

#### **APPENDIX D**

Cathedral City General Plan Update

Noise and Vibration Impact Analysis Cathedral City

April 23, 2019

Prepared for

Cathedral City 68-700 Avenida Lalo Guerrero Cathedral City, CA 92234

Prepared by

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# **Cathedral City General Plan Update** NOISE AND VIBRATION IMPACT ANALYSIS CATHEDRAL CITY

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11475-04 Noise Study



# **TABLE OF CONTENTS**

TABLE OF CONTENTS III							
APPENDICESV							
LIST OF EXHIBITS							
LIST OF TABLESVI							
LIS	LIST OF ABBREVIATED TERMS VII						
EX	ECUTI	VE SUMMARY1					
	Off-Si	te Traffic Noise Analysis					
	On-Sit	te Transportation Noise Analysis					
	On-Site Transportation Noise Analysis						
	Opera	ational Noise Analysis					
	Opera	ational Vibration Levels					
	Const	ruction Noise Analysis					
	Const	ruction Vibration Analysis					
	Summ	nary of Significance Findings8					
1	INT	RODUCTION9					
	1.1	Project Location9					
	1.2	Project Description9					
2	FUI	NDAMENTALS					
	2.1	Range of Noise					
	2.2	Noise Descriptors					
	2.3	Sound Propagation14					
	2.4	Noise Control					
	2.5	Noise Barrier Attenuation					
	2.6	Land Use Compatibility With Noise16					
	2.7	Community Response to Noise					
	2.8	Exposure to High Noise Levels					
	2.9	Vibration					
3		GULATORY SETTING					
	3.1	State of California Noise Requirements					
	3.2	State of California Building Standards					
	3.3	Cathedral City Adopted General Plan Noise Element					
	3.4	Cathedral City Municipal Code					
	3.5	Construction Noise Standards					
	3.6	Vibration Standards					
	3.7	Riverside County Airport Land Use Compatibility Standards					
4		NIFICANCE CRITERIA					
	4.1	CEQA Thresholds Not Further Analyzed					
	4.2	Noise-Sensitive Receivers					
	4.3 Significance Criteria Summary						



5	EX	ISTING NOISE LEVEL MEASUREMENTS	33
	5.1	Measurement Procedure and Criteria	33
	5.2	Noise Measurement Locations	
	5.3	Long-Term Noise Measurement Results	
	5.4	Short-Term Noise Measurement Results	37
6	ME	THODS AND PROCEDURES	43
	6.1	FHWA Traffic Noise Prediction Model	43
	6.2	Off-Site Traffic Noise Prediction Model Inputs	
	6.3	Rail Noise and Vibration Methods	
	6.4	CadnaA Noise Prediction Model	
	6.5	Construction Vibration Assessment Methodology	49
7	OF	F-SITE TRAFFIC NOISE IMPACTS	51
	7.1	Traffic Noise Contours	51
	7.2	Existing Condition Traffic Noise Levels	55
	7.3	General Plan Buildout Traffic Noise Levels	55
8	ON	I-SITE TRANSPORTATION IMPACTS	57
	8.1	Exterior Noise Analysis	57
	8.2	On-Site Exterior Noise Mitigation	58
	8.3	Interior Noise Analysis	
	8.4	On-Site Interior Noise Mitigation	
	8.5	Vibration Analysis	
	8.6	Vibration Mitigation	63
9	OP	ERATIONAL IMPACTS	65
	9.1	Operational Noise Levels	65
	9.2	Operational Noise Mitigation	
	9.3	Operational Vibration Levels	66
10	со	NSTRUCTION IMPACTS	67
	10.1	Construction Noise Levels	
	10.2	Construction Reference Noise Levels	67
	10.3	Construction Noise Analysis	69
	10.4	Construction Vibration Impacts	
	10.5	Construction Noise and Vibration Mitigation Measures	72
11	RE	FERENCES	75
12	CEI	RTIFICATION	77



# **APPENDICES**

- APPENDIX 3.1: CATHEDRAL CITY MUNICIPAL CODE
- APPENDIX 5.1: NOISE MEASUREMENT STUDY AREA PHOTOS
- APPENDIX 5.2: LONG-TERM NOISE LEVEL MEASUREMENT WORKSHEETS
- **APPENDIX 5.3: SHORT-TERM NOISE LEVEL MEASUREMENT WORKSHEETS**
- APPENDIX 6.1: CADNAA NOISE MODEL INPUTS
- APPENDIX 7.1: OFF-SITE TRAFFIC NOISE LEVEL CONTOURS

# **LIST OF EXHIBITS**

EXHIBIT 1-A:	LOCATION MAP	10
EXHIBIT 1-B:	CURRENTLY ADOPTED GENERAL PLAN LAND USE MAP	11
EXHIBIT 1-C:	PROPOSED GENERAL PLAN LAND USE MAP	12
EXHIBIT 2-A:	TYPICAL NOISE LEVELS	13
EXHIBIT 2-B:	NOISE LEVEL INCREASE PERCEPTION	17
EXHIBIT 2-C:	TYPICAL LEVELS OF GROUND-BORNE VIBRATION	19
EXHIBIT 3-A:	LAND USE COMPATIBILITY FOR COMMUNITY NOISE ENVIRONMENTS	24
EXHIBIT 3-B:	PALM SPRINGS INTERNATIONAL AIRPORT NOISE CONTOURS	28
EXHIBIT 5-A:	NOISE MEASUREMENT LOCATIONS	41
<b>EXHIBIT 6-A:</b>	FTA REFERENCE GROUND SURFACE VIBRATION CURVES	48
<b>EXHIBIT 8-A:</b>	EXISTING TRANSPORTATION NOISE LEVEL CONTOURS	59
EXHIBIT 8-B:	FUTURE TRANSPORTATION NOISE LEVEL CONTOURS	60



# LIST OF TABLES

TABLE ES-1: SUMMARY OF SIGNIFICANCE FINDINGS	
TABLE 3-1: OPERATIONAL NOISE STANDARDS	25
TABLE 4-1: SIGNIFICANCE OF NOISE IMPACTS AT NOISE-SENSITIVE RECEIVERS	30
TABLE 4-2: SIGNIFICANCE CRITERIA SUMMARY	
TABLE 5-1: 24-HOUR (LONG-TERM) AMBIENT NOISE LEVEL MEASUREMENTS	38
TABLE 5-2: EXISTING LAND USE NOISE LEVEL COMPATIBILITY	39
TABLE 5-3: SHORT-TERM NOISE LEVEL MEASUREMENTS	40
TABLE 6-1: OFF-SITE ROADWAY PARAMETERS	44
TABLE 6-2: AVERAGE DAILY TRAFFIC VOLUMES	-
TABLE 6-3: TIME OF DAY VEHICLE SPLITS	46
TABLE 6-4: DISTRIBUTION OF TRAFFIC FLOW BY VEHICLE TYPE (VEHICLE MIX)	46
TABLE 6-5: FREEWAY TRAFFIC NOISE MODEL INPUTS	
TABLE 6-6: RAIL NOISE MODEL INPUTS	47
TABLE 6-7: VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT	50
TABLE 7-1: EXISTING CONDITIONS NOISE CONTOURS	52
TABLE 7-2: ADOPTED GENERAL PLAN CONDITIONS NOISE CONTOURS	
TABLE 7-3: PROPOSED GENERAL PLAN CONDITIONS NOISE CONTOURS	54
TABLE 7-4: PROPOSED GENERAL PLAN BUILDOUT TRAFFIC NOISE IMPACTS	
TABLE 8-1: VIBRATION LEVELS AND SCREENING DISTANCES	
TABLE 10-1: CONSTRUCTION REFERENCE NOISE LEVELS	58
TABLE 10-2: UNMITIGATED CONSTRUCTION NOISE LEVELS	
TABLE 10-3: CONSTRUCTION EQUIPMENT VIBRATION LEVELS	72



# 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
FTA	Federal Transit Administration
I-10	Interstate 10
INCE	Institute of Noise Control Engineering
L <sub>eq</sub>	Equivalent continuous (average) sound level
L <sub>max</sub>	Maximum level measured over the time interval
L <sub>min</sub>	Minimum level measured over the time interval
mph	Miles per hour
PPV	Peak Particle Velocity
Project	Cathedral City General Plan Update
RC ALUCP	Riverside County Airport Land Use Compatibility Plan
REMEL	Reference Energy Mean Emission Level
RMS	Root-mean-square
UPRR	Union Pacific Railroad
VdB	Vibration Decibels

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# **EXECUTIVE SUMMARY**

Urban Crossroads, Inc. has prepared this program-level Noise and Vibration Impact Analysis to evaluate the proposed Cathedral City General Plan Update ("Project"). Cathedral City ("City") is located in the Coachella Valley portion of Riverside County, between Palm Springs and Rancho Mirage. The City encompasses approximately 22.5 square miles and is traversed east-west by Interstate 10 (I-10) in the northern part of the City, and State Highway 111 (East Palm Canyon Drive) in the southern part of the City. The proposed Project is the preparation of the Cathedral City General Plan Update and Noise Element, encompassing approximately 14,425 acres. Cathedral City is bordered by unincorporated Riverside County to the north and east; City of Palm Springs to the south and west; Desert Hot Springs to the northwest; and City of Rancho Mirage to the south and east. This study has been prepared to satisfy applicable Cathedral City noise standards and significance criteria based on guidance provided by Appendix G of the California Environmental Quality Act (CEQA). (1)

# **OFF-SITE TRAFFIC NOISE ANALYSIS**

Traffic generated by the operation of the proposed Project will influence the traffic noise levels at existing and future land uses adjacent to study area roadway segments throughout Cathedral City. To quantify the traffic noise level increases at adjacent existing and future land uses, the changes in traffic noise levels on 39 roadway segments in the Project study area were calculated 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 *Cathedral City General Plan Update Transportation Analysis*. (2) To assess the off-site noise level impacts associated with the proposed Project, noise contour boundaries were developed for Existing (2017/2018), Adopted General Plan Buildout (2040), and Proposed General Plan Buildout (2040) traffic conditions. A comparison of the Adopted General Plan Buildout to the Proposed General Plan Buildout conditions indicates that the Project-related traffic noise level increases will be *less than significant*.

