (CALV	ENO) -	6/2/2013		
SITE SPECIFIC INPUT DATA NOISE MODEL INPUTS	Road Nan	ne: Eucalyptus	Av.	uth Eagad	•	Job N	lumber:	8991			
Average Daily Traffic (Adt): 32,100 vehicles Peak Hour Percentage: 10% Autos: 15 Medium Trucks (2 Akels): 15 Heavy Trucks (3+ Axles): 15				utii i ayau	-						
Average Daily Traffic (Adt): 32,100 vehicles Peak Hour Percentage: 10% Medium Trucks (2 Axles): 15 Peak Hour Volume: 3,210 vehicles Wehicle Speed: 40 mph Near/Far Lane Distance: 48 feet Vehicle Mix VehicleType Day Evening Night Daily Daily Evening Night Daily Vehicle Mix VehicleType Day Evening Night Daily Near/Far Lane Distance: 48 feet Vehicle Mix VehicleType Day Evening Night Daily Near/Far Lane Distance: 48 feet Vehicle Mix VehicleType Day Evening Night Daily Near/Far Lane Distance: 48 feet Vehicle Mix VehicleType Day Evening Night Daily Near Lane Distance: 75 for 10.8% 1.84% Near Lane Distance: 75 for 10.8% Ne		SPECIFIC IN	IPUT DATA		04- 0-						
Peak Hour Percentage: 10% Medium Trucks (2 Axles): 15					Site Col	naitions	•				
Peak Hour Volume:	,			S							
Vehicle Speed: 40 mph 48 feet Vehicle Mix VehicleType Day Evening Night Daily								/			
Near/Far Lane Distance:			.,	S	He	eavy Tru	cks (3+ A	(xies	15		
Site Data					Vehicle	Mix					
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 feet Heavy Trucks: 84.8% 4.9% 10.3% 1.84% Heavy Trucks: 86.5% 2.7% 10.8% 0.74% Heavy Trucks: 86.5% 2.7% 10.8% 0.74% Noise Source Elevations (in feet)	Near/Far La	ne Distance:	48 feet		Vel	nicleTyp	9	Day	Evening	Night	Daily
Barrier Type Centerline Dist. to Desrver: 255.0 feet Centerline Dist. to Desrver: 255.0 feet Centerline Dist. to Desrver: 0.0 feet Centerline Dist. to Observer: 255.0 feet Centerline Dist. to Observer: 0.0 feet Centerline Dist. to Observer: 0.0 feet Centerline Dist. to Observer: 0.0 feet Centerline Dist. to Observer: 0.0 feet Centerline Dist. to Observer: 0.0 feet Centerline Dist. to Observer: 0.0 feet Centerline Dist. to Observer: 0.0 feet Centerline Dist. to Observer: 0.0 feet Centerline Dist. to Observer: 0.0 feet Centerline Dist. to Observer: 0.0 feet Centerline Dist. to Observer: 0.0 feet Centerline Dist. to Observer: 0.0 feet Centerline Dist. feet Ce	Site Data						Autos:	77.5%	12.9%	9.6%	97.42%
	Ba	rrier Heiaht:	0.0 feet		Λ.	1edium 7	rucks:	84.8%	4.9%	10.3%	1.84%
Noise Source Elevations (in feet) Noise Source Elevations (in feet)						Heavy 7	rucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Observer: 255.0 feet Barrier Distance to Observer: 0.0 feet Distance to Observer: 0.0 feet Distance to Observer: 0.0 feet Distance Dista		. ,	255.0 feet		M-1 0			- /! #-	-41		
Medium Trucks: 1,553.597 Heavy Trucks: 253.891 Heavy Trucks: 1,553.597 Heavy Trucks: 1,5	Centerline Dist.	to Observer:	255.0 feet		Noise S				et)		
	Barrier Distance	to Observer:	0.0 feet		A 4 = =0.		. ,				
Pad Elevation: 1,552,0 feet Road Elevation: 1,552,0 feet Road Elevation: 1,552,0 feet Road Grade: 0.0%	Observer Height	(Above Pad):	5.0 feet				. ,		Grado Adiu	stmont:	0.0
Barrier Elevation: 1,552.0 feet Road Grade: 0.0% Medium Trucks: 253.832 Medium Trucks: 253.839 Heavy Trucks: 253.879 Heavy Trucks: 253	P	ad Elevation:	1,552.0 feet		Hea	vy iruci	S: 1,559	.306	<i>Grade Adju</i>	suneni.	0.0
Road Grade: 0.0% Medium Trucks: 253.891 Heavy Trucks: 253.895	Ro	ad Elevation:	1,551.3 feet		Lane Ed	uivalen	t Distand	ce (in t	eet)		
	Barr	ier Elevation:	1,552.0 feet			Auto	s: 253	.932			
		Road Grade:	0.0%		Mediu	m Truck	s: 253	.891			
VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berm Atten					Hea	vy Truck	s: 253	.879			
Autos: 67.36 3.63 -10.69 -1.20 -4.83 0.000 0.000 Medium Trucks: 76.31 -13.61 -10.69 -1.20 -4.87 0.000 0.000 Heavy Trucks: 81.16 -17.57 -1.69 -1.20 -4.98 0.000 0.000 Umitigated Noise Levels (without Topo and barrier attenuation) Vehicle Type Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 59.1 57.2 55.4 49.4 58.0 58.6 Medium Trucks: 50.8 49.3 42.9 41.4 49.9 50. Heavy Trucks: 51.7 50.3 41.2 42.5 50.8 51.0 Vehicle Noise Levels (with Topo and barrier attenuation) Vehicle Type Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 59.1 57.2 55.4 49.4 58.0 58.6 Heavy Trucks: 50.8 49.3 42.9 41.4 49.9 59.0 Heavy Trucks: 50.8 49.3 42.9 41.4 49.9 59.0 Heavy Trucks: 50.8 49.3 42.9 41.4 49.9 59.0 Heavy Trucks: 50.8 50.3 41.2 42.5 50.8 51.0 Heavy Trucks: 50.8 50.7 50.3 41.2 42.5 50.8 51.0 Heavy Trucks: 50.8 50.7 50.3 41.2 42.5 50.8 51.0 Heavy Trucks: 50.8 50.7 50.3 41.2 42.5 50.8 51.0 Heavy Trucks: 50.8 50.7 50.3 41.2 42.5 50.8 51.0 Heavy Trucks: 50.8 50.7 50.3 41.2 42.5 50.8 51.0 Heavy Trucks: 50.8 50.7 50.3 41.2 42.5 50.8 51.0 Heavy Trucks: 50.8 50.7 50.3 41.2 42.5 50.8 51.0 Heavy Trucks: 50.8 50.7 50.3 41.2 42.5 50.8 Heavy Trucks: 50.8 50.7 50.8 51.0 Heavy Trucks: 50.8	FHWA Noise Mod	lel Calculation	s		-						
Medium Trucks: 76.31 -13.61 -10.69 -1.20 -4.87 0.000 0.000 Heavy Trucks: 81.16 -17.57 -10.69 -1.20 -4.98 0.000 0.000 Ummitigated Noise Levels (without Topo and barrier attenuation) Vehicle Type Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 59.1 57.2 55.4 49.4 58.0 58.6 Medium Trucks: 50.8 49.3 42.9 41.4 49.9 50.1 Heavy Trucks: 51.7 50.3 41.2 42.5 50.8 51.6 Vehicle Noise: 60.3 58.6 55.8 50.7 59.3 59.8 Mitigated Noise Levels (with Topo and barrier attenuation) Leq Peak Hour Leq Day Leq Revening Leq Night Ldn CNEL Autos: 59.1 57.2 55.4 49.4 58.0 58.6 Medium Trucks: 59.1 57.2 55.4 49.4 58.0	VehicleType	REMEL	Traffic Flow	Distanc	ce Finite	Road	Fresn	el	Barrier Atte	n Berr	n Atten
Heavy Trucks: 81.16	Autos:	67.36	3.63	-1	0.69	-1.20		-4.83	0.00	10	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation) Vehicle Type Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL	Medium Trucks:	76.31	-13.61	-1	0.69	-1.20		-4.87	0.00	10	0.000
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL	Heavy Trucks:	81.16	-17.57	-1	0.69	-1.20		-4.98	0.00	10	0.000
Autos: 59.1 57.2 55.4 49.4 58.0 58.6 Medium Trucks: 50.8 49.3 42.9 41.4 49.9 50.1 Heavy Trucks: 51.7 50.3 41.2 42.5 50.8 51.0 Vehicle Noise: 60.3 58.6 55.8 50.7 59.3 59.8 Mitigated Noise Levels (with Topo and barrier attenuation) Vehicle Type Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 59.1 57.2 55.4 49.4 58.0 58.6 Medium Trucks: 59.8 49.3 42.9 41.4 49.9 50.6 Heavy Trucks: 51.7 50.3 41.2 42.5 50.8 51.6		•									
Medium Trucks: 50.8 49.3 42.9 41.4 49.9 50.1 Heavy Trucks: 51.7 50.3 41.2 42.5 50.8 51.6 Vehicle Noise: 60.3 58.6 55.8 50.7 59.3 59.8 Mitigated Noise Levels (with Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 59.1 57.2 55.4 49.4 58.0 58.6 Medium Trucks: 50.8 49.3 42.9 41.4 49.9 50.6 Heavy Trucks: 51.7 50.3 41.2 42.5 50.8 51.6	,,									CN	
Heavy Trucks:											
Vehicle Noise: 60.3 58.6 55.8 50.7 59.3 59.1 Mitigated Noise Levels (with Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 59.1 57.2 55.4 49.4 58.0 58.6 Medium Trucks: 50.8 49.3 42.9 41.4 49.9 50.1 Heavy Trucks: 51.7 50.3 41.2 42.5 50.8 51.6											
Mitigated Noise Levels (with Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL									00.0		
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 59.1 57.2 55.4 49.4 58.0 58.1 Medium Trucks: 50.8 49.3 42.9 41.4 49.9 50. Heavy Trucks: 51.7 50.3 41.2 42.5 50.8 51.4	Vehicle Noise:	60	.3	58.6	55.8		50.7		59.3		59.8
Autos: 59.1 57.2 55.4 49.4 58.0 58.1 Medium Trucks: 50.8 49.3 42.9 41.4 49.9 50.° Heavy Trucks: 51.7 50.3 41.2 42.5 50.8 51.0											
Medium Trucks: 50.8 49.3 42.9 41.4 49.9 50. Heavy Trucks: 51.7 50.3 41.2 42.5 50.8 51.0	,,				, ,					C٨	
Heavy Trucks: 51.7 50.3 41.2 42.5 50.8 51.0											
Vehicle Noise: 60.3 58.6 55.8 50.7 59.3 59.8	,										
	Vehicle Noise:	60	.3	58.6	55.8		50.7		59.3		59.

Monday, July 11, 2016

F	HWA-RD-77-10	8 HIGHWAY	NOISE PI	REDICTION	MODE	L (CALV	ENO)	- 6/2/2013		
Road Nan	rio: First Floor W ne: Eucalyptus A lo: Medical Offic	W.	uth Façad	e	Job I	t Name: (Number: (Analyst:)	8991	n Springs fe		
SITE	SPECIFIC INF	PUT DATA				NOISE N	ЛОDE	L INPUT	S	
Highway Data				Site Cor	nditions	(Hard =	10, Sc	oft = 15)		
Average Daily	Traffic (Adt): 32	2.100 vehicle	s			,	Autos:	15		
Peak Hour	Percentage:	10%		Me	edium Ti	rucks (2 A	Axles):	15		
Peak F	lour Volume: 3	3,210 vehicle	s	He	eavy Tru	icks (3+ A	Axles):	15		
Ve	hicle Speed:	40 mph		Vehicle	Miv					
Near/Far La	ne Distance:	48 feet			nicleTyp	۵	Dav	Evenina	Niaht	Daily
Site Data				¥ C/			77.5%		9.6%	-
					ledium ī		84.8%		10.3%	
	rrier Height:	0.0 feet					86.5%		10.8%	
Barrier Type (0-W	. ,	0.0 214.0 feet							10.070	0.7 170
Centerline Dist.		214.0 feet		Noise S	ource E	levation	s (in fe	eet)		
Barrier Distance		0.0 feet				os: 1,553				
Observer Height		5.0 feet				ks: 1,555				
	ad Elevation: 1			Hea	vy Truck	ks: 1,561	.206	Grade Ad	iustment.	0.0
	ad Elevation: 1			Lane Ed	uivaler	nt Distan	ce (in	feet)		
	ier Elevation: 1				Auto	os: 212	2.684			
	Road Grade:	0.0%		Mediu	m Truck	ks: 212	.655			
				Hea	vy Truck	ks: 212	.692			
FHWA Noise Mod										
VehicleType		Traffic Flow	Distanc		Road	Fresn	_	Barrier Att		m Atten
Autos:		3.63		9.53	-1.20		-4.86	0.0		0.000
Medium Trucks:		-13.61		9.53	-1.20		-4.91	0.0		0.000
Heavy Trucks:	81.16	-17.57	-	9.54	-1.20		-5.05	0.0	000	0.000
Unmitigated Nois	e Levels (witho	ut Topo and	barrier at	ttenuation)						
VehicleType	Leq Peak Hour	Leq Day	/ Le	q Evening	Leg	Night		Ldn	CI	VEL
Autos:	60.3	3	58.4	56.6	i	50.5	5	59.2	2	59.8
Medium Trucks:			50.5	44.1		42.6		51.0		51.2
Heavy Trucks:	52.9)	51.4	42.4		43.6	3	52.0)	52.1
Vehicle Noise:	61.5	5	59.7	57.0	1	51.9)	60.4	1	60.9
Mitigated Noise L	evels (with Top	o and barrie	r attenua	tion)						
VehicleType	Leq Peak Hour	Leq Day	/ Le	q Evening	Leg	Night		Ldn	CI	VEL
Autos:	60.3	3	58.4	56.6		50.5	5	59.2	2	59.8
Medium Trucks: 52.0 50.5				44.1		42.6	6	51.0)	51.2
Heavy Trucks:	52.9)	51.4	42.4		43.6	ì	52.0)	52.1
Vehicle Noise: 61.5 59.7				57.0 51.9 60.4			1	60.9		

Monday, July 11, 2016 200 Monday, July 11, 2016

		108 HIGHWAY	NOISÉ P	REDIO	CTION		· ·				
	rio: First Floor ne: Dav St.	With Wall					Name:		n Springs		
		fice Bldg. 5-Eas	t Façade	•			Analyst:		lfe		
SITE	SPECIFIC II	NPUT DATA							L INPUTS		
Highway Data				Si	te Con	ditions	(Hard =	10, S	oft = 15)		
Average Daily	Traffic (Adt):	23,700 vehicles	3					Autos:	15		
Peak Hou	Percentage:	10%			Me	dium Tı	ucks (2 A	(xles	15		
Peak I	Hour Volume:	2,370 vehicles	3		He	avy Tru	cks (3+ A	(xles	15		
Ve	ehicle Speed:	40 mph		Ve	ehicle l	Mix					
Near/Far La	ane Distance:	48 feet		-		icleType	2	Dav	Evening	Night	Dailv
Site Data				\vdash	* 011			77.5%		9.6%	97.42%
	la I I a laula I	0.0 feet			М	edium 7		84.8%		10.3%	1.84%
	rrier Height:	0.0 reet 0.0				Heavy 7	rucks:	86.5%	2.7%	10.8%	0.74%
Barrier Type (0-V	vali, 1-Berm): ist. to Barrier:	0.0 364.0 feet									
Centerline Dist.		364.0 feet		No	oise So		levation		eet)		
Barrier Distance		0.0 feet					s: 1,562				
Observer Height		5.0 feet					s: 1,564				
	Pad Elevation:				Heav	ry Truck	s: 1,570	.506	Grade Adju	stment:	0.0
	ad Elevation:	,		La	ne Ea	uivalen	t Distan	ce (in	feet)		
	rier Elevation:	,				Auto		.225	,		
Dan	Road Grade:	0.0%			Mediui	m Truck		.210			
	rioda Grado.	0.070				y Truck		.236			
FHWA Noise Mod	lel Calculation	18									
VehicleType	REMEL	Traffic Flow	Distan	ce	Finite	Road	Fresn	el	Barrier Atte	n Beri	n Atten
Autos:	67.36	2.31		13.02		-1.20		-4.88	0.00	0	0.000
Medium Trucks:	76.31	-14.93	_*	13.02		-1.20		-4.91	0.00	0	0.000
Heavy Trucks:	81.16	-18.89		13.02		-1.20		-4.99	0.00	0	0.000
Unmitigated Nois			barrier a	ttenu	ation)						
VehicleType	Leq Peak Ho			eq Eve		Leq	Night		Ldn	CI	IEL
Autos:			53.5		51.8		45.7		54.3		55.0
Medium Trucks:			45.7		39.3		37.7		46.2		46.4
Heavy Trucks:			46.6		37.6		38.8		47.2		47.3
Vehicle Noise:	56	6.7	54.9		52.2		47.1		55.6		56.
Mitigated Noise L											
VehicleType	Leq Peak Ho			eq Eve		Leq	Night		Ldn	CI	IEL
Autos:			53.5		51.8		45.7		54.3		55.0
Medium Trucks:			45.7		39.3		37.7		46.2		46.4
Heavy Trucks:			46.6		37.6		38.8		47.2		47.3
Vehicle Noise:	56	6.7	54.9		52.2		47.1		55.6		56.

F	HWA-RD-77-	108 HIGHWAY	NOISE	PRED	ICTION	MODE	L (CALV	ENO)	- 6/2/2013		
Road Nan	rio: First Floor ne: Gateway D lo: Medical Of		rth Faç	ade		Job ∧	Name: lumber: Analyst:	8991	n Springs lfe		
	SPECIFIC II	NPUT DATA							L INPUTS	;	
Highway Data					Site Con	ditions	•		oft = 15)		
Average Daily	Traffic (Adt):	12,300 vehicle	S					Autos:			
	Percentage:	10%					ucks (2 .	,			
	lour Volume:	1,230 vehicle	S		He	avy Tru	cks (3+)	4xles):	15		
	hicle Speed:	40 mph		١	ehicle	Mix					
Near/Far La	ne Distance:	48 feet		F	Veh	icleType	9	Day	Evening	Night	Daily
Site Data							Autos:	77.5%	12.9%	9.6%	97.429
Ra	rrier Heiaht:	0.0 feet			М	edium T	rucks:	84.8%	4.9%	10.3%	1.849
Barrier Type (0-W		0.0				Heavy T	rucks:	86.5%	2.7%	10.8%	0.749
Centerline Di	. ,	386.0 feet			laisa Si	nurce F	levation	e (in f	oot)		
Centerline Dist.	to Observer:	386.0 feet			ioise si		s: 1.56		cei)		
Barrier Distance	to Observer:	0.0 feet			Modiu		s: 1,56				
Observer Height	(Above Pad):	5.0 feet					s: 1,50		Grade Adj	istment	0.0
P	ad Elevation:	1,560.5 feet			ricas	y much	3. 1,57	5.000	Orado riaji	3011110111	0.0
Ro	ad Elevation:	1,565.0 feet		L	ane Eq	uivalen	t Distan	ce (in	feet)		
Barr	ier Elevation:	1,560.5 feet				Auto		5.253			
	Road Grade:	0.0%				m Truck		5.257			
					Heav	y Truck	s: 38	5.326			
FHWA Noise Mod	el Calculation	ıs									
VehicleType	REMEL	Traffic Flow	Dist	ance	Finite	Road	Fresi	nel	Barrier Atte	en Ber	m Atten
Autos:	67.36	-0.54		-13.41	•	-1.20		-4.92	0.0	00	0.00
Medium Trucks:	76.31	-17.78		-13.41		-1.20		-4.95	0.0	00	0.00
Heavy Trucks:	81.16	-21.73		-13.41		-1.20		-5.02	0.0	00	0.00
Unmitigated Nois	e Levels (with	out Topo and	barrie	r atteni	uation)						
VehicleType	Leq Peak Ho	, . ,		Leq Ev		Leq	Night		Ldn	CI	VEL
Autos:			50.3		48.5		42.	-	51.1		51.
Medium Trucks:			42.4		36.1		34.	-	43.0		43.
Heavy Trucks:			43.4		34.4		35.0		44.0		44.
Vehicle Noise:	53	3.5	51.7		48.9		43.	3	52.4		52.
Mitigated Noise L	evels (with To	ppo and barrie	r atten	uation))						
VehicleType	Leq Peak Ho			Leq Ev		Leq	Night		Ldn	CI	VEL
Autos:			50.3		48.5		42.		51.1		51.
Medium Trucks:	43	3.9	42.4		36.1		34.	5	43.0		43.
Heavy Trucks:	44	1.8	43.4		34.4		35.0	3	44.0		44.
Vehicle Noise:	53		51.7		48.9		43.		52.4		52.

F	HWA-RD-77-10	8 HIGHWAY N	IOISE P	REDICTION	MODE	L (CALVI	ENO)	- 6/2/2013		
	io: First Floor W							n Springs		
	e: Eucalyptus A		d. Fd	_		lumber: 8				
LOT I	lo: Medical Offic	е віад. 5-50u	ın Façad	Э.		Analyst: I	A. VVOI	re		
	SPECIFIC INF	PUT DATA						L INPUTS	i	
Highway Data				Site Cor	ditions	(Hard =	10, Sc	oft = 15)		
Average Daily	Traffic (Adt): 32	2,100 vehicles					Autos:	15		
	Percentage:	10%				rucks (2 A	,	15		
Peak F	lour Volume: 3	3,210 vehicles		He	avy Tru	cks (3+ A	xles):	15		
	hicle Speed:	40 mph		Vehicle	Mix					
Near/Far La	ne Distance:	48 feet		Veh	icleTyp	е	Dav	Evening	Night	Daily
Site Data							77.5%	-	9.6%	
Ra	rrier Height:	0.0 feet		M	edium 7	rucks:	84.8%	4.9%	10.3%	1.84
Barrier Type (0-W		0.0			Heavy 7	rucks:	86.5%	2.7%	10.8%	0.749
Centerline Di	. ,	529.0 feet								
Centerline Dist.	to Observer:	529.0 feet		Noise S		levations	•	eet)		
Barrier Distance	to Observer:	0.0 feet		44		s: 1,550 s: 1,552				
Observer Height	Above Pad):	5.0 feet				. ,		Crada Adii	ofmont	0.0
P	ad Elevation: 1	,561.0 feet		Hear	ry Truck	is: 1,558	.006	Grade Adju	istrierit.	0.0
Ro	ad Elevation: 1	,550.0 feet		Lane Eq	uivalen	t Distand	e (in i	feet)		
Barr	ier Elevation: 1	,561.0 feet			Auto	s: 528	.697			
	Road Grade:	0.0%		Mediu	m Truck	s: 528	.633			
				Hear	y Truck	s: 528	.516			
FHWA Noise Mod										
VehicleType		Traffic Flow	Distanc		Road	Fresn		Barrier Atte		m Atter
Autos:	67.36	3.63		5.47	-1.20		-4.77	0.00		0.00
Medium Trucks:	76.31	-13.61		5.47	-1.20		-4.79	0.00		0.00
Heavy Trucks:	81.16	-17.57	-1:	5.46	-1.20		-4.84	0.00	00	0.00
Unmitigated Nois				,						
VehicleType Autos:	Leq Peak Hour 54.3		2.4	q Evening 50.7	Leq	Night 44.6		Ldn 53.2	Ci	VEL 53
Medium Trucks:	54.c 46.0		4.5	38.2		36.6		53.2 45.1		45
	46.0		4.5 5.5	36.5		36.6		45.1		45
Heavy Trucks: Vehicle Noise:	46.8 55.6		3.8	51.0		45.9		54.5		55
								04.0		- 55
Mitigated Noise L VehicleType	evels (with Top Leg Peak Hour			g Evening	l en	Night		Ldn	C/	VEL
Autos:	54.3	, ,	2.4	50.7		44.6		53.2		53
Medium Trucks:	46.0		4.5	38.2		36.6		45.1		45
	46.9		5.5	36.5		37.7		46.1		46.
Heavy Trucks:										

Monday, July 11, 2016

F	HWA-RD-77-1	08 HIGHWAY	NOISE PRE	EDICTION	MODE	L (CALVI	ENO) -	6/2/2013		
Road Nan	rio: First Floor \ ne: Gateway Di No: Medical Off	r.	rth Façade		Job N	t Name: (lumber: 8 Analyst: /	3991	n Springs fe		
SITE	SPECIFIC IN	IPUT DATA			r	NOISE N	ODE	L INPUT	S	
Highway Data				Site Cor	ditions	(Hard =	10, Sc	ft = 15)		
Peak Hour	Traffic (Adt): 1 Percentage: Hour Volume:	12,300 vehicle 10% 1,230 vehicle				ucks (2 A cks (3+ A		15 15 15		
Ve	ehicle Speed:	40 mph		Vehicle	Miv					
Near/Far La	ne Distance:	48 feet			icleType	۵ .	Dav	Evening	Night	Daily
Site Data				V C/			77.5%	-	9.6%	,
				M	edium T		84.8%		10.3%	
Barrier Type (0-V	. ,	0.0 feet 0.0			Heavy T		86.5%		10.8%	
	ist. to Barrier:	388.0 feet		Noise S	ource E	levations	s (in fe	eet)		
Centerline Dist.		388.0 feet			Auto	s: 1,567	.000			
Barrier Distance		0.0 feet		Mediu	m Truck	s: 1,569	.297			
Observer Height	. ,	5.0 feet		Hear	y Truck	s: 1,575	.006	Grade Adj	iustment.	0.0
	ad Elevation:	,		Lane Eq	uivalan	4 Diotone	o (in i	[no4]		
	ad Elevation:	,		Lane Eq	Auto		.278	eet)		
-	rier Elevation: ' Road Grade:	0.0%		Modiu	Auto m Truck		.278			
	Road Grade:	0.0%			ry Truck		.278			
FHWA Noise Mod	lel Calculation	e								
VehicleType	REMEL	Traffic Flow	Distance	Finite	Road	Fresn	el	Barrier Att	en Ber	m Atten
Autos		-0.54			-1.20		-3.89	0.0		0.000
Medium Trucks:	76.31	-17.78		44	-1.20		-3.92		000	0.000
Heavy Trucks:		-21.73	-13.	44	-1.20		-3.97		000	0.000
Unmitigated Nois	e Levels (with	out Topo and	barrier atte	enuation)						
VehicleType	Leq Peak Hou	r Leq Day	/ Leq	Evening	Leq	Night		Ldn	CI	VEL
Autos:	52	.2	50.3	48.5		42.5		51.1	ľ	51.7
Medium Trucks:	43.	.9	42.4	36.0		34.5		42.9)	43.2
Heavy Trucks:	44	.8	43.4	34.3		35.6		43.9	9	44.1
Vehicle Noise:	53	.4	51.6	48.9		43.8		52.4	1	52.9
Mitigated Noise L	evels (with To	po and barrie	r attenuatio	on)						
VehicleType	hicleType Leq Peak Hour Leq Day Le					Night		Ldn	CI	NEL
Autos:	52	.2	50.3	48.5		42.5		51.1	i	51.7
Medium Trucks:	43	.9	42.4	36.0		34.5		42.9)	43.2
Heavy Trucks:	44	.8	43.4	34.3		35.6		43.9	9	44.1
Vehicle Noise:	53	.4	51.6	48.9		43.8		52.4	1	52.9

Monday, July 11, 2016 201 Monday, July 11, 2016

Autos: 77.5% 12.9% 9.6% 85.50		FHWA-RD-77-	108 HIGHWAY	NOISE F	PREDICT	ION MODE	L (CAL)	/ENO)	- 6/2/2013		
Highway Data	Road Na	ne: I-215 Fwy		ade		Job N	Number:	8991			
Average Daily Traffic (Adi): 130,900 vehicles Peak Hour Percentage: 10% Medium Trucks (2 Axles): 15 Heavy Trucks (3 Axles): 15		SPECIFIC I	NPUT DATA							;	
Peak Hour Percentage: Peak Hour Volume: 13,090 vehicles	Highway Data				Site	Conditions	(Hard:	= 10, Sc	oft = 15)		
Peak Hour Volume: 13,090 vehicles Vehicle Speed: 13,090 vehicles Vehicle Mix	Average Daily	Traffic (Adt):	130,900 vehicle	s				Autos:	15		
Vehicle Speed: Near/Far Lane Distance: 120 feet Vehicle Mix Vehicle Type	Peak Hou	r Percentage:	10%			Medium Ti	rucks (2	Axles):	15		
Near/Far Lane Distance: 120 feet VehicleType Day Evening Night Daily	Peak	Hour Volume:	13,090 vehicle	s		Heavy Tru	icks (3+	Axles):	15		
Site Data Autos: 77.5% 12.9% 9.6% 85.5% 85	V	ehicle Speed:	65 mph		Veh	icle Mix					
Autos: 77.5% 12.9% 9.6% 85.50	Near/Far L	ane Distance:	120 feet			VehicleTvp	е	Dav	Evenina	Niaht	Dailv
Barrier Teight District to Barrier Taylor Conterline Dist. to Diserver: 1,424.0 feet	Site Data					, , ,			-		85.50%
Barrier Type (0-Wall, 1-Berm): 0.0 Heavy Trucks: 86.5% 2.7% 10.8% 8.15	D	arrior Hoight:	0.0 foot			Medium 7	rucks:	84.8%	4.9%	10.3%	6.31%
Noise Source Elevations (in feet) Noise Source Elevations (in feet)						Heavy 1	rucks:	86.5%	2.7%	10.8%	8.19%
Centerline Dist. to Observer: 1,424.0 feet Barrier Distance to Observer: 0.0 feet State St	,, ,	. ,									
Barrier Distance to Observer: Observer Height (Above Pad): 14.0 leet			,		Nois				eet)		
Diserver Height (Above Pad):							. , .				
Pad Elevation: 1,571.0 feet Road Elevation: 1,575.0 feet Road Elevation: 1,575.0 feet Barrier Elevation: 1,575.0 feet Road Grade: 0.0%							. , .				
Road Elevation: 1,545.0 feet Barrier Elevation: 1,571.0 feet Autos: 1,423.295 Heavy Trucks: 1,524.20 Heavy Trucks: 1,423.295 Heavy Trucks: 1,543.20 Heavy Tr						Heavy Truck	s: 1,55	3.006	Grade Adji	ustment:	0.0
Road Grade: 0.0% Medium Trucks: 1,423.235 Heavy Trucks: 1,423.235 Heavy Trucks: 1,423.235 Heavy Trucks: 1,423.095					Lan	e Equivalen	t Distar	ice (in	feet)		
Heavy Trucks: 1,423,095 Heavy Trucks: 1,423,095 FFWA Noise Model Calculations VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berm Atten Autos: 75,54 7,05 -21,92 -1,20 -13,34 0,000 0,0 Medium Trucks: 85,21 -3,13 -21,92 -1,20 -13,46 0,000 0,0 Meavy Trucks: 85,21 -3,13 -21,92 -1,20 -13,46 0,000 0,0 Meavy Trucks: 85,21 -3,13 -21,92 -1,20 -13,46 0,000 0,0 Meavy Trucks: 85,21 -3,13 -21,92 -1,20 -13,46 0,000 0,0 Meavy Trucks: 59,5 57,6 55,8 49,8 58,4 55,4 55,4 40,9 53,4 53,4 61,9 62,4	Bar	rier Elevation:	1,571.0 feet			Auto	s: 1,42	3.298			
FHWA Noise Model Calculations Vehicle Type REMEL Traffic Flow Distance Finite Road Freshel Barrier Atten Berm Atten		Road Grade:	0.0%		M	edium Truck	s: 1,42	3.235			
VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Bern Atten Autos: 75.54 7.05 -21.92 -1.20 -13.38 0.000 0.0 Medium Trucks: 81.71 -4.26 -21.92 -1.20 -13.46 0.000 0.0 Unmitigated Noise Levels (without Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 59.5 57.6 55.8 49.8 58.4 55 Medium Trucks: 59.0 57.5 48.5 49.8 58.1 55 Vehicle Noise Levels (with Topo and barrier attenuation) 50.0 57.5 48.5 49.8 58.1 56 Mitigated Noise Levels (with Topo and barrier attenuation) Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Mitigated Noise Levels (with Topo and barrier attenuation) Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL						Heavy Truck	s: 1,42	3.095			
Autos: 75.54	FHWA Noise Mo	del Calculatio	ns								
Medium Trucks: 81.71 -4.26 -21.92 -1.20 -13.40 0.000 0.0 Heavy Trucks: 85.21 -3.13 -21.92 -1.20 -13.46 0.000 0.0 Umitigated Noise Levels (without Topo and barrier attenuation) Vehicle Type Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 59.5 57.6 55.8 49.8 58.4 55 Medium Trucks: 59.0 57.5 48.5 49.8 58.1 56 Vehicle Noise: 62.9 61.2 57.0 53.4 61.9 62 Mitigated Noise Levels (with Topo and barrier attenuation) Vehicle Type Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 59.5 57.6 55.8 49.8 56.4 56.4 Medium Trucks: 54.3 52.8 46.5 44.9 53.4 56.2 Mitigated Noise Levels (with Topo and barrier attenuatio	VehicleType	REMEL	Traffic Flow	Distar	nce F	inite Road	Fres	nel	Barrier Atte	en Beri	n Atten
Heavy Trucks: 85.21 -3.13 -21.92 -1.20 -13.46 0.000 0.00				-	21.92	-1.20		-13.38	0.0	00	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 59.5 57.6 55.8 49.8 58.4 58.4 Medium Trucks: 54.3 52.8 46.5 44.9 53.4 55.4 Heavy Trucks: 59.0 57.5 48.5 49.8 58.1 58.1 Vehicle Noise: 62.9 66.2 57.0 53.4 61.9 62 Mitigated Noise Levels (with Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 59.5 57.6 55.8 49.8 58.4 55.4 Medium Trucks: 54.3 52.8 46.5 44.9 53.4 55.8 Heavy Trucks: 59.0 57.5 48.5 49.8 58.1 56.8	Medium Trucks							-13.40	0.0	00	0.000
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 59.5 57.6 55.8 49.8 58.4 58.4 Medium Trucks: 54.3 52.8 46.5 44.9 53.4 55.1 Heavy Trucks: 59.0 57.5 48.5 49.8 58.1 58. Vehicle Noise: 62.9 61.2 57.0 53.4 61.9 62. Mittgated Noise Levels (with Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 59.5 57.6 55.8 49.8 58.4 58.4 Medium Trucks: 59.3 52.8 46.5 44.9 53.4 53.4 Heavy Trucks: 59.0 57.5 48.5 49.8 58.1 58.4	Heavy Trucks	: 85.2	1 -3.13	-	21.92	-1.20		-13.46	0.0	00	0.000
Autos: 59.5 57.6 55.8 49.8 58.4 55.8 Medium Trucks: 54.3 52.8 46.5 44.9 53.4 55.8 49.8 75.4 55.4								_			
Medium Trucks: 54.3 52.8 46.5 44.9 53.4 55.4 Heavy Trucks: 59.0 57.5 48.5 49.8 58.1 55.2 Vehicle Noise: 62.9 61.2 57.0 53.4 61.9 62.9 Mitigated Noise Levets (with Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 59.5 57.6 55.8 49.8 58.4 58.4 Medium Trucks: 54.3 52.8 46.5 44.9 53.4 55.8 Heavy Trucks: 59.0 57.5 48.5 49.8 58.1 58.6						· .					
Heavy Trucks 59.0 57.5 48.5 49.8 58.1 58								-			59.0
Vehicle Noise: 62.9 61.2 57.0 53.4 61.9 62 Mitigated Noise Levels (with Topo and barrier attenuation) VehicleType Leq Peak Howr Leq Day Leq Evening Leq Night Ldn CNEL Autos: 59.5 57.6 55.8 49.8 58.4 58.4 Medium Trucks: 54.3 52.8 46.5 44.9 53.4 55. Heavy Trucks: 59.0 57.5 48.5 49.8 58.1 58.6								-			53.6
Mitigated Noise Levels (with Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 59.5 57.6 55.8 49.8 58.4 58 Medium Trucks: 54.3 52.8 46.5 44.9 53.4 55 Heavy Trucks: 59.0 57.5 48.5 49.8 58.1 56	,							-			58.2
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 59.5 57.6 55.8 49.8 58.4 58.4 Medium Trucks: 54.3 52.8 46.5 44.9 53.4 55. Heavy Trucks: 59.0 57.5 48.5 49.8 58.1 56.8	Vehicle Noise	: 6	2.9	61.2		57.0	53.	4	61.9		62.3
Autos: 59.5 57.6 55.8 49.8 58.4 56 Medium Trucks: 54.3 52.8 46.5 44.9 53.4 53 Heavy Trucks: 59.0 57.5 48.5 49.8 58.1 56								_			
Medium Trucks: 54.3 52.8 46.5 44.9 53.4 55 Heavy Trucks: 59.0 57.5 48.5 49.8 58.1 58						,					
Heavy Trucks: 59.0 57.5 48.5 49.8 58.1 58								-			59.0
								-			53.6
Vehicle Noise: 62.9 61.2 57.0 53.4 61.9 62	,		***					-			58.2
	Vehicle Noise	: 6	2.9	61.2		57.0	53.	4	61.9		62.3