#### OFF-SITE AIRCRAFT NOISE

Cathedral City is partially located within the mapped noise level contour boundaries of Palm Springs International Airport. Future (2025) conditions provided by the *Riverside County Airport Land Use Compatibility Plan (RCALUCP) Policy Document* indicate that the 60 dBA CNEL noise level contour boundary of Palm Springs International Airport will shift to partially overlap with Cathedral City boundaries east of San Joaquin Drive and north of Mission Drive. As a result, noise levels due to aircraft flyover events associated with Palm Springs International Airport under Future (2025) conditions are anticipated to be equal to or less than those identified under Existing (2002) conditions by the RCALUCP. (3)

Per the Palm Springs International Airport-specific policies, *dwellings may require incorporation of special noise level reduction measures into their design to ensure that the interior noise limit of 45 dB CNEL*. These features would be incorporated into new residential construction as part of the building permit process, and based on the exterior noise levels approaching and around



60 dBA CNEL, are anticipated to reduce aircraft flyover noise to below the 45 dBA CNEL interior noise level standard for residential uses with standard building construction. Additionally, mitigation measure NOI-2 would ensure that new residential development satisfies the 45 dBA CNEL interior noise level standard prior to building permit approval. Therefore, while aircraft flyovers will likely be heard, they will not significantly impact noise-sensitive uses in Cathedral City from a noise standpoint.

#### **ON-SITE TRANSPORTATION NOISE ANALYSIS**

An exterior noise impact analysis has been completed to determine the existing and future transportation-related noise levels and to identify potential necessary mitigation measures for future uses within the Cathedral City General Plan Update. Future traffic noise modeling of the proposed effect of the 2040 Cathedral City General Plan Update indicates that the primary source of noise impacts to Project land uses will be traffic-related noise from I-10, other study area roadways, and rail-related noise from Union Pacific Railroad (UPRR) lines. Other background noise sources, such as aircraft flyover events previously discussed, will contribute to the future noise environment, but do not represent the primary transportation noise source impacting Project land uses.

#### EXTERIOR NOISE LEVELS

The results of the future transportation noise analysis show that the future noise-sensitive uses within the General Plan Update may experience future unmitigated exterior noise levels greater than the *normally acceptable* exterior noise level compatibility criteria identified in the Cathedral City General Plan Noise Element. (4)

Based on the results of this analysis and the proximity of future noise-sensitive land uses to I-10, study area roadways, and the UPRR lines, the on-site transportation-related noise impacts at future noise-sensitive uses are expected to potentially exceed the Cathedral City General Plan Noise Element land use compatibility guidelines, and therefore, impacts are *potentially significant*, and require noise mitigation.

With the noise mitigation measures identified in this report, the on-site transportation noise levels at future developments within Cathedral City are anticipated to be reduced to levels that range from *normally acceptable to normally unacceptable*. Future developments shall be conditioned to ensure that interior noise levels satisfy the 45 dBA CNEL interior noise level standard for noise-sensitive uses. Therefore, on-site traffic noise impacts are considered *less than significant* with mitigation for future development as a part of the Cathedral City General Plan Update.

#### INTERIOR NOISE LEVELS

With typical building construction and a windows-closed condition, a minimum 25 dBA CNEL reduction is achievable for dwelling units and other future noise-sensitive uses. (5; 6) However, since the exterior noise levels from I-10, the study area roadways, and the UPRR lines have the potential to exceed 70 dBA CNEL, the minimum 25 dBA CNEL interior noise reduction provided

by standard building construction may not be enough to reduce exterior noise levels to satisfy the interior noise level standard of 45 dBA CNEL. Therefore, detailed interior noise analysis based on site-specific architectural floor plans and elevations is required to satisfy the Cathedral City General Plan and Title 24, Part 2, of the California Building Code 45 dBA CNEL interior noise level standard for residential dwelling units. In addition, since future interior noise levels within residential dwelling units may exceed 45 dBA CNEL, the noise level impact will be *potentially significant*, requiring additional interior noise mitigation. However, with the detailed interior noise analysis mitigation measure identified below, on-site transportation noise impacts can be reduced to levels that will be *less than significant*.

#### **ON-SITE RAIL VIBRATION ANALYSIS**

Based on the methodology provided by the Federal Transit Administration (FTA) *Transit Noise and Vibration Impact Assessment*, Union Pacific Railroad (UPRR) rail activities are anticipated to generate vibration levels of up to 84 VdB at 50 feet from trains traveling at 50 mph. At the typical speed of 70 mph of rail activities in Cathedral City, the reference vibration level is increased by 2.9 VdB, and results in estimated vibration impacts of 86.9 VdB at 50 feet from the railroad tracks.

The analysis shows that noise-sensitive and non-noise-sensitive uses within the Project may be located within 150 feet of the UPRR railroad tracks, and therefore, may experience vibration levels which would exceed the noise-sensitive 72 VdB and non-noise-sensitive 75 VdB criteria for frequent rail events identified by the FTA. Therefore, impacts due to on-site vibration levels are considered *potentially significant* and require mitigation, as identified below, to reduce potential impacts at future project-specific development to *less than significant* levels.

#### **ON-SITE TRANSPORTATION NOISE AND VIBRATION MITIGATION**

To reduce the on-site transportation noise and vibration levels for future land uses, a sitespecific noise study may be required for future development located within the Cathedral City General Plan Update, as follows:

- **NOI-1** Prior to approval of development plans or the issuance of a building permit for new noisesensitive development projects, the Project Applicant/Developer shall submit a draft and/or final acoustical report to the Cathedral City Planning Department, or designee, which shall identify all reasonable and feasible noise mitigation measures that shall be applied to the development to satisfy the exterior noise level compatibility criteria for its applicable land use(s), as defined by the Cathedral City General Plan.
- **NOI-2** Prior to approval of development plans or the issuance of a building permit for new noisesensitive development projects, the Project Applicant/Developer shall submit a draft and/or final acoustical report to the Cathedral City Planning Department, or designee, that demonstrates that the interior noise levels in all habitable rooms will satisfy the 45 dBA CNEL interior noise level standard of the Cathedral City General Plan and Title 24, Part 2, of the California Building Code.
- **NOI-3** Prior to approval of development plans or the issuance of a building permit for new development projects within 150 feet of UPRR railroad tracks, the Project Applicant/Developer



shall submit a draft and/or final vibration study to the Cathedral City Planning Department, or designee, which shall identify all reasonable and feasible mitigation measures to satisfy the 72 VdB noise-sensitive and 75 VdB non-noise-sensitive vibration level standards, as defined by the FTA for frequent rail events. Said measures shall be incorporated in site and building plans approved by the City prior to the issuance of building permits.

#### **OPERATIONAL NOISE ANALYSIS**

Project-related stationary-source (operational) noise would be generated by the operation of potential recreation, commercial, and industrial/business park uses included in buildout of the General Plan. At the time this Noise and Vibration Impact Analysis was prepared, the specific users and/or tenants of future recreation, commercial, and industrial/business park uses were unknown. Therefore, the on-site Project-related noise sources for potential future uses are expected to include, but are not limited to: air conditioning units, loading dock activities, outdoor restaurant dining activities, outdoor park activities, and parking lot vehicle movements. These expected development-related noise sources are consistent with existing noise sources observed in the Project study area. Further, the proposed residential land uses are considered noise-sensitive receiving land uses and are not expected to include any specific type of operational noise levels beyond the typical noise sources associated with existing residential land use in the Project study area.

Moreover, the noise levels due to buildout and use of City lands will vary depending on the specific tenant and use, and therefore, the impacts due to Project operational noise levels from potential non-residential uses is determined to be *potentially significant*. Special noise generators such as sound amplification devices, industrial ventilation equipment associated with specific uses (e.g., cultivation or other industrial uses), and other tenant-specific noise sources shall require a site-specific noise analysis prior to project approval or building permit approval. With the mitigation measures identified below, operational noise impacts associated with buildout and operation land uses authorized under the General Plan will be *less than significant*.

#### **OPERATIONAL NOISE MITIGATION MEASURES**

The following mitigation measures are identified to reduce the operational noise levels associated with the Project:

- **NOI-4** Prior to project approval and the issuance of a building permit and/or certificate of occupancy for non-residential development projects, as appropriate, the Project Applicant/Developer shall submit a draft and/or final acoustical report to the Cathedral City Planning Department, or designee, that demonstrates:
  - 1. Exterior noise levels at adjacent property lines will satisfy the Cathedral City Municipal Code Section 11.96.030(6) exterior noise level limits, and satisfy any conditions of approval. The site-specific noise study shall identify the necessary noise mitigation measures, if any, required to reduce exterior noise levels to below the Cathedral City Municipal Code Section 11.96.030(6);



2. Acoustical isolation between units has been included in the project design for residential dwelling units above non-residential uses. (7)

#### **OPERATIONAL VIBRATION LEVELS**

The buildout of the General Plan is not expected to include any specific type of operational vibration sources, and therefore, the potential operational vibration impacts for the Cathedral City General Plan Update noise-sensitive land uses are considered *less than significant*.

### **CONSTRUCTION NOISE ANALYSIS**

Construction-related noise impacts are expected to create temporary and intermittent highlevel noise conditions at nearby sensitive receiver locations. Using sample reference noise levels to represent the construction activities of the Cathedral City General Plan Update, this analysis estimates the Project-related construction noise levels at nearby sensitive receiver locations (i.e., residential, school, library, and health care facilities, etc.). To evaluate whether General Plan buildout will generate potentially significant temporary construction noise levels at off-site sensitive receiver locations, a construction-related noise level threshold is identified in this report based on Federal Transit Administration (FTA) construction noise level limits of 80 dBA Leq (8-hour) at residential uses and 85 dBA Leq (8-hour) at commercial uses. The highest reference construction noise level of 79.6 dBA Leq at 50 feet is expected to satisfy the FTA 80 dBA Leg residential and 85 dBA Leg commercial 8-hour construction noise level thresholds at distances greater than 50 feet. However, at distances of 50 feet or less, Project construction noise levels may exceed the FTA thresholds at nearby receiver locations. Therefore, Projectrelated construction noise levels at receiver locations within 50 feet of construction activities in the Project study area, are considered *potentially significant* noise impacts. Therefore, mitigation measures are identified in this report to reduce construction noise levels during future development as part of the Cathedral City General Plan Update.

With application of the noise mitigation measures identified in this study, it is anticipated the future construction noise levels at nearby receiver locations resulting from General Plan buildout would be reduced to satisfy the FTA construction noise level thresholds. Therefore, Project construction-source noise impacts are considered *less than significant* with mitigation.

#### **CONSTRUCTION VIBRATION ANALYSIS**

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. Since neither the City's General Plan or Municipal Code identify specific vibration level standards, the County of Riverside General Plan Noise Element, Policy N 16.3, root-mean-square (RMS) vibration perception threshold of 0.01 in/sec RMS is used in this analysis. (8)

Based on the reference vibration levels provided by the Federal Transit Administration (FTA), a large bulldozer represents the highest source of typical construction-related vibration with a



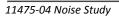
reference velocity of 0.089 in/sec PPV at 25 feet. At distances ranging from 25 to 125 feet from construction activities, typical construction vibration velocity levels are expected to range from 0.008 to 0.089 in/sec PPV, which equates to perceived vibration levels ranging from 0.006 to 0.063 in/sec RMS. Compared with the County of Riverside vibration standard of 0.01 in/sec RMS, the proposed Project construction activities will exceed the vibration standard at receiver locations within 50 feet of loaded trucks, large bulldozers, and jackhammers if used during Project construction. Therefore, loaded trucks, large bulldozers, and jackhammers within 50 feet of nearby sensitive land uses (e.g. residential, school, etc.) shall be minimized, or alternative equipment or methods shall be used, unless the vibration levels are shown to be less than the County of Riverside threshold of 0.01 in/sec RMS. With the recommended mitigation measures in this study, the Project-related vibration impacts at the nearby sensitive receiver locations represents a *less than significant* impact during worst-case construction activities.

The construction vibration levels at the site of the closest sensitive receivers are unlikely to be sustained during the entire construction period; but rather will occur only during the times that heavy construction equipment is operating adjacent to a development site perimeter. Further, construction at the Project site will be restricted to Municipal Code daytime construction hours, unless otherwise permitted by the City, thereby reducing potential vibration impacts during the sensitive nighttime hours.

#### CONSTRUCTION NOISE AND VIBRATION MITIGATION MEASURES

Though construction noise and vibration are temporary, being intermittent and of short duration, and to assure that such noise and vibration will not present any long-term impacts, the following mitigation measures are recommended to reduce noise and vibration levels produced by construction equipment to nearby noise-sensitive uses.

- **NOI-5** Prior to project approval or the issuance of a building permit for new development, when sensitive receiver locations are within 50 feet of proposed construction activities, the Project Applicant/Developer shall submit a final acoustical report to the Cathedral City Planning Department, or designee, that demonstrates:
  - Exterior construction noise levels at the closest sensitive receiver locations will satisfy the FTA 80 dBA  $L_{eq}$  residential and 85 dBA  $L_{eq}$  commercial 8-hour construction noise level standards and the County of Riverside 0.01 in/sec RMS vibration standard for sensitive uses. The site-specific study shall identify the necessary noise and/or vibration mitigation measures, if any, required to reduce exterior noise and vibration levels to below FTA noise and County of Riverside vibration thresholds; and
  - Measures to reduce construction noise and vibration levels, such as those provided below, shall be incorporated in the final noise study, if necessary:
    - Install temporary construction noise barriers at the Project site boundary which break the line of sight for occupied sensitive uses for the duration of construction activities. The noise control barrier(s) must provide a solid face from top to bottom and shall:





- Provide a minimum transmission loss of 20 dBA and be constructed with an acoustical blanket (e.g. vinyl acoustic curtains or quilted blankets) attached to the construction site perimeter fence or equivalent temporary fence posts;
- Properly maintained with any damage promptly repaired. Gaps, holes, or weaknesses in the barrier or openings between the barrier and the ground shall be promptly repaired.
- Install sound dampening mats or blankets to the engine compartments of heavy mobile equipment (e.g. graders, dozers, heavy trucks). The dampening materials must be capable of a 5 dBA minimum noise reduction, must be installed prior to the use of heavy mobile construction equipment, and must remain installed for the duration of the equipment use.
- Construction activities requiring loaded trucks, large bulldozers, and jackhammers within 50 feet of nearby sensitive land uses (e.g. residential, school, etc.) shall be minimized, or alternative equipment or methods shall be used, unless the vibration levels are shown to be less than the County of Riverside threshold of 0.01 in/sec RMS.
- **NOI-6** Construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturers' standards, and all stationary construction equipment shall be placed so that emitted noise is directed away from the noise-sensitive use nearest the construction activity.
- **NOI-7** The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and noise-sensitive receiver nearest to the construction activity.
- **NOI-8** The construction contractor shall limit haul truck deliveries to the same hours specified for construction equipment by Section 11.96.070 of the Cathedral City Municipal Code. The contractor shall design delivery routes to minimize the exposure of sensitive land uses to delivery truck noise.



#### SUMMARY OF SIGNIFICANCE FINDINGS

The results of this Cathedral City General Plan Update 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.

Amelania		Report	Significance Findings			
Analysis	Condition(s)	Section	Unmitigated	Mitigated		
Off-Site Traffic Noise	Long-Term Exterior Noise Level Increases	7	Less Than Significant	-		
	Future Exterior Noise Levels		Dotontially Cignificant	Less Than Significant		
On-Site Transportation	Future Interior Noise Levels	8	Potentially Significant	Less Than Significant		
	Future Vibration Levels		Potentially Significant	Less Than Significant		
Operational	Long-Term Exterior Noise Levels	9	Potentially Significant	Less Than Significant		
Operational	Long-Term Vibration Levels	9	Less Than Significant	-		
Construction	Temporary Noise Levels	10	Dotontially Cignificant	Less Than Significant		
Construction	Temporary Vibration Levels	10	Potentially Significant	Less Than Significant		



# 1 INTRODUCTION

This program-level Noise and Vibration Impact Analysis has been completed to determine the noise impacts due to development associated with the Cathedral City General Plan Update ("Project"). This Noise and Vibration Impact Analysis briefly describes typical compliance conditions for 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 PROJECT LOCATION**

Cathedral City ("City") is located in the Coachella Valley portion of Riverside County, between Palm Springs and Rancho Mirage. The City encompasses approximately 22.5 square miles and is traversed east-west by I-10 in the northern part of the City, and State Highway 111 (Palm Canyon Drive) in the southern part of the City. The City's location is shown on Exhibit 1-A.

# **1.2 PROJECT DESCRIPTION**

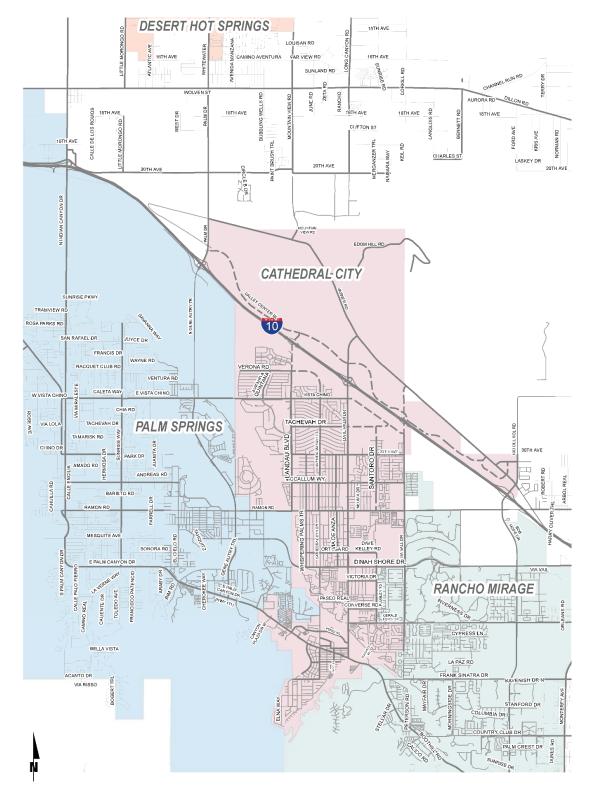
The proposed Project is the preparation of the Cathedral City General Plan Update and Noise Element, encompassing approximately 14,425 acres. Approximately 53% of the land within the current city boundaries is currently planned for residential land uses, of which 54% is vacant. Commercial and industrial land uses are also planned to expand, as approximately 69% of commercial and 85% of industrial / business park land is vacant. The remaining land (30%) is occupied by educational, public use, utilities, golf courses, and local parks and recreation land uses. In 2018, Cathedral City had approximately 21,219 households and 54,791 people.

Residential housing in the City includes apartments, senior facilities, active adult communities, tract/master plan developments, and low density single-family homes. Mixed use areas include residential over commercial. The City is traversed east-west by I-10, with lands north of I-10 being governed by Specific Plans. Exhibits 1-B and 1-C show the currently adopted General Plan land use and proposed General Plan land use, respectively, provided in the *Transportation Analysis*. (2)

Project-related stationary-source (operational) noise may be produced by the future uses on the adjacent land uses within development of the Project. To assess the future exterior noise conditions, reference noise sources are identified to describe the potential non-residential noise sources associated with General Plan buildout. Development specific on-site Projectrelated noise sources representing potential future uses are expected to include, but are not limited to: air conditioning units, loading dock activities, outdoor restaurant dining activities, outdoor park activities, and parking lot vehicle movements. These expected Project-related noise sources are consistent with existing noise sources observed in the Project study area. Since residential is considered a noise-sensitive receiving land use, it is not expected to include

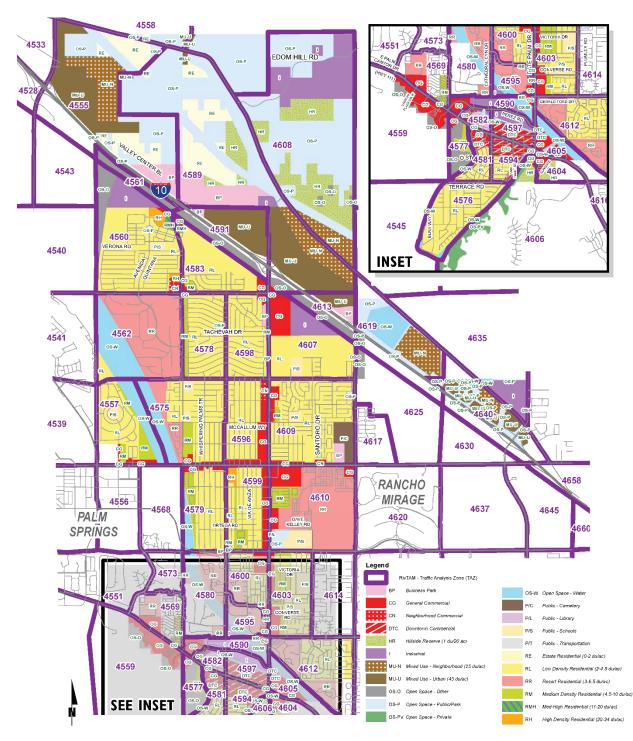


any meaningful operational source noise consistent with the existing residential land use in the Project study area.