F	HWA-RD-77-1	108 HIGHWAY	NOISE F	REDI	CTION MOD	EL (CALVENO	0) - 6/2/2013	
Road Nam	io: Second Flo ne: SR-60 Fwy lo: Senior Hou		ade			ct Name: Can Number: 899 Analyst: A. V	1	
SITE	SPECIFIC IN	IPUT DATA		Т		NOISE MOD	DEL INPUTS	
Highway Data				S	te Condition	s (Hard = 10,	Soft = 15)	
Average Daily	Traffic (Adt): 1	47.400 vehicle	S			Auto	os: 15	
,	Percentage:	10%			Medium 1	rucks (2 Axle	s): 15	
Peak H	lour Volume:	14,740 vehicle	s		Heavy Tr	ucks (3+ Axle	s): 15	
Ve	hicle Speed:	65 mph		1/	ehicle Mix			
Near/Far La	ne Distance:	120 feet		-	VehicleTy	oe Day	/ Evening 1	light Daily
Site Data				_	veriicie i y	Autos: 77.		9.6% 89.50°
				-	Medium			9.6% 89.50%
	rrier Height:	0.0 feet				Trucks: 86.		10.8% 5.99
Barrier Type (0-W	. ,	0.0			ricavy	TTUCKS. OU.	376 2.176	10.0% 3.99
	st. to Barrier:			N	oise Source	Elevations (ir	ı feet)	
Centerline Dist. Barrier Distance		2,202.0 feet 0.0 feet			Au	os: 1,610.00	0	
Observer Height		14.0 feet			Medium Truc	ks: 1,612.29	7	
	ad Elevation:				Heavy Truc	ks: 1,618.00	6 Grade Adjus	tment: 0.0
	ad Elevation: ad Elevation:	,-		1.	ane Fauivale	nt Distance (in feet)	
	ier Elevation:	,		F		os: 2.215.528		
	Road Grade:	0.0%				ks: 2,215.570		
	riodd Orddo.	0.070				ks: 2,215.68		
FHWA Noise Mod	el Calculation	ıs						
VehicleType	REMEL	Traffic Flow	Distar	ice	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	75.54	7.77	-2	24.80	-1.20) 13.9	0 -17.568	3 -20.56
Medium Trucks:	81.71	-5.21		24.80	-1.20			
Heavy Trucks:	85.21	-3.98	-2	24.80	-1.20) 13.9	95 -17.57	4 -20.57
Unmitigated Nois	e Levels (with	out Topo and	barrier a	ttenu	ation)			
VehicleType	Leq Peak Ho	ur Leq Day	/ Le	eq Eve	ening Le	q Night	Ldn	CNEL
Autos:	57	7.3	55.4		53.6	47.6	56.2	56.
Medium Trucks:	50		49.0		42.6	41.1	49.5	49.
Heavy Trucks:	55		53.8		44.8	46.0	54.4	54.
Vehicle Noise:	59	0.9	58.2		54.5	50.4	58.9	59.
Mitigated Noise L	evels (with To	po and barrie	r attenua	tion)				
VehicleType	Leq Peak Ho	ur Leq Day	/ Le	eq Eve	ening Le	q Night	Ldn	CNEL
Autos:	39	0.7	37.8		36.1	30.0	38.6	39.
Medium Trucks:	32	2.9	31.4		25.1	23.5	32.0	32.
Heavy Trucks:	37	7.7	36.2		27.2	28.4	36.8	36.
Vehicle Noise:	42	2.4	40.7		36.9	32.9	41.4	41.

	0 [1.									
Lot N	e: Valley Spri	oor With Wall ngs Pkwy. using-West Faç	ade			t Name: Number: Analyst:	8991			
	SPECIFIC IN	IPUT DATA						. INPUTS		
Highway Data				Site	Condition	s (Hard =	10, So	ft = 15)		
Average Daily	Traffic (Adt):	31,200 vehicle	s				Autos:	15		
	Percentage:	10%			Medium 7		/	15		
Peak H	our Volume:	3,120 vehicle	S		Heavy Tr	ıcks (3+ A	Axles):	15		
	hicle Speed:	40 mph		Veh	icle Mix					
Near/Far La	ne Distance:	48 feet			VehicleTyp	e	Day	Evening	Night	Daily
Site Data						Autos:	77.5%	12.9%	9.6%	97.429
Bai	rier Height:	0.0 feet			Medium	Trucks:	84.8%	4.9%	10.3%	1.849
Barrier Type (0-W		0.0			Heavy	Trucks:	86.5%	2.7%	10.8%	0.749
Centerline Dis		345.0 feet		Mai	se Source i	-levetien	o (in fo	241		
Centerline Dist.	to Observer:	345.0 feet		NOI		os: 1.553		el)		
Barrier Distance	to Observer:	0.0 feet			Aut edium Truc	,				
Observer Height (Above Pad):	14.0 feet			eaium mud Heavy Truc			Grade Adju	otmont.	0.0
Pa	ad Elevation:	1,571.0 feet			neavy IIuo	KS. 1,301	.000	Jiaue Auju	Sunen.	0.0
Roa	ad Elevation:	1,553.0 feet		Lan	e Equivale	nt Distan	ce (in fe	eet)		
Barri	er Elevation:	1,571.0 feet			Aut	os: 345	.649			
	Road Grade:	0.0%		M	edium Truc	ks: 345	.444			
					Heavy Truc	ks: 345	.000			
FHWA Noise Mode	el Calculation	ıs								
VehicleType	REMEL	Traffic Flow	Dista	nce F	inite Road	Fresr	nel E	Barrier Atte	n Bern	n Atten
Autos:	67.36	3.50		-12.70	-1.20	-	12.71	0.00	00	0.000
Medium Trucks:	76.31	-13.74		-12.69	-1.20		12.80	0.00	00	0.00
Heavy Trucks:	81.16	-17.69		-12.69	-1.20	-	13.02	0.00	00	0.00
Unmitigated Noise	e Levels (with	out Topo and	barrier	attenuat	ion)					
VehicleType	Leq Peak Ho			.eq Eveni		n Night		Ldn	CN	
Autos:		7.0	55.1		53.3	47.2		55.9		56.
Medium Trucks:		3.7	47.2		40.8	39.3		47.7		48.0
Heavy Trucks:		9.6	48.2		39.1	40.4		48.7		48.
Vehicle Noise:	58	3.2	56.4		53.7	48.6	6	57.2		57.
Mitigated Noise L										
VehicleType	Leq Peak Ho			.eq Eveni	•	n Night		Ldn	CN	
,,		7.0	55.1		53.3	47.2		55.9		56.
Autos:										
Autos: Medium Trucks:	48	3.7	47.2		40.8	39.3		47.7		48.0
Autos:	48		47.2 48.2 56.4		40.8 39.1 53.7	39.3 40.4 48.6	ı	47.7 48.7		48.9 48.9

Monday, July 11, 2016

Scenario: Second Floor With Wall Road Name: SR-60 FW Lot No: Independent Living-North Façade Site SPECIFIC INPUT DATA	F	-HWA-RD-77-10	8 HIGHWAY	NOISE	E PREC	DICTION	MODE	L (CALV	ENO) ·	- 6/2/2013		
Site Conditions (Hard = 10, Soft = 15)	Road Nan	ne: SR-60 Fwy		Façad	e		Job I	Number:	3991			
Average Daily Traffic (Adt): 147,400 vehicles Peak Hour Percentage: 10% Medium Trucks (2 Axles): 15 Section Peak Hour Volume: 14,740 vehicles Vehicle Speed: 65 mph Near/Far Lane Distance: 120 feet Vehicle Mix	SITE	SPECIFIC INF	PUT DATA					NOISE N	10DE	L INPUT	s	
Peak Hour Volume: 14,740 vehicles Peak Hour Volume: 14,740 vehicles Vehicle Speed: 65 mph Near/Far Lane Distance: 120 feet Vehicle Mix Vehicle	Highway Data					Site Cor	ditions	(Hard =	10, Sc	oft = 15)		
Peak Hour Volume: 14,740 vehicles Peak Hour Volume: 14,740 vehicles Vehicle Speed: 65 mph Near/Far Lane Distance: 120 feet Vehicle Mix Vehicle	Average Daily	Traffic (Adt): 147	7,400 vehicle	s				,	Autos:	15		
Vehicle Speed: Near/Far Lane Distance: 120 feet Vehicle Mix Vehicle Type	Peak Hour	Percentage:	10%			Me	dium Ti	rucks (2 A	xles):	15		
Near/Far Lane Distance: 120 feet VehicleType Day Evening Night Dally	Peak I	Hour Volume: 14	1,740 vehicle	S		He	avy Tru	icks (3+ A	xles):	15		
Near/Far Lane Distance: 120 feet VehicleType Day Evening Night Daily	Ve	ehicle Speed:	65 mph		-	Vehicle	Mix					
Site Data Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Daserver: 2,359.0 feet Centerline Dist. to Daserver: 2,359.0 feet Barrier Distance to Observer: 0.0 feet Centerline Dist. to Daserver: 2,359.0 feet Centerline Dist. to Daserver: 0.0 feet Centerline Dist. to Centerline Dist. to Daserver: 0.0 feet Centerline Dist. to Centerline Dist. to Centerline Dist. to Daserver: 0.0 feet Centerline Dist. to	Near/Far La	ane Distance:	120 feet		H			e	Day	Evenina	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Perm): 0.0 Centerline Dist. to Barrier: 2,359.0 feet Centerline Dist. to Observer: 2,359.0 feet Centerline Dist. for Observer: 2,359.0 feet Centerline Dist. for Observer: 2,359.0 feet Centerline Dist. for Observer: 1,647.006 Centerline Dist. for Ob	Site Data						//			-		. ,
Barrier Type (0-Wall, 1-Berm): 0.0 Heavy Trucks: 86.5% 2.7% 10.8% 5.99%			006			M						
Noise Source Elevations (in feet) Noise Routice Noise Ro							Heavy T	Frucks:	86.5%	2.7%	10.8%	5.99%
Centerline Dist. to Observer: 2,359.0 feet Surface Line Part Comparison of Content Con	,,,,	. ,			L							
Barrier Distance to Observer: 0.0 feet Characteristics Chara					1	Noise S			•	eet)		
Note Comparison Compariso								,				
Pad Elevation: 1,573.5 feet Road Elevation: 1,573.5 feet Road Elevation: 1,573.5 feet Barrier Elevation: 1,573.5 feet Road Grade: 0.0% Page			14.0 feet					. , .				
Barrier Elevation: 1,573.5 feet Road Grade: 0.0% Medium Trucks: 2,373.146 Medium Trucks: 2,373.211 Heavy Trucks: 2,373.215 Heavy Trucks: 2,373.215 Heavy Trucks: 2,373.216 Heavy Trucks: 2,373.216 Heavy Trucks: 2,373.216 Heavy Trucks: 2,373.216 Heavy Trucks: 2,373.382 Heavy Trucks: 2,373.382 Heavy Trucks: 2,373.382 Heavy Trucks: 3,71 1,77 1,25.25 1,20 1,00 1,00 1,75.85 2,05.85 Heavy Trucks: 81.71 5.21 -25.25 -1.20 1,00 1,75.85 2,05.85 Heavy Trucks: 85.21 -3.98 -25.25 -1.20 1,00 1,75.90 -20.580 Heavy Trucks: 85.21 -3.98 -25.25 -1.20 1,00 1,75.90 -20.580 Heavy Trucks: 1,00 Heavy Truck		,	.573.5 feet			Heal	ry Truci	ks: 1,647	.006	Grade Adj	ustment.	0.0
Road Grade: 0.0% Medium Trucks: 2,373.211 Heavy Trucks: 2,373.382	Ro	ad Elevation: 1	639.0 feet		1	Lane Eq	uivaler	t Distan	e (in	feet)		
FHWA Noise Model Calculations Vehicle Type REMEL Traffic Flow Distance Finite Road Fres.net Barrier Atten Berm Atten Autos: 75.54 7.77 -25.25 -1.20 14.04 -17.585 -20.585 Medium Trucks: 81.71 -5.21 -25.25 -1.20 14.05 -17.596 -20.596 Heavy Trucks: 85.21 -3.98 -25.25 -1.20 14.08 -17.590 -20.590	Barr	ier Elevation: 1	,573.5 feet				Auto	s: 2,373	.146			
Name		Road Grade:	0.0%			Mediu	m Truck	ks: 2,373	.211			
VehicleType						Hear	y Truck	ks: 2,373	.382			
VehicleType												
Autos: 75.54			T#:- FI	Dis		Finite.	D/	F	-1	D		
Medium Trucks: 81.71 -5.21 -25.25 -1.20 14.05 -17.586 -20.586 Heavy Trucks: 85.21 -3.98 -25.25 -12.0 14.08 -17.590 -20.590 Unmittigated Noise-Levels (without Topo and barrier attenuation) Leq Peak Hour Leq Day Leq Evening Leq Night Ldn OCNEL Autos: 56.9 55.0 53.2 47.1 55.8 56.4 Medium Trucks: 50.1 48.5 42.2 40.6 49.1 49.3 Heavy Trucks: 54.8 53.4 44.3 45.6 53.9 58.9 Vehicle Noise: 59.5 57.8 54.0 50.0 58.5 58.9 Mitigated Noise Levels (with Topo and barrier attenuation) Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 39.3 37.4 35.6 29.6 38.2 38.8 Medium Trucks: 32.5 31.0 24.6 23.1 31.5 31.7 <td> ,,, .</td> <td></td> <td></td> <td>Dist</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	,,, .			Dist								
Heavy Trucks: 85.21 -3.98 -25.25 -1.20 14.08 -17.590 -20.590						-						
Unmitigated Noise Levels (without Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 56.9 55.0 53.2 47.1 55.8 56.8 Medium Trucks: 50.1 48.5 42.2 40.6 49.1 49.3 Heavy Trucks: 54.8 53.4 44.3 45.6 53.9 54.1 Heighelde Noise: 59.5 59.8 56.0 50.0 58.5 58.9 Mittgated Noise Levels (with Topo and barrier atteruation) Vehicle Poise Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 39.3 37.4 35.6 29.6 38.2 38.8 Medium Trucks: 32.5 31.0 24.6 23.1 31.5 31.7 Heavy Trucks: 37.2 35.8 26.7 28.0 36.3 36.5						-						
VehicleType							-1.20		4.00	-17.0	130	-20.550
Autos: 56.9 55.0 53.2 47.1 55.8 56.4												
Medium Trucks: 50.1 48.5 42.2 40.6 49.1 49.3 Heavy Trucks: 54.8 53.4 44.3 45.6 53.9 54.1 Vehicle Noise: 59.5 57.8 54.0 50.0 58.5 Mitigated Noise Level's (with Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 39.3 37.4 35.6 29.6 38.2 38.8 Medium Trucks: 32.5 31.0 24.6 23.1 31.5 31.7 Heavy Trucks: 37.2 35.8 26.7 28.0 36.3 36.5		,	, ,		Leq E		Leg					
Heavy Trucks: 54.8 53.4 44.3 45.6 53.9 54.1 Vehicle Noise: 59.5 57.8 54.0 50.0 58.5 58.9 Mitigated Noise Levels (with Topo and barrier atternation) Vehicle Type Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 39.3 37.4 35.6 29.6 38.2 38.8 Medium Trucks: 32.5 31.0 24.6 23.1 31.5 31.7 Heavy Trucks: 37.2 35.8 26.7 28.0 36.3 36.5												
Vehicle Noise: 59.5 57.8 54.0 50.0 58.5 58.9 Mitigated Noise Levels (with Topo and barrier atternation) Vehicle Type Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 39.3 37.4 35.6 29.6 38.2 38.8 Medium Trucks: 32.5 31.0 24.6 23.1 31.5 31.7 Heavy Trucks: 37.2 35.8 26.7 28.0 36.3 36.5												
Mitigated Noise Levels (with Topo and barrier attenuation)	,											
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 39.3 37.4 35.6 29.6 38.2 38.8 Medium Trucks: 32.5 31.0 24.6 23.1 31.5 31.7 Heavy Trucks: 37.2 35.8 26.7 28.0 36.3 36.5	Vehicle Noise:	59.5	5	57.8		54.0		50.0		58.5	5	58.9
Autos: 39.3 37.4 35.6 29.6 38.2 38.8 Medium Trucks: 32.5 31.0 24.6 23.1 31.5 31.7 Heavy Trucks: 37.2 35.8 26.7 28.0 36.3 36.5	Mitigated Noise L	evels (with Top	o and barrie	r atten	uation)						
Medium Trucks: 32.5 31.0 24.6 23.1 31.5 31.7 Heavy Trucks: 37.2 35.8 26.7 28.0 36.3 36.5	VehicleType	Leq Peak Hour			Leq E	/ening	Leq	Night				
Heavy Trucks: 37.2 35.8 26.7 28.0 36.3 36.5	Autos:	39.3	3	37.4		35.6		29.6		38.2	2	38.8
	Medium Trucks:	32.5	5	31.0		24.6		23.1		31.5	5	31.7
Vehicle Noise: 41.9 40.2 36.4 32.4 40.9 41.3	Heavy Trucks:	37.2	2	35.8		26.7		28.0		36.3	3	36.5
	Vehicle Noise:	41.9)	40.2		36.4		32.4		40.9)	41.3

Monday, July 11, 2016 202 Monday, July 11, 2016

	FHWA-RD-77-	108 HIGHWAY	NOISE PR	EDICTION	MODEL	_ (CALV	ENO) -	6/2/2013		
Road Nar	rio: Second Fi ne: Day St. No: Independe	loor With Wall ent Living-East F	açade		Job N	Name: lumber: lnalyst:	8991	Springs		
SITE	SPECIFIC I	NPUT DATA			N	IOISE I	MODE	LINPUTS	;	
Highway Data				Site Con	nditions	(Hard =	10, So	ft = 15)		
Average Daily	Traffic (Adt):	23,700 vehicle	s				Autos:	15		
Peak Hou	r Percentage:	10%		Me	dium Tr	ucks (2 /	Axles):	15		
Peak I	Hour Volume:	2,370 vehicle	s	He	avy Truc	cks (3+ A	Axles):	15		
V	ehicle Speed:	40 mph		Vehicle	Mix					
Near/Far La	ane Distance:	48 feet			icleTvpe		Dav	Evening	Night	Dailv
Site Data				1011	,,	Autos:	77.5%	12.9%	9.6%	97.42%
	arrier Height:	0.0 feet		М	edium T		84.8%		10.3%	1.84%
Barrier Type (0-V		0.0 reet 0.0		1 "	Heavy T	rucks:	86.5%	2.7%	10.8%	0.74%
,, ,	ist, to Barrier:	481.0 feet								
Centerline Dist		481.0 feet		Noise So				et)		
Barrier Distance		0.0 feet				s: 1,572				
Observer Height		14.0 feet			m Truck	. , .				
	Pad Elevation:			Heav	y Truck	s: 1,580	0.206	Grade Adjı	ustment:	0.0
	ad Elevation:	,		Lane Eq	uivalen	t Distan	ce (in f	eet)		
	rier Elevation:	,-			Auto	s: 480).644			
	Road Grade:	0.0%		Mediu	m Truck	s: 480).577			
				Heav	y Truck	s: 480	0.456			
FHWA Noise Mod	del Calculatio	ns								
VehicleType	REMEL	Traffic Flow	Distance	e Finite	Road	Fresr	nel	Barrier Atte	en Ber	m Atten
Autos.	: 67.36	3 2.31	-14	.85	-1.20	-	13.46	0.0	00	0.000
Medium Trucks.	76.3	1 -14.93	-14	.85	-1.20	-	13.53	0.0	00	0.000
Heavy Trucks.				.84	-1.20	-	13.69	0.0	00	0.000
Unmitigated Nois				,			,			
VehicleType	Leq Peak Ho			Evening		Night		Ldn		IEL
Autos.			51.7	50.0		43.9	-	52.5		53.1
Medium Trucks.			43.8	37.5		35.9	-	44.4		44.6
Heavy Trucks. Vehicle Noise.			44.8 53.1	35.8 50.3		37.0 45.3		45.4 53.8		45.5 54.3
Mitigated Noise L						40.0	,	33.0		34.0
VehicleType	Leg Peak Ho			Evening	l pri	Night	T	l dn	C	IFI
			51.7	50.0	,	43.9	9	52.5		53.1
Autos							-			
Autos. Medium Trucks.	: 4	5.3	43.8	37.5		35.9	9	44.4		44.h
			43.8 44.8	37.5 35.8		35.9 37.0		44.4 45.4		44.6 45.5

Road Nan	io: Second Flo ne: Gateway Di lo: Skilled Nurs	r.	ade			Job N	Name: (lumber: { lnalyst: i	3991	n Springs fe		
	SPECIFIC IN	PUT DATA							L INPUTS		
Highway Data				Sit	e Cond	ditions	(Hard =				
,	Traffic (Adt): 1		S					Autos:	15		
	Percentage:	10%					ucks (2 A	,	15		
	lour Volume:	1,230 vehicle	S		Hea	ivy Tru	cks (3+ A	(xles	15		
	hicle Speed:	40 mph		Ve	hicle N	lix					
Near/Far La	ne Distance:	48 feet			Vehic	cleType		Day	Evening	Night	Daily
Site Data							Autos:	77.5%	12.9%	9.6%	97.429
D-	rrier Height:	0.0 feet			Ме	dium T	rucks:	84.8%	4.9%	10.3%	1.849
Barrier Type (0-V		0.0			Н	leavy T	rucks:	86.5%	2.7%	10.8%	0.749
,,,,	st. to Barrier:	77.0 feet									
Centerline Dist.		77.0 feet		No	ise So		levation	_	eet)		
Barrier Distance	to Observer:	0.0 feet					s: 1,572				
Observer Height	(Above Pad):	14.0 feet		- '			s: 1,574		O		0.0
	ad Elevation:	1.572.5 feet			Heavy	/ Iruck	s: 1,580	.206	Grade Adju	istment:	0.0
Ro	ad Elevation:	1,572.2 feet		La	ne Equ	iivalen	t Distand	e (in i	eet)		
Barr	ier Elevation:	1,572.5 feet				Auto	s: 74	.549			
	Road Grade:	0.0%		1	Mediun	n Truck	s: 74	.142			
					Heavy	/ Truck	s: 73	.434			
FHWA Noise Mod	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dista	nce	Finite I	Road	Fresn	el	Barrier Atte	n Ber	m Atten
Autos:	67.36	-0.54		-2.71		-1.20	-	12.41	0.00	00	0.00
Medium Trucks:	76.31	-17.78		-2.67		-1.20	-	12.81	0.00	00	0.00
Heavy Trucks:	81.16	-21.73		-2.61		-1.20	-	13.82	0.00	00	0.00
Unmitigated Nois	e Levels (with	out Topo and	barrier a	attenua	tion)						
VehicleType	Leq Peak Hou	ır Leq Day	/ L	eq Evei	ning	Leq	Night		Ldn	CI	VEL
Autos:	62		61.0		59.2		53.2		61.8		62.4
Medium Trucks:			53.2		46.8		45.3		53.7		53.9
Heavy Trucks:		.6	54.2		45.2		46.4		54.8		54.9
Vehicle Noise:	64	.2	62.4		59.6		54.6		63.1		63.
Mitigated Noise L	evels (with To	po and barrie	r attenu	ation)							
VehicleType	Leq Peak Hou	., .,		eq Ever	_	Leq	Night		Ldn	CI	VEL
Autos:	62		61.0		59.2		53.2		61.8		62.4
Medium Trucks:	54		53.2		46.8		45.3		53.7		53.9
Heavy Trucks:	55	6	54.2		45.2		46.4		54.8		54.9
Vehicle Noise:			62.4		59.6		54.6		63.1		63.0

F	HWA-RD-77-	108 HIGHWAY	NOISE PR	EDICTION	MODEL (CAI	.VENO)	- 6/2/2013	
Road Nam	io: Second Flore: Day St. Io: Skilled Nu	oor With Wall rsing-East Faça	de		Project Name Job Numbe Analys		-1 3	
	SPECIFIC II	NPUT DATA					L INPUTS	i
Highway Data				Site Con	ditions (Hard	= 10, S	oft = 15)	
Average Daily	Traffic (Adt):	23,700 vehicle	s			Autos.		
	Percentage:	10%			dium Trucks (,		
	lour Volume:	2,370 vehicle	S	Hei	avy Trucks (3	+ Axles).	15	
	hicle Speed:	40 mph		Vehicle I	Nix			
Near/Far La	ne Distance:	48 feet		Vehi	сІеТуре	Day	Evening	Night Daily
Site Data					Autos:	77.5%	6 12.9%	9.6% 97.42
Ва	rrier Height:	0.0 feet		Me	edium Trucks:	84.89	4.9%	10.3% 1.84
Barrier Type (0-W	-	0.0		F	łeavy Trucks:	86.5%	6 2.7%	10.8% 0.74
Centerline Di	st. to Barrier:	177.0 feet		Noise Sc	urce Elevation	ons (in t	eet)	
Centerline Dist.		177.0 feet			Autos: 1,5	72.200	·	
Barrier Distance		0.0 feet		Mediur	n Trucks: 1,5	74.497		
Observer Height		14.0 feet		Heav	V Trucks: 1,5	80.206	Grade Adju	stment: 0.0
	ad Elevation:	,-		Long For	iivalent Dista	nnon (in	foot)	
	ad Elevation:	,-		Lane Equ			ieet)	
	ier Elevation: Road Grade:	1,572.5 feet 0.0%		Madium		75.947 75.776		
•	Road Grade:	0.0%				75.478		
FHWA Noise Mod		-	B: -					D 400
VehicleType	REMEL 67.36	Traffic Flow	Distanc			snel	Barrier Atte	
Autos: Medium Trucks:	76.31	2.01		3.30 3.29	-1.20 -1.20	-13.13 -13.31	0.00	
	81.16			3.29 3.28	-1.20 -1.20	-13.31	0.00	
Heavy Trucks:					-1.20	-13.75	0.00	0.00
Unmitigated Nois				,		-		
VehicleType	Leq Peak Ho			Evening	Leq Night		Ldn	CNEL
Autos:			58.3 50.4	56.5 44.0	-	0.4 2.5	59.1 50.9	59 51
Medium Trucks:	-		50.4 51.4	44.0		2.5 3.6	51.9	51 52
Heavy Trucks: Vehicle Noise:	-		51.4 59.6	42.3 56.9		1.8	60.4	52
						1.0	00.4	
Mitigated Noise L VehicleType	Lea Peak Ho			eon) Evening	Leg Night		Ldn	CNFI
Autos:	-,	, . ,	58.3	56.5	, ,	0.4	59.1	CIVEL 59
Medium Trucks:			50.4	44.0		2.5	50.9	51
Heavy Trucks:			51.4	42.3		3.6	51.9	52

Monday, July 11, 2016

Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 72.0 feet Centerline Dist. to Barrier: 72.0 feet Centerline Dist. to Observer: 72.0 feet Barrier Distance to Observer: 0.0 feet Autos: 1,567.25 feet Road Elevation: 1,572.5 feet Road Elevation: 1,572.5 feet Barrier Elevation: 1,575.2 feet Road Elevation: 1,575.2 feet Barrier Elevation: 1,575.2 feet Road Grade: 0.0% Elevation: 1,575.2 feet Autos: 7,575.25 feet	F	HWA-RD-77-10	B HIGHWAY	NOISE P	PRED	ICTION	MODE	L (CALV	ENO) ·	- 6/2/2013		
Autrage Daily Traffic (Adt): 12,300 vehicles Peak Hour Percentage: 10% Peak Hour Percentage: 1,230 vehicles Peak Hour Volume: 1,230 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 48 feet Vehicle Mix Veh	Road Nan	ne: Gateway Dr.		ade			Job N	Number:	8991			
Average Daily Traffic (Adt): 12,300 vehicles Peak Hour Percentage: 10% Medium Trucks (2 Axles): 15 Heavy Trucks (3 Axles): 15	SITE	SPECIFIC INP	UT DATA				1	NOISE N	ЛОDE	L INPUT	s	
Peak Hour Percentage: 10%	Highway Data				S	ite Con	ditions	(Hard =	10, Sc	oft = 15)		
Peak Hour Volume: 1,230 vehicles Vehicle Speed: 40 mph Vehicle Mix	Average Daily	Traffic (Adt): 12	300 vehicle	s					Autos:	15		
Vehicle Speed:	Peak Hour	Percentage:	10%			Me	dium Tı	rucks (2 A	Axles):	15		
Near/Far Lane Distance:	Peak H	four Volume: 1	,230 vehicle	s		He	avy Tru	icks (3+ A	Axles):	15		
Near/Far Lane Distance: 48 feet VehicleType Day Evening Night Daily Site Data Autos: 77.5% 12.9% 9.5% 97.42	Ve	hicle Speed:	40 mph		ν	ehicle i	Mix					
Site Data	Near/Far La	ne Distance:	48 feet		F			ρ	Dav	Evenina	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Dasrrier: 72.0 feet Centerline Dist. to Dasrver: 72.0 feet Barrier Distance to Observer: 0.0 feet Content Dist. to Observer: 72.0 feet Barrier Distance to Observer: 0.0 feet Content Distance to Observer: 0.0 feet Content Distance to Observer: 0.0 feet Content Distance to Observer: 0.0 feet Content Distance to Observer: 0.0 feet Content Distance to Observer: 0.0 feet Content Distance to Observer: 0.0 feet Content Distance (in feet) Content Distance (in f	Site Data				+	*011	,,					. ,
Barrier Type (0-Wall, 1-Berm): 0.0 Heavy Trucks: 86.5% 2.7% 10.8% 0.74	D-		00 (М						1.84%
Noise Source Elevations (in feet)							Heavy 7	Frucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Observer: 72.0 feet Barrier Distance to Observer: 0.0 feet Autos: 1,672.55	,,,,	. ,					,					
Autos: 1,567.250			. =		٨	loise So				eet)		
Observer Height (Above Pad): 14.0 feet Pad Elevation: 1,572.5 feet Road Elevation: 1,572.5 feet Road Elevation: 1,572.5 feet Barrier Elevation: 1,572.5 feet Road Grade: 0.0% Lane Equivalent Distance (in feet)			. =					. ,				
Pad Elevation: 1,572.5 feet Road Elevation: 1,575.25 feet Road Elevation: 1,575.25 feet Road Elevation: 1,575.25 feet Road Elevation: 1,575.25 feet Road Grade: 0.0% Autos: 70.559 Medium Trucks: 68.807			14.0 feet					. ,				
Barrier Elevation: 1,572.5 Seet Road Grade: 0.0% Medium Trucks: 68.967 Heavy Trucks: 68.807		,	572.5 feet			Heav	y Iruck	ks: 1,5/5	.256	Grade Adj	ustment.	0.0
Road Grade: 0.0% Medium Trucks: 69.967 Heavy Trucks: 68.807	Ro	ad Elevation: 1,	567.3 feet		L	ane Eq	uivalen	t Distan	ce (in	feet)		
Heavy Trucks: 68.807	Barr	ier Elevation: 1,	572.5 feet				Auto	s: 70	.559			
VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berm Atter		Road Grade:	0.0%			Mediui	m Truck	ks: 69	.967			
VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berm Atter Autos: 67.36 -0.54 -2.35 -1.20 -11.41 0.000 0.00 Medium Trucks: 76.31 -17.78 -2.29 -1.20 -11.83 0.000 0.00 Heavy Trucks: 81.16 -21.73 -2.18 -1.20 -12.90 0.000 0.00 Unmitigated Noise Levels (without Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 63.3 61.4 59.6 53.6 62.2 62 Medium Trucks: 55.0 53.5 47.2 45.6 54.1 54						Heav	y Truck	ks: 68	3.807			
VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berm Atter Autos: 67.36 -0.54 -2.35 -1.20 -11.41 0.000 0.00 Medium Trucks: 76.31 -17.78 -2.29 -1.20 -11.83 0.000 0.00 Heavy Trucks: 81.16 -21.73 -2.18 -1.20 -12.90 0.000 0.00 Unmitigated Noise Levels (without Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 63.3 61.4 59.6 53.6 62.2 62 Medium Trucks: 55.0 53.5 47.2 45.6 54.1 54												
Autos: 67.36 -0.54 -2.35 -1.20 -11.41 0.000 0.00 0.00			- " -	B: :		F				D : 4:	1.5	***
Medium Trucks: 76.31	, ,											
Heavy Trucks: 81.16 -21.73 -2.18 -1.20 -12.90 0.000 0.000												
Unmitigated Noise Levels (without Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL												
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 63.3 61.4 59.6 53.6 62.2 62 Medium Trucks: 55.0 53.5 47.2 45.6 54.1 54	neavy Trucks.	01.10	-21.73		-2.10		-1.20		12.90	0.0	000	0.000
Autos: 63.3 61.4 59.6 53.6 62.2 62 Medium Trucks: 55.0 53.5 47.2 45.6 54.1 54	_											
Medium Trucks: 55.0 53.5 47.2 45.6 54.1 54	,,		, ,		eq Ev		Leq					
											-	62.8
												54.3
,	Heavy Trucks:	56.0		54.6		45.6		46.8				55.3
Vehicle Noise: 64.5 62.8 60.0 54.9 63.5 64	Vehicle Noise:	64.5	i	62.8		60.0		54.9	9	63.5	5	64.0
Mitigated Noise Levels (with Topo and barrier attenuation)	Mitigated Noise L	evels (with Top	o and barrie	r attenua	ation)							
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL	VehicleType	Leq Peak Hour	Leq Day	/ Le	eq Ev	ening	Leq	Night				
Autos: 63.3 61.4 59.6 53.6 62.2 62	Autos:	63.3		61.4		59.6		53.6	6	62.2	2	62.8
	Medium Trucks:	55.0	1	53.5		47.2		45.6	6			54.3
Heavy Trucks: 56.0 54.6 45.6 46.8 55.2 55	Heavy Trucks:	56.0		54.6		45.6		46.8	3	55.2	2	55.3
Vehicle Noise: 64.5 62.8 60.0 54.9 63.5 64	Vehicle Noise:	64.5		62.8		60.0		54.9)	63.5	5	64.0