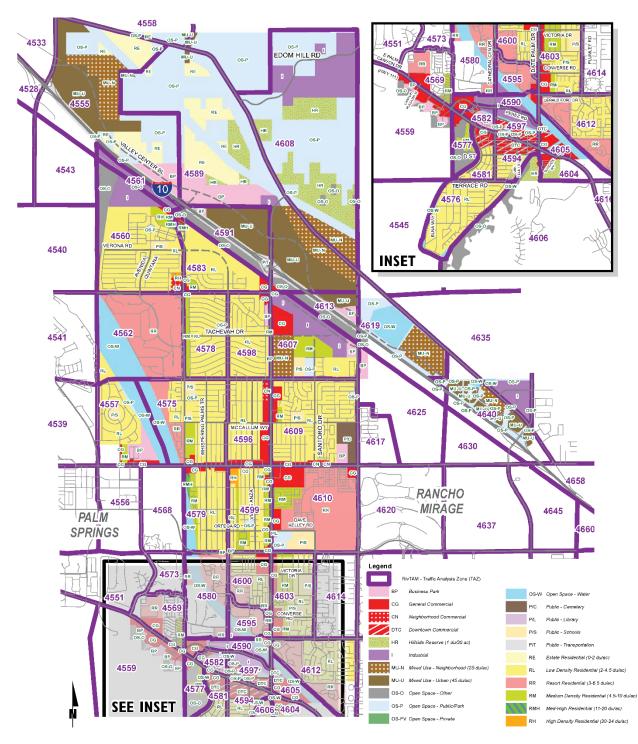
















# 2 FUNDAMENTALS

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.

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

#### EXHIBIT 2-A: TYPICAL NOISE LEVELS

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 Margin 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. (9) 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. (10) 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 ( $L_{eq}$ ). 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 ( $L_{eq}$ ) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period and is commonly used to describe the "average" noise levels within the environment.

Peak hour or average noise levels, while useful, do not completely describe a given noise environment. Noise levels lower than 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 L<sub>eq</sub> sound levels in the evening from 7:00 p.m. to 10:00 p.m., and the addition of 10 decibels to dBA L<sub>eq</sub> 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 time, but rather represents the total sound exposure. Cathedral City 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 way 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. (9)

#### 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. (5)

### 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. (9)

#### 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. (5)

# 2.4 NOISE CONTROL

Noise control is the process of obtaining an acceptable noise environment for an 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 these three elements.

# **2.5** 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. (5)



### 2.6 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. (11) The Cathedral City General Plan identifies compatibility criteria consistent with the Office of Planning and Research and FHWA guidance to address transportation (e.g., traffic, rail, and aircraft) noise level compatibility for future land uses.

### 2.7 COMMUNITY RESPONSE TO NOISE

Community responses to noise may range from registering a complaint by telephone or letter, to initiating court action, depending upon everyone'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. (12) 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. (12) Despite this variability in behavior on an individual level, the population can be expected to exhibit the following responses to changes in noise levels as shown on Exhibit 2-B. 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*. (5)



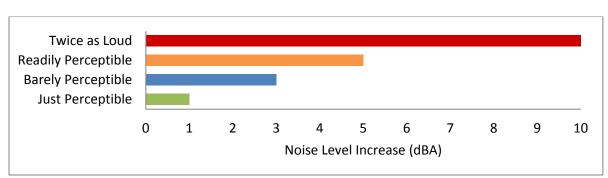


EXHIBIT 2-B: NOISE LEVEL INCREASE PERCEPTION

### **2.8** EXPOSURE TO HIGH NOISE LEVELS

The Occupational Safety and Health Administration (OSHA) sets legal limits on noise exposure in the workplace. The permissible exposure limit (PEL) for a worker over an eight-hour day is 90 dBA. The OSHA standard uses a 5 dBA exchange rate. This means that when the noise level is increased by 5 dBA, the amount of time a person can be exposed to a certain noise level to receive the same dose is cut in half. The National Institute for Occupational Safety and Health (NIOSH) has recommended that all worker exposures to noise should be controlled below a level equivalent to 85 dBA for eight hours to minimize occupational noise induced hearing loss. NIOSH also recommends a 3 dBA exchange rate so that every increase by 3 dBA doubles the amount of the noise and halves the recommended amount of exposure time. (13)

OSHA has implemented requirements to protect all workers in general industry (e.g. the manufacturing and the service sectors) for employers to implement a Hearing Conservation Program where workers are exposed to a time weighted average noise level of 85 dBA or higher over an eight-hour work shift. Hearing Conservation Programs require employers to measure noise levels, provide free annual hearing exams and free hearing protection, provide training, and conduct evaluations of the adequacy of the hearing protectors in use unless changes to tools, equipment and schedules are made so that they are less noisy and worker exposure to noise is less than the 85 dBA. This report does not evaluate the noise exposure of workers within a project or construction site based on CEQA requirements, and instead, evaluates Project-related operational and construction noise levels at the nearby sensitive receiver locations in the Project study area. Further, periodic exposure to high noise levels in short duration, such as Project construction, is typically considered an annoyance and not impactful to human health. It would take several years of exposure to high noise levels to result in hearing impairment. (14)

# 2.9 VIBRATION

Per the Federal Transit Administration (FTA) *Transit Noise Impact and Vibration Assessment* (15), 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.

There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal. The PPV is most frequently used to describe vibration impacts to buildings but is not always suitable for evaluating human response (annoyance) because it takes some time for the human body to respond to vibration signals. Instead, the human body responds to average vibration amplitude often described as the root mean square (RMS). The RMS amplitude is defined as the average of the squared amplitude of the signal and is most frequently used to describe the effect of vibration on the human body. Decibel notation (VdB) is commonly used to measure RMS. Decibel notation. Typically, ground-borne vibration generated by man-made activities attenuates rapidly with distance from the source of the vibration. Sensitive receivers for vibration include structures (especially older masonry structures), people (especially residents, the elderly, and sick), and vibration-sensitive equipment.

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-C illustrates common vibration sources and the human and structural response to ground-borne vibration.



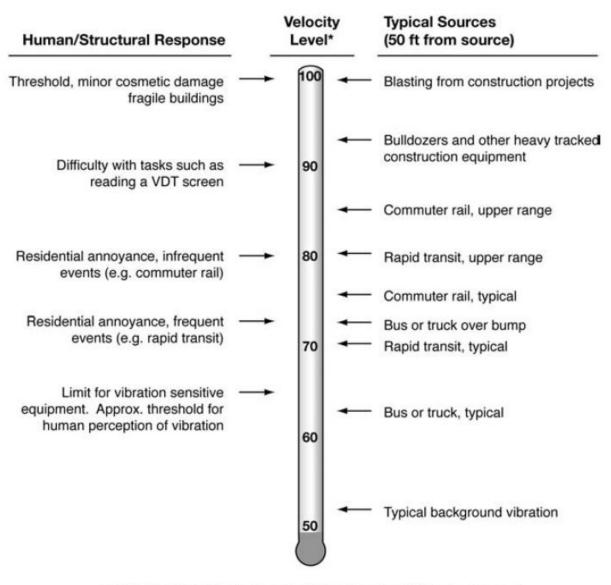


EXHIBIT 2-C: TYPICAL LEVELS OF GROUND-BORNE VIBRATION

\* RMS Vibration Velocity Level in VdB relative to 10<sup>-6</sup> inches/second

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



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# 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 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 per guidelines adopted by the Governor's Office of Planning and Research. (16) 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 BUILDING STANDARDS

The State of California's noise insulation standards are codified in the California Code of Regulations, Title 24, Building Standards Administrative Code, Part 2, and the California Building Code. These noise standards are applied to new construction in California for controlling interior noise levels resulting from exterior noise sources. The regulations specify that acoustical studies must be prepared when noise-sensitive structures, such as residential buildings, schools, or hospitals, are developed near major transportation noise sources, and where such noise sources create an exterior noise level of 60 dBA CNEL or higher. Acoustical studies that accompany building plans for noise-sensitive land uses must demonstrate that the structure has been designed to limit interior noise in habitable rooms to acceptable noise levels. For new residential buildings, schools, and hospitals, the acceptable interior noise limit for new construction is 45 dBA CNEL.

The 2016 State of California's Green Building Standards Code contains mandatory measures for non-residential building construction in Section 5.507 on Environmental Comfort. (17) These noise standards are applied to new construction in California for 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  $L_{eq}$  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). Alternatively, if the interior noise levels of non-residential buildings satisfy the performance criteria of 50 dBA  $L_{eq}$  (1 hour), then the performance method as defined by the California's Green Building Standards Code can be used.

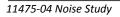
### 3.3 CATHEDRAL CITY ADOPTED GENERAL PLAN NOISE ELEMENT

Cathedral City previously adopted a Noise Element of the General Plan (Chapter V, Environmental Hazards), to coordinate the community's land uses with the existing and future noise environment, and to design measures intended to minimize or avoid community exposure to excessive noise levels. (4) The Noise Element identifies a goal and multiple polices related to noise as follows:

*Goal:* A noise environment that complements the City's low density residential character and its various land uses.

#### Policies:

- 1: Protect noise sensitive land uses, including residential neighborhoods, schools, hospitals, libraries, churches, resorts, and community open space, as well as land uses proposed in the vicinity of the railway, Interstate 10, the Mid-Valley Parkway, and Da Vall Drive from high noise levels generated by existing and future noise sources.
- 2: The relationship between land use designations in the Land Use Element and changes in the circulation patter of the City, as well as individual developments shall be monitored and mitigated.
- 3: Private sector project proposals shall include measures that assure that noise exposure levels comply with State of California noise insulation standards as defined in Title 25 (California Noise Insulation Standards).
- 4: Maintain a circulation map which maintains low levels of traffic within neighborhoods, and assigns truck routes to major roadways only.
- 5: Maintain an ongoing contact with the Palm Springs Airport to ensure that flight paths and airport improvements do not impact or extend noise contours into the City.
- 6: Coordinate with adjoining municipalities to assure noise-compatible land uses across jurisdictional boundaries.
- 7: The City shall restrict grading and construction activities that may impact residential neighborhoods to specified days of the week and times of day.





#### 3.3.1 LAND USE COMPATIBILITY

The noise criteria identified in the Cathedral City General Plan Noise Element, Table V-2, are guidelines to evaluate the land use compatibility of transportation-related noise. The compatibility criteria, shown on Exhibit 3-A, provide Cathedral City with a planning tool to gauge the compatibility of land uses relative to existing and future exterior noise environment.