Monday, July 11, 2016 203 Monday, July 11, 2016

F	HWA-RD-77-	108 HIGHWAY	NOIS	E PRED	ICTION	MODEL (CALV	ENO) -	6/2/2013		
Road Nam	io: Second Flore: Gateway Elo: Hospital P		açade	:		Job Nui		3991	n Springs fe		
SITE Highway Data	SPECIFIC II	NPUT DATA			Site Con	NC ditions (F			L INPUTS	5	
· ·	Traffic (Adt):	12,300 vehicle	s		one oon	aidons (i		Autos:	15		
Peak Hour	Percentage:	10%			Med	dium Truc	ks (2 A	xles):	15		
Peak H	lour Volume:	1,230 vehicle	s		Hea	avy Truck	s (3+ A	xles):	15		
Ve	hicle Speed:	40 mph		,	/ehicle I	Miv					
Near/Far La	ne Distance:	48 feet		Ε,		icleTvpe		Dav	Evening	Night	Dailv
Site Data					Verii	,,,		77.5%		9.6%	. ,
					1.44	adium Tru		77.3% 84.8%		10.3%	
	rrier Height:	0.0 feet				leavy Tru		86.5%		10.8%	
Barrier Type (0-W	. ,	0.0				icavy 11a	uno.	00.070	2.7 70	10.07	0.747
Centerline Di		90.0 feet		1	Voise So	ource Ele	vations	s (in fe	et)		
Centerline Dist. Barrier Distance		90.0 feet				Autos:	1,556	.300			
		0.0 feet			Mediur	n Trucks:	1,558	.597			
Observer Height		14.0 feet			Heav	y Trucks:	1,564	.306	Grade Adj	ustmen	t: 0.0
	ad Elevation: ad Elevation:	,		,	ano Fai	uivalent L	Dietann	o (in t	(oot)		
	aa Elevation: ier Elevation:	,		-	-anc Lye	Autos:		.816	ccij		
	Road Grade:	0.0%			Modiur	n Trucks:		487			
	Road Grade.	0.0%				y Trucks:		.928			
					i icav	y Trucks.	00	.520			
FHWA Noise Mod	el Calculation	18									
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fresn	el .	Barrier Atte	en Be	rm Atten
Autos:	67.36	-0.54		-3.77	7	-1.20	-1	12.68	0.0	00	0.000
Medium Trucks:	76.31	-17.78		-3.75	5	-1.20	-1	13.03	0.0	00	0.000
Heavy Trucks:	81.16	-21.73		-3.71	l	-1.20	-1	13.90	0.0	00	0.000
Unmitigated Nois	e Levels (with	out Topo and	barri	er atten	uation)						
VehicleType	Leq Peak Ho			Leq Ev		Leq N			Ldn		NEL
Autos:	6	1.8	59.9		58.2		52.1		60.7		61.4
Medium Trucks:	53	3.6	52.1		45.7		44.2		52.6		52.9
Heavy Trucks:	54	4.5	53.1		44.1		45.3		53.7		53.8
Vehicle Noise:	60	3.1	61.3		58.6		53.5		62.1		62.6
Mitigated Noise L	evels (with To	opo and barrie	r atte	nuation)						
VehicleType	Leq Peak Ho	ur Leq Day	/	Leq Ev	rening	Leq N	ight		Ldn	С	NEL
Autos:	6	1.8	59.9		58.2		52.1		60.7	'	61.4
Medium Trucks:	50	3.6	52.1		45.7		44.2		52.6		52.9
Heavy Trucks:	54	4.5	53.1		44.1		45.3		53.7	'	53.8
Vehicle Noise:	60	3.1	61.3		58.6		53.5		62.1		62.6

F	HWA-RD-77-10	08 HIGHWAY I	NOISE PR	EDICTION	MODEL (CALVENO	D) - 6/2/2013	
Road Nam	io: Second Flor ie: Valley Sprin io: Hospital Ph	gs Pkwy.	çade		Job Nun	ame: Can nber: 899 alyst: A. V		
SITE	SPECIFIC IN	PUT DATA			NO	ISE MOI	DEL INPUTS	;
Highway Data				Site Con	ditions (H	ard = 10,	Soft = 15)	
Average Daily	Traffic (Adt): 3	1,200 vehicles	;			Auto	os: 15	
Peak Hour	Percentage:	10%		Me	dium Truci	ks (2 Axle	s): 15	
Peak H	lour Volume:	3,120 vehicles	5	He	avy Trucks	(3+ Axle	s): 15	
Ve	hicle Speed:	40 mph		Vehicle	Wix			
Near/Far La	ne Distance:	48 feet		Veh	icleType	Da	/ Evening	Night Daily
Site Data						tos: 77.		9.6% 97.429
Pa	rrier Height:	0.0 feet		М	edium Truc			10.3% 1.849
Barrier Type (0-W		0.0 feet			Heavy True	ks: 86.	5% 2.7%	10.8% 0.749
Centerline Di	. ,	95.0 feet						
Centerline Dist.		95.0 feet		Noise S	ource Elev			
Barrier Distance	to Observer:	0.0 feet				1,548.60		
Observer Height (Above Pad):	14.0 feet			n Trucks:			intmonti 0.0
Pa	ad Elevation: 1	1,556.0 feet		Heav	y Trucks:	1,556.60	6 Grade Adji	istriient. 0.0
Roa	ad Elevation: 1	1,548.6 feet		Lane Eq	uivalent D	istance (in feet)	
Barri	er Elevation: 1	,556.0 feet			Autos:	94.37	7	
	Road Grade:	0.0%		Mediu	m Trucks:	93.88	3	
				Heav	y Trucks:	92.88	9	
FHWA Noise Mod	el Calculations	5		1				
VehicleType	REMEL	Traffic Flow	Distance	e Finite	Road	Fresnel	Barrier Atte	n Berm Atten
Autos:	67.36	3.50	-4	.24	-1.20	-11.6	5 0.0	0.00
Medium Trucks:	76.31	-13.74		.21	-1.20	-11.9		0.00
Heavy Trucks:	81.16	-17.69	-4	.14	-1.20	-12.7	78 0.0	0.00
Unmitigated Noise								
VehicleType	Leq Peak Hou	- 1 - 7		Evening	Leq Ni	_	Ldn	CNEL
Autos:	65.		63.5	61.8		55.7	64.3	64.
Medium Trucks:	57.		55.7	49.3		47.8	56.2	56.
Heavy Trucks: Vehicle Noise:	58. 66.		56.7 54.9	47.7 62.2		48.9 57.1	57.3 65.6	57. 66.
						37.1	05.0	00.
Mitigated Noise Lo VehicleType	evels (with To) Lea Peak Hou			evenina	Leg Ni	aht	l dn	CNFI
Autos:	65.	- 1 - 7	63.5	61.8	LUG IVI	55.7	64.3	64.
						47.8	56.2	56.
Medium Trucks:	57.	2 !	55.7	49.3				
Medium Trucks: Heavy Trucks:	57. 58.	- '	56.7	49.3 47.7		48.9	57.3	57.

F	HWA-RD-77-	108 HIGHWAY	NOISE F	PREDICTI	ON MODE	L (CALVE	NO) - 6/2/2013		
Road Nan	rio: Second Flone: I-215 Fwy No: Hospital P		açade		Job N	t Name: C lumber: 8: Analyst: A			
	SPECIFIC II	NPUT DATA					ODEL INPUT	s	
Highway Data				Site (conditions	(Hard = 1	0, Soft = 15)		
,	. ,	130,900 vehicle	:S				utos: 15		
	Percentage:	10%			Medium Tr	,			
		13,090 vehicle	:S		Heavy Tru	cks (3+ Ax	des): 15		
	ehicle Speed:	65 mph		Vehic	le Mix				
Near/Far La	ne Distance:	120 feet		-	/ehicleType	9 <i>E</i>	Day Evening	Night	Daily
Site Data						Autos: 7	7.5% 12.9%	9.6%	85.50%
Ra	rrier Height:	0.0 feet			Medium 7	rucks: 8	4.8% 4.9%	10.3%	6.31%
Barrier Type (0-V	-	0.0			Heavy T	rucks: 8	6.5% 2.7%	10.8%	8.19%
Centerline D	ist. to Barrier:	1,260.0 feet		Noise	Source E	levations	(in feet)		
Centerline Dist.	to Observer:	1,260.0 feet		71070		s: 1.539.0			
Barrier Distance	to Observer:	0.0 feet		Me	dium Truck	, , , , , ,			
Observer Height	(Above Pad):	14.0 feet			eavy Truck	. , .		iustment:	0.0
P	ad Elevation:	1,556.0 feet						,	
Ro	ad Elevation:	1,539.0 feet		Lane	Equivalen		, ,		
	rier Elevation:	,				s: 1,258.9			
	Road Grade:	0.0%			dium Truck	. ,			
				Н	eavy Truck	s: 1,258.	781		
FHWA Noise Mod	lel Calculation	ns		- 1					
VehicleType	REMEL	Traffic Flow	Distar	nce Fil	ite Road	Fresne	Barrier Att	en Berr	n Atten
Autos:	75.54	7.05	-	21.12	-1.20	-13	3.44 0.0	000	0.000
Medium Trucks:	81.71	-4.26	-	21.12	-1.20	-13	3.46 0.0	000	0.000
Heavy Trucks:	85.21	-3.13	-	21.12	-1.20	-13	3.52 0.0	000	0.000
Unmitigated Nois	e Levels (with	hout Topo and	barrier a	attenuatio	n)				
VehicleType	Leq Peak Ho	ur Leq Da	V Le	eq Evenin	g Leq	Night	Ldn	C٨	
Autos:	-	0.3	58.4	-	6.6	50.6	59.2	_	59.8
Medium Trucks:		5.1	53.6		7.3	45.7	54.2		54.4
Heavy Trucks:		9.8	58.3	4	9.3	50.5	58.9	9	59.0
Vehicle Noise:	6	3.7	62.0	5	7.8	54.2	62.7	7	63.
Mitigated Noise L	evels (with Te	opo and barrie	r attenua	ation)					
VehicleType	Leq Peak Ho	ur Leq Da		eq Evenin	g Leq	Night	Ldn	C٨	
Autos:	-	0.3	58.4		6.6	50.6	59.2	_	59.
Medium Trucks:	-	5.1	53.6		7.3	45.7	54.2	_	54.4
Heavy Trucks:	59	9.8	58.3	4	9.3	50.5	58.9	9	59.0
Vehicle Noise:	6	3.7	62.0	5	7.8	54.2	62.7	7	63.

Monday, July 11, 2016

Scenario: Second Floor With Wall Project Name: Carvon Springs Joh Number: 891	F	HWA-RD-77-10	8 HIGHWAY	NOISE	PRED	OCTION	MODE	L (CALV	ENO) ·	- 6/2/2013		
Site Conditions (Hard = 10, Soft = 15)	Road Nan	ne: I-215 Fwy		est Faça	ade		Job N	Number:	8991			
Average Daily Traffic (Adt): 130,900 vehicles Peak Hour Percentage: 10% Medium Trucks (2 Axles): 15 15	SITE	SPECIFIC INF	UT DATA				- 1	NOISE N	/IODE	L INPUT	s	
Peak Hour Volume: 13,090 vehicles Peak Hour Volume: 13,090 vehicles Speed: 65 mph Near/Far Lane Distance: 120 feet Vehicle Mix Ve	Highway Data				5	Site Cor	ditions	(Hard =	10, Sc	oft = 15)		
Peak Hour Volume: 13,090 vehicles Peak Hour Volume: 13,090 vehicles Speed: 65 mph Near/Far Lane Distance: 120 feet Vehicle Mix Ve	Average Daily	Traffic (Adt): 130	,900 vehicle	s				,	Autos:	15		
Vehicle Speed: Near/Far Lane Distance: 120 feet Vehicle Mix Vehicle Type Day Evening Night Daily	Peak Hour	Percentage:	10%			Me	dium Ti	rucks (2 A	(xles	15		
Near/Far Lane Distance: 120 feet VehicleType Day Evening Night Daily	Peak I	Hour Volume: 13	3,090 vehicle	S		He	avy Tru	icks (3+ A	(xles	15		
Near/Far Lane Distance: 120 feet VehicleType Day Evening Night Daily	Ve	ehicle Speed:	65 mph		1	/ehicle	Mix					
Site Data	Near/Far La	ane Distance:	120 feet		H.			e	Dav	Evenina	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 0.00	Site Data				-		,,			-		. ,
Barrier Type (0-Wall, 1-Berm): 0.0 Heavy Trucks: 86.5% 2.7% 10.8% 8.19%		la I la la la la	006			М						
Noise Source Elevations (in feet) Noise Note							Heavv 1	Frucks:	86.5%	2.7%	10.8%	8.19%
Centerline Dist. to Observer: 1,118.0 feet Content ,,,,				L								
Barrier Distance to Observer: 0.0 feet 14.0 feet					1	Voise S				eet)		
Note Continue								. ,				
Pad Elevation: 1,552.0 feet Road Elevation: 1,552.0 feet Road Elevation: 1,552.0 feet Road Elevation: 1,552.0 feet Road Elevation: 1,552.0 feet Road Grade: South File Road Grade: South File Road Grade: South File Road Grade: South File Road Grade: South File Road Grade: Road Grade: South File Road Grade: Road			14.0 feet									
Barrier Elevation: 1,552.0 feet Road Grade: 0.0% Medium Trucks: 1,116.792 Medium Trucks: 1,116.732 Heavy Trucks: 1,116.732 Heavy Trucks: 1,116.732 Heavy Trucks: 1,116.05 Heavy Tr		. ,	552.0 feet			Heau	y Truck	s: 1,544	.006	Grade Adj	ustment:	0.0
Road Grade: 0.0% Medium Trucks: 1,116.732 Heavy Trucks: 1,116.732 Heavy Trucks: 1,116.605 Heavy Trucks: 1,116.605 Heavy Trucks: 1,116.605 Heavy Trucks: 1,116.605 Heavy Trucks: 1,116.605 Heavy Trucks: 1,116.605 Heavy Trucks: 1,116.605 Heavy Trucks: 1,116.605 Heavy Trucks: 1,116.605 Heavy Trucks: 1,116.705 o	ad Elevation: 1,	536.0 feet		L	Lane Eq	uivalen	t Distan	ce (in i	feet)			
Private Pri	Barr	rier Elevation: 1,	552.0 feet				Auto	os: 1,116	.792			
VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berm Atten		Road Grade:	0.0%			Mediu	m Truck	ks: 1,116	.732			
VehicleType REMEL Traffic Flow Distance Finite Road Freshel Barrier Atten Berm Atten Autos: 75.54 7.05 -20.34 -1.20 -13.42 0.000 0.000 Medium Trucks: 81.71 -4.26 -20.34 -1.20 -13.44 0.000 0.000 Heavy Trucks: 85.21 -3.13 -20.34 -1.20 -13.51 0.000 0.000 Unmitigated Noise Levels (without Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 61.1 59.2 57.4 48.0 46.5 55.0 55.2 Heavy Trucks: 60.5 59.1 50.1 51.3 59.7 59.8 Wehicle Noise: 64.5 62.8 58.5 55.0 63.5 63.9 Mitigated Moise Levels (with Topo and barrier attenuation) Vehicle Type Leq Peak Hour Leq Day Leq Evening Leq Night Ldn						Heav	y Truck	ks: 1,116	.605			
VehicleType REMEL Traffic Flow Distance Finite Road Freshel Barrier Atten Berm Atten Autos: 75.54 7.05 -20.34 -1.20 -13.42 0.000 0.000 Medium Trucks: 81.71 -4.26 -20.34 -1.20 -13.44 0.000 0.000 Heavy Trucks: 85.21 -3.13 -20.34 -1.20 -13.51 0.000 0.000 Unmitigated Noise Levels (without Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 61.1 59.2 57.4 48.0 46.5 55.0 55.2 Heavy Trucks: 60.5 59.1 50.1 51.3 59.7 59.8 Wehicle Noise: 64.5 62.8 58.5 55.0 63.5 63.9 Mitigated Moise Levels (with Topo and barrier attenuation) Vehicle Type Leq Peak Hour Leq Day Leq Evening Leq Night Ldn												
Autos: 75.54						1					1 -	
Medium Trucks: 81.71 -4.26 -20.34 -1.20 -13.44 0.000 0.000 Heavy Trucks: 85.21 -3.13 -20.34 -1.20 -13.51 0.000 0.000 Unnitigated Noise Levels (without Topo and barrier attenuation) Vehicle Type Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 61.1 59.2 57.4 51.3 60.0 60.6 Medium Trucks: 55.9 54.4 48.0 46.5 55.0 55.2 Heavy Trucks: 60.5 59.1 50.1 51.3 59.7 59.8 Vehicle Noise: 46.5 62.8 58.5 55.0 63.5 63.9 Mitigated Noise Levels (with Topo and barrier attenuation) Vehicle Type Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 61.1 59.2 57.4 51.3 60.0 60.6 Medium Trucks: 55	,,, .			Dist								
Heavy Trucks: 85.21 -3.13 -20.34 -1.20 -13.51 0.000 0.000												
VehicleType												
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 61.1 59.2 57.4 51.3 60.0 60.6 Medium Trucks: 55.9 54.4 48.0 46.5 55.0 55.2 Heavy Trucks: 60.5 59.1 50.1 51.3 59.7 59.8 Vehicle Noise: 64.5 64.5 55.0 63.5 63.9 Mitigated Noise Levels (with Topo and barrier atteruation) VehicleType Leq Peak Hour Leq Evening Leq Right Ldn CNEL Autos: 61.1 59.2 57.4 51.3 60.0 60.6 Medium Trucks: 55.9 54.4 48.0 46.5 55.0 55.2 Heavy Trucks: 60.5 59.1 50.1 51.3 59.7 59.8	Heavy Trucks:	85.21	-3.13		-20.34	+	-1.20	-	13.51	0.0	000	0.000
Autos: 61.1 59.2 57.4 51.3 60.0 60.6	Unmitigated Nois	e Levels (witho	ut Topo and	barrie	r atten	uation)						
Medium Trucks: 55.9 54.4 48.0 46.5 55.0 55.2 Heavy Trucks: 60.5 59.1 50.1 51.3 59.7 59.8 Vehicle Noise: 64.5 62.8 58.5 55.0 63.5 Mitigated Noise Level's (with Topo and barrier attenuation) Vehicle Type Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 61.1 59.2 57.4 51.3 60.0 60.6 Medium Trucks: 55.9 54.4 48.0 46.5 55.0 55.2 Heavy Trucks: 60.5 59.1 50.1 51.3 59.7 59.8		,			Leq Ev		Leq					
Heavy Trucks: 60.5 59.1 50.1 51.3 59.7 59.8 Vehicle Noise: 64.5 62.8 58.5 55.0 63.5 63.9 Mittgated Noise Levels (with Top survival) Leq Poak Hour Leq Day Leq Evenig Leq Night Ldn CNEL Autos: 61.1 59.2 57.4 51.3 60.0 60.6 Medium Trucks: 55.9 54.4 48.0 46.5 55.0 55.2 Heavy Trucks: 60.5 59.1 50.1 51.3 59.7 59.8												
Wehicle Noise: 64.5 62.8 58.5 55.0 63.5 63.5 Mitigated Noise Levels (with Topo and barrier attenuation) Vehicle Type Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 61.1 59.2 57.4 51.3 60.0 60.6 Medium Trucks: 55.9 54.4 48.0 46.5 55.0 55.2 Heavy Trucks: 60.5 59.1 50.1 51.3 59.7 59.8												
Mitigated Noise Levels (with Topo and barrier attenuation)	,											
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 61.1 59.2 57.4 51.3 60.0 60.6 Medium Trucks: 55.9 54.4 48.0 46.5 55.0 55.2 Heavy Trucks: 60.5 59.1 50.1 51.3 59.7 59.8	Vehicle Noise:	64.5	5	62.8		58.5		55.0)	63.5	5	63.9
Autos: 61.1 59.2 57.4 51.3 60.0 60.6 Medium Trucks: 55.9 54.4 48.0 46.5 55.0 55.2 Heavy Trucks: 60.5 59.1 50.1 51.3 59.7 59.8	Mitigated Noise L	evels (with Top	o and barrie	r atten	uation)						
Medium Trucks: 55.9 54.4 48.0 46.5 55.0 55.2 Heavy Trucks: 60.5 59.1 50.1 51.3 59.7 59.8	VehicleType	Leq Peak Hour	Leq Day	/	Leg Ev	ening	Leq	Night		Ldn	CI	VEL
Heavy Trucks: 60.5 59.1 50.1 51.3 59.7 59.8	Autos:	61.1		59.2		57.4		51.3		60.0)	60.6
,	Medium Trucks:	55.9)	54.4		48.0		46.5	,	55.0)	55.2
Vehicle Noise: 64.5 62.8 58.5 55.0 63.5 63.9	Heavy Trucks:	60.5	;	59.1		50.1		51.3		59.7	7	59.8
	Vehicle Noise:	64.5	5	62.8		58.5		55.0	1	63.5	5	63.9

Monday, July 11, 2016 204 Monday, July 11, 2016

Site Data Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 feet Centerline Dist. to Barrier: 0.0 feet Sarrier Type (0-Wall, 1-Berm): 0.0 feet Sarrier Distance to Observer: 0.0 feet Sarrier Distance to Observer: 0.0 feet Sarrier Distance to Observer: 0.0 feet Moise Source Elevations: 1,549, 400 Medium Trucks: 1,551,097 Heavy Trucks: 1,557,406 Grade Adjustment: 0.0 feet Sarrier Elevation: 1,552,0 feet Road Grade: 0.0% Medium Trucks: 90,981 Heavy Trucks: 90,981		HWA-RD-77-1	108 HIGHWAY I	NOISE PRE	EDICTION	MODE	L (CALVI	ENO) - 6	6/2/2013		
Highway Data	Road Nar	ne: Valley Spri	ngs Pkwy.	st Façade		Job N	lumber: 8	3991			
Average Daily Traffic (Adi): 31,200 vehicles Peak Hour Percentage: 10% 10% Medium Trucks (2 Axles): 15 Heavy Trucks (3 Axles): 15 Heavy Trucks (3 Axles): 15		SPECIFIC IN	IPUT DATA								
Peak Hour Percentage: 10%	Highway Data				Site Cor	nditions	(Hard =	10, Sof	= 15)		
Peak Hour Volume: 3,120 vehicles Vehicle Speed: 40 mph Vehicle Fixed: 40 mph Vehicle Mix V	,	. ,		3							
Vehicle Speed: 40 mph Near/Far Lane Distance: 48 feet Vehicle Type Day Evening Night 1								/			
Near/Far Lane Distance:				•	He	avy Tru	cks (3+ A	(xles	15		
Site Data					Vehicle	Mix					
Site Data Barrier Height: 0.0 feet Medium Trucks: 84.8% 4.9% 10.3%	Near/Far La	ane Distance:	48 feet		Veh	icleType	9	Day I	ening	Night	Daily
Barrier Type (C-Wall, 1-Berm)	Site Data							77.5%	12.9%	9.6%	97.42%
Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Disserver: 93.0 feet Autos: 1,549,400 Centerline Dist. to Observer: 0.0 feet Autos: 1,552.0 feet Autos: 1,557.40 Grade Adjustment: 0 Centerline Distance to Observer: 0.0 feet Autos: 1,557.40 Grade Adjustment: 0 Centerline Distance to Observer: 0.0 feet Autos: 1,557.40 Grade Adjustment: 0 Centerline Distance to Observer: 0.0 feet Autos: 1,557.40 Grade Adjustment: 0 Centerline Distance (in feet) Centerline Distance (i	Ra	rrier Height	0.0 feet		М	edium 7	rucks:	84.8%	4.9%	10.3%	1.84%
Noise Source Elevations (in feet) Substitution						Heavy 7	rucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Observer: 93.0 feet Barrier Distance to Observer: 0.0 feet 14.0 feet Pad Elevation: 1.552.0 feet 15.52.0 feet Road Grade: 0.0% St. 20.0 feet Barrier Elevation: 1.552.0 feet Road Grade: 0.0% St. 20.0 feet Barrier Elevation: 1.552.0 feet Road Grade: 0.0% St. 20.0 feet Barrier Elevation: 1.552.0 feet Road Grade: 0.0% St. 20.0 feet Barrier Elevation: 1.552.0 feet Road Grade: 0.0% St. 20.0 feet Barrier Elevation: 1.552.0 feet Barrier Elevation: 1.552.0 feet Road Grade: 0.0% St. 20.0 feet Barrier Road Grade: 0.0% St. 20.0 feet Barrier Road Grade: 0.0% St. 20.0 feet Barrier Road Grade: 0.0% St. 20.0 feet Barrier Road Grade: 0.0% St. 20.0 feet Barrier Atten Grade: 0.000 St. 20.0 feet Barrier Atten Grade: 0.000 St. 20.0 feet St. 20.0 feet Barrier Atten Grade: 0.000 St. 20.0 feet	,, ,	. ,	93.0 feet		N-1 0			- (:- 6	4)		
Barrier Distance to Observer: 0.0 feet	Centerline Dist	to Observer:	93.0 feet		Noise S			•	t)		
Autos: 67.36 Action Act	Barrier Distance	to Observer:	0.0 feet		14		. ,				
Pad Elevation: 1,552.0 feet Road Elevation: 1,552.0 feet Road Elevation: 1,552.0 feet Road Grade: 0,0%	Observer Height	(Above Pad):	14.0 feet				. ,		rada Adiu	o4mon4:	0.0
Barrier Elevation: 1,552.0 feet Road Grade: 0.0% Medium Trucks: 90.981 Heavy Trucks: 90.981 Heavy Trucks: 90.981 Heavy Trucks: 90.981 Heavy Trucks: 90.260	F	ad Elevation:	1,552.0 feet		Heal	лу ттиск	S: 1,557	.406	паце мији	sunem.	0.0
Road Grade: 0.0% Medium Trucks: 90.981 Heavy Trucks: 90.981 Heavy Trucks: 90.260	Ro	ad Elevation:	1,549.4 feet		Lane Eq	uivalen	t Distand	ce (in fe	et)		
Heavy Trucks: 90.260 Series Heavy Trucks: 90.260 FHWA Noise Model Calculations VehicleType	Bar	rier Elevation:	1,552.0 feet			Auto	s: 91	.370			
Name		Road Grade:	0.0%		Mediu	m Truck	s: 90	.981			
VehicleType REMEL Traffic Flow Distance Finite Road Fresnet Barrier Atten Berm. Autos: 67.36 3.50 -4.03 -1.20 -12.30 0.000 Medium Trucks: 76.31 -13.74 -4.00 -1.20 -12.36 0.000 Unmitigated Noise Levels (without Topo and barrier attenution) Vehicle Type Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNE Autos: 65.6 63.7 62.0 55.9 64.5 64.0 Medium Trucks: 58.3 56.9 47.9 49.1 57.5 56.8 Vehicle Noise Levels (with Topo and barrier attenuation) None of the property of the prope					Heav	y Truck	s: 90	.260			
Autos: 67.36 3.50 4.03 -1.20 -12.30 0.000 Medium Trucks: 76.31 -13.74 -4.00 -1.20 -12.63 0.000 Heavy Trucks: 81.16 -17.69 -3.95 -1.20 -13.46 0.000 Unmitigated Noise Levels (without Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNE Autos: 65.6 63.7 62.0 55.9 64.5 Medium Trucks: 57.4 55.9 49.5 48.0 56.4 Heavy Trucks: 58.3 56.9 47.9 49.1 57.5 Mitigated Noise Levels (with Topo and barrier attenuation) Vehicle Noise Vehicle Noise Vehicle Poise Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNE Autos: 65.6 63.7 62.0 55.9 64.5 Autos: 57.4 55.9 49.5 48.0 56.4 Heavy Trucks: 58.3 56.9 47.9 49.1 57.5	FHWA Noise Mod	lel Calculation	ıs								
Medium Trucks: 76.31 -13.74 -4.00 -1.20 -12.63 0.000 Heavy Trucks: 81.16 -17.69 -3.95 -1.20 -13.46 0.000 Unmittgated Noise Levels (without Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Autos: 65.6 63.7 62.0 55.9 64.5 Medium Trucks: 57.4 55.9 49.5 48.0 56.4 Heavy Trucks: 58.3 56.9 47.9 49.1 57.5 Wehicle Noise: 66.9 66.9 65.1 62.4 57.3 65.8 Mittigated Noise Levels (with Topo and barrier atterustion) Vehicle Type Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNE Autos: 65.6 63.7 62.0 55.9 64.5 Medium Trucks: 57.4 55.9 49.5 48.0 65.4 56.4 56.4 56.4 56.4 56.4 56.5 56.5 56.5 56.5 56.5 56.5 56.5 56.5 56.5 56.5 56.5 56.8 56.8 56.8 56.5	VehicleType	REMEL	Traffic Flow	Distance	Finite	Road	Fresn	el B	arrier Attei	n Bern	n Atten
Heavy Trucks: 81.16 -17.69 -3.95 -1.20 -13.46 0.000 Unmitigated NoIse Levels (without Topo and barrier attenuation) Vehicle Type Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNE Autos: 65.6 63.7 62.0 55.9 64.0 56.4 Medium Trucks: 57.4 55.9 49.5 48.0 56.4 Heavy Trucks: 58.3 56.9 47.9 49.1 57.5 Vehicle Noise: 66.9 65.1 62.4 57.3 65.8 Mitigated Noise Levels (with Topo and barrier attenuation) Vehicle Type Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNE Autos: 65.6 63.7 62.0 55.9 64.5 Medium Trucks: 57.4 55.9 49.5 48.0 56.4 Autos: 65.6 63.7 62.0 55.9 64.5 Medium Trucks: 57.4	Autos.	67.36	3.50	-4.	.03	-1.20	-1	12.30	0.00	0	0.000
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNE	Medium Trucks.	76.31	-13.74	-4.	.00	-1.20	-1	12.63	0.00	0	0.000
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNE Autos: 65.6 63.7 62.0 55.9 64.5 64.5 Medium Trucks: 57.4 55.9 49.5 48.0 56.4 Heavy Trucks: 58.3 56.9 47.9 49.1 57.5 Vehicle Noise: 66.9 65.1 65.4 57.3 65.8 Mitigated Noise Levels (with Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNE Autos: 65.6 63.7 62.0 55.9 64.5 Medium Trucks: 57.4 55.9 49.5 48.0 56.4 Heavy Trucks: 58.3 56.9 47.9 49.1 57.5	Heavy Trucks.	81.16	-17.69	-3.	95	-1.20	-1	13.46	0.00	0	0.000
Autos: 65.6 63.7 62.0 55.9 64.5 Medium Trucks: 57.4 55.9 49.5 48.0 56.4 Heavy Trucks: 58.3 56.9 49.5 49.1 57.5 Vehicle Noise: 66.9 65.1 62.4 57.3 65.8 Mittigated Noise Levels (with Topo and barrier atterustion) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNE Autos: 65.6 63.7 62.0 55.9 64.5 Medium Trucks: 57.4 55.9 49.5 48.0 56.4 Heavy Trucks: 58.3 56.9 47.9 49.1 57.5	Unmitigated Nois	e Levels (with	out Topo and	barrier atte	enuation)						
Medium Trucks: 57.4 55.9 49.5 48.0 56.4 Heavy Trucks: 58.3 56.9 47.9 49.1 57.5 Vehicle Noise: 66.9 65.1 62.4 57.3 65.8 Mitigated Noise Levels (with Topo and barrier atterusation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNE Autos: 65.6 63.7 62.0 55.9 64.5 Medium Trucks: 57.4 55.9 49.5 48.0 56.4 Heavy Trucks: 58.3 56.9 47.9 49.1 57.5		- 1	- 1 - 7							CN	
Heavy Trucks: 58.3 56.9 47.9 49.1 57.5											65.1
Vehicle Noise: 66.9 65.1 62.4 57.3 65.8 Mitigated Noise Levels (with Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNE Autos: 65.6 63.7 62.0 55.9 64.5 Medium Trucks: 57.4 55.9 49.5 48.0 56.4 Heavy Trucks: 58.3 56.9 47.9 49.1 57.5	Medium Trucks.	57									56.7
Mitigated Noise Levels (with Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNE Autos: 65.6 63.7 62.0 55.9 64.5 Medium Trucks: 57.4 55.9 49.5 48.0 56.4 Heavy Trucks: 58.3 56.9 47.9 49.1 57.5											57.6
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNE Autos: 65.6 63.7 62.0 55.9 64.5 Medium Trucks: 57.4 55.9 49.5 48.0 56.4 Heavy Trucks: 58.3 56.9 47.9 49.1 57.5	Vehicle Noise.	66	6.9	65.1	62.4		57.3		65.8		66.3
Autos: 65.6 63.7 62.0 55.9 64.5 Medium Trucks: 57.4 55.9 49.5 48.0 56.4 Heavy Trucks: 58.3 56.9 47.9 49.1 57.5											
Medium Trucks: 57.4 55.9 49.5 48.0 56.4 Heavy Trucks: 58.3 56.9 47.9 49.1 57.5	VehicleType	_								CN	
Heavy Trucks: 58.3 56.9 47.9 49.1 57.5											65.1
•											56.7
Makinta Maina. 00.0 05.4 00.4 57.0 05.0											57.6
Vehicle Noise: 66.9 65.1 62.4 57.3 65.8	Vehicle Noise.	66	6.9	65.1	62.4		57.3		65.8		66.3

F	HWA-RD-77-	108 HIGHWAY	NOISE P	REDICTION	MODE	L (CALVE	NO) - 6/2/2	013	
Road Nam	nio: Second Florie: Valley Spri No: Medical Of		est Façad	le	Job N	Name: C lumber: 89 Analyst: A		ngs	
SITE	SPECIFIC II	NPUT DATA			N	IOISE M	ODEL INP	UTS	
Highway Data				Site Co.	nditions	(Hard = 1	0, Soft = 1	5)	
Average Daily	Traffic (Adt):	31,200 vehicle	s			A	utos: 15		
Peak Hour	Percentage:	10%		Me	edium Tr	ucks (2 Ax	des): 15		
Peak H	Hour Volume:	3,120 vehicle	s	He	eavy Tru	cks (3+ Ax	des): 15		
Ve	hicle Speed:	40 mph		Vehicle	Mix				
Near/Far La	ne Distance:	48 feet			nicleType	, r	Day Even	ina Ni	ight Daily
Site Data				- 10.			,	-	9.6% 97.42%
Pa	rrier Heiaht:	0.0 feet		Λ.	1edium T				0.3% 1.84%
Barrier Type (0-W		0.0 feet 0.0			Heavy T				0.8% 0.74%
Centerline Di	. ,	183.0 feet							
Centerline Dist.		183.0 feet		Noise S		levations	. ,		
Barrier Distance		0.0 feet				s: 1,549.4			
Observer Height	(Above Pad):	14.0 feet				s: 1,551.6			
	ad Elevation:	1.552.0 feet		Hea	vy Truck	s: 1,557.4	406 Grade	e Aajusti	ment: 0.0
Ro	ad Elevation:	1,549.4 feet		Lane Ed	uivalen	t Distance	e (in feet)		
Barr	ier Elevation:	1,552.0 feet			Auto	s: 182.1	177		
	Road Grade:	0.0%		Mediu	m Truck	s: 181.9	982		
				Hea	vy Truck	s: 181.6	623		
FHWA Noise Mod	el Calculation	15							
VehicleType	REMEL	Traffic Flow	Distan	ice Finite	Road	Fresne	l Barrie	r Atten	Berm Atten
Autos:	67.36	3.50		-8.53	-1.20	-12	2.98	0.000	0.00
Medium Trucks:	76.31	-13.74		-8.52	-1.20	-13	3.15	0.000	0.00
Heavy Trucks:	81.16	-17.69		-8.51	-1.20	-13	3.58	0.000	0.00
Unmitigated Nois	e Levels (with	hout Topo and	barrier a	ttenuation)					
VehicleType	Leq Peak Ho		_	eq Evening		Night	Ldn		CNEL
Autos:	-	1.1	59.2	57.5		51.4		60.0	60.6
Medium Trucks:		2.9	51.3	45.0		43.4		51.9	52.
Heavy Trucks:	-	3.8	52.3	43.3		44.6		52.9	53.0
Vehicle Noise:	62	2.4	60.6	57.9)	52.8		61.3	61.8
Mitigated Noise L	evels (with To	opo and barrie	r attenua	ntion)					
VehicleType	Leq Peak Ho			eq Evening		Night	Ldn		CNEL
Autos:		1.1	59.2	57.5		51.4		60.0	60.0
	51	2.9	51.3	45.0	1	43.4		51.9	52.1
Medium Trucks: Heavy Trucks:		3.8	52.3	43.3		44.6		52.9	53.0

F	HWA-RD-77-	108 HIGHWAY	NOISE P	REDICTION	N MODEL (CALVEN	D) - 6/2/2013		
Road Nan	rio: Second Flo ne: Eucalyptus Vo: Medical Of		uth Façad	le	Job Nun	ame: Car aber: 899 llyst: A. V			
	SPECIFIC II	NPUT DATA					DEL INPUTS	;	
Highway Data				Site Co	nditions (H	ard = 10,	Soft = 15)		
Average Daily	Traffic (Adt):	32,100 vehicle	S			Auto	os: 15		
Peak Hour	Percentage:	10%		М	edium Truck	is (2 Axle	s): 15		
Peak I	Hour Volume:	3,210 vehicle	s	Н	eavy Trucks	(3+ Axle	s): 15		
	ehicle Speed:	40 mph		Vehicle	Mix				
Near/Far La	ne Distance:	48 feet		Ve	hicleType	Da	/ Evening	Night E	Daily
Site Data					Aut	os: 77.	5% 12.9%	9.6% 97	7.42%
Ba	rrier Height:	0.0 feet		٨	∕ledium Truc	ks: 84.	8% 4.9%	10.3% 1	1.84%
Barrier Type (0-V		0.0			Heavy Truc	ks: 86.	5% 2.7%	10.8%	0.74%
Centerline D	ist. to Barrier:	255.0 feet		Noise S	Source Elev	ations (ii	1 foot)		
Centerline Dist.	to Observer:	255.0 feet		110136 6		1,551.30	,		
Barrier Distance	to Observer:	0.0 feet		Madii	ım Trucks:				
Observer Height	(Above Pad):	14.0 feet			vy Trucks:	,		ustment: 0.	0
P	ad Elevation:	1,552.0 feet							
	ad Elevation:	,		Lane E	quivalent D				
	rier Elevation:	,			Autos:	254.29	-		
	Road Grade:	0.0%			ım Trucks:	254.17			
				Hea	vy Trucks:	253.95	6		
FHWA Noise Mod	lel Calculation	ıs		-1					
VehicleType	REMEL	Traffic Flow	Distan	ce Finite	e Road	Fresnel	Barrier Atte	en Berm A	Atten
Autos:	67.36	3.63	-1	0.70	-1.20	-13.2	8 0.0	00	0.000
Medium Trucks:	76.31	-13.61	-1	0.70	-1.20	-13.4	11 0.0	00	0.000
Heavy Trucks:	81.16	-17.57	-1	0.69	-1.20	-13.7	71 0.0	00	0.000
Unmitigated Nois	e Levels (with	out Topo and	barrier a	ttenuation)					
VehicleType	Leq Peak Ho	ur Leq Day	/ Le	q Evening	Leq Ni	ght	Ldn	CNEL	
Autos:	59	9.1	57.2	55.4	4	49.4	58.0		58.6
Medium Trucks:	50	0.8	49.3	42.9	9	41.4	49.9		50.
Heavy Trucks:	51	1.7	50.3	41.2	2	42.5	50.8		51.0
Vehicle Noise:	60	0.3	58.5	55.8	3	50.7	59.3		59.8
Mitigated Noise L	evels (with To	po and barrie	r attenua	tion)					
VehicleType	Leq Peak Ho	ur Leq Daj	/ Le	q Evening	Leq Ni	ght	Ldn	CNEL	
Autos:	59	9.1	57.2	55.4	1	49.4	58.0		58.
			49.3	42.9		41.4	49.9		50.1
Medium Trucks:					-				00.
Medium Trucks: Heavy Trucks:		1.7	50.3	41.2	-	42.5	50.8		51.0

Monday, July 11, 2016

F	HWA-RD-77-10	8 HIGHWAY	NOISE F	PRED	ICTION	MODE	L (CALV	ENO)	- 6/2/2013				
Road Nan	rio: Second Floo ne: Eucalyptus A lo: Medical Offic	W.	uth Faça	de		Job N	t Name: Number: Number: Nanalyst: N	8991	n Springs lfe				
SITE	SPECIFIC INF	PUT DATA				- 1	NOISE N	ЛОDE	L INPUT	S			
Highway Data				S	ite Con	ditions	(Hard =	10, Sc	oft = 15)				
Average Daily	Traffic (Adt): 32	2.100 vehicles	s				,	Autos:	15				
,	Percentage:	10%			Me	dium Tı	rucks (2 A	Axles):	15				
Peak H	Hour Volume: 3	3.210 vehicles	s		He	avy Tru	icks (3+ A	(xles	15				
Ve	hicle Speed:	40 mph			ehicle l	Miss	•						
Near/Far La	ne Distance:	48 feet		V		icleTyp		Dav	Evenina	Niaht	Daily		
Site Data				-	ven			77.5%		9.6%	,		
								84.8%		10.3%			
	rrier Height:	0.0 feet											
Barrier Type (0-V	. ,	0.0			Heavy Trucks: 86.5% 2.7% 10.8% 0.								
		214.0 feet		٨	Noise Source Elevations (in feet)								
Centerline Dist.		214.0 feet				Auto	s: 1,553	3.200					
Barrier Distance		0.0 feet			Medium Trucks: 1,555.497								
Observer Height	(Above Pad): ad Elevation: 1.	14.0 feet			Heav	y Truck	ks: 1,561	.206	Grade Adj	iustment.	0.0		
	ad Elevation: 1			,	ano Fa	uivələn	t Distan	co (in	foot)				
	ier Elevation: 1			-	ane Lq	Auto		.035	iccij				
	Road Grade:	0.0%			Mediuu	m Truck		.909					
	Road Grade.	0.0%				y Truck		.704					
					11000	y much	10. 212						
FHWA Noise Mod	lel Calculations												
VehicleType	REMEL	Traffic Flow	Distar	се	Finite	Road	Fresn	nel .	Barrier Att	en Ber	m Atten		
Autos:	67.36	3.63		-9.55		-1.20	-	13.33	0.0	000	0.000		
Medium Trucks:	76.31	-13.61		-9.54		-1.20	-	13.47	0.0	000	0.000		
Heavy Trucks:	81.16	-17.57		-9.54		-1.20	-	13.84	0.0	000	0.000		
Unmitigated Nois	e Levels (witho	ut Topo and	barrier a	ttenu	ıation)								
VehicleType	Leq Peak Hour	Leq Day	/ Le	eq Ev	ening	Leq	Night		Ldn	CI	VEL		
Autos:	60.2	2	58.3		56.6		50.5	5	59.1		59.7		
Medium Trucks:	52.0) :	50.5		44.1		42.5	5	51.0)	51.2		
Heavy Trucks:	52.9)	51.4		42.4		43.6	ò	52.0)	52.1		
Vehicle Noise:	61.5	5	59.7		57.0		51.9	9	60.4	1	60.9		
Mitigated Noise L	evels (with Top	o and barrie	r attenua	tion)	1								
VehicleType	Leq Peak Hour			eq Ev		Leq	Night		Ldn		VEL		
Autos:	60.2	-	58.3		56.6		50.5		59.1		59.7		
Medium Trucks:			50.5		44.1		42.5		51.0		51.2		
Heavy Trucks: 52.9 51.4					42.4		43.6		52.0		52.1		
Vehicle Noise: 61.5 59.7					57.0		51.9)	60.4	1	60.9		

Monday, July 11, 2016 205 Monday, July 11, 2016

Barrier Trype (0-Wall, 1-Berm): 0.0 test Heavy Trucks: 86.5% 2.7% 10.8% 0.749		FHWA-RD-77-	108 HIGHWAY	NOISE PR	EDICTION	MODE	L (CALVI	ENO) - 6	3/2/2013		
Autos: 15 Steel	Road Nar	ne: Day St.		st Façade		Job N	lumber: 8	3991			
Average Daily Traffic (Adf): 23,700 vehicles Peak Hour Percentage: 10% Medium Trucks (2 Axies): 15 Seminor Vehicle Speed: 40 mph Near/Far Lane Distance: 48 feet VehicleType Day Evening Night Daily Night Daily Near/Far Lane Distance: 48 feet VehicleType Day Evening Night Daily Night Daily Night	SITE	SPECIFIC I	NPUT DATA			ı	NOISE N	IODEL	INPUTS		
Peak Hour Percentage: Peak Hour Volume: 2,370 vehicles	Highway Data				Site Cor	nditions	(Hard =	10, Soft	= 15)		
Peak Hour Volume: Vehicle Speed: Near/Far Lane Distance: 48 feet Vehicle Mix	Average Daily	Traffic (Adt):	23,700 vehicle	S			/	Autos:	15		
Vehicle Speed: 40 mph Near/Far Lane Distance: 48 feet Vehicle Mix Vehicle Flype Day Evening Night Daily	Peak Hou	r Percentage:	10%		Me	edium Tr	ucks (2 A	xles):	15		
Near/Far Lane Distance:	Peak I	Hour Volume:	2,370 vehicle	s	He	avy Tru	cks (3+ A	xles):	15		
Near/Far Lane Distance: 48 feet VehicleType Day Evening Night Daily	V	ehicle Speed:	40 mph		Vehicle	Miv					
Autos: 77.5% 12.9% 9.6% 97.42%	Near/Far L	ane Distance:	48 feet					Day F	-venina l	Might	Daily
Barrier Height: 0.0 feet feet 0.0 feet feet 0.0 feet fee	Site Data				Ver				Ü		
Barrier Trype (0-Wall, 1-Berm): 0.0 test Heavy Trucks: 86.5% 2.7% 10.8% 0.749					M						1.84%
Centerline Dist. to Diserver: 364.0 feet Saf4.0 feet		-									0.74%
Centerline Dist. to Observer: Barrier Distance to Observer: Dobserver Height (Above Pad Elevation: 1,561.0 feet Pad Elevation: 1,561.0 feet Barrier Elevation: 1,561.0 feet Barrier Elevation: 1,561.0 feet Barrier Elevation: 1,561.0 feet Road Elevation: 1,561.0 feet Barrier Elevation: 1,561.0 feet Road Grade: 0.0% Center Barrier Elevation: 1,561.0 feet Barrier Elevation: 1,561.0 feet Road Grade: 0.0% Center Barrier Elevation: 1,561.0 feet Barrier Elevation: 1,561.0 feet Road Grade: 0.0% Center Barrier Elevation: 1,561.0 feet Barrier Elevation: 1,561.0 feet Road Grade: 0.0% Center Barrier Elevation: 363.423 Center Barrier Elevation: 363.423 Center Barrier Elevation: 363.236 Center Barrier Ele	,, ,				· ·	, .					
Barrier Distance to Observer: Observer: Observer Height (Above Pad): 14.0 feet					Noise S	ource E	levations	s (in fee	t)		
Diserver Height (Above Pad):						Auto	s: 1,562	.500			
Pad Elevation: 1,561.0 feet Road Elevation: 1,561.0 feet Road Elevation: 1,562.5 feet Road Elevation: 1,562.5 feet Road Grade: 0.0%							. ,				
Road Elevation: 1,562.5 feet Barrier Elevation: 1,561.0 feet Autos: 363.423 S63.423 Road Grade: 0.0% Seet Barrier Elevation: 1,561.0 feet Autos: 363.423 S63.423 Seet Barrier Elevation: 1,561.0 feet Autos: 363.423 Seet		. ,			Heav	vy Truck	s: 1,570	.506 G	irade Adjus	stment:	0.0
Barrier Elevation: 1,551.0 Test Road Grade: 0.0% 0.0% Road Grade: 0.0% 0.0% 0.0% Road Grade: 0.0%			,		Lane Ed	uivalen	t Distanc	e (in fe	et)		
Road Grade: 0.0% Medium Trucks: 363.351 Heavy Trucks: 363.253			,						/		
FHWA Noise Mode Calculations VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berm Atten	Bui		,		Mediu						
VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berm Atten Autos: 67.36 2.31 -13.03 -1.20 -13.49 0.000 0.00 Medium Trucks: 76.31 -14.93 -13.02 -1.20 -13.79 0.000 0.00 Unmitigated Noise Levels (without Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 55.4 53.5 51.8 45.7 54.3 55. Medium Trucks: 48.1 46.6 37.6 38.8 47.2 47. Vehicle Noise Levels (with Topo and barrier attenuation) Vehicle Type Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Mitigated Noise Levels (with Topo and barrier attenuation) Vehicle Type Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Mitigated Noise Levels (with Topo and barrier attenuation) Leq Reak Hour Leq Day Leq Evening Leq N		rioda Orado.	0.070								
Autos: 67.36	FHWA Noise Mod	del Calculatio	ns		1						
Medium Trucks: 76.31 -14.93 -13.02 -1.20 -13.58 0.000 0.00 Heavy Trucks: 81.16 -18.89 -13.02 -1.20 -13.79 0.000 0.00 Umritigated Nois= Levels (without Tropo and barrier attenuation) Vehicle Type Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 55.4 53.5 51.8 45.7 54.3 55. Medium Trucks: 47.2 45.7 39.3 37.7 46.2 46. Heavy Trucks: 48.1 46.6 37.6 38.8 47.2 47. Vehicle Noise: 56.7 54.9 52.2 47.1 55.6 56. Mitigated Noise Levels (with Topo and barrier attention) Vehicle Type Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 55.4 53.5 51.8 45.7 54.3 55.6 Medium Trucks: 46.2 <td>VehicleType</td> <td>REMEL</td> <td>Traffic Flow</td> <td>Distance</td> <td>Finite</td> <td>Road</td> <td>Fresn</td> <td>el Ba</td> <td>arrier Atter</td> <td>Berm</td> <td>Atten</td>	VehicleType	REMEL	Traffic Flow	Distance	Finite	Road	Fresn	el Ba	arrier Atter	Berm	Atten
Heavy Trucks: 81.16 -18.89 -13.02 -1.20 -13.79 0.000 0.000 Unnitigated Noise Levels (without Topo and barrier attenuation) Vehicle Type Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 55.4 53.5 51.8 45.7 53.5 55.8 Medium Trucks: 48.1 46.6 37.6 38.8 47.2 47. Vehicle Noise: 56.7 54.9 52.2 47.1 55.6 56. Mitigated Noise Levels (with Topo and barrier attenuation) Vehicle Type Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 55.4 53.5 51.8 45.7 54.3 55.4 Medium Trucks: 47.2 45.7 39.3 37.7 46.2 46. Mitigated Noise Levels (with Topo and barrier attenuation) Leq Night Ldn CNEL Autos: 55.4 53.5 51.8 45.7	Autos	67.36	6 2.31	-13	.03	-1.20	-1	13.49	0.00	0	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 55.4 53.5 51.8 45.7 54.3 55. Medium Trucks: 47.2 45.7 39.3 37.7 46.2 46. Heavy Trucks: 48.1 46.6 37.6 38.8 47.2 47. Vehicle Noise: 56.7 54.9 52.2 47.1 55.6 56. Mitigated Noise Levels (with Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 55.4 53.5 51.8 45.7 54.3 55. Medium Trucks: 47.2 45.7 39.3 37.7 46.2 46. Heavy Trucks: 48.1 46.6 37.6 38.8 47.2 47.	Medium Trucks	76.31	1 -14.93	-13	.02	-1.20	-1	13.58	0.00	0	0.000
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 55.4 53.5 51.8 45.7 54.3 55. Medium Trucks: 47.2 45.7 39.3 37.7 46.2 46. Heavy Trucks: 48.1 46.6 37.6 38.8 47.2 47. Vehicle Noise: 56.7 54.9 52.2 47.1 55.6 56. Mitigated Noise Levels (with Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 55.4 53.5 51.8 45.7 54.3 55.1 Medium Trucks: 47.2 45.7 39.3 37.7 46.2 46. Heavy Trucks: 48.1 46.6 37.6 38.8 47.2 47.	Heavy Trucks	: 81.16	-18.89	-13	.02	-1.20	-1	13.79	0.00	0	0.000
Autos: 55.4 53.5 51.8 45.7 54.3 55.1 Medium Trucks: 47.2 45.7 39.3 37.7 46.2 46. Heavy Trucks: 48.1 46.6 37.6 38.8 47.2 47. Vehicle Noise: 56.7 54.9 52.2 47.1 55.6 56. Mitigated Noise Levels (with Topo and barrier attenuation) Leq Night Ldn CNEL Vehicle Type Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 55.4 53.5 51.8 45.7 54.3 55. Medium Trucks: 47.2 45.7 39.3 37.7 46.2 46. Heavy Trucks: 48.1 46.6 37.6 38.8 47.2 47.	Unmitigated Nois	se Levels (with	hout Topo and	barrier atte	enuation)						
Medium Trucks: 47.2 45.7 39.3 37.7 46.2 46. Heavy Trucks: 48.1 46.6 37.6 38.8 47.2 47. Vehicle Noise: 56.7 54.9 52.2 47.1 55.6 56. Mitigated Noise Levels (with Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 55.4 53.5 51.8 45.7 54.3 55.6 Medium Trucks: 47.2 45.7 39.3 37.7 46.2 46. Heavy Trucks: 48.1 46.6 37.6 38.8 47.2 47.		- 1	, . ,	- 1						CNI	
Heavy Trucks: 48.1 46.6 37.6 38.8 47.2 47.2 Vehicle Noise: 56.7 54.9 52.2 47.1 55.6 56. Mitigated Noise Levels (with Topo artier attermuse) Vehicle Type Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 55.4 53.5 51.8 45.7 54.3 55.1 Medium Trucks: 47.2 45.7 39.3 37.7 46.2 46.6 Heavy Trucks: 48.1 46.6 37.6 38.8 47.2 47.2 Articological Processing of the Peak Processing of											55.0
Vehicle Noise: 56.7 54.9 52.2 47.1 55.6 56. Mitigated Noise Levels (with Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 55.4 53.5 51.8 45.7 54.3 55. Medium Trucks: 47.2 45.7 39.3 37.7 46.2 46. Heavy Trucks: 48.1 46.6 37.6 38.8 47.2 47.2											
Mitigated Noise Levels (with Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 55.4 53.5 51.8 45.7 54.3 55.4 Medium Trucks: 47.2 45.7 39.3 37.7 46.2 46. Heavy Trucks: 48.1 46.6 37.6 38.8 47.2 47.2					0						47.3
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 55.4 53.5 51.8 45.7 54.3 55.4 Medium Trucks: 47.2 45.7 39.3 37.7 46.2 46. Heavy Trucks: 48.1 46.6 37.6 38.8 47.2 47.	Vehicle Noise	: 5	6.7	54.9	52.2		47.1		55.6		56.1
Autos: 55.4 53.5 51.8 45.7 54.3 55. Medium Trucks: 47.2 45.7 39.3 37.7 46.2 46. Heavy Trucks: 48.1 46.6 37.6 38.8 47.2 47.											
Medium Trucks: 47.2 45.7 39.3 37.7 46.2 46. Heavy Trucks: 48.1 46.6 37.6 38.8 47.2 47.										CNI	
Heavy Trucks: 48.1 46.6 37.6 38.8 47.2 47.											55.0
											46.4
Vehicle Noise: 56.7 54.9 52.2 47.1 55.6 56.	,		***								47.3
	Vehicle Noise	: 5	6.7	54.9	52.2		47.1		55.6		56.1

F	HWA-RD-77-	108 HIGHWAY	NOISE	PREDI	CTION	MODEL	(CALVI	ENO) -	6/2/2013		
Road Nam	rio: Second Flone: Gateway E No: Medical Of		orth Faça	ade		Job N	Name: 0 umber: 8 inalyst: 1	3991			
SITE	SPECIFIC II	NPUT DATA				N	IOISE N	IODEL	INPUTS		
Highway Data				Si	te Con	ditions	(Hard =	10, Soi	t = 15)		
Average Daily	Traffic (Adt):	12,300 vehicle	es				-	Autos:	15		
Peak Hour	Percentage:	10%			Med	dium Tru	icks (2 A	xles):	15		
Peak H	lour Volume:	1,230 vehicle	es		Hea	avy Truc	cks (3+ A	xles):	15		
Ve	ehicle Speed:	40 mph		Ve	ehicle N	Nix					
Near/Far La	ane Distance:	48 feet		F		cleType		Dav	Evening	Night	Dailv
Site Data								77.5%	12.9%	•	97.429
Pa Pa	rrier Heiaht:	0.0 feet			Ме	edium Ti	rucks:	84.8%	4.9%	10.3%	1.849
Barrier Type (0-W		0.0			F	leavy Ti	rucks:	86.5%	2.7%	10.8%	0.749
,, ,	ist, to Barrier:	386.0 feet		-							
Centerline Dist.		386.0 feet		N	oise So		evations		et)		
Barrier Distance	to Observer:	0.0 feet					s: 1,565				
Observer Height	(Above Pad):	14.0 feet					s: 1,567		O		0.0
	ad Elevation:				Heav	y Irucks	s: 1,573	.006	Grade Adju	stment:	0.0
Ro	ad Elevation:	1,565.0 feet		Lá	ane Equ	ıivalent	Distanc	e (in fe	eet)		
Barr	ier Elevation:	1,560.5 feet				Autos	s: 385	370			
	Road Grade:	0.0%			Mediun	n Trucks	s: 385	320			
					Heav	y Trucks	s: 385	.256			
FHWA Noise Mod	lel Calculation	18									
VehicleType	REMEL	Traffic Flow	Dista	ance	Finite	Road	Fresn	el E	Barrier Atter	n Bern	n Atten
Autos:	67.36	-0.54		-13.41		-1.20	-1	3.61	0.00	0	0.00
Medium Trucks:				-13.41		-1.20		3.69	0.00	-	0.00
Heavy Trucks:	81.16	-21.73		-13.41		-1.20	-1	3.89	0.00	0	0.00
Unmitigated Nois											
VehicleType	Leq Peak Ho		_	Leq Eve	_	Leq	Night		Ldn	CN	
Autos:		2.2	50.3		48.5		42.5		51.1		51.
Medium Trucks:		3.9	42.4		36.1		34.5		43.0		43.
Heavy Trucks:		4.8	43.4		34.4		35.6		44.0		44.
Vehicle Noise:		3.5	51.7		48.9		43.8		52.4		52.
Mitigated Noise L		•									
VehicleType	Leq Peak Ho			Leq Eve		Leq	Night		Ldn	CN	
Autos:		2.2	50.3		48.5		42.5		51.1		51.
			42.4				34.5		43.0		43.
Medium Trucks: Heavy Trucks:		3.9 4.8	43.4		36.1 34.4		35.6		44.0		44.

FHWA-RD-77-108 HIGHWAY N	OISE PR	EDICTION	MODEL (CA	LVENO)	- 6/2/2013		
Scenario: Second Floor With Wall Road Name: Eucalyptus Av. Lot No: Medical Office Bldg. 5-South	n Façade		Project Nam Job Numbe Analys		-1		
SITE SPECIFIC INPUT DATA					L INPUTS	5	
Highway Data		Site Con	ditions (Hard	l = 10, Sc	oft = 15)		
Average Daily Traffic (Adt): 32,100 vehicles				Autos:	15		
Peak Hour Percentage: 10%		Me	dium Trucks (2 Axles):	15		
Peak Hour Volume: 3,210 vehicles		He	avy Trucks (3	+ Axles):	15		
Vehicle Speed: 40 mph		Vehicle I	Mix				_
Near/Far Lane Distance: 48 feet			icleTvpe	Dav	Evenina	Night Da	ailv
Site Data			Autos	- /		9.6% 97.	
Barrier Height: 0.0 feet		Me	edium Trucks	84.8%	4.9%	10.3% 1.5	.84
Barrier Type (0-Wall, 1-Berm): 0.0		F	leavy Trucks	86.5%	2.7%	10.8% 0.	.74
Centerline Dist. to Barrier: 529.0 feet		M-1 0-			41		_
Centerline Dist. to Observer: 529.0 feet		Noise Sc	ource Elevati		eet)		_
Barrier Distance to Observer: 0.0 feet		A decellor	Autos: 1,				
Observer Height (Above Pad): 14.0 feet			m Trucks: 1,5 y Trucks: 1,5		Grada Adi	uctmont: 0.0	,
Pad Elevation: 1,561.0 feet		Heav	y Trucks: 1,	000.86	Grade Adj	usimeni. 0.0	
Road Elevation: 1,550.0 feet		Lane Eq	uivalent Dist	ance (in	feet)		
Barrier Elevation: 1,561.0 feet			Autos:	29.046			
Road Grade: 0.0%		Mediur	n Trucks:	28.943			
		Heav	y Trucks:	28.728			
FHWA Noise Model Calculations		1					
VehicleType REMEL Traffic Flow	Distance				Barrier Atte		
Autos: 67.36 3.63	-15		-1.20	-13.23	0.0		0.00
Medium Trucks: 76.31 -13.61	-15		-1.20	-13.29	0.0		0.00
Heavy Trucks: 81.16 -17.57	-15		-1.20	-13.44	0.0	00 0	0.00
Unmitigated Noise Levels (without Topo and be							
VehicleType Leq Peak Hour Leq Day		Evening	Leq Night		Ldn	CNEL	
	l.4 l.5	50.6		4.6	53.2 45.1		53
		38.2 36.5		6.6 7.7	45.1 46.1		45 46
	3.8	51.0		7.7 5.9	54.5		55
Mitigated Noise Levels (with Topo and barrier a					21.0		_
VehicleType Leg Peak Hour Leg Day		Evening	Leg Night		Ldn	CNEL	_
	2.4	50.6	, ,	4.6	53.2		53
Medium Trucks: 46.0 44	.5	38.2		6.6	45.1		45
Heavy Trucks: 46.9 45	5.5	36.5	-	7.7	46.1		46.