Single-family residential uses are considered *normally acceptable* with exterior noise levels of up to 60 CNEL and *conditionally acceptable* up to 70 CNEL. Multi-family residential land use is considered *normally acceptable* in exterior noise environments up to 65 CNEL and *conditionally acceptable* up to 70 CNEL. Schools, libraries, and churches are considered *normally acceptable* up to 70 CNEL, as are office buildings and business, commercial and professional uses. Golf courses are considered *normally acceptable* with exterior noise levels of up to 75 CNEL and *normally unacceptable* from 70 to 80 CNEL. (4)

A conditionally acceptable designation indicates that new construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features are incorporated in the design. By comparison, a normally acceptable designation indicates that standard construction can occur with no special noise reduction requirements.

#### **3.3.2** TRANSPORTATION NOISE STANDARDS

To control transportation-related noise sources such as arterial roads, freeways, airports, and railroads, Cathedral City has established the land use compatibility guidelines for exterior noise levels as previously described, and shown on Exhibit 3-A. For noise-sensitive uses, the Noise Element identifies the exterior noise level of 65 dBA CNEL for *conditionally acceptable* use. In addition, an interior noise level standard of 45 dBA CNEL for noise-sensitive interior uses is utilized in this Noise and Vibration Impact Analysis consistent with California Code of Regulations, Title 24, Building Standards for residential use.

	CNEL (dBA)						
Land Uses		55	60	65	<mark>70</mark>	75	80
	2	4					2
sidential - Single Family Dwellings, Duplex, Mobile Homes	-		B	1	C	8 9	3
						1	D
		A		l B			
Residential – Multiple Family					C		-
		Δ	I				D
Transient Lodging: Hotels and Motels				8			
ansient Louging. Hotels and Motels					(		D
			A	L			
hool Classrooms, Libraries, Churches, Hospitals, Nursing Homes d Convalescent Hospitals				8	(	HUI IIII	
and convariscent riospitalis						өншшш	D
Auditoriums, Concert Halls, Amphitheaters			Þ				
Audionalis, Concert Hans, Amplificaters				1	9	C	
orts Arenas, Outdoor Spectator Sports			B				
Spons Archas, Outdoor Speciator Spons					1	C	
Playgrounds, Neighborhood Parks			A		C		
Flaygrounds, Neighborhood Farks				1000	Nel III II	I	)
Golf Courses, Riding Stables, Water Recreation, Cemeteries		r T	A	ı T			
Gon Courses, Maing Stables, water Recreation, Cemeteries	-					411111111	D
Office Building Building Commission and Buckeying			A		B		
Office Buildings, Business, Commercial and Professional					в		D
T. 1 1. M			A				
dustrial, Manufacturing, Utilities, Agriculture						5	D

EXHIBIT 3-A: LAND USE COMPATIBILITY FOR COMMUNITY NOISE ENVIRONMENTS

Source: Cathedral City General Plan Update Noise Background Study", Endo Engineering, 2001: California Department of Health Services, "Guidelines for the Preparation and Content of the Noise Element of the General Plan," 1990

#### Explanatory Notes

A Normally Acceptable: With no special noise reduction requirements assuming standard construction.

Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirement is made and needed noise insulation features included in the design

C a

B

Normally Unacceptable: New construction is discouraged. If new construction does not proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

D Clearly Unacceptable: New construction or development should generally not be undertaken.



# **3.4** CATHEDRAL CITY MUNICIPAL CODE

To analyze noise impacts originating from a designated fixed location or private property, stationary-source (operational) noise is typically evaluated against standards established under a City's Municipal Code.

For noise-sensitive residential properties, the Municipal Code identifies operational noise level limits for the daytime (7:00 a.m. to 10:00 p.m.) hours of 65 dBA  $L_{eq}$  and 50 dBA  $L_{eq}$  during the nighttime (10:00 p.m. to 7:00 a.m.) hours. (18) For non-noise-sensitive commercial and industrial properties, the Municipal Code identifies operational noise level limits for the daytime (7:00 a.m. to 10:00 p.m.) hours of 85 dBA  $L_{eq}$  and 55 dBA  $L_{eq}$  during the nighttime (10:00 p.m. to 7:00 a.m.) hours of 85 dBA  $L_{eq}$  and 55 dBA  $L_{eq}$  during the nighttime (10:00 p.m. to 7:00 a.m.) hours. The Cathedral City Municipal Code noise standards are shown on Table 3-1 and included in Appendix 3.1.

Land Use	Time Period	Exterior Noise Level Standards (dBA) <sup>1</sup>
Residential	Daytime	65
Residential	Nighttime	50
Commercial/	Daytime	85
Industrial	Nighttime	55

#### TABLE 3-1: OPERATIONAL NOISE STANDARDS

<sup>1</sup> Source: Cathedral City Municipal Code, Section 11.96.030(6) (Appendix 3.1). "Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

#### **3.5 CONSTRUCTION NOISE STANDARDS**

To analyze noise impacts originating from the construction of the Cathedral City General Plan Update, noise from construction activities are typically evaluated against standards established under a City's Municipal Code. To control noise impacts associated with the construction of the proposed Project, Cathedral City has established limits to the hours of operation in Section 11.96.070 of the Municipal Code. However, the City's General Plan and Municipal Code do not establish numeric maximum acceptable construction source noise levels at potentially affected receivers, which would allow for a quantified determination of what CEQA constitutes as the generation of noise levels in excess of standards or as a substantial temporary or periodic noise increase. Therefore, this report identifies a construction noise level threshold to evaluate these potential impacts.

The Federal Transit Administration (FTA) *Transit Noise and Vibration Impact Assessment* identifies detailed assessment criteria including an eight-hour construction noise level threshold of 80 dBA  $L_{eq}$  during daytime at residential (noise-sensitive) uses, and 85 dBA  $L_{eq}$  during daytime hours at commercial uses. (15) Therefore, this report relies on the FTA thresholds for land uses adjacent to future development as part of Project construction.



# **3.6 VIBRATION STANDARDS**

The following vibration standards are used in this report to assess the potential vibration impacts of future UPRR operations to the future uses within the Project, and the potential operational and construction vibration levels generated by Project uses at adjacent land uses.

### **3.6.1 ON-SITE RAIL VIBRATION**

The Federal Transit Administration (FTA) *Transit Noise and Vibration Impact Assessment,* Table 6-3, identifies ground borne vibration levels for land use categories based on the frequency of rail events. For the UPRR rail lines, the *frequent event* (more than 70 events per day) vibration criteria for noise-sensitive (e.g., residential) uses is 72 VdB, and for institutional land uses with primarily daytime-only uses the vibration criteria is 75 VdB. Since the FTA does not identify vibration standards for non-noise-sensitive uses, such as commercial and industrial, this analysis uses the more conservative institutional land use criteria to evaluate potential vibration impacts at non-noise-sensitive uses. (15)

### 3.6.2 OPERATIONAL AND CONSTRUCTION VIBRATION

Since neither the City's General Plan or Municipal Code identify specific vibration level standards, the County of Riverside General Plan Policy N 16.3 is used in this analysis which identifies a velocity perception threshold for vibration due to passing trains of 0.01 inches per second (in/sec) RMS over the range of one to 100 Hz. (19) For the purposes of this analysis, the perception threshold of 0.01 in/sec RMS shall be used to assess the potential impacts due to Project construction at nearby sensitive receiver locations, since the Project land uses are not expected to include any specific type of operational vibration sources. This threshold is also equivalent to the 80 VdB threshold for construction identified in the FTA *Transit Noise and Vibration Impact Assessment*. (15)

# 3.7 RIVERSIDE COUNTY AIRPORT LAND USE COMPATIBILITY STANDARDS

Cathedral City is partially located within the mapped noise level contour boundaries of Palm Springs International Airport. Chapter 3 of the *Riverside County Airport Land Use Compatibility Plan (RCALUCP) Policy Document* identifies those policies specific to Palm Springs International Airport. Policy 2.1 indicates that *the limit of 60 dB CNEL set by Countywide Policy 4.1.4 as the maximum noise exposure considered normally acceptable for new residential land uses shall not be applied to the environs of Palm Springs International Airport*. Instead, the criteria applied for Palm Springs International Airport is identified as 62 dB CNEL. Moreover, Cathedral City residential uses are shown to be within Compatibility Zone D. Per the RCALUCP guidelines, only highly noise-sensitive outdoor non-residential uses, such as amphitheaters or drive-in theaters, are prohibited in Compatibility Zone D. (3)



As shown on Exhibit 3-B, the 60 dBA CNEL boundary of Palm Springs International Airport under Existing (2002) conditions partially overlaps with the Cathedral City boundaries east of San Joaquin Drive and north of Ramon Road. Future (2025) conditions provided by the RCALUCP, also shown on Exhibit 3-B, indicate that the 60 dBA CNEL noise level contour boundary will shift to partially overlap with Cathedral City boundaries east of San Joaquin Drive and north of Mission Drive. As a result, noise levels due to aircraft flyover events associated with Palm Springs International Airport under Future (2025) conditions are anticipated to be equal to or less than those identified under Existing (2002) conditions. (3)

Per the Palm Springs International Airport-specific policies, *dwellings may require incorporation of special noise level reduction measures into their design to ensure that the interior noise limit of 45 dB CNEL*. These features would be incorporated into new residential construction as part of the building permit process, and based on the exterior noise levels approaching and around 60 dBA CNEL, are anticipated to reduce aircraft flyover noise to below the 45 dBA CNEL interior noise level standard for residential uses with standard building construction. Additionally, mitigation measure NOI-2 would ensure that new residential development satisfies the 45 dBA CNEL interior flyovers will likely be heard, they will not significantly impact noise-sensitive uses in Cathedral City from a noise standpoint.



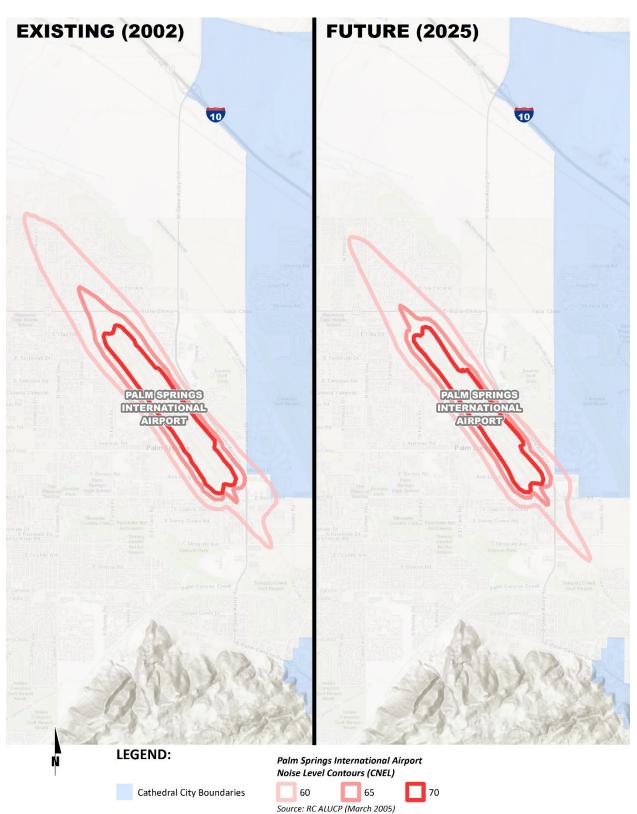


EXHIBIT 3-B: PALM SPRINGS INTERNATIONAL AIRPORT NOISE CONTOURS



### 4 SIGNIFICANCE CRITERIA

The following thresholds are based on currently adopted guidance provided by Appendix G of the California Environmental Quality Act (CEQA). (20) For the purposes of this report, impacts would be potentially significant if the Project results in or causes:

- A. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?
- B. Generation of excessive ground-borne vibration or ground-borne noise levels?
- C. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

While the Cathedral City General Plan land use compatibility guidelines provide direction on noise compatibility and establish noise standards by land use type that are sufficient to assess the significance of noise impacts, they do not define the levels at which increases are considered substantial for use under Threshold A. CEQA Appendix G Threshold C applies to nearby public and private airports, if any, and the Project's land use compatibility.