Monday, July 11, 2016

F	HWA-RD-77-1	08 HIGHWAY	NOIS	E PRED	OICTION	MODE	L (CALV	ENO) ·	- 6/2/2013		
Road Nan	rio: Second Flo ne: Gateway Dr Vo: Medical Off		rth Fa	çade		Job I	t Name: Number: Analyst:	8991	n Springs fe		
SITE	SPECIFIC IN	PUT DATA					NOISE I	NODE	L INPUT	S	
Highway Data					Site Cor	ditions	(Hard =	10, Sc	oft = 15)		
Average Daily	Traffic (Adt): 1	2,300 vehicle	s					Autos:	15		
Peak Hour	Percentage:	10%			Me	dium T	rucks (2)	Axles):	15		
Peak I	Hour Volume:	1,230 vehicle	s		He	avy Tru	icks (3+ /	Axles):	15		
Ve	ehicle Speed:	40 mph		,	/ehicle	Mix					
Near/Far La	ane Distance:	48 feet		F		icleTvp	e	Dav	Evening	Night	Dailv
Site Data						,,	Autos:	77.5%			97.42%
		0.0 feet			M		Trucks:	84.8%		10.3%	
Barrier Type (0-V	rrier Height:	0.0 reet				Heavy T	Trucks:	86.5%	2.7%	10.8%	0.74%
	ist. to Barrier:	388.0 feet				,					
Centerline Dist.		388.0 feet			Voise S		levation		eet)		
Barrier Distance		0.0 feet					os: 1,567				
Observer Height		14.0 feet					ks: 1,569				
	ad Elevation:	1.566.0 feet			Hea	ry Truck	ks: 1,575	5.006	Grade Ad	ustment.	0.0
Ro	ad Elevation:	1,567.0 feet		I	Lane Eq	uivaler	nt Distan	ce (in i	feet)		
Barr	rier Elevation:	1,567.0 feet				Auto	os: 387	.475			
	Road Grade:	0.0%			Mediu	m Truck	ks: 387	.405			
					Hear	y Truck	ks: 387	7.289			
FHWA Noise Mod					1						
VehicleType	REMEL	Traffic Flow	Dis	tance		Road	Fresr		Barrier Att		m Atten
Autos:		-0.54		-13.44		-1.20		12.51	0.0		0.000
Medium Trucks:		-17.78		-13.44		-1.20 -1.20		12.58	0.0		0.000
Heavy Trucks:	81.16	-21.73		-13.44	+	-1.20	-	12.77	0.0	000	0.000
Unmitigated Nois	e Levels (with	out Topo and	barrie	er atten	uation)						
VehicleType	Leq Peak Hou	.,.,		Leq Ev		Leq	Night		Ldn		VEL
Autos:		_	50.3		48.5		42.5		51.1		51.7
Medium Trucks:		-	42.4		36.0		34.5		42.9		43.2
Heavy Trucks:		-	43.4		34.3		35.6		43.9		44.1
Vehicle Noise:	53.	.4	51.6		48.9		43.8	3	52.4	1	52.9
Mitigated Noise L	evels (with To	oo and barrie	r attei	nuation)						
VehicleType	Leg Peak Hou	r Leq Day	/	Leg Ev	ening	Leg	Night		Ldn	CI	VEL
Autos:	52.	2	50.3		48.5		42.5	5	51.1		51.7
Medium Trucks:	43.	9	42.4		36.0		34.5	5	42.9)	43.2
Heavy Trucks:	44.	8	43.4		34.3		35.6	3	43.9)	44.1
Vehicle Noise:	53.	4	51.6		48.9		43.8	3	52.4	1	52.9

Monday, July 11, 2016 206 Monday, July 11, 2016

ا	FHWA-RD-77-	108 HIGHWAY	NOISE PE	REDICTION	MODEL	(CALVE	NO) - 6/	2/2013				
Scenario: Third Floor With Wall Road Name: I-215 Fwy Lot No: Senior Housing-West Facade					Project Name: Canyon Springs Job Number: 8991 Analyst: A. Wolfe							
	SPECIFIC II	,				IOISE M		MDLITS				
Highway Data	3FECIFIC II	WFOI DAIA		Site Cor		(Hard = 1						
Average Daily	Traffic (Adt): 1	30,900 vehicles	,				utos:	15				
	r Percentage:	10%		Me	dium Tr	icks (2 A	kles):	15				
		13,090 vehicles	3	He	avy Truc	ks (3+ A)	xles):	15				
V	ehicle Speed:	65 mph		Vohiclo	Miv	•						
Near/Far La	ane Distance:	120 feet	Vehicle Mix									
Site Data				ver			- /	12.9%	9.6% 85.50			
				M	edium T		1.5%		10.3% 6.31			
	arrier Height:	0.0 feet 0.0			Heavy T		36.5%		10.8% 8.19			
Barrier Type (0-V	ist. to Barrier:											
Centerline Dist		,		Noise Source Elevations (in feet)								
Barrier Distance		0.0 feet				s: 1,545.						
Observer Height		23.0 feet				s: 1,547.						
	Pad Elevation:			Heav	ry Truck	s: 1,553.	006 Gr	ade Adjus	tment: 0.0			
	ad Elevation:	,-		Lane Eq	uivalen	Distance	e (in fee	t)				
Barrier Elevation: 1,571.0 feet				Autos: 1,423.579								
Road Grade: 0.0%			Mediu		s: 1,423.							
				Heav	y Truck	s: 1,423.	326					
FHWA Noise Mod	del Calculation	18										
VehicleType	REMEL	Traffic Flow	Distanc	e Finite	Road	Fresne	el Ba	rrier Atten	Berm Atter			
Autos.		1.00	-2	1.92	-1.20	-2	1.91	0.00	0.00			
Medium Trucks.	81.71	-4.26	-2	1.92	-1.20	-2	1.95	0.00	0.00			
Heavy Trucks.				1.92	-1.20	-2	2.04	0.00	0.00			
Unmitigated Nois												
VehicleType	Leq Peak Ho			q Evening	Leq Night		La		CNEL			
Autos.	-		57.6		55.8 49.8			58.4	59			
	Medium Trucks: 54.3		52.8		46.5 44.9			53.4	53			
Heavy Trucks: 59.0 Vehicle Noise: 62.9			57.5 61.2		48.5 57.0		49.7 58.1 53.4 61.9		58 62			
						33.4		61.9	02			
Mitigated Noise L						A Contra		to I	ONE			
VehicleType	Leq Peak Ho			g Evening	Leq Night		Lo		CNEL			
Autos. Medium Trucks	-		57.6	55.8 46.5		49.8		58.4 53.4	59 53			
	. 54	54.3 52.8						53.4	53			
Heavy Trucks		9.0	57.5	48.5		49.7		58.1	58			

F F	HWA-RD-77-10	8 HIGHWAY	NOISE F	REDIC	TION MODE	:L (CALVENO)	- 6/2/2013					
Scenario: Third Floor With Wall Road Name: SR-60 Fwy Lot No: Senior Housing-North Façade					Project Name: Canyon Springs Job Number: 8991 Analyst: A. Wolfe							
SITE	SPECIFIC IN	PUT DATA				NOISE MODI	EL INPUTS					
Highway Data				Sit	e Condition	s (Hard = 10, S	oft = 15)					
Average Daily	Traffic (Adt): 14	7,400 vehicle	s:S			Autos	: 15					
Peak Hour	Percentage:	10%			Medium Trucks (2 Axles): 15							
Peak H	lour Volume: 1	4,740 vehicle	es .		Heavy Tr	ucks (3+ Axles)	: 15					
Ve	hicle Speed:	65 mph		Ve	Vehicle Mix							
Near/Far La	ne Distance:	120 feet		-	VehicleTyp	e Day	Evening N	light Daily				
Site Data					1011101017	Autos: 77.5°		9.6% 89.509				
n-	wiew Heimbe	0.0 feet			Medium			10.3% 4.519				
Barrier Type (0-W	rrier Height:	0.0 feet 0.0				Trucks: 86.5		10.8% 5.999				
	st. to Barrier: 2											
Centerline Dist.				No		Elevations (in	feet)					
Barrier Distance		0.0 feet				os: 1,610.000						
Observer Height	(Above Pad):	23.0 feet		- 1		ks: 1,612.297						
	ad Elevation: 1	.571.0 feet			Heavy Truc	ks: 1,618.006	Grade Adjus	tment: 0.0				
Road Elevation: 1,610.0 feet					Lane Equivalent Distance (in feet)							
Barr	ier Elevation: 1	,571.0 feet			Autos: 2,224.528							
	Road Grade:	0.0%		1	Medium Trucks: 2,224.570							
					Heavy Trucks: 2,224.684							
FHWA Noise Mod	el Calculations											
VehicleType	REMEL	Traffic Flow	Distar		Finite Road	Fresnel	Barrier Atten					
Autos:	75.54	7.77		24.83	-1.20	22.78	-18.439	-21.43				
Medium Trucks:		-5.21		24.83	-1.20							
Heavy Trucks:	85.21	-3.98		24.83	-1.20	22.87	-18.443	-21.44				
Unmitigated Nois	e Levels (witho	ut Topo and	barrier a	ttenua	tion)							
VehicleType	Leq Peak Hou	Leq Da	y Le	eq Ever	ning Le	q Night	Ldn	CNEL				
Autos:	57.	3	55.4		53.6	47.6	56.2	56.				
Medium Trucks:	50.	-	49.0		42.6	41.1	49.5	49.				
Heavy Trucks:	55.:		53.8		44.7	46.0	54.4	54.				
Vehicle Noise:	59.	9	58.2		54.4	50.4	58.9	59.				
Mitigated Noise L	evels (with Top	o and barrie	r attenua	tion)								
VehicleType	Leq Peak Hou	Leq Da	y Le	eq Ever	ning Le	q Night	Ldn	CNEL				
Autos:	38.	В	36.9		35.2	29.1	37.7	38.				
Medium Trucks:			30.5		24.2	22.6	31.1	31.				
Heavy Trucks:	36.	-	35.3		26.3	27.6	35.9	36.				
Vehicle Noise:	41.	5	39.8		36.0	32.0	40.5	40.				

F	HWA-RD-77-108	HIGHWAY NOI	SE PRE	EDICTION	MODEL	(CALV	ENO) -	6/2/2013				
Scenario: Third Floor With Wall Road Name: Valley Springs Pkwy.					Project Name: Canyon Springs Job Number: 8991							
Lot N			Analyst:		е							
SITE SPECIFIC INPUT DATA Highway Data						IOISE N (Hard =		INPUTS	5			
	T 77 /4 W 04 /			Site Con	iuiuons	•						
	Traffic (Adt): 31,2				-f	ucks (2 A	Autos:	15 15				
	Percentage:	10%					/	15				
		120 vehicles		He	avy iruo	cks (3+ A	ixies):	15				
	hicle Speed:	40 mph		Vehicle	Mix							
Near/Far La	ne Distance:	48 feet		Veh	icleType)	Day	Evening	Night	Daily		
Site Data					,	Autos:	77.5%	12.9%	9.6%	97.42		
Bai	rier Height:	0.0 feet		М	edium T	rucks:	84.8%	4.9%	10.3%	1.84		
Barrier Type (0-W		0.0		1	Heavy T	rucks:	86.5%	2.7%	10.8%	0.74		
Centerline Dis	. ,	45.0 feet		Noise So	ouroo El	lovotion	o (in fo	n41				
Centerline Dist.	to Observer: 3-	45.0 feet		Noise S			•	et)				
Barrier Distance		0.0 feet				s: 1,553						
Observer Height (Above Pad):	23.0 feet		1		s: 1,555		OI A-II				
	ad Elevation: 1.5	71.0 feet		Heat	y Truck	s: 1,561	.006	Grade Adj	ustment:	0.0		
Roa	ad Elevation: 1,5	53.0 feet		Lane Eq	uivalent	t Distand	ce (in fe	eet)				
Barrier Elevation: 1.571.0 feet					Auto	s: 346	.598					
	Road Grade:	0.0%		Mediu	m Truck	s: 346	.334					
				Heav	y Truck	s: 345	.742					
HWA Noise Mode	el Calculations											
VehicleType		raffic Flow D	istance	Finite	Road	Fresn	el E	Barrier Atte	en Ber	m Atter		
Autos:	67.36	3.50	-12.	72	-1.20	-2	20.59	0.0	00	0.00		
Medium Trucks:	76.31	-13.74	-12.	71	-1.20	-2	20.74	0.0	00	0.00		
Heavy Trucks:	81.16	-17.69	-12.	70	-1.20	-2	21.10	0.0	00	0.00		
Inmitigated Noise			_	,								
VehicleType	Leq Peak Hour	Leq Day		Evening	_	Night		Ldn		VEL		
Autos:	56.9	55.0		53.3		47.2		55.8		56		
Medium Trucks:	48.7	47.2		40.8		39.3		47.7		47		
Heavy Trucks:	49.6	48.1		39.1		40.4		48.7		48		
Vehicle Noise:	58.2	56.4		53.7		48.6	•	57.1		57		
Mitigated Noise Le						A E I- I		l dn	01	VFI		
VehicleType Autos:	Leq Peak Hour 56.9	Leq Day		Evening 53.3		Night 47.2		Lan 55.8				
	56.9 48.7	55.0 47.2		53.3 40.8				55.8 47.7		56		
Medium Trucks:						39.3				47		
										48 57		
Heavy Trucks: Vehicle Noise:	49.6 58.2	48.1 56.4		39.1 53.7		40.4 48.6		48.7 57.1				

Monday, July 11, 2016

Scenario: Third Floor With Wall Road Name: SR-80 FW; Lot Not: Independent Living-North Façade	F	-HWA-RD-77-10	8 HIGHWAY	NOISE	E PREC	OICTION	MODE	L (CALV	ENO)	- 6/2/2013				
Site Conditions (Hard = 10, Soft = 15)	Road Name: SR-60 Fwy				e	Job Number: 8991								
Average Daily Traffic (Adt): 147,400 vehicles Peak Hour Percentage: 10% Medium Trucks (2 Axles): 15 Seek Hour Percentage: 10% Medium Trucks (2 Axles): 15 Seek Hour Volume: 14,740 vehicles Vehicle Speed: 65 mph Near/Far Lane Distance: 120 feet Vehicle Mix Vehicle Mix Vehicle Mix Vehicle Mix Vehicle Type Day Evening Night Daily Site Data Autos: 77.5% 12.9% 9.6% 89.50% Medium Trucks: 84.8% 4.9% 10.3% 4.51% Medium Trucks: 84.8% 4.9% 10.8% 5.99% Medium Trucks: 84.8% 4.9% 10.8% 5.99% Medium Trucks: 84.8% 4.9% 10.8% 5.99% Medium Trucks: 86.5% 2.7% 10.8% 5.99% Medium Trucks: 16.41.297 Heavy Trucks: 16.41.297 Heavy Trucks: 16.43.000 Medium Trucks: 16.40.00 Grade Adjustment: 0.0 Medium Trucks: 2,382.146 Medium Trucks: 2,382.146 Medium Trucks: 2,382.146 Medium Trucks: 2,382.211 Heavy Trucks: 2,382.211 Heavy Trucks: 2,382.382 Medium Trucks: 81.71 5.21 -25.27 -1.20 23.00 -18.451 -21.451 Medium Trucks: 85.21 -3.98 -25.27 -1.20 23.00 -18.451 -21.451 Medium Trucks: 85.21 -3.98 -25.27 -1.20 23.00 -18.451 -21.451 Medium Trucks: 56.8 54.9 53.2 44.3 45.6 53.9 54.0 Medium Trucks: 54.8 53.3 44.3 45.6 53.9 54.0 Medium Trucks: 38.4 36.5 34.7 28.7 37.3 37.9 Medium Trucks: 38.4 36.5 34.7 28.7 37.3 37.9 Medium Trucks: 38.3 34.9 25.8 27.1 35.5 35.6 36.6 36.9 Medium Trucks: 36.3 34.9 25.8 27.1 35.5 35.6 36.6 36.6 36.9 Medium Trucks: 36.3 34.9 25.8 27.1 35.5 35.6 36.6 36.6 36.6 36.6 36.6 36.6 36.6 36.6 36.6 36.6 36.6 36.6 36.6 36.6 36.6 36.6 36.6 36.6	SITE	SPECIFIC IN	PUT DATA				1	NOISE N	ЛОDE	L INPUT	s			
Peak Hour Volume: 14,740 vehicles	Highway Data					Site Cor	ditions	(Hard =	10, Sc	oft = 15)				
Peak Hour Volume: 14,740 vehicles	Average Daily	Traffic (Adt): 14	7,400 vehicle	s					Autos:	15				
Vehicle Speed: Near/Far Lane Distance: 120 feet Vehicle Mix Vehicle Type Day Evening Night Daily	Peak Hour	Percentage:	10%											
Near/Far Lane Distance: 120 feet VehicleType Day Evening Night Daily	Peak I	Hour Volume: 14	1,740 vehicle	S		Heavy Trucks (3+ Axles): 15								
Near/Far Lane Distance: 120 feet VehicleType Day Evening Night Daily	Ve	ehicle Speed:	65 mph		-	/ehicle	Mix							
Site Data	Near/Far La	ane Distance:	120 feet		H			ρ	Day	Evenina	Night	Daily		
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Perm): 0.0 Centerline Dist. to Barrier: 2,359.0 feet Centerline Dist. to Observer: 2,359.0 feet Centerline Dist. Cen	Site Data						,,			-		. ,		
Barrier Type (0-Wall, 1-Berm): 0.0 Heavy Trucks: 86.5% 2.7% 10.8% 5.99%			006			M						00.00,0		
Noise Source Elevations (in feet)							Heavv 1	Frucks:	86.5%	2.7%	10.8%	5.99%		
Centerline Dist. to Observer: 2,359.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Padl: 23.0 feet Road Elevation: 1,573.5 feet Road Elevation: 1,573.5 feet Road Elevation: 1,573.5 feet Road Grade: 0.0% Medium Trucks: 1,641.297 Heavy Trucks: 1,647.00 Grade Adjustment: 0.0	,,,,	. ,			_									
Barrier Distance to Observer: 0.0 feet Choose Choos					1	• /								
Observer Height (Above Pad): 23.0 feet Pad Elevation: 1,573.5 feet Road Elevation: 1,573.5 feet Road Elevation: 1,573.5 feet Road Grade: 0.0% Calculations						,								
Pad Elevation: 1,573.5 feet Ready Frucks: 1,647.006 Grade Adjustment. 0.0			23.0 feet											
Barrier Elevation: 1,573.5 feet Road Grade: 0.0% Medium Trucks: 2,382.146 Medium Trucks: 2,382.211 Heavy Trucks: 2,382.211 Heavy Trucks: 2,382.2382			.573.5 feet			Heal	ry Truck	(S: 1,647	.006	Grade Adj	ustment.	0.0		
Road Grade: 0.0% Medium Trucks: 2,382.211 Heavy Trucks: 2,382.382						Lane Equivalent Distance (in feet)								
Heavy Trucks: 2,382.382 Heavy Trucks: 2,382.382 FHWA Noise Model Calculations Vehicle Type REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berm Atten	Barr	ier Elevation: 1	,573.5 feet			Autos: 2,382.146								
VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berm Atten	Road Grade: 0.0%					Medium Trucks: 2,382.211								
VehicleType						Hear	y Truck	ks: 2,382	.382					
VehicleType														
Autos: 75.54						1					1 -			
Medium Trucks: 81.71 -5.21 -25.27 -1.20 23.04 -18.452 -21.452 Heavy Trucks: 85.21 -3.98 -25.27 -1.20 23.09 -18.454 -21.454	,,, .			Dist										
Heavy Trucks:														
Unmitigated Noise Levels (without Topo and barrier attenuation) Vehicle Type Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL														
VehicleType	Heavy Trucks:	85.21	-3.98		-25.21	,	-1.20		23.09	-18.4	154	-21.454		
Autos: 56.8 54.9 53.2 47.1 55.7 56.3	Unmitigated Nois	e Levels (witho	ut Topo and	barrie	r atten	uation)								
Medium Trucks: 50.0 48.5 42.2 40.6 49.1 49.3 Heavy Trucks: 54.8 53.3 44.3 45.6 53.9 54.0 Vehicle Noise: 59.5 57.8 54.0 50.0 58.5 Mitigated Noise Levels (with Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 38.4 36.5 34.7 28.7 37.3 37.9 Medium Trucks: 31.6 30.1 23.7 22.2 30.6 30.9 Heavy Trucks: 36.3 34.9 25.8 27.1 35.5 35.6	VehicleType	Leq Peak Hour	Leq Day	/	Leq Ev	ening/	Leq	Night		Ldn	CI	VEL		
Heavy Trucks: 54.8 53.3 44.3 45.6 53.9 54.0 Vehicle Noise: 59.5 57.8 54.0 50.0 58.5 58.9 Mitigated Noise Levels (with Topo and barrier atternation) Vehicle Type Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 38.4 36.5 34.7 28.7 37.3 37.9 Medium Trucks: 31.6 30.1 23.7 22.2 30.6 30.9 Heavy Trucks: 36.3 34.9 25.8 27.1 35.5 35.6			-	54.9										
Wehicle Noise: 59.5 57.8 54.0 50.0 58.5 58.9 Mitigated Noise Levels (with Topo and barrier attenuation) Vehicle Type Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 38.4 36.5 34.7 28.7 37.3 37.9 Medium Trucks: 31.6 30.1 23.7 22.2 30.6 30.9 Heavy Trucks: 36.3 34.9 25.8 27.1 35.5 35.6														
Mitigated Noise Levels (with Topo and barrier attenuation)	,													
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 38.4 36.5 34.7 28.7 37.3 37.9 Medium Trucks: 31.6 30.1 23.7 22.2 30.6 30.9 Heavy Trucks: 36.3 34.9 25.8 27.1 35.5 35.6	Vehicle Noise: 59.5 57.8				54.0 50.0 58.5 58.5						58.9			
Autos: 38.4 36.5 34.7 28.7 37.3 37.9 Medium Trucks: 31.6 30.1 23.7 22.2 30.6 30.9 Heavy Trucks: 36.3 34.9 25.8 27.1 35.5 35.6	Mitigated Noise L	evels (with Top	o and barrie	r atten	uation)								
Medium Trucks: 31.6 30.1 23.7 22.2 30.6 30.9 Heavy Trucks: 36.3 34.9 25.8 27.1 35.5 35.6	VehicleType	Leg Peak Hour	Leq Day			vening Leq Nigh		Night	Ldn		CI	VEL		
Heavy Trucks: 36.3 34.9 25.8 27.1 35.5 35.6	Autos:	38.4	i			34.7	28.7		,	37.3	3	37.9		
,	Medium Trucks:	31.6	3	30.1		23.7	22.2		2	30.6	6	30.9		
Vehicle Noise: 41.0 39.3 35.5 31.5 40.0 40.4	Heavy Trucks: 36.3 34.9				25.8	8 27.1 35.5			5	35.6				
	Vehicle Noise:	41.0)	39.3		35.5		31.5	5	40.0)	40.4		

Monday, July 11, 2016 207 Monday, July 11, 2016

ı	HWA-RD-77-	108 HIGHWAY	NOISE	PRED	ICTION	MODE	L (CALV	ENO) -	- 6/2/2013		
Road Nar	rio: Third Floo ne: Day St. Vo: Independe	r With Wall ent Living-East F	açade			Job N	: Name: lumber: Analyst:	8991	n Springs fe		
	SPECIFIC II	NPUT DATA							L INPUTS	6	
Highway Data					Site Cor	nditions	(Hard =	10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	23,700 vehicle	S					Autos:	15		
	Percentage:	10%				edium Tr		/	15		
Peak I	Hour Volume:	2,370 vehicle	S		He	eavy Tru	cks (3+ i	Axles):	15		
	ehicle Speed:	40 mph		١	/ehicle	Mix					
Near/Far La	ane Distance:	48 feet			Vel	nicleType	Э	Day	Evening	Night	Daily
Site Data							Autos:	77.5%		9.6%	97.42%
Ra	rrier Height:	0.0 feet			M	ledium T	rucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-V		0.0				Heavy T	rucks:	86.5%	2.7%	10.8%	0.74%
	ist. to Barrier:	481.0 feet		١.				<i></i>	-1		
Centerline Dist.		481.0 feet		,	voise S	ource E			eet)		
Barrier Distance	to Observer:	0.0 feet					s: 1,572				
Observer Height	(Above Pad):	23.0 feet				m Truck			O		0.0
	Pad Elevation:	1.573.5 feet			Hea	vy Truck	s: 1,580).206	Grade Adj	ustment:	0.0
Ro	ad Elevation:	1,572.2 feet		L	.ane Eq	uivalen	t Distan	ce (in t	feet)		
Barı	rier Elevation:	1,573.5 feet				Auto	s: 481	.015			
	Road Grade:	0.0%			Mediu	m Truck	s: 480	0.904			
					Hea	vy Truck	s: 480	0.677			
FHWA Noise Mod	lel Calculation	ns									
VehicleType	REMEL	Traffic Flow	Dista	ance	Finite	Road	Fresi	nel .	Barrier Atte	en Ber	m Atten
Autos:	67.36	2.31		-14.85	5	-1.20	-	21.90	0.0	00	0.000
Medium Trucks:	76.31	-14.93		-14.85	;	-1.20	-	22.01	0.0	00	0.000
Heavy Trucks:	81.16	-18.89		-14.85	5	-1.20	-	22.28	0.0	00	0.000
Unmitigated Nois	e Levels (with	hout Topo and	barrier	atten	uation)						
VehicleType	Leq Peak Ho			Leq Ev			Night		Ldn		VEL
Autos:	-		51.7		50.0		43.9		52.5		53.1
Medium Trucks:			43.8		37.5		35.9		44.4		44.6
Heavy Trucks:			44.8		35.8		37.0		45.4		45.5
Vehicle Noise:	5	4.9	53.1	_	50.3	_	45.2	2	53.8	_	54.3
Mitigated Noise L											
VehicleType	Leq Peak Ho			Leq Ev			Night		Ldn		VEL
Autos:	-		51.7		50.0		43.9		52.5		53.1
Medium Trucks:			43.8		37.5		35.9		44.4		44.6
Heavy Trucks:		*	44.8		35.8		37.0		45.4		45.5
Vehicle Noise:	5	4.9	53.1		50.3		45.2	2	53.8		54.3

F	HWA-RD-77-1	108 HIGHWAY	NOISE I	PREDI	CTION MODE	L (CALVENO)	- 6/2/2013	
Road Nan	io: Third Floor ne: Gateway D lo: Skilled Nur		çade		Job I	t Name: Canyo Number: 8991 Analyst: A. Wo		
	SPECIFIC IN	IPUT DATA				NOISE MODI		;
Highway Data				Si	te Conditions	s (Hard = 10, S		
Average Daily	. ,		S			Autos		
	Percentage:	10%				rucks (2 Axles)		
	lour Volume:	1,230 vehicle	s		Heavy In	icks (3+ Axles)	: 15	
	hicle Speed: ne Distance:	40 mph		Ve	ehicle Mix			
Near/Far La	ine Distance:	48 feet			VehicleTyp	e Day	Evening	Night Daily
Site Data						Autos: 77.59	6 12.9%	9.6% 97.429
Ва	rrier Height:	0.0 feet			Medium			10.3% 1.849
Barrier Type (0-W	/all, 1-Berm):	0.0			Heavy	Trucks: 86.59	6 2.7%	10.8% 0.749
Centerline Di	st. to Barrier:	77.0 feet		N	nise Source F	Elevations (in 1	eet)	
Centerline Dist.	to Observer:	77.0 feet		-		os: 1.572.200	001)	
Barrier Distance	to Observer:	0.0 feet				ks: 1,574.497		
Observer Height	(Above Pad):	23.0 feet				ks: 1,580.206	Grade Adii	stment: 0.0
P	ad Elevation:	1,572.5 feet						
	ad Elevation:	,-		Li		nt Distance (in	feet)	
	ier Elevation:	,			Auto			
	Road Grade:	0.0%			Medium Truci			
					Heavy Truck	ks: 74.746		
FHWA Noise Mod	el Calculation	-						
VehicleType	REMEL	Traffic Flow	Dista		Finite Road	Fresnel	Barrier Atte	
Autos:	67.36	-0.54		-2.90	-1.20			
Medium Trucks:		-17.78		-2.84	-1.20			
Heavy Trucks:	81.16	-21.73		-2.72	-1.20	-21.41	0.0	0.00
Unmitigated Nois								
VehicleType	Leq Peak Hou			eq Eve		n Night	Ldn	CNEL
Autos:	62		60.8		59.1	53.0	61.6	62
Medium Trucks:	54		53.0		46.6	45.1	53.5	53.
Heavy Trucks:		5.5	54.1		45.0	46.3	54.6	54.
Vehicle Noise:	64	1.0	62.2		59.5	54.4	62.9	63.
Mitigated Noise L	•	•	_					
VehicleType	Leq Peak Hou			eq Eve		Night	Ldn	CNEL
Autos:	62		60.8		59.1	53.0	61.6	62
Medium Trucks:	54		53.0		46.6	45.1	53.5	53.
Heavy Trucks:	55		54.1		45.0	46.3	54.6	54.
Vehicle Noise:	64	1.0	62.2		59.5	54.4	62.9	63.

FHW	A-RD-77-108 H	HIGHWAY NOIS	SE PRE	DICTION	MODEL	(CALVI	ENO) -	6/2/2013		
Road Name: 1	Third Floor With Day St. Skilled Nursing-				Job N	Name: (umber: { nalyst: /	3991	Springs		
	ECIFIC INPU		- 1					_ INPUTS		
Highway Data	CIFIC INFO	IDAIA		Site Con					,	
Average Daily Trai	ffic (Adt): 23.7	00 vehicles					Autos:	15		
Peak Hour Per	. , .	10%		Me	dium Tru	cks (2 A	xles):	15		
Peak Hour	Volume: 2,3	70 vehicles		He	avy Truc	ks (3+ A	xles):	15		
Vehicle	e Speed:	40 mph	-	Vehicle I	Miv					
Near/Far Lane L	Distance:	48 feet			icleType		Dav	Evening	Night	Daily
Site Data							77.5%	12.9%	9.6%	
Parrio	Height:	0.0 feet		Me	edium Tr	ucks:	84.8%	4.9%	10.3%	1.84
Barrier Type (0-Wall,		0.0		F	leavy Tr	ucks:	86.5%	2.7%	10.8%	0.74
Centerline Dist. to	,	7.0 feet	L							
Centerline Dist. to C		7.0 feet	-	Noise Sc				et)		
Barrier Distance to C	Observer:	0.0 feet				: 1,572				
Observer Height (Abo	ve Pad): 2	3.0 feet			n Trucks	, -		O A		
• ,	levation: 1.57	2.5 feet		Heav	y irucks	: 1,580	.206	Grade Adji	ustment:	0.0
Road E	levation: 1,57	2.2 feet		Lane Equ	uivalent	Distanc	e (in f	eet)		
Barrier E	levation: 1,57	2.5 feet			Autos	: 176	.906			
Roa	d Grade:	0.0%		Mediur	n Trucks	: 176	.619			
				Heav	y Trucks	: 176	.031			
FHWA Noise Model C	alculations									
			istance	Finite		Fresn	-	Barrier Atte	_	n Atter
Autos:	67.36	2.31	-8.3		-1.20	_	21.01	0.0		0.00
Medium Trucks:	76.31	-14.93	-8.3	_	-1.20	_	21.30	0.0		0.0
Heavy Trucks:	81.16	-18.89	-8.3	0	-1.20	-2	22.02	0.0	00	0.0
Inmitigated Noise Le		•								
	Peak Hour	Leq Day	Leq E	vening	Leq I	Vight		Ldn	CN	IEL
Autos:	60.1	58.2		56.5		50.4		59.0		59
Medium Trucks:	51.9	50.4		44.0		42.4		50.9		51
Heavy Trucks: Vehicle Noise:	52.8 61.4	51.3 59.6		42.3 56.9		43.6 51.8		51.9 60.3		52 60
	****					31.0		60.3		60
VehicleType Leve	Is (with Topo a Deak Hour	and barrier atte Leg Day		n) vening	Legi	Vliaht		Ldn	C^	IEL
	60.1	58.2	Ley E	56.5	Leyi	vigrit 50.4		59.0	UN	<i>IEL</i> 59
						50.4		03.0		Ja
Autos:				44 0		42.4		50.9		51
	51.9 52.8	50.4 51.3		44.0 42.3		42.4 43.6		50.9 51.9		51 52

Monday, July 11, 2016

F	HWA-RD-77-10	8 HIGHWAY	NOISE PI	REDICTION	MODE	L (CALV	ENO) -	- 6/2/2013		
Road Nan	rio: Third Floor No: Gateway Dr No: Assisted Liv		ade		Job N	t Name: Number: Number: Nanalyst: N	8991	n Springs fe		
SITE	SPECIFIC IN	PUT DATA			- 1	NOISE N	/ODE	L INPUT	S	
Highway Data				Site Cor	nditions	(Hard =	10, Sc	oft = 15)		
Average Daily	Traffic (Adt): 1	2.300 vehicle	s			,	Autos:	15		
,	Percentage:	10%		Me	dium Ti	rucks (2 A	Axles):	15		
Peak H	lour Volume:	1.230 vehicle	s	He	avy Tru	icks (3+ A	(xles):	15		
Ve	hicle Speed:	40 mph		Vehicle	Miss	•				
	ne Distance:	48 feet			iviix nicleTyp	_	Dav	Evening	Niaht	Daily
Site Data				ver			77.5%		9.6%	,
					ledium 1		84.8%		10.3%	
	rrier Height:	0.0 feet			ealailli 1 Heavy 1		86.5%		10.8%	
Barrier Type (0-W		0.0			neavy i	rucks.	00.5%	2.176	10.6%	0.74%
	st. to Barrier:	72.0 feet		Noise S	ource E	levation	s (in fe	eet)		
Centerline Dist.		72.0 feet			Auto	s: 1,567	.250			
Barrier Distance		0.0 feet 23.0 feet		Mediu	m Truck	ks: 1,569	.547			
Observer Height	(Above Pad): ad Elevation: 1			Hea	y Truck	ks: 1,575	.256	Grade Adj	iustment:	0.0
	ad Elevation: 1 ad Elevation: 1	,-		I ano Fo	uivələn	t Distan	co (in i	foot)		
	ier Elevation: 1	,		Lane Ly	Auto		526	(00)		
	Road Grade:	0.0%		Mediu	m Truck		.674			
	Road Grade.	0.0%			vy Truck		.837			
				1100	ry much	10. 70				
FHWA Noise Mod	lel Calculations	;								
VehicleType	REMEL	Traffic Flow	Distanc	ce Finite	Road	Fresn	nel .	Barrier Att	en Ber	m Atten
Autos:	67.36	-0.54	-	2.62	-1.20	-	17.46	0.0	000	0.000
Medium Trucks:	76.31	-17.78	-	2.54	-1.20	-	18.13	0.0	000	0.000
Heavy Trucks:	81.16	-21.73	-	2.37	-1.20	-	19.82	0.0	000	0.000
Unmitigated Nois	e Levels (witho	out Topo and	barrier at	ttenuation)						
VehicleType	Leq Peak Hou	r Leq Day	/ Le	q Evening	Leq	Night		Ldn	CI	VEL
Autos:	63.	0	61.1	59.3		53.3	3	61.9	9	62.5
Medium Trucks:	54.	8	53.3	46.9		45.4	ļ	53.8	3	54.1
Heavy Trucks:	55.	9	54.4	45.4		46.6	ì	55.0)	55.1
Vehicle Noise:	64.	3	62.5	59.7		54.7	,	63.2	2	63.7
Mitigated Noise L	evels (with Top	oo and barrie	r attenua	tion)						
VehicleType	Leq Peak Hou	r Leq Day	/ Le	q Evening	Leq	Night		Ldn	CI	VEL
Autos:	63.	0	61.1	59.3		53.3	3	61.9)	62.5
	Medium Trucks: 54.8 53.3					45.4	ļ	53.8	3	54.1
Heavy Trucks:	55.	9	54.4	45.4		46.6	ì	55.0)	55.1
Vehicle Noise:	Vehicle Noise: 64.3 62.5					54.7		63.2	2	63.7

Monday, July 11, 2016 208 Monday, July 11, 2016

I	FHWA-RD-77-1	108 HIGHWAY	NOISE PR	EDICTION	MODE	L (CALV	ENO)	- 6/2/2013		
Road Nar	rio: Third Floor ne: Gateway D Vo: Hospital Ph		açade		Job N	t Name: lumber: Analyst:	8991	n Springs lfe		
SITE Highway Data	SPECIFIC IN	IPUT DATA		Site Co.		NOISE N		L INPUTS		
	Troffic (Adl)	12,300 vehicle		Site Coi	iaiuons		Autos:	,		
,	r Percentage:	12,300 venicie 10%	S	Me	dium Ti	ucks (2 A				
	Hour Volume:	1.230 vehicle	e			cks (3+ A	,			
	ehicle Speed:	40 mph	3		•	UNG (OT)	ixico).	10		
	ane Distance:	48 feet		Vehicle						
	and Distance.	40 1001		Veh	nicleTyp		Day	-	Night	Daily
Site Data				_			77.5%		9.6%	97.42%
Ba	rrier Height:	0.0 feet			ledium 1		84.8%		10.3%	1.84%
Barrier Type (0-V	Vall, 1-Berm):	0.0			Heavy 1	rucks:	86.5%	2.7%	10.8%	0.74%
	ist. to Barrier:	90.0 feet		Noise S	ource E	levation	s (in f	eet)		
Centerline Dist.		90.0 feet				s: 1.556		,		
Barrier Distance		0.0 feet		Mediu		s: 1.558				
Observer Height	,,	23.0 feet		Heav	vy Truck	s: 1,564	.306	Grade Adju	stment:	0.0
	ad Elevation:	,								
	ad Elevation:	,		Lane Eq				teet)		
Barı	rier Elevation:	,			Auto		.662			
	Road Grade:	0.0%			m Truck		0.108 7.977			
				Heat	vy Truck	is: 87	.977			
FHWA Noise Mod	lel Calculation	ıs								
VehicleType	REMEL	Traffic Flow	Distance	e Finite	Road	Fresn	iel	Barrier Atter	n Beri	n Atten
Autos:	67.36	-0.54	-3	3.91	-1.20	-	19.75	0.00	0	0.000
Medium Trucks:	76.31	-17.78	-3	3.87	-1.20	- 4	20.31	0.00	0	0.000
Heavy Trucks:	81.16	-21.73	-3	3.78	-1.20	-	21.71	0.00	0	0.000
Unmitigated Nois	e Levels (with	out Topo and	barrier att	enuation)						
VehicleType	Leq Peak Ho	- 1 - 7	- 1	Evening		Night		Ldn	CI	IEL
Autos:	-		59.8	58.0		52.0		60.6		61.2
Medium Trucks:			52.0	45.6		44.1		52.5		52.7
Heavy Trucks:			53.0	44.0		45.2		53.6		53.7
Vehicle Noise:	63	3.0	61.2	58.4		53.4		61.9		62.4
Mitigated Noise L										
VehicleType	Leq Peak Ho			Evening		Night		Ldn	CI	IEL
Autos:	-		59.8	58.0		52.0		60.6		61.2
Medium Trucks:			52.0	45.6		44.1		52.5		52.7
Heavy Trucks:			53.0	44.0		45.2		53.6		53.7
Vehicle Noise:	63	3.0	61.2	58.4 53.4 61.9 62					62.4	

ŀ	HWA-RD-77-1	108 HIGHWAY	NOISE P	REDICTION	MODEL	(CALV	ENO) -	6/2/2013		
Road Nan	rio: Third Floor ne: Valley Spri Vo: Hospital Ph		ıçade		Job N	Name: (umber: 8 inalyst: /	3991	Springs e		
	SPECIFIC IN	IPUT DATA						. INPUTS	;	
Highway Data				Site Cor	nditions	(Hard =	10, So	ft = 15)		
Average Daily	Traffic (Adt):	31,200 vehicle	3			/	Autos:	15		
Peak Hour	Percentage:	10%			dium Tru		,	15		
	Hour Volume:	3,120 vehicle	3	He	avy Truc	cks (3+ A	xles):	15		
	ehicle Speed:	40 mph		Vehicle	Mix					
Near/Far La	ane Distance:	48 feet		Veh	icleType		Day	Evening	Night	Daily
Site Data					/	Autos:	77.5%	12.9%	9.6%	97.429
R:	rrier Heiaht:	0.0 feet		M	edium Ti	rucks:	84.8%	4.9%	10.3%	1.849
Barrier Type (0-V		0.0			Heavy Ti	rucks:	86.5%	2.7%	10.8%	0.749
,, ,	ist. to Barrier:	95.0 feet		Maia a O			. /! #	-41		
Centerline Dist.	to Observer:	95.0 feet		Noise S			•	et)		
Barrier Distance	to Observer:	0.0 feet		Modiu	Auto: m Truck:	s: 1,548				
Observer Height	(Above Pad):	23.0 feet			vy Truck	,		Grade Adju	ictmont:	0.0
P	ad Elevation:	1,556.0 feet		пеан	ry Trucks	s. 1,556	.000	Grade Aujt	istilient.	0.0
Ro	ad Elevation:	1,548.6 feet		Lane Eq	uivalent	Distanc	e (in f	eet)		
Barr	rier Elevation:	1,556.0 feet			Autos	s: 96	.815			
	Road Grade:	0.0%			m Truck		.119			
				Heav	y Truck	s: 94	.607			
FHWA Noise Mod	lel Calculation	ıs								
VehicleType	REMEL	Traffic Flow	Distan	ce Finite	Road	Fresn		Barrier Atte	n Ben	n Atten
Autos:		3.50	-	4.41	-1.20	-1	18.14	0.0	00	0.00
Medium Trucks:		-13.74		4.36	-1.20		18.66	0.0		0.00
Heavy Trucks:	81.16	-17.69	-	4.26	-1.20	-1	19.96	0.0	00	0.00
Unmitigated Nois	·									
VehicleType	Leq Peak Ho			q Evening	Leq	Night		Ldn	CI	IEL
Autos:			63.4	61.6		55.5		64.2		64.8
Medium Trucks:			55.5	49.1		47.6		56.1		56.3
	58		56.6	47.6		48.8		57.2		57.3
Heavy Trucks:			64.7	62.0		56.9		65.5		66.0
Heavy Trucks: Vehicle Noise:										
Heavy Trucks: Vehicle Noise: Mitigated Noise L	evels (with To	ppo and barrie								
Heavy Trucks: Vehicle Noise: Mitigated Noise L VehicleType	evels (with To	ppo and barrie	Le	q Evening		Night		Ldn	CN	IEL 64
Heavy Trucks: Vehicle Noise: Mitigated Noise L VehicleType Autos:	evels (with To	ppo and barrie ur Leq Day	63.4	q Evening 61.6	,	55.5		64.2	CN	64.8
Heavy Trucks: Vehicle Noise: Mitigated Noise L VehicleType	evels (with To Leq Peak Hot 65	ppo and barrie ur Leq Day 5.3	Le	q Evening	,				Ch	

F	HWA-RD-77-10	8 HIGHWAY N	OISE PR	EDICTION	MODEL (CA	LVENO)	- 6/2/2013		
Road Nan	io: Third Floor V ne: I-215 Fwy Io: Hospital Pha		ade		Project Nam Job Numbe Analys				
	SPECIFIC INF	PUT DATA					L INPUTS	5	
Highway Data				Site Con	ditions (Har	d = 10, Sc	oft = 15)		
Average Daily	Traffic (Adt): 130	0,900 vehicles				Autos:	15		
Peak Hour	Percentage:	10%		Me	dium Trucks	2 Axles):	15		
Peak F	lour Volume: 13	3,090 vehicles		He	avy Trucks (3	+ Axles):	15		
Ve	hicle Speed:	65 mph		Vehicle	Mix				
Near/Far La	ne Distance:	120 feet			icleTvpe	Dav	Evenina	Niaht	Daily
Site Data					Autos	/		9.6%	
Ra	rrier Height:	0.0 feet		М	edium Trucks	: 84.8%	4.9%	10.3%	6.31
Barrier Type (0-W	-	0.0		1	Heavy Trucks	: 86.5%	2.7%	10.8%	8.19
,,,,,	st. to Barrier: 1			M-1 0	Fl	(6	41		
	to Observer: 1			Noise So	ource Elevati	_	eet)		
Barrier Distance	to Observer:	0.0 feet		Mar effect	Autos: 1,				
Observer Height	(Above Pad):	23.0 feet			m Trucks: 1, y Trucks: 1,		Grada Adi	ustmont:	0.0
P	ad Elevation: 1	,556.0 feet		Heav	y Trucks: 1,	547.006	Grade Adj	usimeni.	0.0
Ro	ad Elevation: 1	,539.0 feet		Lane Eq	uivalent Dist	ance (in	feet)		
Barr	ier Elevation: 1	,556.0 feet			Autos: 1,2	259.206			
	Road Grade:	0.0%		Mediui	m Trucks: 1,	259.135			
				Heav	y Trucks: 1,	258.977			
FHWA Noise Mod									
VehicleType		Traffic Flow	Distance			esnel	Barrier Atte		n Attei
Autos:	75.54	7.05	-21		-1.20	-21.99	0.0		0.0
Medium Trucks:	81.71	-4.26	-21		-1.20	-22.04	0.0		0.0
Heavy Trucks:	85.21	-3.13	-21	.12	-1.20	-22.14	0.0	00	0.0
Unmitigated Nois			_						
VehicleType	Leq Peak Hour			Evening	Leq Night		Ldn	CNI	
Autos: Medium Trucks:	60.3 55.1		3.4 3.6	56.6 47.3	-	0.6 5.7	59.2 54.2		59 54
			3.8	47.3		0.5	54.2 58.9		54 59
Heavy Trucks: Vehicle Noise:			2.0	57.8		4.2	62.7		63
Mitigated Noise L	evels (with Ton	o and harrier a	attenuati	on)					
VehicleType	Leg Peak Hour			Evening	Leq Night		Ldn	CNI	EL
Autos:	60.3		3.4	56.6	, ,	0.6	59.2		59
Medium Trucks:	55.1	53	3.6	47.3	4	5.7	54.2		54
	=0.0								=-
Heavy Trucks:	59.8	3 58	3.3	49.3	5	0.5	58.9	1	59

Monday, July 11, 2016

F	HWA-RD-77-10	8 HIGHWAY	NOISE F	PRED	ICTION	MODE	L (CALV	ENO)	- 6/2/2013		
Road Nan	rio: Third Floor V ne: I-215 Fwy Vo: Medical Offic		est Façad	le		Job N	t Name: Number: Number: Nanalyst: N	8991	n Springs fe		
SITE	SPECIFIC INF	PUT DATA				- 1	NOISE N	/IODE	L INPUT	S	
Highway Data				S	ite Cor	ditions	(Hard =	10, Sc	oft = 15)		
Average Daily	Traffic (Adt): 130	0.900 vehicle	s				,	Autos:	15		
,	Percentage:	10%			Me	dium Ti	rucks (2 A	(xles):	15		
Peak H	lour Volume: 13	3.090 vehicle	s		He	avy Tru	icks (3+ A	(xles	15		
Ve	hicle Speed:	65 mph			ehicle	Miss					
Near/Far La	ne Distance:	120 feet		٧		icleTyp		Dav	Evening	Night	Daily
Site Data				+	ven			77.5%		9.6%	,
				-				84.8%		10.3%	
	rrier Height:	0.0 feet						86.5%		10.3%	
Barrier Type (0-W	. ,	0.0				neavy i	rucks.	00.5%	2.176	10.0%	0.19%
	ist. to Barrier: 1	,		٨	loise S	ource E	levation	s (in fe	eet)		
	to Observer: 1	,				Auto	s: 1,536	.000			
Barrier Distance		0.0 feet			Mediu	m Truck	ks: 1,538	.297			
Observer Height	(Above Pad): ad Elevation: 1.	23.0 feet			Heav	y Truck	ks: 1,544	.006	Grade Adj	iustment.	0.0
	ad Elevation: 1 ad Elevation: 1	,		,	ano Fa	uivalon	t Distan	o (in	foot)		
	ier Elevation: 1	,		-	une Ly		os: 1,117	_	(00)		
	Road Grade:	,552.0 feet 0.0%			Madiu		ks: 1,116				
	rtoad Grade.	0.076					ks: 1,116				
					rical	y much	10. 1,110	.015			
FHWA Noise Mod	lel Calculations										
VehicleType	REMEL	Traffic Flow	Distar	псе	Finite	Road	Fresn	el .	Barrier Att	en Ber	m Atten
Autos:	75.54	7.05	-7	20.34		-1.20	-2	21.95	0.0	000	0.000
Medium Trucks:	81.71	-4.26	-3	20.34		-1.20	-2	22.00	0.0	000	0.000
Heavy Trucks:	85.21	-3.13	-:	20.34		-1.20	-2	22.11	0.0	000	0.000
Unmitigated Nois	e Levels (witho	ut Topo and	barrier a	itteni	ıation)						
VehicleType	Leq Peak Hour	Leq Day	/ Le	eq Ev	ening	Leq	Night		Ldn	CI	VEL
Autos:	61.1	1	59.2		57.4		51.3		60.0)	60.6
Medium Trucks:	55.9	9	54.4		48.0		46.5		55.0)	55.2
Heavy Trucks:	60.5	5	59.1		50.1		51.3	1	59.7	7	59.8
Vehicle Noise:	64.5	5	62.8		58.5		55.0		63.5	5	63.8
Mitigated Noise L	evels (with Top	o and barrie	r attenua	ation)							
VehicleType	Leq Peak Hour			eq Ev	ening		Night		Ldn		VEL
Autos:	61.1		59.2		57.4		51.3		60.0		60.6
Medium Trucks:		-	54.4		48.0		46.5		55.0		55.2
Heavy Trucks:	60.5		59.1		50.1		51.3		59.7		59.8
Vehicle Noise:	Vehicle Noise: 64.5 62.8					58.5 55.0 63.5				63.8	

Monday, July 11, 2016 209 Monday, July 11, 2016

F	HWA-RD-77-	108 HIGHWAY	NOIS	E PRED	ICTION	MODEL (CALVE	ENO) -	6/2/2013		
Road Nan	io: Third Floor ne: Valley Spri lo: Medical Of		est Faç	çade		Project N Job Nur An		3991			
SITE Highway Data	SPECIFIC II	NPUT DATA		5	ite Con	NC ditions (F			L INPUT	6	
· ·	Traffic (Adt):	31,200 vehicle	s					Autos:	15		
Peak Hour	Percentage:	10%			Med	dium Truc	ks (2 A	xles):	15		
Peak H	lour Volume:	3,120 vehicle	s		Hea	avy Truck	s (3+ A	xles):	15		
Ve	hicle Speed:	40 mph		,	/ehicle I	Miv					
Near/Far La	ne Distance:	48 feet		١,		icleTvpe		Dav	Evening	Night	Dailv
Site Data				-	veni	,,		<i>Day</i> 77.5%		9.6%	
					1.4	Au edium Tru		77.5% 84.8%		10.39	
	rrier Height:	0.0 feet				deavy Tru		86.5%		10.89	
Barrier Type (0-W	. ,	0.0			,	icavy iiu	una.	00.576	2.1 /0	10.07	0 0.747
Centerline Di		93.0 feet		٨	loise So	urce Ele	vations	(in fe	et)		
Centerline Dist.		93.0 feet				Autos:	1,549	.400			
Barrier Distance		0.0 feet			Mediur	n Trucks:	1,551	.697			
Observer Height	,	23.0 feet			Heav	y Trucks:	1,557	.406	Grade Adj	ustmen	t: 0.0
	ad Elevation:	,		,	ano Ear	uivalent E	Dietano	o (in f	inot)		
	ad Elevation:	,			ane Ly	Autos:		426	eei)		
	ier Elevation: Road Grade:	,			1.4 m of 5 m	n Trucks:		.823			
	Road Grade:	0.0%				n Trucks: y Trucks:		.823 .556			
					neav	y Trucks.	91	.556			
FHWA Noise Mod	el Calculation	ıs									
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fresn	el i	Barrier Att	en Be	rm Atten
Autos:	67.36	3.50		-4.18		-1.20	-1	9.15	0.0	00	0.000
Medium Trucks:	76.31	-13.74		-4.13		-1.20	-1	9.69	0.0	00	0.000
Heavy Trucks:	81.16	-17.69		-4.04		-1.20	-2	1.04	0.0	00	0.000
Unmitigated Noise	e Levels (with	out Topo and	barrie	er atteni	uation)						
VehicleType	Leq Peak Ho			Leq Ev		Leq N			Ldn		NEL
Autos:	65	5.5	63.6		61.8		55.8		64.4		65.0
Medium Trucks:	57	7.2	55.7		49.4		47.8		56.3		56.5
Heavy Trucks:	58	3.2	56.8		47.8		49.0		57.4		57.5
Vehicle Noise:	66	6.7	65.0		62.2		57.1		65.7		66.2
Mitigated Noise L	evels (with To	ppo and barrie	r atter	nuation)							
VehicleType	Leq Peak Ho	ur Leq Day	′	Leq Ev	ening	Leq Ni			Ldn	C	NEL
Autos:	65	5.5	63.6		61.8		55.8		64.4		65.0
Medium Trucks:	57	7.2	55.7		49.4		47.8		56.3		56.5
Heavy Trucks:	58	3.2	56.8		47.8		49.0		57.4		57.5
Vehicle Noise:	66	5.7	65.0		62.2		57.1		65.7		66.2

F	HWA-RD-77-	108 HIGHWAY	NOISE PF	REDICTION	MODEL	(CALVE	NO) - 6/2/	2013	
Road Nan	io: Third Floor ne: Valley Spri lo: Medical Of		est Façade		Job Nu	Name: C ımber: 8 nalyst: A		rings	
SITE	SPECIFIC II	NPUT DATA			N	OISE M	ODEL IN	PUTS	
Highway Data				Site Con	ditions (Hard = 1	10, Soft =	15)	
Average Daily	Traffic (Adt):	31,200 vehicle	s			Α	utos: 1	5	
Peak Hour	Percentage:	10%		Me	dium Tru	cks (2 A	kles): 1	5	
Peak F	lour Volume:	3,120 vehicle	s	He	avy Truc	ks (3+ A)	kles): 1	5	
Ve	hicle Speed:	40 mph		Vehicle	Mix				
Near/Far La	ne Distance:	48 feet			icleType	- 1	Day Eve	ning N	ight Daily
Site Data						_	,	2.9%	9.6% 97.429
Pa	rrier Heiaht:	0.0 feet		М	edium Tr	ucks: 8	34.8%	4.9% 1	0.3% 1.849
Barrier Type (0-V		0.0 feet			Heavy Tr	ucks: 8	36.5%	2.7% 1	0.8% 0.749
,, ,	st. to Barrier:	183.0 feet							
Centerline Dist.		183.0 feet		Noise S					
Barrier Distance	to Observer:	0.0 feet				: 1,549.			
Observer Height	(Above Pad):	23.0 feet			m Trucks	,		de Adion	
	ad Elevation:			Heav	ry Trucks	: 1,557.	406 Gra	ae Aajusi	tment: 0.0
Ro	ad Elevation:	1,549.4 feet		Lane Eq	uivalent	Distanc	e (in feet)		
Barr	ier Elevation:	1,552.0 feet			Autos	: 183.	217		
	Road Grade:	0.0%		Mediu	m Trucks	: 182.	910		
				Heav	y Trucks	: 182.	271		
FHWA Noise Mod	el Calculation	18		1					
VehicleType	REMEL	Traffic Flow	Distanc	e Finite	Road	Fresne	el Barr	ier Atten	Berm Atten
Autos:	67.36	3.50	-1	3.56	-1.20	-2	0.78	0.000	0.00
Medium Trucks:				3.55	-1.20	_	1.06	0.000	
Heavy Trucks:	81.16	-17.69	-1	3.53	-1.20	-2	1.76	0.000	0.00
Unmitigated Nois									
VehicleType	Leq Peak Ho			g Evening	Leq I		Ldn		CNEL
Autos:	-	1.1	59.2	57.4		51.4		60.0	60.
Medium Trucks:		2.8	51.3	45.0		43.4		51.9	52.
Heavy Trucks:		3.7	52.3	43.3		44.5		52.9	53.
Vehicle Noise:	62	2.3	60.6	57.8		52.7		61.3	61.
Mitigated Noise L	-	•							
VehicleType	Leq Peak Ho			Evening	Leq I		Ldn		CNEL
Autos:	-	1.1	59.2	57.4		51.4		60.0	60.
						43.4		51.9	52.
Medium Trucks: Heavy Trucks:		2.8 3.7	51.3 52.3	45.0 43.3		44.5		52.9	53.

F	FHWA-RD-77-108	HIGHWAY NOIS	SE PRE	DICTION	MODEL (CALVE	NO) - 6	6/2/2013		
Road Nan	rio: Third Floor Wine: Eucalyptus Av. Vo: Medical Office		açade		Project Na Job Nun Ana	nber: 8				
SITE	SPECIFIC INPL	JT DATA			NO	ISE M	ODEL	INPUTS	5	
Highway Data				Site Cor	nditions (H	lard = 1	0, Soft	t = 15)		
Average Daily	Traffic (Adt): 32,1	100 vehicles				Α	utos:	15		
Peak Hour	Percentage:	10%		Me	dium Truci	ks (2 A	des):	15		
Peak F	lour Volume: 3,2	210 vehicles		He	avy Trucks	3+ A	des):	15		
Ve	ehicle Speed:	40 mph		Vehicle	Miss	•				
	ane Distance:	48 feet					S 1		Allenter	D-#
Site Data				ven	icleType			Evening	Night	Daily
					Au edium Truc		7.5%	12.9%	9.6%	97.42
	rrier Height:	0.0 feet			eaium Trud Heavy Trud		34.8% 36.5%	4.9% 2.7%	10.3%	0.74
Barrier Type (0-V		0.0		,	Heavy Truc	CKS: 8	56.5%	2.7%	10.8%	0.74
		55.0 feet		Noise S	ource Elev	ations	(in fee	t)		
Centerline Dist.		55.0 feet			Autos:	1,551.	300			
Barrier Distance		0.0 feet		Mediu	m Trucks:	1,553.	597			
Observer Height	. ,	23.0 feet		Heav	y Trucks:	1.559.	306 G	rade Adj	ustment:	0.0
	ad Elevation: 1,5									
	ad Elevation: 1,5			Lane Eq	uivalent D		•	et)		
	rier Elevation: 1,5				Autos:	254.				
	Road Grade:	0.0%			m Trucks:					
				Heav	y Trucks:	254.	353			
FHWA Noise Mod										
VehicleType			stance			Fresne		arrier Atte		n Atter
Autos:		3.63	-10.		-1.20		1.43	0.0		0.00
Medium Trucks:		-13.61	-10.		-1.20		1.63	0.0		0.00
Heavy Trucks:	81.16	-17.57	-10.	70	-1.20	-2	2.13	0.0	00	0.00
	e Levels (without			,						
VehicleType	Leq Peak Hour	Leq Day	Leq I	Evening	Leq Ni		L	.dn		IEL
Autos:		57.2		55.4		49.3		58.0		58
Medium Trucks:		49.3		42.9		41.4		49.8		50
Heavy Trucks:		50.3		41.2		42.5		50.8		51
Vehicle Noise:	60.3	58.5		55.8		50.7		59.3		59
	evels (with Topo									
VehicleType	Leq Peak Hour	Leq Day	Leq I	Evening	Leq Ni	,	L	.dn		IEL
Autos:		57.2		55.4		49.3		58.0		58
Medium Trucks:		49.3		42.9		41.4		49.8		50
Heavy Trucks:		50.3		41.2		42.5		50.8		51
Vehicle Noise:	60.3	58.5		55.8		50.7		59.3		59

Monday, July 11, 2016

F	HWA-RD-77-10	8 HIGHWAY	NOISE F	PREDI	ICTION	MODE	L (CALV	ENO)	- 6/2/2013		
Road Nan	rio: Third Floor V ne: Eucalyptus A lo: Medical Offic	W.	uth Faça	de		Job N	t Name: Number: Number: Nanalyst: N	8991	n Springs lfe		
SITE	SPECIFIC INF	PUT DATA				ı	NOISE N	ЛОDE	L INPUT	S	
Highway Data				S	ite Con	ditions	(Hard =	10, Sc	oft = 15)		
Average Daily	Traffic (Adt): 32	2,100 vehicle	s				,	Autos:	15		
Peak Hour	Percentage:	10%			Me	dium Ti	rucks (2 A	Axles):	15		
Peak F	lour Volume: 3	3,210 vehicle	s		He	avy Tru	icks (3+ A	(xles	15		
Ve	hicle Speed:	40 mph		1/	ehicle i	Miv					
Near/Far La	ne Distance:	48 feet				icleTyp	_	Dav	Evenina	Niaht	Daily
Site Data				+	Ven			77.5%		9.6%	,
				-				84.8%		10.3%	
	rrier Height:	0.0 feet						86.5%		10.3%	
Barrier Type (0-W	. ,	0.0				neavy i	rucks.	00.5%	2.170	10.0%	0.74%
		214.0 feet		Ν	loise So	ource E	levation	s (in fe	eet)		
Centerline Dist.		214.0 feet				Auto	s: 1,553	3.200			
Barrier Distance		0.0 feet 23.0 feet			Mediui	m Truck	ks: 1,555	.497			
Observer Height	(Above Pad): ad Elevation: 1.				Heav	y Truck	ks: 1,561	.206	Grade Adj	iustment.	0.0
	ad Elevation: 1			1	ano Fa	uivalon	t Distan	co (in	foot)		
	ier Elevation: 1			-	ane Ly	Auto		764	iccij		
	Road Grade:	0.0%			Madiuu	m Truck		3.542			
	Road Grade.	0.0%				y Truck		3.097			
					noav	y much	10. 210				
FHWA Noise Mod	lel Calculations										
VehicleType	REMEL	Traffic Flow	Distar	се	Finite	Road	Fresn	nel .	Barrier Att	en Ber	m Atten
Autos:	67.36	3.63		-9.57		-1.20	-2	21.42	0.0	000	0.000
Medium Trucks:	76.31	-13.61		-9.56		-1.20	-2	21.66	0.0	000	0.000
Heavy Trucks:	81.16	-17.57		-9.55		-1.20	-2	22.26	0.0	000	0.000
Unmitigated Nois	e Levels (witho	ut Topo and	barrier a	attenu	ıation)						
VehicleType	Leq Peak Hour	Leq Day	/ Le	eq Ev	ening	Leq	Night		Ldn	CI	VEL
Autos:	60.2	2	58.3		56.6		50.5	5	59.1	1	59.7
Medium Trucks:	51.9	9	50.4		44.1		42.5	5	51.0)	51.2
Heavy Trucks:	52.8	3	51.4		42.4		43.6	ò	52.0)	52.1
Vehicle Noise:	61.5	5	59.7		56.9		51.9	9	60.4	1	60.9
Mitigated Noise L	evels (with Top	o and barrie	r attenua	ation)							
VehicleType	Leq Peak Hour	Leq Day	/ Le	eq Ev	ening	Leq	Night		Ldn	CI	VEL
Autos:	60.2	2	58.3		56.6		50.5	5	59.1		59.7
Medium Trucks:	51.9)	50.4		44.1		42.5	5	51.0)	51.2
Heavy Trucks:	52.8	3	51.4		42.4		43.6	S .	52.0)	52.1
Vehicle Noise:	Vehicle Noise: 61.5 59.7						51.9)	60.4	1	60.9

Monday, July 11, 2016 210 Monday, July 11, 2016

F	HWA-RD-77-1	108 HIGHWAY N	OISE PR	REDICTION	MODEL (C	ALVENO)	- 6/2/2013	
Road Nan	rio: Third Floor ne: Day St. lo: Medical Of	With Wall fice Bldg. 5-East	Façade		Project Na Job Num Anai			
SITE	SPECIFIC IN	IPUT DATA					EL INPUTS	5
Highway Data				Site Con	ditions (Ha	rd = 10, S	oft = 15)	
Average Daily	Traffic (Adt):	23,700 vehicles				Autos	: 15	
Peak Hour	Percentage:	10%		Me	dium Truck	(2 Axles)	: 15	
Peak F	lour Volume:	2,370 vehicles		He	avy Trucks	(3+ Axles)	: 15	
Ve	hicle Speed:	40 mph		Vehicle I	Mix			
Near/Far La	ne Distance:	48 feet			icleType	Day	Evening	Night Daily
Site Data				VC///	Auto			9.6% 97.42%
D-		0.0 feet		Me	edium Truci			10.3% 1.84%
	rrier Height:	0.0 reet 0.0			Heavy Truck		% 2.7%	10.8% 0.74%
Barrier Type (0-W	st. to Barrier:	0.0 364.0 feet			,			
Centerline Dist.		364.0 feet		Noise Sc	ource Eleva	•	feet)	
Barrier Distance		0.0 feet				1,562.500		
Observer Height		23.0 feet			m Trucks:	,		
	ad Elevation:			Heav	y Trucks:	1,570.506	Grade Adji	ustment: 0.0
	ad Elevation:			Lane Eq	uivalent Di	stance (in	feet)	
	ier Elevation:				Autos:	363.844	,	
	Road Grade:	0.0%		Mediur	n Trucks:	363.715		
	riodd Ordde.	0.070			y Trucks:	363.459		
FHWA Noise Mod	el Calculation	is						
VehicleType	REMEL	Traffic Flow	Distanc	e Finite	Road I	resnel	Barrier Atte	en Berm Atten
Autos:		2.01	-13	3.03	-1.20	-21.89	0.0	0.000
Medium Trucks:	76.31	-14.93	-13	3.03	-1.20	-22.03	0.0	0.000
Heavy Trucks:	81.16	-18.89	-13	3.03	-1.20	-22.38	0.0	0.000
Unmitigated Nois	e Levels (with	out Topo and b	arrier at	tenuation)				
VehicleType	Leq Peak Ho	ur Leq Day	Lec	Evening	Leq Nig	ht	Ldn	CNEL
Autos:	55	5.4 5	3.5	51.8		45.7	54.3	54.9
Medium Trucks:	47	7.2 4	5.6	39.3		37.7	46.2	46.4
Heavy Trucks:	48	3.0 4	6.6	37.6		38.8	47.2	47.3
Vehicle Noise:	56	5.7 5	4.9	52.2		47.1	55.6	56.1
Mitigated Noise L	evels (with To	po and barrier	attenuat	ion)				
VehicleType	Leq Peak Ho	ur Leq Day	Lec	Evening	Leq Nig	ht	Ldn	CNEL
Autos:	55	5.4 5	3.5	51.8		45.7	54.3	54.9
Medium Trucks:	47	7.2 4	5.6	39.3		37.7	46.2	46.4
Heavy Trucks:	48	3.0 4	6.6	37.6		38.8	47.2	47.3
Vehicle Noise:	56	5.7 5	4.9	52.2		47.1	55.6	56.1

F	HWA-RD-77-1	08 HIGHWAY	NOISE PR	EDICTION	MODEL	(CALVE	NO) - 6/2/2	013			
	rio: Third Floor						anyon Spri	ngs			
	ne: Gateway D Vo: Medical Of		rth Facade			ımber: 8 nalvst: A					
	SPECIFIC IN		ilii i açade	NOISE MODEL INPUTS							
Highway Data	SPECIFIC III	IFOI DATA		Site Con			0, Soft = 1				
Average Daily	Traffic (Adt):	12 300 vehicle	·s			А	utos: 15				
,	Percentage:	10%	-	Me	dium Tru	cks (2 A	des): 15				
	Hour Volume:	1.230 vehicle	s		avy Truc		,				
	ehicle Speed:	40 mph		Vehicle		- 1-	,				
Near/Far La	ne Distance:	48 feet			icleType		Day Ever	ina Mi	ight Daily		
Site Data				ven			.,	-	9.6% 97.42%		
					edium Tr				9.6% 97.427 0.3% 1.849		
	rrier Height:	0.0 feet			Heavy Tr				0.8% 0.749		
Barrier Type (0-V	. ,	0.0 386.0 feet			icavy 11	ucns. c	0.070 2	.770 1	0.070 0.747		
Centerline Dist.	ist. to Barrier:	386.0 feet 386.0 feet		Noise Source Elevations (in feet)							
Barrier Distance		0.0 feet				: 1,565.					
Observer Height		23.0 feet			m Trucks	,					
	Pad Elevation: 1.560.5 feet				ry Trucks	: 1,573.	006 Grad	e Adjusti	ment: 0.0		
Road Elevation: 1,565.0 feet				Lane Eq	uivalent	Distanc	e (in feet)				
	ier Elevation:	,		,	Autos						
	Road Grade:	0.0%		Mediu	m Trucks	: 385.	594				
				Heav	y Trucks	385.	396				
FHWA Noise Mod	lel Calculation	s									
VehicleType	REMEL	Traffic Flow	Distance	e Finite	Road	Fresne	el Barrie	r Atten	Berm Atten		
Autos:	67.36	-0.54	-13	3.41	-1.20	-2	2.10	0.000	0.00		
Medium Trucks:	76.31	-17.78	-13	3.41	-1.20	-2	2.23	0.000	0.00		
Heavy Trucks:	81.16	-21.73	-13	3.41	-1.20	-2.	2.56	0.000	0.00		
Unmitigated Nois											
VehicleType	Leq Peak Hou			Evening	Leq I		Ldn		CNEL		
Autos:		-	50.3	48.5		42.5		51.1	51.		
Medium Trucks:			42.4	36.1		34.5		43.0	43.		
	44		43.4	34.4		35.6		44.0	44.		
Heavy Trucks:		.4	51.7	48.9		43.8		52.4	52.		
Vehicle Noise:											
Vehicle Noise:	evels (with To										
Vehicle Noise: Mitigated Noise L VehicleType	evels (with To	ır Leq Day	/ Leq	Evening	Leq I		Ldn	54.4	CNEL		
Vehicle Noise: Mitigated Noise L VehicleType Autos:	evels (with To Leq Peak Hou	r Leq Day	50.3	Evening 48.5	Leq I	42.5	Ldn	51.1	51.		
Vehicle Noise: Mitigated Noise L VehicleType	evels (with To Leq Peak Hot 52	r Leq Day .2 .9	/ Leq	Evening	Leq I		Ldn	51.1 43.0 44.0	51.: 43.: 44.:		

F	HWA-RD-77-108	B HIGHWAY N	OISE PRI	EDICTION	MODEL	(CALVI	ENO) -	6/2/2013		
Road Nan	io: Third Floor W ne: Eucalyptus A lo: Medical Offic	v.	n Façade		Job No	Name: 0 Imber: 8 nalyst: 1	3991	Springs e		
SITE	SPECIFIC INP	UT DATA			N	OISE N	IODEI	. INPUT	S	
Highway Data	0. 20	0.1 57.17.		Site Con						
Average Daily	Traffic (Adt): 32	.100 vehicles				,	Autos:	15		
,	Percentage:	10%		Me	dium Tru	cks (2 A	xles):	15		
Peak F	lour Volume: 3	,210 vehicles		He	avy Truc	ks (3+ A	xles):	15		
Ve	hicle Speed:	40 mph		Vehicle I	Miv	-				
Near/Far La	ne Distance:	48 feet			icleTvpe		Dav	Evening	Niaht	Dailv
Site Data				ven	,, .		77.5%	12.9%	9.6%	. ,
				1/4	edium Tr		84.8%	4.9%	10.3%	
	rrier Height:	0.0 feet			deavy Tr		86.5%		10.3%	
Barrier Type (0-W		0.0			icavy 11	uono.	00.070	2.7 70	10.070	0.74
Centerline Di		529.0 feet		Noise Sc	ource Ele	evations	(in fe	et)		
Centerline Dist.		529.0 feet			Autos	: 1,550	.000			
Barrier Distance		0.0 feet		Mediur	n Trucks	: 1,552	.297			
Observer Height		23.0 feet		Heav	y Trucks	: 1,558	.006	Grade Adj	ustment.	0.0
	ad Elevation: 1,			Lane Eq	uivalent	Dietano	o (in f	oot)		
	ad Elevation: 1,			Lane Ly	Autos			001)		
	ier Elevation: 1, Road Grade:	0.0%		Modius	n Trucks		.405			
	Road Grade.	0.0%			y Trucks					
FHWA Noise Mod	el Calculations									
VehicleType		Traffic Flow	Distance	Finite	Road	Fresn	el L	Barrier Atte	en Ber	m Atten
Autos:	67.36	3,63	-15	.48	-1.20	-2	1.55	0.0	00	0.00
Medium Trucks:	76.31	-13.61	-15	.48	-1.20	-2	21.64	0.0	00	0.00
Heavy Trucks:	81.16	-17.57	-15	.47	-1.20	-2	1.89	0.0	00	0.00
Unmitigated Nois									1	
VehicleType	Leq Peak Hour	Leq Day		Evening	Leq I			Ldn		VEL
Autos:	54.3		2.4	50.6		44.6		53.2		53.
Medium Trucks:	46.0		1.5	38.2		36.6		45.1		45.
	46.9		5.5	36.5		37.7		46.1		46.
Heavy Trucks:			3.8	51.0		45.9		54.5	,	55.
Vehicle Noise:				_						
Vehicle Noise: Mitigated Noise L	evels (with Top	o and barrier a	ttenuatio		l ea l	Jiaht		I dn		VFI
Vehicle Noise: Mitigated Noise L VehicleType	evels (with Top Leq Peak Hour	o and barrier a	Leq	Evening	Leq I			Ldn 53.2		VEL 53
Vehicle Noise: Mitigated Noise L VehicleType Autos:	evels (with Top Leq Peak Hour 54.3	D and barrier a Leq Day	Leq	Evening 50.6	Leq I	44.6		53.2		53.
Vehicle Noise: Mitigated Noise L VehicleType	evels (with Top Leq Peak Hour	Leq Day	Leq	Evening	Leq I					VEL 53. 45.