### 4.1 CEQA THRESHOLDS NOT FURTHER ANALYZED

Consistent with the discussion provided in Section 3.7 regarding aircraft noise levels from Palm Springs International Airport, no impact related to the exposure of people residing or working in the Project area to excessive airport related noise levels is anticipated, and no further analysis is required.

### 4.2 NOISE-SENSITIVE RECEIVERS

Noise level increases resulting from the Project are evaluated based on the Appendix G CEQA Thresholds described above at the closest sensitive receiver locations. Under CEQA, consideration must be given to the magnitude of the increase, the existing ambient noise levels, and the location of noise-sensitive receivers to determine if a noise increase represents a significant adverse environmental impact. This approach recognizes *that there is no single noise increase that renders the noise impact significant.* (21)

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. The Federal Interagency Committee on Noise (FICON) (22) developed guidance to be used for the assessment of project-generated increases in noise levels that consider 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 other environmental noise impact assessments involving the use of cumulative noise exposure metrics, such as the average-daily noise level (CNEL) and equivalent continuous noise level ( $L_{eq}$ ).

As previously stated, the approach used in this report recognizes *that there is no single noise increase that renders the noise impact significant*, based on a 2008 California Court of Appeal ruling on Gray v. County of Madera. (21) 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 if the noise criteria may be exceeded. Therefore, FICON identifies a *readily perceptible* 5 dBA or greater project-related noise level increase is considered a significant impact when the noise criteria for a given land use is exceeded. Per 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 the noise criteria for a given land use is exceedence. Table 4-1 below provides a summary of the potential noise impact significance criteria, based on guidance from FICON.

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

### TABLE 4-1: SIGNIFICANCE OF NOISE IMPACTS AT NOISE-SENSITIVE RECEIVERS

Federal Interagency Committee on Noise (FICON), 1992.



### 4.3 SIGNIFICANCE CRITERIA SUMMARY

Noise impacts shall be considered significant if any of the following occur as a direct result of the proposed development. Table 4-1 shows the significance criteria summary matrix.

### OFF-SITE TRAFFIC NOISE

- When the noise levels at existing and future noise-sensitive land uses (e.g. residential, etc.):
  - 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-related noise level increase; or
  - already exceed 65 dBA CNEL, and the Project creates a community noise level impact of greater than 1.5 dBA CNEL (FICON, 1992).

### **ON-SITE TRANSPORTATION NOISE**

• If the on-site exterior noise levels exceed 65 dBA CNEL at the outdoor environments of future noise-sensitive uses within the City. Interior noise levels shall not exceed 45 dBA CNEL for interior noise-sensitive dwelling units (Cathedral City General Plan Noise Element Table V-2, and the California Code of Regulations, Title 24, Building Standards).

### **ON-SITE RAIL VIBRATION**

- If the on-site exterior vibration levels exceed:
  - o 72 VdB at future noise-sensitive uses; or
  - 75 VdB at future non-noise-sensitive uses (FTA, *Transit Noise and Vibration Impact Assessment*, Table 6-3).

### **OPERATIONAL NOISE**

- If Project-related operational (stationary-source) noise levels exceed:
  - $\circ~$  the exterior 65 dBA  $L_{eq}$  daytime or 50 dBA  $L_{eq}$  nighttime noise level standards at nearby sensitive receiver locations; or
  - $\circ$  the exterior 85 dBA L<sub>eq</sub> daytime or 55 dBA L<sub>eq</sub> nighttime noise level standards at nearby commercial or industrial receiver locations (Cathedral City Municipal Code, Section 11.96.030(6)).

### **OPERATIONAL VIBRATION**

• If Project-related activities generate vibration levels which exceed the vibration level threshold of 0.01 in/sec RMS (County of Riverside General Plan Policy N 16.3).

### **CONSTRUCTION NOISE**

• If Project-related construction activities create noise levels which exceed the FTA 80 dBA L<sub>eq</sub> (8-hour) residential or 85 dBA L<sub>eq</sub> (8-hour) construction noise level limits at adjacent commercial land uses (FTA, *Transit Noise and Vibration Impact Assessment*, Table 7-3).



### **CONSTRUCTION VIBRATION**

• If Project-related activities generate vibration levels which exceed the vibration level threshold of 0.01 in/sec RMS (County of Riverside General Plan Policy N 16.3).

Analysis	Receiving Land Use	Condition(s)	Significan	ce Criteria
		if ambient is < 60 dBA CNEL	≥ 5 dBA CNEL F	Project increase
Off-Site	Noise-Sensitive <sup>1</sup>	if ambient is 60 - 65 dBA CNEL	≥ 3 dBA CNEL F	Project increase
		if ambient is > 65 dBA CNEL	≥ 1.5 dBA CNEL	Project increase
		Exterior Noise Level Standard	65 dB/	A CNEL
On-Site <sup>2</sup>	Noise-Sensitive	Interior Noise Level Standard	45 dB/	A CNEL
Un-Site-		On-Site Vibration	72	VdB
	Non-Noise-Sensitive	Level Threshold <sup>3</sup>	75	VdB
Residential Exterior Noise Level Standard <sup>4</sup>		65 dBA L <sub>eq</sub>	50 dBA L <sub>eq</sub>	
Operational	Commercial/Industrial	Exterior Noise Level Standard	85 dBA L <sub>eq</sub>	55 dBA L <sub>eq</sub>
	Noise-Sensitive	Vibration Level Threshold <sup>5</sup>	0.01 in/sec RMS	
		Residential Noise Level Threshold <sup>3</sup> 80 dBA L <sub>eq</sub> (8-Hou		<sub>q</sub> (8-Hour)
Construction	Noise- Sensitive	Commercial Noise Level Threshold <sup>3</sup>	85 dBA L <sub>e</sub>	<sub>9</sub> (8-Hour)
		Vibration Level Threshold <sup>5</sup>	0.01 in/	sec RMS

### **TABLE 4-2: SIGNIFICANCE CRITERIA SUMMARY**

<sup>1</sup> Source: FICON, 1992.

<sup>2</sup> Sources: Cathedral City General Plan Noise Element Table V-2, and the California Code of Regulations, Title 24, Building Standards.

<sup>3</sup> Source: FTA, Transit Noise and Vibration Impact Assessment.

<sup>4</sup> Source: Cathedral City Municipal Code, Section 11.96.030(6) (Appendix 3.1).

<sup>5</sup> Source: County of Riverside General Plan Policy N 16.3.



### 5 EXISTING NOISE LEVEL MEASUREMENTS

To assess the existing noise level environment, noise level measurements were taken at receiver locations in the Project study area. The measurement locations were selected based on existing and planned future land uses and major transportation corridors, to better 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 describe the existing noise conditions noise level measurements were collected by Urban Crossroads, Inc. on Wednesday, April 18<sup>th</sup>, 2018 for a 24-hour period. Further, to better describe the ambient noise environment at specific land use types and describe the reference noise level for existing stationary sources in the Project study area, short-term noise level measurements were collected over 10-minute durations on Tuesday, April 17<sup>th</sup>, 2018. Appendix 5.1 includes study area photos for all measurement locations.

### 5.1 MEASUREMENT PROCEDURE AND CRITERIA

To describe the existing noise environment, the long-term noise levels were measured during typical weekday conditions. 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 short-term noise level measurements were collected using a Larson Davis LxT Type 1 precision sound level meter. The Larson Davis LxT sound level meter was calibrated before the measurements using a Larson-Davis calibrator, Model CAL 200.

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. (23)

### 5.2 NOISE MEASUREMENT LOCATIONS

The long-term noise level measurements were positioned as close to the nearest sensitive receiver locations as possible to assess the existing ambient hourly noise levels in the Project study area. Both Caltrans and the FTA recognize that it is not reasonable to collect noise level measurements that can fully represent any part of a private yard, patio, deck, or balcony normally used for human activity when estimating impacts for new development projects. This is demonstrated in the Caltrans general site location guidelines which indicate that, *sites must be free of noise contamination by sources other than sources of interest. Avoid sites located near sources such as barking dogs, lawnmowers, pool pumps, and air conditioners unless it is the express intent of the analyst to measure these sources. (9) Further, FTA guidance states, that it is not necessary nor recommended that existing noise exposure be determined by measuring at every noise-sensitive location in the project area. Rather, the recommended* 



approach is to characterize the noise environment for clusters of sites based on measurements or estimates at representative locations in the community. (15)

Based on recommendations of Caltrans and the FTA, 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. (15) 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 noise impacts due to the Project's contribution to the ambient noise levels.

### 5.3 LONG-TERM NOISE MEASUREMENT RESULTS

The noise measurements presented below focus on the average or equivalent sound levels  $(L_{eq})$ . The equivalent sound level  $(L_{eq})$  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.) and nighttime (10:00 p.m. to 7:00 a.m.) noise levels at each noise level measurement location. Table 5-1 summarizes the noise levels at existing and future Project land uses described below, and Table 5-2 compares the existing noise levels to the 24-hour CNEL land use compatibility criteria of the Cathedral City General Plan Noise Element, previously described in Section 3.3. Appendix 5.2 provides a summary of the existing hourly ambient noise levels described below:

- Location L1 represents the noise levels near Palm Drive, north of I-10, and existing commercial and residential uses in a vacant lot. The noise level measurements collected show an overall 24hour exterior noise level of 66.0 dBA CNEL. Based on the Cathedral City General Plan land use compatibility criteria, the 24-hour noise level represents *conditionally acceptable* residential use and *normally acceptable* commercial use. The energy (logarithmic) average daytime noise level was calculated at 58.7 dBA L<sub>eq</sub> with an average nighttime noise level of 59.2 dBA L<sub>eq</sub> at this location.
- Location L2 represents the noise levels near existing residential homes and Rio Vista Elementary School, south of I-10 and the UPRR lines, west of Landau Boulevard. The noise level measurements collected show an overall 24-hour exterior noise level of 64.6 dBA CNEL. Based on the Cathedral City General Plan land use compatibility criteria, the 24-hour noise level represents *conditionally acceptable* residential and school uses. The energy (logarithmic) average daytime noise level was calculated at 54.9 dBA L<sub>eq</sub> with an average nighttime noise level of 58.4 dBA L<sub>eq</sub> at this location.
- Location L3 represents the noise levels within north of I-10 on Date Palm Drive near existing vacant land designated as future Mixed-Use Urban land use. The noise level measurements collected show an overall 24-hour exterior noise level of 73.3 dBA CNEL. Based on the Cathedral City General Plan land use compatibility criteria, the 24-hour noise level represents *normally unacceptable* residential use, and *conditionally acceptable* commercial use. The energy (logarithmic) average daytime noise level was calculated at 67.2 dBA L<sub>eq</sub> with an average nighttime noise level of 66.3 dBA L<sub>eq</sub> at this location.



- Location L4 represents the noise levels near existing residential homes and Landau Elementary School on Landau Boulevard. The noise level measurements collected show an overall 24-hour exterior noise level of 68.7 dBA CNEL. Based on the Cathedral City General Plan land use compatibility criteria, the 24-hour noise level represents *conditionally acceptable* residential and school uses, and *normally acceptable* recreation use (e.g., golf course). The energy (logarithmic) average daytime noise level was calculated at 66.2 dBA L<sub>eq</sub> with an average nighttime noise level of 60.4 dBA L<sub>eq</sub> at this location.
- Location L5 represents the noise levels on Santoro Drive near existing residential homes and James Workman Middle School. The noise level measurements collected show an overall 24hour exterior noise level of 60.3 dBA CNEL. Based on the Cathedral City General Plan land use compatibility criteria, the 24-hour noise level represents *conditionally acceptable* residential and school uses. The energy (logarithmic) average daytime noise level was calculated at 53.6 dBA L<sub>eq</sub> with an average nighttime noise level of 53.4 dBA L<sub>eq</sub> at this location.
- Location L6 represents the noise levels south of Ramon Road near existing commercial uses, southeast of Palm Springs International Airport. The noise level measurements collected show an overall 24-hour exterior noise level of 63.4 dBA CNEL. Based on the Cathedral City General Plan land use compatibility criteria, the 24-hour noise level represents *normally acceptable* commercial land use. The energy (logarithmic) average daytime noise level was calculated at 59.3 dBA L<sub>eq</sub> with an average nighttime noise level of 56.1 dBA L<sub>eq</sub> at this location.
- Location L7 represents the noise levels west of Date Palm Drive near existing commercial and residential uses north of Ramon Road. The noise level measurements collected show an overall 24-hour exterior noise level of 59.3 dBA CNEL. Based on the Cathedral City General Plan land use compatibility criteria, the 24-hour noise level represents *normally acceptable* residential and commercial land uses. The energy (logarithmic) average daytime noise level was calculated at 55.8 dBA L<sub>eq</sub> with an average nighttime noise level of 51.5 dBA L<sub>eq</sub> at this location.
- Location L8 represents the noise levels south of Dina Shore Drive, east of Date Palm Drive, near existing commercial and residential uses. The noise level measurements collected show an overall 24-hour exterior noise level of 61.9 dBA CNEL. Based on the Cathedral City General Plan land use compatibility criteria, the 24-hour noise level represents *conditionally acceptable* residential and *normally acceptable* commercial uses. The energy (logarithmic) average daytime noise level was calculated at 58.8 dBA L<sub>eq</sub> with an average nighttime noise level of 54.2 dBA L<sub>eq</sub> at this location.
- Location L9 represents the noise levels near Highway 111 and Perez Road, adjacent to existing commercial and automobile dealership uses. The noise level measurements collected show an overall 24-hour exterior noise level of 63.9 dBA CNEL. Based on the Cathedral City General Plan land use compatibility criteria, the 24-hour noise level represents *normally acceptable* commercial use. The energy (logarithmic) average daytime noise level was calculated at 61.3 dBA L<sub>eq</sub> with an average nighttime noise level of 55.5 dBA L<sub>eq</sub> at this location.
- Location L10 represents the noise levels on Cathedral Canyon Drive near an existing recreational vehicle resort and commercial uses. The noise level measurements collected show an overall 24-hour exterior noise level of 74.2 dBA CNEL. Based on the Cathedral City General Plan land use compatibility criteria, the 24-hour noise level represents *conditionally acceptable* commercial and recreation uses. The energy (logarithmic) average daytime noise level was calculated at 72.2 dBA Leq with an average nighttime noise level of 65.5 dBA Leq at this location.



- Location L11 represents the noise levels near existing residential homes west of Da Vall Drive and south of Sunny Lane. The noise level measurements collected show an overall 24-hour exterior noise level of 59.2 dBA CNEL. Based on the Cathedral City General Plan land use compatibility criteria, the 24-hour noise level represents *normally acceptable* residential use. The energy (logarithmic) average daytime noise level was calculated at 57.2 dBA L<sub>eq</sub> with an average nighttime noise level of 50.6 dBA L<sub>eq</sub> at this location.
- Location L12 represents the noise levels north of I-10 near Varner Road and existing vacant land designated as future Mixed-Use Urban land use. The noise level measurements collected show an overall 24-hour exterior noise level of 69.7 dBA CNEL. Based on the Cathedral City General Plan land use compatibility criteria, the 24-hour noise level represents *conditionally acceptable* residential use, and *normally acceptable* commercial use. The energy (logarithmic) average daytime noise level was calculated at 62.8 dBA L<sub>eq</sub> with an average nighttime noise level of 63.1 dBA L<sub>eq</sub> at this location.

Appendix 5.2 provides summary worksheets of the noise levels for each hour as well as the minimum, maximum, L<sub>1</sub>, L<sub>2</sub>, L<sub>5</sub>, L<sub>8</sub>, L<sub>25</sub>, L<sub>50</sub>, L<sub>90</sub>, L<sub>95</sub>, and L<sub>99</sub> percentile noise levels observed during the daytime and nighttime periods. The background ambient noise levels in the Project study area are dominated by the transportation-related noise associated with I-10, the arterial roadway network, Palm Springs International Airport, and the UPRR lines.

Higher nighttime noise levels were measured in the Project study area near I-10 which are likely due to temperature inversions at greater distances from existing noise sources (e.g., freeways, roadways, etc.). Under typical conditions, air is warmer at ground level and temperature decreases as elevation increases. This temperature gradient results in sound waves which refract upward, away from the warmer ground, and results in noise levels which are lower at a given receiver location. During the evening and nighttime hours, however, this temperature gradient can reverse and result in colder temperatures at ground level. This change in temperature is known as a temperature inversion, which can cause the noise levels to bend downward toward the ground and results in higher noise levels at a given receiver location. (9)



### 5.4 SHORT-TERM NOISE MEASUREMENT RESULTS

Table 5-3 identifies the short-term noise levels at each noise level measurement location. Appendix 5.3 provides the noise level measurement worksheets for each of the existing ambient and reference noise level measurements described below:

- Location S1 represents the existing ambient noise level at existing commercial uses, including a fast-food restaurant (Jack in the Box) with drive-through activities. The 10-minute noise level measured at location S1 approached 57.2 dBA L<sub>eq</sub>.
- Location S2 represents ambient noise levels near existing residential homes and Rio Vista Elementary School, south of I-10. The 10-minute noise level measured at location S2 approached 48.9 dBA L<sub>eq</sub>.
- Location S3 represents ambient noise levels on Ramon Road near existing commercial, residential, and recreation uses. Noise sources included in the 10-minute measurement included traffic, parking lot vehicle movements, gas station activities, and background golf course activities. The 10-minute noise level measured at location S3 approached 62.2 dBA L<sub>eq</sub>.
- Location S4 represents ambient noise levels south of Ramon Road and west of Da Vall Drive near existing medical, commercial, and institutional uses. The 10-minute noise level measured at location S4 approached 65.9 dBA Leq.
- Location S5 represents ambient noise levels adjacent to an existing commercial parking lot on Date Palm Drive near Converse Road. Noise sources included in the 10-minute measurement included traffic, parking lot vehicle movements, and background self-storage activities. The 10minute noise level measured at this location approached 67.4 dBA Leq.
- Location S6 represents the ambient noise levels north of Highway 111 and west of Date Palm Drive. The 10-minute noise level measurement approached 59.7 dBA L<sub>eq</sub>.
- To describe aircraft fly-over events from existing Palm Springs International Airport operations, two reference noise level measurements were taken southeast of Palm Springs International Airport, east of San Luis Rey Drive and south of Sunny Dunes Road.
  - Measurement S7 represents ambient noise levels at this location without aircraft activity, which was measured at 60.9 dBA L<sub>eq</sub> and includes background commercial use activities, such as loading docks and parking lot vehicle movements.
  - $\circ~$  Measurement S8 represents ambient noise levels at this location with an airplane fly-over event, which was measured at 68.9 dBA  $L_{eq}.$

### AIRCRAFT FLY-OVER EVENTS

Based on the short-term noise level measurements at locations S7 and S8, aircraft fly-overs associated with Palm Springs International Airport are anticipated to result in perceptible noise level increases at receiver locations within proximity of the airport. As previously discussed in Section 3.7, mitigation measure NOI-2 would ensure that new residential development satisfies the 45 dBA CNEL interior noise level standard prior to building permit approval. Therefore, while aircraft flyovers will likely be heard and represent noticeable short-term noise events, they will not significantly impact noise-sensitive uses in Cathedral City from a noise standpoint.