Monday, July 11, 2016

Scenario: Third Floor With Wall Road Name: Gateway Dr.	F	HWA-RD-77-10	8 HIGHWAY	NOISE	PREC	DICTION	MODE	L (CALV	ENO) ·	- 6/2/2013			
Site Conditions (Hard = 10, Soft = 15)	Road Nan	ne: Gateway Dr.		rth Faç	ade		Job N	Number:	8991				
Average Daily Traffic (Adt): 12,300 vehicles Peak Hour Percentage: 10% Medium Trucks (2 Axles): 15 Seak Hour Percentage: 10% Medium Trucks (2 Axles): 15 Seak Hour Percentage: 10% Medium Trucks (2 Axles): 15 Seak Hour Volume: 1,230 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 48 feet Vehicle Mix Vehicle Type Day Evening Night Daily Site Data Autos: 77.5% 12.9% 9.6% 97.42% Medium Trucks: 84.8% 4.9% 10.3% 1.84% Medium Trucks: 84.8% 4.9% 10.3% 1.84% Medium Trucks: 86.5% 2.7% 10.8% 0.74% Medium Trucks: 1,567.00 Medium Trucks: 1,569.09 Medium Trucks: 1,569.09 Medium Trucks: 1,569.09 Medium Trucks: 1,575.006 Grade Adjustment: 0.0 Medium Trucks: 1,575.006 Grade Adjustment: 0.0 Medium Trucks: 387.881 Medium Trucks: 387.881 Medium Trucks: 387.58 Medium Tru	SITE	SPECIFIC IN	PUT DATA				ı	NOISE N	ЛОDE	L INPUT	S		
Peak Hour Percentage: 10%	Highway Data				;	Site Cor	ditions	(Hard =	10, Sc	oft = 15)			
Peak Hour Volume: 1,230 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 48 feet Vehicle Mix Vehicle Type Day Evening Night Daily Vehicle Mix Vehicle Fire Fire Fire Fire Fire Fire Fire Fir	Average Daily	Traffic (Adt): 1:	2,300 vehicle	s				,	Autos:	15			
Vehicle Speed:	Peak Hour	Percentage:	10%			Me	dium Ti	rucks (2 A	Axles):	15			
Near/Far Lane Distance:	Peak I	Hour Volume:	1,230 vehicle	S		He	avy Tru	icks (3+ A	Axles):	15			
Near/Far Lane Distance:	Ve	ehicle Speed:	40 mph		h	Vehicle	Mix						
Site Data	Near/Far La	ane Distance:	48 feet		F			e	Dav	Evenina	Night	Daily	
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Perm): 0.0	Site Data				_		,,					. ,	
Barrier Type (C-Wall, 1-Berm): 0.0 test Heavy Trucks: 86.5% 2.7% 10.8% 0.74%						M							
Centerline Dist. to Dasrier:							Heavy 7	Trucks:	86.5%	2.7%	10.8%	0.74%	
Centerline Dist. to Observer: 388.0 feet Autos: 1,567.000 Medium Trucks: 1,559.297 Heavy Trucks: 1,550.00 Grade Adjustment: 0.0 Medium Trucks: 1,550.00 Grade Adjustment: 0.0 Medium Trucks: 1,550.00 Grade Adjustment: 0.0 Medium Trucks: 1,550.00 Grade Adjustment: 0.0 Medium Trucks: 1,550.00 Grade Adjustment: 0.0 Medium Trucks: 387.758 Medium Trucks: 387.758 Medium Trucks: 387.758 Medium Trucks: 387.758 Medium Trucks: 387.758 Medium Trucks: 387.550 Medium Trucks: 388.50 Medium Trucks		. ,			L								
Barrier Distance to Observer: 0.0 feet Choose Choos					1	Noise S				eet)			
Observer Height (Above Pad): 23.0 feet Pad Elevation: 1,566.0 feet Road Elevation: 1,566.0 feet Road Elevation: 1,567.0 feet Barrier Elevation: 1,567.0 feet Road Grade: 0.0% Calculations Calculat								. ,					
Pad Elevation: 1,566.0 feet Ready Trucks: 1,575.006 State Adjustment. 0.0		Observer Height (Above Pad): 23.0 feet											
Road Elevation: 1,567.0 feet Barrier Elevation: 1,567.0 feet Barrier Elevation: 1,567.0 feet Road Grade: 0.0% Barrier Elevation: 1,567.0 feet Road Grade: 0.0% Barrier Elevation: 1,567.0 feet Road Grade: 0.0% Road Grade: 0.0	, ,					Heav	ry Truck	s: 1,575	.006	Grade Adj	ustment:	0.0	
Road Grade: 0.0% Medium Trucks: 387.758 Heavy Trucks: 387.510			,		1	Lane Eq	uivalen	t Distan	ce (in	feet)			
Heavy Trucks: 387.510 Heavy Trucks: 387.510 Heavy Trucks: 387.510 Heavy Trucks: 387.510 Heavy Trucks: 387.510 Heavy Trucks: 387.510 Heavy Trucks: 387.510 Heavy Trucks: 67.36 -0.54 -13.45 -1.20 -20.92 -0.000 -0.000 Heavy Trucks: 81.16 -21.73 -13.45 -1.20 -21.36 -0.000 -0.000 Heavy Trucks: 81.16 -21.73 -13.44 -1.20 -21.36 -0.000 -0.000 Heavy Trucks: 81.16 -21.73 -13.44 -1.20 -21.36 -0.000 -0.000 Heavy Trucks: 81.16 -21.73 -13.44 -1.20 -21.36 -0.000 -0.000 Heavy Trucks: 81.16 -21.73 -13.44 -1.20 -21.36 -0.000 -0.000 Heavy Trucks: 81.16 -21.73 -13.44 -1.20 -21.36 -0.0000	Barr	rier Elevation: 1	,567.0 feet				Auto	s: 387	.881				
VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berm Atten		Road Grade:	0.0%			Mediu	m Truck	ks: 387	.758				
VehicleType						Heav	y Truck	ks: 387	.510				
VehicleType													
Autos: 67.36 -0.54 -13.45 -1.20 -20.92 0.000 0.000 Medium Trucks: 76.31 -17.78 -13.45 -1.20 -21.04 0.000 0.000 Unmitigated Noise Levels (without Topo and barrier attenuation) Vehicle Type Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 52.2 50.3 48.5 42.5 51.1 51.7 Medium Trucks: 43.9 42.4 36.0 34.5 42.9 43.2 Heavy Trucks: 44.8 43.4 34.3 35.6 43.9 44.1 Vehicle Noise: 53.4 51.6 48.9 43.8 52.4 52.9 Mitigated Noise Levels (with Topo and barrier attenuation) Vehicle Poise Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 52.2 50.3 48.5 42.5 51.1 51.7 Medium Trucks: 43.9 42.4 36.0 34.5 42.5 </th <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>													
Medium Trucks: 76.31	,,, .			Dist									
Heavy Trucks: 81.16 -21.73 -13.44 -1.20 -21.36 0.000 0.000						-							
Unmitigated Noise Levels (without Topo and barrier attenuation) Vehicle Type Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL						-		-					
VehicleType	Heavy Trucks:	81.16	-21.73		-13.44	4	-1.20	-2	21.36	0.0	000	0.000	
Autos: 52.2 50.3 48.5 42.5 51.1 51.7	Unmitigated Nois	e Levels (witho	ut Topo and	barrie	r atten	uation)							
Medium Trucks: 43.9 42.4 36.0 34.5 42.9 43.2 Heavy Trucks: 44.8 43.4 34.3 35.6 43.9 44.1 Vehicle Noise: 53.4 51.6 48.9 43.8 52.4 52.9 Mitigated Noise Levels (with Topo and barrier attenuation) Vehicle Type Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 52.2 50.3 48.5 42.5 51.1 51.7 Medium Trucks: 43.9 42.4 36.0 34.5 42.9 43.2 Heavy Trucks: 44.8 43.4 34.3 35.6 43.9 44.1	VehicleType	Leq Peak Hour	Leq Day	/	Leg E	/ening	Leq	Night		Ldn	CI	VEL	
Heavy Trucks: 44.8 43.4 34.3 35.6 43.9 44.1 Vehicle Noise: 53.4 51.6 48.9 43.8 52.4 52.9 Mittigated Noise Levels (with Topo and barrier atternation) Vehicle Type Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 52.2 550.3 48.5 42.5 51.1 51.7 Medium Trucks: 43.9 42.4 36.0 34.5 42.9 43.2 Heavy Trucks: 44.8 43.4 34.3 35.6 43.9 44.1	Autos:	52.	2	50.3		48.5		42.5	5	51.1		51.7	
Wehicle Noise: 53.4 51.6 48.9 43.8 52.4 52.9 Mitigated Noise Levels (with Topo and barrier attenuation) Vehicle Type Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 52.2 50.3 48.5 42.5 51.7 Medium Trucks: 43.9 42.4 36.0 34.5 42.9 43.2 Heavy Trucks: 44.8 43.4 34.3 35.6 43.9 44.1	Medium Trucks:	43.	9	42.4		36.0		34.5	5	42.9)	43.2	
Mitigated Noise Levels (with Topo and barrier attenuation)	Heavy Trucks:	44.	В	43.4		34.3		35.6	ì	43.9)	44.1	
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 52.2 50.3 48.5 42.5 51.1 51.7 Medium Trucks: 43.9 42.4 36.0 34.5 42.9 43.2 Heavy Trucks: 44.8 43.4 34.3 35.6 43.9 44.1	Vehicle Noise:	53.	4	51.6		48.9		43.8	3	52.4	1	52.9	
Autos: 52.2 50.3 48.5 42.5 51.1 51.7 Medium Trucks: 43.9 42.4 36.0 34.5 42.9 43.2 Heavy Trucks: 44.8 43.4 34.3 35.6 43.9 44.1	Mitigated Noise L	evels (with Top	o and barrie	r atten	uation)							
Medium Trucks: 43.9 42.4 36.0 34.5 42.9 43.2 Heavy Trucks: 44.8 43.4 34.3 35.6 43.9 44.1	VehicleType	Leq Peak Hour	Leq Day	/	Leg E	/ening	Leq	Night		Ldn	CI	VEL	
Heavy Trucks: 44.8 43.4 34.3 35.6 43.9 44.1	Autos:	52.:	2	50.3		48.5		42.5	5	51.1	i	51.7	
	Medium Trucks:	43.	9	42.4		36.0		34.5	5	42.9)	43.2	
Vehicle Noise: 53.4 51.6 48.9 43.8 52.4 52.9	Heavy Trucks:	44.8	В	43.4		34.3		35.6	6	43.9)	44.1	
	Vehicle Noise:	53.	4	51.6		48.9		43.8	3	52.4	1	52.9	

Monday, July 11, 2016 211 Monday, July 11, 2016

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APPENDIX 10.1:

STATIONARY-SOURCE NOISE CALCULATIONS



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Source: Parking Structure Activity Project Name: Canyon Springs

Observer Location: R1 Job Number: 8991
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer 177.0 feet **Barrier Height:** 8.0 feet Noise Distance to Barrier: 90.0 feet Barrier Type (0-Wall, 1-Berm): 0.0

Barrier Distance to Observer: 87.0 feet

Noise Height: 5.0 feet

Observer Height (Above Pad): 5.0 feet

Barrier Breaks Line of Sight: Yes

Observer Elevation: 0.0 feet Wall Located at Noise Source Elevation: No

Noise Source Elevation: 0.0 feet

	NOISE MODEL PROJECTIONS										
Noise Level	Distance (feet)	Leq	L50	L25	L8	L2	Lmax				
Reference (Sample)	20.0	65.9	62.5	65.6	67.7	74.3	81.7				
Distance Attenuation	177.0	-14.2	-14.2	-14.2	-14.2	-14.2	-14.2				
Shielding (Barrier Attenuation)	177.0	-6.0	-6.0	-6.0	-6.0	-6.0	-6.0				
Raw (Distance + Barrier)		45.7	42.3	45.4	47.5	54.1	61.5				
60 Minute Hourly Adjustmen	t	45.7	42.3	45.4	47.5	54.1	61.5				

Source: Parking Lot Vehicle Movement Project Name: Canyon Springs

Observer Location: R1 Job Number: 8991
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer 275.0 feet Barrier Height: 52.0 feet

Noise Distance to Barrier: 30.0 feet Barrier Type (0-Wall, 1-Berm): 0.0

Barrier Distance to Observer: 245.0 feet

Noise Height: 5.0 feet

Observer Height (Above Pad): 5.0 feet Barrier Breaks Line of Sight: Yes

Observer Elevation: 0.0 feet Wall Located at Noise Source Elevation: No

Noise Source Elevation: 0.0 feet

NOISE MODEL PROJECTIONS										
Noise Level	Distance (feet)	Leq	L50	L25	L8	L2	Lmax			
Reference (Sample)	20.0	62.9	54.5	57.6	64.2	73.2	81.8			
Distance Attenuation	275.0	-17.1	-17.1	-17.1	-17.1	-17.1	-17.1			
Shielding (Barrier Attenuation)	275.0	-18.8	-18.8	-18.8	-18.8	-18.8	-18.8			
Raw (Distance + Barrier)		27.0	18.6	21.7	28.3	37.3	45.9			
60 Minute Hourly Adjustmen	t	27.0	18.6	21.7	28.3	37.3	45.9			

Source: Roof-Top Air Conditioning Unit Project Name: Canyon Springs

Observer Location: R1 Job Number: 8991
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer 113.0 feet Barrier Height: 52.0 feet

Noise Distance to Barrier: 25.0 feet Barrier Type (0-Wall, 1-Berm): 0.0

Barrier Distance to Observer: 88.0 feet

Noise Height: 5.0 feet

Observer Height (Above Pad): 5.0 feet Barrier Breaks Line of Sight: Yes

Observer Elevation: 0.0 feet Wall Located at Noise Source Elevation: No

Noise Source Elevation: 52.0 feet

NOISE MODEL PROJECTIONS										
Noise Level	Distance (feet)	Leq	L50	L25	L8	L2	Lmax			
Reference (Sample)	5.0	81.9	74.4	53.7	51.5	50.1	78.2			
Distance Attenuation	113.0	-27.1	-27.1	-27.1	-27.1	-27.1	-27.1			
Shielding (Barrier Attenuation)	113.0	-9.8	-9.8	-9.8	-9.8	-9.8	-9.8			
Raw (Distance + Barrier)		45.0	37.5	16.8	14.6	13.2	41.3			
39 Minute Hourly Adjustmen	t	43.1	35.6	14.9	12.7	11.3	39.4			

Source: Parking Structure Activity Project Name: Canyon Springs

Observer Location: R2 Job Number: 8991 Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer 66.0 feet **Barrier Height:** 8.0 feet

Noise Distance to Barrier: 56.0 feet Barrier Type (0-Wall, 1-Berm): 0.0

Barrier Distance to Observer: 10.0 feet

Noise Height: 5.0 feet

Observer Height (Above Pad): 5.0 feet Barrier Breaks Line of Sight: Yes

Observer Elevation: 58.0 feet Wall Located at Noise Source Elevation: No

Noise Source Elevation: 53.0 feet

	NOISE MODEL PROJECTIONS										
Noise Level	Distance (feet)	Leq	L50	L25	L8	L2	Lmax				
Reference (Sample)	20.0	65.9	62.5	65.6	67.7	74.3	81.7				
Distance Attenuation	66.0	-7.8	-7.8	-7.8	-7.8	-7.8	-7.8				
Shielding (Barrier Attenuation)	66.0	-9.7	-9.7	-9.7	-9.7	-9.7	-9.7				
Raw (Distance + Barrier)		48.4	45.0	48.1	50.2	56.8	64.2				
60 Minute Hourly Adjustmen	t	48.4	45.0	48.1	50.2	56.8	64.2				

Source: Parking Lot Vehicle Movement Project Name: Canyon Springs

Observer Location: R2 Job Number: 8991 Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer 304.0 feet Barrier Height: 40.0 feet

Noise Distance to Barrier: 50.0 feet Barrier Type (0-Wall, 1-Berm): 0.0

Barrier Distance to Observer: 254.0 feet

Noise Height: 5.0 feet

Observer Height (Above Pad): 5.0 feet Barrier Breaks Line of Sight: Yes

Observer Elevation: 0.0 feet Wall Located at Noise Source Elevation: No

Noise Source Elevation: 0.0 feet

	NOISE MODEL PROJECTIONS										
Noise Level	Distance (feet)	Leq	L50	L25	L8	L2	Lmax				
Reference (Sample)	20.0	62.9	54.5	57.6	64.2	73.2	81.8				
Distance Attenuation	304.0	-17.7	-17.7	-17.7	-17.7	-17.7	-17.7				
Shielding (Barrier Attenuation)	304.0	-17.5	-17.5	-17.5	-17.5	-17.5	-17.5				
Raw (Distance + Barrier)		27.7	19.3	22.4	29.0	38.0	46.6				
60 Minute Hourly Adjustmen	t	27.7	19.3	22.4	29.0	38.0	46.6				

Source: Roof-Top Air Conditioning Unit Project Name: Canyon Springs

Observer Location: R2 Job Number: 8991 Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer 396.0 feet Barrier Height: 52.0 feet

Noise Distance to Barrier: 35.0 feet Barrier Type (0-Wall, 1-Berm): 0.0

Barrier Distance to Observer: 361.0 feet

Noise Height: 5.0 feet

Observer Height (Above Pad): 5.0 feet Barrier Breaks Line of Sight: Yes

Observer Elevation: 0.0 feet Wall Located at Noise Source Elevation: No

Noise Source Elevation: 52.0 feet

NOISE MODEL PROJECTIONS										
Noise Level	Distance (feet)	Leq	L50	L25	L8	L2	Lmax			
Reference (Sample)	5.0	81.9	74.4	53.7	51.5	50.1	78.2			
Distance Attenuation	396.0	-38.0	-38.0	-38.0	-38.0	-38.0	-38.0			
Shielding (Barrier Attenuation)	396.0	-4.9	-4.9	-4.9	-4.9	-4.9	-4.9			
Raw (Distance + Barrier)		39.0	31.5	10.8	8.6	7.2	35.3			
39 Minute Hourly Adjustmen	t	37.1	29.6	8.9	6.7	5.3	33.4			

Source: Parking Structure Activity Project Name: Canyon Springs

Observer Location: R3 Job Number: 8991 Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer 83.0 feet **Barrier Height:** 8.0 feet

Noise Distance to Barrier: 73.0 feet Barrier Type (0-Wall, 1-Berm): 0.0

Barrier Distance to Observer: 10.0 feet

Noise Height: 5.0 feet

Observer Height (Above Pad): 5.0 feet Barrier Breaks Line of Sight: Yes

Observer Elevation: 55.0 feet Wall Located at Noise Source Elevation: No

Noise Source Elevation: 52.0 feet

	NOISE MODEL PROJECTIONS										
Noise Level	Distance (feet)	Leq	L50	L25	L8	L2	Lmax				
Reference (Sample)	20.0	65.9	62.5	65.6	67.7	74.3	81.7				
Distance Attenuation	83.0	-9.3	-9.3	-9.3	-9.3	-9.3	-9.3				
Shielding (Barrier Attenuation)	83.0	-9.1	-9.1	-9.1	-9.1	-9.1	-9.1				
Raw (Distance + Barrier)		47.5	44.1	47.2	49.3	55.9	63.3				
60 Minute Hourly Adjustmen	t	47.5	44.1	47.2	49.3	55.9	63.3				

Source: Parking Lot Vehicle Movement Project Name: Canyon Springs

Observer Location: R3 Job Number: 8991 Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer 96.0 feet **Barrier Height: 8.0 feet**

Noise Distance to Barrier: 86.0 feet Barrier Type (0-Wall, 1-Berm): 0.0

Barrier Distance to Observer: 10.0 feet

Noise Height: 5.0 feet

Observer Height (Above Pad): 5.0 feet Barrier Breaks Line of Sight: Yes

Observer Elevation: 55.0 feet Wall Located at Noise Source Elevation: No

Noise Source Elevation: 51.0 feet

NOISE MODEL PROJECTIONS										
Noise Level	Distance (feet)	Leq	L50	L25	L8	L2	Lmax			
Reference (Sample)	20.0	62.9	54.5	57.6	64.2	73.2	81.8			
Distance Attenuation	96.0	-10.2	-10.2	-10.2	-10.2	-10.2	-10.2			
Shielding (Barrier Attenuation)	96.0	-9.1	-9.1	-9.1	-9.1	-9.1	-9.1			
Raw (Distance + Barrier)		43.6	35.2	38.3	44.9	53.9	62.5			
60 Minute Hourly Adjustmen	t	43.6	35.2	38.3	44.9	53.9	62.5			

Source: Roof-Top Air Conditioning Unit Project Name: Canyon Springs

Observer Location: R3 Job Number: 8991 Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer 200.0 feet Barrier Height: 52.0 feet

Noise Distance to Barrier: 35.0 feet Barrier Type (0-Wall, 1-Berm): 0.0

Barrier Distance to Observer: 165.0 feet

Noise Height: 5.0 feet

Observer Height (Above Pad): 5.0 feet Barrier Breaks Line of Sight: Yes

Observer Elevation: 0.0 feet Wall Located at Noise Source Elevation: No

Noise Source Elevation: 52.0 feet

NOISE MODEL PROJECTIONS									
Noise Level	Distance (feet)	Leq	L50	L25	L8	L2	Lmax		
Reference (Sample)	5.0	81.9	74.4	53.7	51.5	50.1	78.2		
Distance Attenuation	200.0	-32.0	-32.0	-32.0	-32.0	-32.0	-32.0		
Shielding (Barrier Attenuation)	200.0	-7.2	-7.2	-7.2	-7.2	-7.2	-7.2		
Raw (Distance + Barrier)		42.7	35.2	14.5	12.3	10.9	39.0		
39 Minute Hourly Adjustmen	t	40.8	33.3	12.6	10.4	9.0	37.1		

Source: Parking Structure Activity Project Name: Canyon Springs

Observer Location: R4 Job Number: 8991 Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer 374.0 feet **Barrier Height:** 8.0 feet

Noise Distance to Barrier: 124.0 feet Barrier Type (0-Wall, 1-Berm): 0.0

Barrier Distance to Observer: 250.0 feet

Noise Height: 5.0 feet

Observer Height (Above Pad): 5.0 feet Barrier Breaks Line of Sight: Yes

Observer Elevation: 0.0 feet Wall Located at Noise Source Elevation: No

Noise Source Elevation: 0.0 feet

NOISE MODEL PROJECTIONS										
Noise Level	Distance (feet)	Leq	L50	L25	L8	L2	Lmax			
Reference (Sample)	20.0	65.9	62.5	65.6	67.7	74.3	81.7			
Distance Attenuation	374.0	-19.1	-19.1	-19.1	-19.1	-19.1	-19.1			
Shielding (Barrier Attenuation)	374.0	-5.5	-5.5	-5.5	-5.5	-5.5	-5.5			
Raw (Distance + Barrier)		41.3	37.9	41.0	43.1	49.7	57.1			
60 Minute Hourly Adjustmen	t	41.3	37.9	41.0	43.1	49.7	57.1			

Source: Parking Lot Vehicle Movement Project Name: Canyon Springs

Observer Location: R4 Job Number: 8991 Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer 251.0 feet **Barrier Height:** 8.0 feet

Noise Distance to Barrier: 67.0 feet Barrier Type (0-Wall, 1-Berm): 0.0

Barrier Distance to Observer: 184.0 feet

Noise Height: 5.0 feet

Observer Height (Above Pad): 5.0 feet Barrier Breaks Line of Sight: Yes

Observer Elevation: 0.0 feet Wall Located at Noise Source Elevation: No

Noise Source Elevation: 0.0 feet

NOISE MODEL PROJECTIONS									
Noise Level	Distance (feet)	Leq	L50	L25	L8	L2	Lmax		
Reference (Sample)	20.0	62.9	54.5	57.6	64.2	73.2	81.8		
Distance Attenuation	251.0	-16.5	-16.5	-16.5	-16.5	-16.5	-16.5		
Shielding (Barrier Attenuation)	251.0	-5.9	-5.9	-5.9	-5.9	-5.9	-5.9		
Raw (Distance + Barrier)		40.5	32.1	35.2	41.8	50.8	59.4		
60 Minute Hourly Adjustmen	t	40.5	32.1	35.2	41.8	50.8	59.4		

Source: Roof-Top Air Conditioning Unit Project Name: Canyon Springs

Observer Location: R4 Job Number: 8991 Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer 94.0 feet **Barrier Height:** 52.0 feet

Noise Distance to Barrier: 20.0 feet Barrier Type (0-Wall, 1-Berm): 0.0

Barrier Distance to Observer: 74.0 feet

Noise Height: 5.0 feet

Observer Height (Above Pad): 5.0 feet Barrier Breaks Line of Sight: Yes

Observer Elevation: 0.0 feet Wall Located at Noise Source Elevation: No

Noise Source Elevation: 52.0 feet

NOISE MODEL PROJECTIONS										
Noise Level	Distance (feet)	Leq	L50	L25	L8	L2	Lmax			
Reference (Sample)	5.0	81.9	74.4	53.7	51.5	50.1	78.2			
Distance Attenuation	94.0	-25.5	-25.5	-25.5	-25.5	-25.5	-25.5			
Shielding (Barrier Attenuation)	94.0	-9.8	-9.8	-9.8	-9.8	-9.8	-9.8			
Raw (Distance + Barrier)		46.6	39.1	18.4	16.2	14.8	42.9			
39 Minute Hourly Adjustmen	t	44.7	37.2	16.5	14.3	12.9	41.0			

Source: Parking Structure Activity Project Name: Canyon Springs

Observer Location: R5 Job Number: 8991 Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer 273.0 feet Barrier Height: 0.0 feet

Noise Distance to Barrier: 273.0 feet Barrier Type (0-Wall, 1-Berm): 0.0

Barrier Distance to Observer: 0.0 feet

Noise Height: 5.0 feet

Observer Height (Above Pad): 5.0 feet Barrier Breaks Line of Sight: No

Observer Elevation: 0.0 feet Wall Located at Noise Source Elevation: No

Noise Source Elevation: 0.0 feet

NOISE MODEL PROJECTIONS										
Noise Level	Distance (feet)	Leq	L50	L25	L8	L2	Lmax			
Reference (Sample)	20.0	65.9	62.5	65.6	67.7	74.3	81.7			
Distance Attenuation	273.0	-17.0	-17.0	-17.0	-17.0	-17.0	-17.0			
Shielding (Barrier Attenuation)	273.0	0.0	0.0	0.0	0.0	0.0	0.0			
Raw (Distance + Barrier)		48.9	45.5	48.6	50.7	57.3	64.7			
60 Minute Hourly Adjustmen	t	48.9	45.5	48.6	50.7	57.3	64.7			

Source: Parking Lot Vehicle Movement Project Name: Canyon Springs

Observer Location: R5 Job Number: 8991 Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer 341.0 feet Barrier Height: 0.0 feet

Noise Distance to Barrier: 341.0 feet Barrier Type (0-Wall, 1-Berm): 0.0

Barrier Distance to Observer: 0.0 feet

Noise Height: 5.0 feet

Observer Height (Above Pad): 5.0 feet Barrier Breaks Line of Sight: No

Observer Elevation: 0.0 feet Wall Located at Noise Source Elevation: No

Noise Source Elevation: 0.0 feet

NOISE MODEL PROJECTIONS									
Noise Level	Distance (feet)	Leq	L50	L25	L8	L2	Lmax		
Reference (Sample)	20.0	62.9	54.5	57.6	64.2	73.2	81.8		
Distance Attenuation	341.0	-18.5	-18.5	-18.5	-18.5	-18.5	-18.5		
Shielding (Barrier Attenuation)	341.0	0.0	0.0	0.0	0.0	0.0	0.0		
Raw (Distance + Barrier)		44.4	36.0	39.1	45.7	54.7	63.3		
60 Minute Hourly Adjustmen	t	44.4	36.0	39.1	45.7	54.7	63.3		

Source: Roof-Top Air Conditioning Unit Project Name: Canyon Springs

Observer Location: R5 Job Number: 8991 Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer 427.0 feet Barrier Height: 0.0 feet

Noise Distance to Barrier: 427.0 feet Barrier Type (0-Wall, 1-Berm): 0.0

Barrier Distance to Observer: 0.0 feet

Noise Height: 5.0 feet

Observer Height (Above Pad): 5.0 feet Barrier Breaks Line of Sight: Yes

Observer Elevation: 0.0 feet Wall Located at Noise Source Elevation: No

Noise Source Elevation: 52.0 feet

NOISE MODEL PROJECTIONS									
Noise Level	Distance (feet)	Leq	L50	L25	L8	L2	Lmax		
Reference (Sample)	5.0	81.9	74.4	53.7	51.5	50.1	78.2		
Distance Attenuation	427.0	-38.6	-38.6	-38.6	-38.6	-38.6	-38.6		
Shielding (Barrier Attenuation)	427.0	0.0	0.0	0.0	0.0	0.0	0.0		
Raw (Distance + Barrier)		43.3	35.8	15.1	12.9	11.5	39.6		
39 Minute Hourly Adjustmen	t	41.4	33.9	13.2	11.0	9.6	37.7		

Source: Parking Structure Activity Project Name: Canyon Springs

Observer Location: R6 Job Number: 8991 Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer 1,269.0 feet Barrier Height: 0.0 feet

Noise Distance to Barrier: 1,269.0 feet Barrier Type (0-Wall, 1-Berm): 0.0

Barrier Distance to Observer: 0.0 feet

Noise Height: 5.0 feet

Observer Height (Above Pad): 5.0 feet Barrier Breaks Line of Sight: No

Observer Elevation: 0.0 feet Wall Located at Noise Source Elevation: No

Noise Source Elevation: 0.0 feet

NOISE MODEL PROJECTIONS										
Noise Level	Distance (feet)	Leq	L50	L25	L8	L2	Lmax			
Reference (Sample)	20.0	65.9	62.5	65.6	67.7	74.3	81.7			
Distance Attenuation	1,269.0	-27.0	-27.0	-27.0	-27.0	-27.0	-27.0			
Shielding (Barrier Attenuation)	1,269.0	0.0	0.0	0.0	0.0	0.0	0.0			
Raw (Distance + Barrier)		38.9	35.5	38.6	40.7	47.3	54.7			
60 Minute Hourly Adjustmen	t	38.9	35.5	38.6	40.7	47.3	54.7			

Source: Parking Lot Vehicle Movement Project Name: Canyon Springs

Job Number: 8991 Observer Location: R6 Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer 481.0 feet Barrier Height: 0.0 feet 0.0

Noise Distance to Barrier: 481.0 feet Barrier Type (0-Wall, 1-Berm):

Barrier Distance to Observer: 0.0 feet

> 5.0 feet Noise Height:

Observer Height (Above Pad): 5.0 feet Barrier Breaks Line of Sight: No

Observer Elevation: 0.0 feet Wall Located at Noise Source Elevation: No

Noise Source Elevation: 0.0 feet

NOISE MODEL PROJECTIONS										
Noise Level	Distance (feet)	Leq	L50	L25	L8	L2	Lmax			
Reference (Sample)	20.0	62.9	54.5	57.6	64.2	73.2	81.8			
Distance Attenuation	481.0	-20.7	-20.7	-20.7	-20.7	-20.7	-20.7			
Shielding (Barrier Attenuation)	481.0	0.0	0.0	0.0	0.0	0.0	0.0			
Raw (Distance + Barrier)		42.2	33.8	36.9	43.5	52.5	61.1			
60 Minute Hourly Adjustmen	t	42.2	33.8	36.9	43.5	52.5	61.1			

Source: Roof-Top Air Conditioning Unit Project Name: Canyon Springs

Observer Location: R6 Job Number: 8991 Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer 666.0 feet Barrier Height: 0.0 feet

Noise Distance to Barrier: 666.0 feet Barrier Type (0-Wall, 1-Berm): 0.0

Barrier Distance to Observer: 0.0 feet

Noise Height: 5.0 feet

Observer Height (Above Pad): 5.0 feet Barrier Breaks Line of Sight: Yes

Observer Elevation: 0.0 feet Wall Located at Noise Source Elevation: No

Noise Source Elevation: 34.0 feet

NOISE MODEL PROJECTIONS									
Noise Level	Distance (feet)	Leq	L50	L25	L8	L2	Lmax		
Reference (Sample)	5.0	81.9	74.4	53.7	51.5	50.1	78.2		
Distance Attenuation	666.0	-42.5	-42.5	-42.5	-42.5	-42.5	-42.5		
Shielding (Barrier Attenuation)	666.0	0.0	0.0	0.0	0.0	0.0	0.0		
Raw (Distance + Barrier)		39.4	31.9	11.2	9.0	7.6	35.7		
39 Minute Hourly Adjustmen	t	37.5	30.0	9.3	7.1	5.7	33.8		

Source: Parking Structure Activity Project Name: Canyon Springs

Observer Location: R7 Job Number: 8991 Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer 1,584.0 feet Barrier Height: 0.0 feet

Noise Distance to Barrier: 1,584.0 feet Barrier Type (0-Wall, 1-Berm): 0.0

Barrier Distance to Observer: 0.0 feet

Noise Height: 5.0 feet

Observer Height (Above Pad): 5.0 feet Barrier Breaks Line of Sight: No

Observer Elevation: 0.0 feet Wall Located at Noise Source Elevation: No

Noise Source Elevation: 0.0 feet

NOISE MODEL PROJECTIONS									
Noise Level	Distance (feet)	Leq	L50	L25	L8	L2	Lmax		
Reference (Sample)	20.0	65.9	62.5	65.6	67.7	74.3	81.7		
Distance Attenuation	1,584.0	-28.5	-28.5	-28.5	-28.5	-28.5	-28.5		
Shielding (Barrier Attenuation)	1,584.0	0.0	0.0	0.0	0.0	0.0	0.0		
Raw (Distance + Barrier)		37.4	34.0	37.1	39.2	45.8	53.2		
60 Minute Hourly Adjustmen	t	37.4	34.0	37.1	39.2	45.8	53.2		

Source: Parking Lot Vehicle Movement Project Name: Canyon Springs

Observer Location: R7 Job Number: 8991 Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer 661.0 feet Barrier Height: 0.0 feet

Noise Distance to Barrier: 661.0 feet Barrier Type (0-Wall, 1-Berm): 0.0

Barrier Distance to Observer: 0.0 feet

Noise Height: 5.0 feet

Observer Height (Above Pad): 5.0 feet Barrier Breaks Line of Sight: No

Observer Elevation: 0.0 feet Wall Located at Noise Source Elevation: No

Noise Source Elevation: 0.0 feet

NOISE MODEL PROJECTIONS									
Noise Level	Distance (feet)	Leq	L50	L25	L8	L2	Lmax		
Reference (Sample)	20.0	62.9	54.5	57.6	64.2	73.2	81.8		
Distance Attenuation	661.0	-22.8	-22.8	-22.8	-22.8	-22.8	-22.8		
Shielding (Barrier Attenuation)	661.0	0.0	0.0	0.0	0.0	0.0	0.0		
Raw (Distance + Barrier)		40.1	31.7	34.8	41.4	50.4	59.0		
60 Minute Hourly Adjustmen	t	40.1	31.7	34.8	41.4	50.4	59.0		

Source: Roof-Top Air Conditioning Unit Project Name: Canyon Springs

Observer Location: R7 Job Number: 8991 Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer 916.0 feet **Barrier Height: 0.0 feet**

Noise Distance to Barrier: 916.0 feet Barrier Type (0-Wall, 1-Berm): 0.0

Barrier Distance to Observer: 0.0 feet

Noise Height: 5.0 feet

Observer Height (Above Pad): 5.0 feet Barrier Breaks Line of Sight: Yes

Observer Elevation: 0.0 feet Wall Located at Noise Source Elevation: No

Noise Source Elevation: 34.0 feet

NOISE MODEL PROJECTIONS										
Noise Level	Distance (feet)	Leq	L50	L25	L8	L2	Lmax			
Reference (Sample)	5.0	81.9	74.4	53.7	51.5	50.1	78.2			
Distance Attenuation	916.0	-45.3	-45.3	-45.3	-45.3	-45.3	-45.3			
Shielding (Barrier Attenuation)	916.0	0.0	0.0	0.0	0.0	0.0	0.0			
Raw (Distance + Barrier)		36.6	29.1	8.4	6.2	4.8	32.9			
39 Minute Hourly Adjustmen	t	34.7	27.2	6.5	4.3	2.9	31.0			

Source: Emergency Generator Project Name: Canyon Springs

Observer Location: R1 Job Number: 8991
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer 230.0 feet Barrier Height: 52.0 feet

Noise Distance to Barrier: 10.0 feet Barrier Type (0-Wall, 1-Berm): 0.0

Barrier Distance to Observer: 220.0 feet

Noise Height: 9.5 feet

Observer Height (Above Pad): 5.0 feet Barrier Breaks Line of Sight: Yes

Observer Elevation: 0.0 feet Wall Located at Noise Source Elevation: No

Noise Source Elevation: 0.0 feet

NOISE MODEL PROJECTIONS										
Noise Level	Distance (feet)	Leq	L50	L25	L8	L2	Lmax			
Reference (Sample)	50.0	72.0	72.0	0.0	0.0	0.0	0.0			
Distance Attenuation	230.0	-13.3	-13.3	-13.3	-13.3	-13.3	-13.3			
Shielding (Barrier Attenuation)	230.0	-19.0	-19.0	-19.0	-19.0	-19.0	-19.0			
Raw (Distance + Barrier)		39.7	39.7	-32.3	-32.3	-32.3	-32.3			
30 Minute Hourly Adjustmen	t	36.7	36.7	-35.3	-35.3	-35.3	-35.3			

Source: Emergency Generator Project Name: Canyon Springs

Observer Location: R2 Job Number: 8991 Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer 463.0 feet Barrier Height: 52.0 feet

Noise Distance to Barrier: 453.0 feet Barrier Type (0-Wall, 1-Berm): 0.0

Barrier Distance to Observer: 10.0 feet

Noise Height: 9.5 feet

Observer Height (Above Pad): 5.0 feet Barrier Breaks Line of Sight: Yes

Observer Elevation: 0.0 feet Wall Located at Noise Source Elevation: No

Noise Source Elevation: 0.0 feet

NOISE MODEL PROJECTIONS										
Noise Level	Distance (feet)	Leq	L50	L25	L8	L2	Lmax			
Reference (Sample)	50.0	72.0	72.0	0.0	0.0	0.0	0.0			
Distance Attenuation	463.0	-19.3	-19.3	-19.3	-19.3	-19.3	-19.3			
Shielding (Barrier Attenuation)	463.0	-19.0	-19.0	-19.0	-19.0	-19.0	-19.0			
Raw (Distance + Barrier)		33.7	33.7	-38.3	-38.3	-38.3	-38.3			
30 Minute Hourly Adjustmen	t	30.7	30.7	-41.3	-41.3	-41.3	-41.3			

Source: Emergency Generator Project Name: Canyon Springs

Observer Location: R3 Job Number: 8991 Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer 658.0 feet Barrier Height: 8.0 feet

Noise Distance to Barrier: 648.0 feet Barrier Type (0-Wall, 1-Berm): 0.0

Barrier Distance to Observer: 10.0 feet

Noise Height: 9.5 feet

Observer Height (Above Pad): 5.0 feet Barrier Breaks Line of Sight: Yes

Observer Elevation: 0.0 feet Wall Located at Noise Source Elevation: No

Noise Source Elevation: 0.0 feet

NOISE MODEL PROJECTIONS										
Noise Level	Distance (feet)	Leq	L50	L25	L8	L2	Lmax			
Reference (Sample)	50.0	72.0	72.0	0.0	0.0	0.0	0.0			
Distance Attenuation	658.0	-22.4	-22.4	-22.4	-22.4	-22.4	-22.4			
Shielding (Barrier Attenuation)	658.0	-8.1	-8.1	-8.1	-8.1	-8.1	-8.1			
Raw (Distance + Barrier)		41.5	41.5	-30.5	-30.5	-30.5	-30.5			
30 Minute Hourly Adjustmen	t	38.5	38.5	-33.5	-33.5	-33.5	-33.5			

Source: Emergency Generator Project Name: Canyon Springs

Observer Location: R4 Job Number: 8991 Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer 796.0 feet Barrier Height: 52.0 feet

Noise Distance to Barrier: 700.0 feet Barrier Type (0-Wall, 1-Berm): 0.0

Barrier Distance to Observer: 96.0 feet

Noise Height: 9.5 feet

Observer Height (Above Pad): 5.0 feet Barrier Breaks Line of Sight: Yes

Observer Elevation: 0.0 feet Wall Located at Noise Source Elevation: No

Noise Source Elevation: 0.0 feet

NOISE MODEL PROJECTIONS										
Noise Level	Distance (feet)	Leq	L50	L25	L8	L2	Lmax			
Reference (Sample)	50.0	72.0	72.0	0.0	0.0	0.0	0.0			
Distance Attenuation	796.0	-24.0	-24.0	-24.0	-24.0	-24.0	-24.0			
Shielding (Barrier Attenuation)	796.0	-17.3	-17.3	-17.3	-17.3	-17.3	-17.3			
Raw (Distance + Barrier)		30.7	30.7	-41.3	-41.3	-41.3	-41.3			
30 Minute Hourly Adjustmen	t	27.7	27.7	-44.3	-44.3	-44.3	-44.3			

Source: Emergency Generator Project Name: Canyon Springs

Observer Location: R5 Job Number: 8991 Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer 855.0 feet **Barrier Height: 8.0 feet**

Noise Distance to Barrier: 200.0 feet Barrier Type (0-Wall, 1-Berm): 0.0

Barrier Distance to Observer: 655.0 feet

Noise Height: 9.5 feet

Observer Height (Above Pad): 5.0 feet Barrier Breaks Line of Sight: No

Observer Elevation: 0.0 feet Wall Located at Noise Source Elevation: No

Noise Source Elevation: 0.0 feet

NOISE MODEL PROJECTIONS										
Noise Level	Distance (feet)	Leq	L50	L25	L8	L2	Lmax			
Reference (Sample)	50.0	72.0	72.0	0.0	0.0	0.0	0.0			
Distance Attenuation	855.0	-24.7	-24.7	-24.7	-24.7	-24.7	-24.7			
Shielding (Barrier Attenuation)	855.0	-4.9	-4.9	-4.9	-4.9	-4.9	-4.9			
Raw (Distance + Barrier)		42.4	42.4	-29.6	-29.6	-29.6	-29.6			
30 Minute Hourly Adjustmen	t	39.4	39.4	-32.6	-32.6	-32.6	-32.6			

Source: Emergency Generator Project Name: Canyon Springs

Observer Location: R6 Job Number: 8991 Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer 1,068.0 feet **Barrier Height:** 8.0 feet

Noise Distance to Barrier: 422.0 feet Barrier Type (0-Wall, 1-Berm): 0.0

Barrier Distance to Observer: 646.0 feet

Noise Height: 9.5 feet

Observer Height (Above Pad): 5.0 feet Barrier Breaks Line of Sight: Yes

Observer Elevation: 0.0 feet Wall Located at Noise Source Elevation: No

Noise Source Elevation: 0.0 feet

NOISE MODEL PROJECTIONS										
Noise Level	Distance (feet)	Leq	L50	L25	L8	L2	Lmax			
Reference (Sample)	50.0	72.0	72.0	0.0	0.0	0.0	0.0			
Distance Attenuation	1,068.0	-26.6	-26.6	-26.6	-26.6	-26.6	-26.6			
Shielding (Barrier Attenuation)	1,068.0	-4.9	-4.9	-4.9	-4.9	-4.9	-4.9			
Raw (Distance + Barrier)		40.5	40.5	-31.5	-31.5	-31.5	-31.5			
30 Minute Hourly Adjustment	t	37.5	37.5	-34.5	-34.5	-34.5	-34.5			

Source: Emergency Generator Project Name: Canyon Springs

Observer Location: R7 Job Number: 8991 Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer 1,346.0 feet **Barrier Height:** 8.0 feet

Noise Distance to Barrier: 450.0 feet Barrier Type (0-Wall, 1-Berm): 0.0

Barrier Distance to Observer: 896.0 feet

Noise Height: 9.5 feet

Observer Height (Above Pad): 5.0 feet Barrier Breaks Line of Sight: Yes

Observer Elevation: 0.0 feet Wall Located at Noise Source Elevation: No

Noise Source Elevation: 0.0 feet

NOISE MODEL PROJECTIONS										
Noise Level	Distance (feet)	Leq	L50	L25	L8	L2	Lmax			
Reference (Sample)	50.0	72.0	72.0	0.0	0.0	0.0	0.0			
Distance Attenuation	1,346.0	-28.6	-28.6	-28.6	-28.6	-28.6	-28.6			
Shielding (Barrier Attenuation)	1,346.0	-4.9	-4.9	-4.9	-4.9	-4.9	-4.9			
Raw (Distance + Barrier)		38.5	38.5	-33.5	-33.5	-33.5	-33.5			
30 Minute Hourly Adjustmen	t	35.5	35.5	-36.5	-36.5	-36.5	-36.5			

Source: Typical Helicopter Activities Project Name: Canyon Springs

Observer Location: R1 Job Number: 8991
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer 656.0 feet Barrier Height: 94.0 feet

Noise Distance to Barrier: 20.0 feet Barrier Type (0-Wall, 1-Berm): 0.0

Barrier Distance to Observer: 636.0 feet

Noise Height: 15.0 feet

Observer Height (Above Pad): 5.0 feet Barrier Breaks Line of Sight: Yes

Observer Elevation: 0.0 feet Wall Located at Noise Source Elevation: No

Noise Source Elevation: 94.0 feet

NOISE MODEL PROJECTIONS										
Noise Level	Distance (feet)	Leq	L50	L25	L8	L2	Lmax			
Reference (Sample)	200.0	70.5	70.5	0.0	0.0	0.0	0.0			
Distance Attenuation	656.0	-10.3	-10.3	-10.3	-10.3	-10.3	-10.3			
Shielding (Barrier Attenuation)	656.0	-13.5	-13.5	-13.5	-13.5	-13.5	-13.5			
Raw (Distance + Barrier)		46.7	46.7	-23.8	-23.8	-23.8	-23.8			
30 Minute Hourly Adjustmen	t	43.7	43.7	-26.8	-26.8	-26.8	-26.8			

Source: Trauma Helicopter Activities Project Name: Canyon Springs

Observer Location: R1 Job Number: 8991
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer 656.0 feet Barrier Height: 94.0 feet

Noise Distance to Barrier: 20.0 feet Barrier Type (0-Wall, 1-Berm): 0.0

Barrier Distance to Observer: 636.0 feet

Noise Height: 15.0 feet

Observer Height (Above Pad): 5.0 feet Barrier Breaks Line of Sight: Yes

Observer Elevation: 0.0 feet Wall Located at Noise Source Elevation: No

Noise Source Elevation: 94.0 feet

NOISE MODEL PROJECTIONS									
Noise Level	Distance (feet)	Leq	L50	L25	L8	L2	Lmax		
Reference (Sample)	400.0	81.7	81.7	0.0	0.0	0.0	0.0		
Distance Attenuation	656.0	-4.3	-4.3	-4.3	-4.3	-4.3	-4.3		
Shielding (Barrier Attenuation)	656.0	-13.5	-13.5	-13.5	-13.5	-13.5	-13.5		
Raw (Distance + Barrier)		63.9	63.9	-17.8	-17.8	-17.8	-17.8		
5 Minute Hourly Adjustmen	t	53.1	53.1	-28.6	-28.6	-28.6	-28.6		

Source: Typical Helicopter Activities Project Name: Canyon Springs

Observer Location: R2 Job Number: 8991 Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer 739.0 feet Barrier Height: 40.0 feet

Noise Distance to Barrier: 66.0 feet Barrier Type (0-Wall, 1-Berm): 0.0

Barrier Distance to Observer: 673.0 feet

Noise Height: 15.0 feet

Observer Height (Above Pad): 5.0 feet Barrier Breaks Line of Sight: Yes

Observer Elevation: 0.0 feet Wall Located at Noise Source Elevation: No

Noise Source Elevation: 94.0 feet

NOISE MODEL PROJECTIONS									
Noise Level	Distance (feet)	Leq	L50	L25	L8	L2	Lmax		
Reference (Sample)	200.0	70.5	70.5	0.0	0.0	0.0	0.0		
Distance Attenuation	739.0	-11.4	-11.4	-11.4	-11.4	-11.4	-11.4		
Shielding (Barrier Attenuation)	739.0	-18.4	-18.4	-18.4	-18.4	-18.4	-18.4		
Raw (Distance + Barrier)		40.7	40.7	-29.8	-29.8	-29.8	-29.8		
30 Minute Hourly Adjustmen	t	37.7	37.7	-32.8	-32.8	-32.8	-32.8		

Source: Trauma Helicopter Activities Project Name: Canyon Springs

Observer Location: R2 Job Number: 8991 Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer 739.0 feet Barrier Height: 40.0 feet

Noise Distance to Barrier: 66.0 feet Barrier Type (0-Wall, 1-Berm): 0.0

Barrier Distance to Observer: 673.0 feet

Noise Height: 15.0 feet

Observer Height (Above Pad): 5.0 feet Barrier Breaks Line of Sight: Yes

Observer Elevation: 0.0 feet Wall Located at Noise Source Elevation: No

Noise Source Elevation: 94.0 feet

NOISE MODEL PROJECTIONS										
Noise Level	Distance (feet)	Leq	L50	L25	L8	L2	Lmax			
Reference (Sample)	400.0	81.7	81.7	0.0	0.0	0.0	0.0			
Distance Attenuation	739.0	-5.3	-5.3	-5.3	-5.3	-5.3	-5.3			
Shielding (Barrier Attenuation)	739.0	-18.4	-18.4	-18.4	-18.4	-18.4	-18.4			
Raw (Distance + Barrier)		58.0	58.0	-23.7	-23.7	-23.7	-23.7			
5 Minute Hourly Adjustmen	t	47.2	47.2	-34.5	-34.5	-34.5	-34.5			

Source: Typical Helicopter Activities Project Name: Canyon Springs

Observer Location: R3 Job Number: 8991 Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer 720.0 feet Barrier Height: 94.0 feet

Noise Distance to Barrier: 20.0 feet Barrier Type (0-Wall, 1-Berm): 0.0

Barrier Distance to Observer: 700.0 feet

Noise Height: 15.0 feet

Observer Height (Above Pad): 5.0 feet Barrier Breaks Line of Sight: Yes

Observer Elevation: 0.0 feet Wall Located at Noise Source Elevation: No

Noise Source Elevation: 94.0 feet

NOISE MODEL PROJECTIONS									
Noise Level	Distance (feet)	Leq	L50	L25	L8	L2	Lmax		
Reference (Sample)	200.0	70.5	70.5	0.0	0.0	0.0	0.0		
Distance Attenuation	720.0	-11.1	-11.1	-11.1	-11.1	-11.1	-11.1		
Shielding (Barrier Attenuation)	720.0	-13.7	-13.7	-13.7	-13.7	-13.7	-13.7		
Raw (Distance + Barrier)		45.7	45.7	-24.8	-24.8	-24.8	-24.8		
30 Minute Hourly Adjustmen	t	42.7	42.7	-27.8	-27.8	-27.8	-27.8		

Source: Trauma Helicopter Activities Project Name: Canyon Springs

Observer Location: R3 Job Number: 8991 Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer 720.0 feet Barrier Height: 94.0 feet

Noise Distance to Barrier: 20.0 feet Barrier Type (0-Wall, 1-Berm): 0.0

Barrier Distance to Observer: 700.0 feet

Noise Height: 15.0 feet

Observer Height (Above Pad): 5.0 feet Barrier Breaks Line of Sight: Yes

Observer Elevation: 0.0 feet Wall Located at Noise Source Elevation: No

Noise Source Elevation: 94.0 feet

NOISE MODEL PROJECTIONS										
Noise Level	Distance (feet)	Leq	L50	L25	L8	L2	Lmax			
Reference (Sample)	400.0	81.7	81.7	0.0	0.0	0.0	0.0			
Distance Attenuation	720.0	-5.1	-5.1	-5.1	-5.1	-5.1	-5.1			
Shielding (Barrier Attenuation)	720.0	-13.7	-13.7	-13.7	-13.7	-13.7	-13.7			
Raw (Distance + Barrier)		62.9	62.9	-18.8	-18.8	-18.8	-18.8			
5 Minute Hourly Adjustmen	t	52.1	52.1	-29.6	-29.6	-29.6	-29.6			

Source: Typical Helicopter Activities Project Name: Canyon Springs

Observer Location: R4 Job Number: 8991 Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer 630.0 feet Barrier Height: 52.0 feet

Noise Distance to Barrier: 90.0 feet Barrier Type (0-Wall, 1-Berm): 0.0

Barrier Distance to Observer: 540.0 feet

Noise Height: 15.0 feet

Observer Height (Above Pad): 5.0 feet Barrier Breaks Line of Sight: Yes

Observer Elevation: 0.0 feet Wall Located at Noise Source Elevation: No

Noise Source Elevation: 94.0 feet

NOISE MODEL PROJECTIONS										
Noise Level	Distance (feet)	Leq	L50	L25	L8	L2	Lmax			
Reference (Sample)	200.0	70.5	70.5	0.0	0.0	0.0	0.0			
Distance Attenuation	630.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0			
Shielding (Barrier Attenuation)	630.0	-17.1	-17.1	-17.1	-17.1	-17.1	-17.1			
Raw (Distance + Barrier)		43.4	43.4	-27.1	-27.1	-27.1	-27.1			
30 Minute Hourly Adjustmen	t	40.4	40.4	-30.1	-30.1	-30.1	-30.1			

Source: Trauma Helicopter Activities Project Name: Canyon Springs

Observer Location: R4 Job Number: 8991 Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer 630.0 feet Barrier Height: 52.0 feet

Noise Distance to Barrier: 90.0 feet Barrier Type (0-Wall, 1-Berm): 0.0

Barrier Distance to Observer: 540.0 feet

Noise Height: 15.0 feet

Observer Height (Above Pad): 5.0 feet Barrier Breaks Line of Sight: Yes

Observer Elevation: 0.0 feet Wall Located at Noise Source Elevation: No

Noise Source Elevation: 94.0 feet

NOISE MODEL PROJECTIONS									
Noise Level	Distance (feet)	Leq	L50	L25	L8	L2	Lmax		
Reference (Sample)	400.0	81.7	81.7	0.0	0.0	0.0	0.0		
Distance Attenuation	630.0	-3.9	-3.9	-3.9	-3.9	-3.9	-3.9		
Shielding (Barrier Attenuation)	630.0	-17.1	-17.1	-17.1	-17.1	-17.1	-17.1		
Raw (Distance + Barrier)		60.7	60.7	-21.0	-21.0	-21.0	-21.0		
5 Minute Hourly Adjustmen	t	49.9	49.9	-31.8	-31.8	-31.8	-31.8		

Source: Typical Helicopter Activities Project Name: Canyon Springs

Observer Location: R5 Job Number: 8991 Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer 961.0 feet Barrier Height: 8.0 feet

Noise Distance to Barrier: 200.0 feet Barrier Type (0-Wall, 1-Berm): 0.0

Barrier Distance to Observer: 761.0 feet

Noise Height: 15.0 feet

Observer Height (Above Pad): 5.0 feet Barrier Breaks Line of Sight: Yes

Observer Elevation: 0.0 feet Wall Located at Noise Source Elevation: No

Noise Source Elevation: 94.0 feet

NOISE MODEL PROJECTIONS									
Noise Level	Distance (feet)	Leq	L50	L25	L8	L2	Lmax		
Reference (Sample)	200.0	70.5	70.5	0.0	0.0	0.0	0.0		
Distance Attenuation	961.0	-13.6	-13.6	-13.6	-13.6	-13.6	-13.6		
Shielding (Barrier Attenuation)	961.0	-18.1	-18.1	-18.1	-18.1	-18.1	-18.1		
Raw (Distance + Barrier)		38.8	38.8	-31.7	-31.7	-31.7	-31.7		
30 Minute Hourly Adjustmen	t	35.8	35.8	-34.7	-34.7	-34.7	-34.7		

Source: Trauma Helicopter Activities Project Name: Canyon Springs

Observer Location: R5 Job Number: 8991 Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer 961.0 feet **Barrier Height:** 8.0 feet

Noise Distance to Barrier: 200.0 feet Barrier Type (0-Wall, 1-Berm): 0.0

Barrier Distance to Observer: 761.0 feet

Noise Height: 15.0 feet

Observer Height (Above Pad): 5.0 feet Barrier Breaks Line of Sight: Yes

Observer Elevation: 0.0 feet Wall Located at Noise Source Elevation: No

Noise Source Elevation: 94.0 feet

NOISE MODEL PROJECTIONS									
Noise Level	Distance (feet)	Leq	L50	L25	L8	L2	Lmax		
Reference (Sample)	400.0	81.7	81.7	0.0	0.0	0.0	0.0		
Distance Attenuation	961.0	-7.6	-7.6	-7.6	-7.6	-7.6	-7.6		
Shielding (Barrier Attenuation)	961.0	-18.1	-18.1	-18.1	-18.1	-18.1	-18.1		
Raw (Distance + Barrier)		56.0	56.0	-25.7	-25.7	-25.7	-25.7		
5 Minute Hourly Adjustmen	t	45.2	45.2	-36.5	-36.5	-36.5	-36.5		

Source: Typical Helicopter Activities Project Name: Canyon Springs

Observer Location: R6 Job Number: 8991 Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer 1,961.0 feet Barrier Height: 94.0 feet

Noise Distance to Barrier: 20.0 feet Barrier Type (0-Wall, 1-Berm): 0.0

Barrier Distance to Observer: 1,941.0 feet

Noise Height: 15.0 feet

Observer Height (Above Pad): 5.0 feet Barrier Breaks Line of Sight: Yes

Observer Elevation: 0.0 feet Wall Located at Noise Source Elevation: No

Noise Source Elevation: 94.0 feet

NOISE MODEL PROJECTIONS										
Noise Level	Distance (feet)	Leq	L50	L25	L8	L2	Lmax			
Reference (Sample)	200.0	70.5	70.5	0.0	0.0	0.0	0.0			
Distance Attenuation	1,961.0	-19.8	-19.8	-19.8	-19.8	-19.8	-19.8			
Shielding (Barrier Attenuation)	1,961.0	-14.7	-14.7	-14.7	-14.7	-14.7	-14.7			
Raw (Distance + Barrier)		36.0	36.0	-34.5	-34.5	-34.5	-34.5			
30 Minute Hourly Adjustmen	t	33.0	33.0	-37.5	-37.5	-37.5	-37.5			

Source: Trauma Helicopter Activities Project Name: Canyon Springs

Observer Location: R6 Job Number: 8991 Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer 1,961.0 feet Barrier Height: 94.0 feet

Noise Distance to Barrier: 20.0 feet Barrier Type (0-Wall, 1-Berm): 0.0

Barrier Distance to Observer: 1,941.0 feet

Noise Height: 15.0 feet

Observer Height (Above Pad): 5.0 feet Barrier Breaks Line of Sight: Yes

Observer Elevation: 0.0 feet Wall Located at Noise Source Elevation: No

Noise Source Elevation: 94.0 feet

NOISE MODEL PROJECTIONS										
Noise Level	Distance (feet)	Leq	L50	L25	L8	L2	Lmax			
Reference (Sample)	400.0	81.7	81.7	0.0	0.0	0.0	0.0			
Distance Attenuation	1,961.0	-13.8	-13.8	-13.8	-13.8	-13.8	-13.8			
Shielding (Barrier Attenuation)	1,961.0	-14.7	-14.7	-14.7	-14.7	-14.7	-14.7			
Raw (Distance + Barrier)		53.2	53.2	-28.5	-28.5	-28.5	-28.5			
5 Minute Hourly Adjustmen	t	42.4	42.4	-39.3	-39.3	-39.3	-39.3			

Source: Typical Helicopter Activities Project Name: Canyon Springs

Observer Location: R7 Job Number: 8991 Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer 2,281.0 feet Barrier Height: 94.0 feet

Noise Distance to Barrier: 20.0 feet Barrier Type (0-Wall, 1-Berm): 0.0

Barrier Distance to Observer: 2,261.0 feet

Noise Height: 15.0 feet

Observer Height (Above Pad): 5.0 feet Barrier Breaks Line of Sight: Yes

Observer Elevation: 0.0 feet Wall Located at Noise Source Elevation: No

Noise Source Elevation: 94.0 feet

NOISE MODEL PROJECTIONS										
Noise Level	Distance (feet)	Leq	L50	L25	L8	L2	Lmax			
Reference (Sample)	200.0	70.5	70.5	0.0	0.0	0.0	0.0			
Distance Attenuation	2,281.0	-21.1	-21.1	-21.1	-21.1	-21.1	-21.1			
Shielding (Barrier Attenuation)	2,281.0	-14.8	-14.8	-14.8	-14.8	-14.8	-14.8			
Raw (Distance + Barrier)		34.6	34.6	-35.9	-35.9	-35.9	-35.9			
30 Minute Hourly Adjustmen	t	31.6	31.6	-38.9	-38.9	-38.9	-38.9			

Source: Trauma Helicopter Activities Project Name: Canyon Springs

Observer Location: R7 Job Number: 8991 Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer 2,281.0 feet Barrier Height: 94.0 feet

Noise Distance to Barrier: 20.0 feet Barrier Type (0-Wall, 1-Berm): 0.0

Barrier Distance to Observer: 2,261.0 feet

Noise Height: 15.0 feet

Observer Height (Above Pad): 5.0 feet Barrier Breaks Line of Sight: Yes

Observer Elevation: 0.0 feet Wall Located at Noise Source Elevation: No

Noise Source Elevation: 94.0 feet

NOISE MODEL PROJECTIONS							
Noise Level	Distance (feet)	Leq	L50	L25	L8	L2	Lmax
Reference (Sample)	400.0	81.7	81.7	0.0	0.0	0.0	0.0
Distance Attenuation	2,281.0	-15.1	-15.1	-15.1	-15.1	-15.1	-15.1
Shielding (Barrier Attenuation)	2,281.0	-14.8	-14.8	-14.8	-14.8	-14.8	-14.8
Raw (Distance + Barrier)		51.8	51.8	-29.9	-29.9	-29.9	-29.9
5 Minute Hourly Adjustmen	t	41.0	41.0	-40.7	-40.7	-40.7	-40.7



April 3, 2017

c/o Ms. Paula Purcell Canyon Springs Marketplace Corp. 2025 Pioneer Court San Mateo, CA 94403

SUBJECT: CANYON SPRINGS HEALTHCARE CAMPUS & SENIOR LIVING SUPPLEMENTAL NOISE MEMO

Dear Ms. Paula Purcell:

Urban Crossroads, Inc. is pleased to submit the following memorandum for the Canyon Springs Healthcare Campus & Senior Living Project ("Project"). The purpose of this memorandum is to provide clarification on the Projects Opening Year utilized in the 2016 Noise Impact Analysis.

It is important to note that the Noise Impact Analysis commenced in 2015. At the time the Noise Impact Analysis was prepared, the Project's anticipated Opening Year was identified as 2016. Although the 2016 Opening Year is no longer possible, the underlying technical calculations of the operational and construction noise analyses of the Noise Impact Analysis are independent of the actual Opening Year of the Project, and represent worst-case analyses. Further, the off-site Project-related traffic noise level increase of up to 0.8 dBA CNEL under Opening Year 2016 with Project conditions is shown to be consistent with the long-range General Plan Buildout increase of up to 0.8 dBA CNEL with the Project.

As such, the results of the Noise Impact Analysis are conservative, overstate potential impacts, and no further analysis is required. If you have any questions or require any additional information regarding this response to comments, please contact me directly at (949) 336-5979.

Respectfully submitted,

URBAN CROSSROADS, INC.

Bill Lawson, P.E., INCE

Principal

Assistant Analyst