Location <sup>1</sup>	Land	Description	Energy- Noise Leve	Energy-Average Noise Level (dBA L <sub>eq</sub> ) <sup>2</sup>	CNEL
	0.00		Daytime	Nighttime	
L1	Commercial & Residential	Located near Palm Drive, north of I-10, and existing commercial and residential uses in a vacant lot.	58.7	59.2	66.0
12	Residential & School	Located near existing residential homes and Rio Vista Elementary School, south of I-10 and the UPRR lines, west of Landau Boulevard.	54.9	58.4	64.6
L3	Vacant	Located north of I-10 on Date Palm Drive near existing vacant land.	67.2	66.3	73.3
L4	Residential, Recreation, & School	Located near existing residential homes and Landau Elementary School on Landau Boulevard.	66.2	60.4	68.7
L5	Residential & School	Located on Santoro Drive near existing residential homes and James Workman Middle School.	53.6	53.4	60.3
97	Commercial	Located south of Ramon Road near existing commercial uses, southeast of Palm Springs International Airport.	59.3	56.1	63.4
٢٦	Commercial & Residential	Located west of Date Palm Drive near existing commercial and residential uses north of Ramon Road.	55.8	51.5	59.3
R8	Commercial & Residential	Located south of Dina Shore Drive, east of Date Palm Drive, near existing commercial and residential uses.	58.8	54.2	61.9
61	Commercial	Located near Highway 111 and Perez Road, adjacent to existing commercial and automobile dealership uses.	61.3	55.5	63.9
L10	Commercial & Recreation	Located on Cathedral Canyon Drive near an existing recreational vehicle resort and commercial uses.	72.2	65.5	74.2
L11	Residential	Located near existing residential homes west of Da Vall Drive and south of Sunny Lane.	57.2	50.6	59.2
L12	Vacant	Located north of I-10 near Varner Road and existing vacant land.	62.8	63.1	69.7
<sup>1</sup> See Exhibit 5-A for th	t 5-A for the noise	<sup>1</sup> See Exhibit 5-A for the noise level measurement locations. <sup>2</sup> Energy (logarithmic) average hourly levels. The long-term 24-hour measurement worksheets are included	measurement	worksheets are	e included

# TABLE 5-1: 24-HOUR (LONG-TERM) AMBIENT NOISE LEVEL MEASUREMENTS

in Appendix 5.2."Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

Location <sup>1</sup>	Adjacent Existing Land Use(s)	CNEL	Land Use Compatibility <sup>3</sup>
۲1	Commercial & Residential	66.0	Conditionally acceptable residential & normally acceptable commercial use
٢٦	Residential & School	64.6	Conditionally acceptable
L3	Vacant	73.3	Normally unacceptable residential use & conditionally acceptable commercial use (designated)
٢4	Residential, Recreation, & School	68.7	Conditionally acceptable residential/school & normally acceptable recreation use
L5	Residential & School	60.3	Conditionally acceptable
Γe	Commercial	63.4	Normaliy acceptable
٢٦	Commercial & Residential	59.3	Normally acceptable
R8	Commercial & Residential	61.9	Conditionally acceptable residential & normally acceptable commercial uses
ല	Commercial	63.9	Normally acceptable
L10	Commercial & Recreation	74.2	Conditionally acceptable
٢11	Residential	59.2	Normally acceptable
۲12	Vacant	69.7	Conditionally acceptable residential use & normally acceptable commercial use (designated)
<sup>1</sup> See Exhibit 5-A for the noise level measurement locations.	vel measurement locations.		

## TABLE 5-2: EXISTING LAND USE NOISE LEVEL COMPATIBILITY

<sup>4</sup> See Exhibit 5-A for the noise level measurement locations.
<sup>2</sup> Based on the General Plan Noise Element compatibility criteria described in Section 3.3.

39



Cathedral City General Plan Update Noise and Vibration Impact Analysis

Location <sup>1</sup>	Adjacent Existing Land Use(s)	Description	Duration (mm:ss)	Noise Level (dBA L <sub>eq</sub> ) <sup>2</sup>
S1	Commercial	Existing commercial uses, including a fast-food restaurant (Jack in the Box) with drive-through activities.	10:00	57.2
S2	Residential & School	Ambient noise levels near existing residential homes and Rio Vista Elementary School, south of I-10.	10:00	48.9
S3	Commercial, Residential, & Recreation	Ambient noise levels on Ramon Road near existing commercial, residential, and recreation uses.	10:00	62.2
S4	Commercial & Institutional	Ambient noise levels south of Ramon Road and west of Da Vall Drive near existing medical, commercial, and institutional uses.	10:00	65.9
S5	Commercial	Ambient noise levels adjacent to an existing commercial parking lot on Date Palm Drive near Converse Road.	10:00	67.4
S6	Commercial & Vacant	Ambient noise levels north of Highway 111 and west of Date Palm Drive.	10:00	59.7
S7	Commercial (Without Aircraft)	Ambient noise levels southeast of Palm Springs International Airport, without aircraft activity, east of San Luis Rey Drive and south of Sunny Dunes Road.	3:31	60.9
S8	Commercial (With Aircraft)	Ambient noise levels southeast of Palm Springs International Airport, with an aircraft flyover event, east of San Luis Rey Drive and south of Sunny Dunes Road.	1:00	68.9
<sup>1</sup> See Exhibit 5-A for the noise level measurement locations.	oise level measuremen	: locations.		

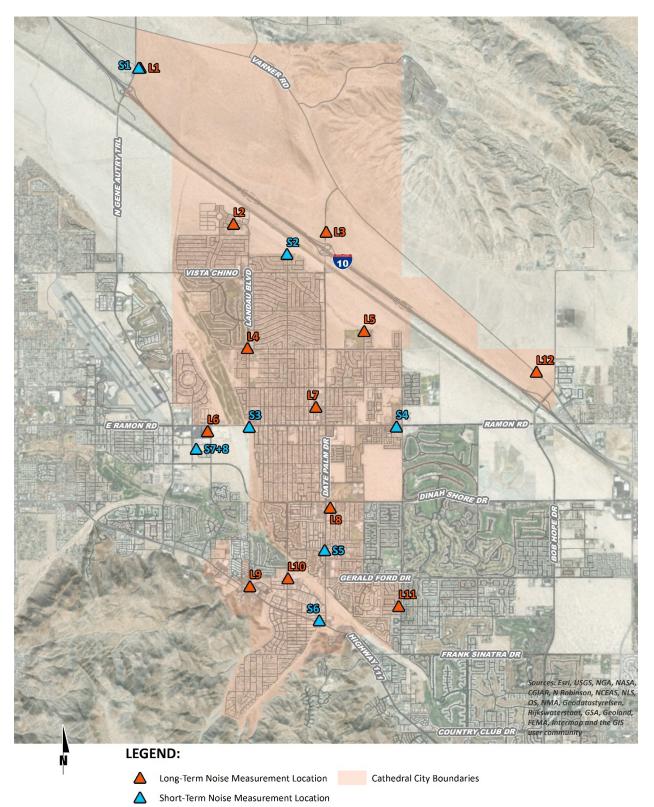
### TABLE 5-3: SHORT-TERM NOISE LEVEL MEASUREMENTS

<sup>4</sup> See Exhibit 5-A for the noise level measurement locations.
<sup>2</sup> Energy (logarithmic) average levels. The short-term measurement worksheets are included in Appendix 5.3.



11475-04 Noise Study

40



**EXHIBIT 5-A: NOISE MEASUREMENT LOCATIONS** 



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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. (24) 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. (25) 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.

This methodology is consistent with the County of Riverside Office of Industrial Hygiene *Requirements for Determining and Mitigating Traffic Noise Impacts to Residential Structures,* which specifically requires the FHWA RD-77-108 model be used in traffic noise analysis. (26) In addition, the model has been updated to reflect the Calveno emission levels to reflect the latest Caltrans reference data for traffic noise modeling in the State of California.

### 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 39 study area roadway segments, the distance from the centerline to adjacent land use based on the functional roadway classifications per the Cathedral City General Plan. For this analysis, soft site conditions are used to analyze the traffic noise impacts within the Project study area. Soft site conditions account for the sound propagation loss over natural surfaces such as normal earth and ground vegetation. Caltrans' research has shown that the use of soft site conditions is appropriate for the application of the FHWA traffic noise prediction model used in this analysis. (27) The Existing (2017/2018) and General Plan Buildout (2040) average daily traffic volumes used in this analysis are shown on Table 6-2 based on the *Cathedral City General Plan Update Transportation Analysis*. (2)



ID	Roadway	Segment	Adjacent Land Use <sup>1</sup>	Distance From Centerline To Nearest Adjacent Land Use (Feet) <sup>2</sup>	Speed (mph) <sup>3</sup>
1	Palm Dr.	n/o I-10 WB Ramps	Mixed-Use (Urban)	63'	55
2	Gene Autry Tr.	s/o I-10 EB Ramps	Vacant	63'	55
3	Mountain View Rd.	n/o Varner Rd.	Open Space (Public)	63'	55
4	Landau Bl.	n/o Ramon Rd.	Residential	56'	45
5	Cathedral Cyn Dr.	n/o Dinah Shore Dr.	Residential	44'	45
6	Cathedral Cyn Dr.	s/o Dinah Shore Dr.	Business Park/Residential	44'	45
7	Date Palm Dr.	s/o Varner Rd.	Mixed-Use (Urban)	63'	50
8	Date Palm Dr.	s/o I-10 EB Ramps	Commercial	63'	50
9	Date Palm Dr.	n/o 30th Av.	Mixed-Use/Business Park	63'	50
10	Date Palm Dr.	n/o Ramon Rd.	Commercial/Residential	63'	50
11	Date Palm Dr.	n/o Dinah Shore Dr.	Commercial/Residential	63'	45
12	Date Palm Dr.	n/o Gerald Ford Dr.	Commercial	63'	40
13	Date Palm Dr.	n/o Hwy. 111	Commercial	63'	40
14	Da Vall Dr.	n/o Ramon Rd.	Public/Residential	56'	45
15	Da Vall Dr.	s/o Ramon Rd.	Commercial/Residential	56'	50
16	Bob Hope Dr.	n/o I-10 WB Ramps	Mixed-Use (Urban)	63'	55
17	Bob Hope Dr.	s/o I-10 EB Ramps	Mixed-Use (Urban)	63'	55
18	Varner Rd.	e/o Palm Dr.	Mixed-Use (Urban)	56'	55
19	Varner Rd.	w/o Date Palm Dr.	Open Space (Public)	63'	55
20	Varner Rd.	e/o Date Palm Dr.	Mixed-Use (Neighborhood)	56'	55
21	Valley Center Bl.	e/o Palm Dr.	Mixed-Use (Urban)	56'	55
22	Valley Center Bl.	e/o Date Palm Dr.	Mixed-Use (Urban)	56'	55
23	Valley Center Bl.	e/o Da Vall Dr.	Open Space (Public)	56'	55
24	Vista Chino	w/o Landau Bl.	Commercial/Residential	63'	50
25	Vista Chino	w/o Date Palm Dr.	Commercial/Residential	63'	50
26	30th Av.	w/o Date Palm Dr.	Commercial/Residential	44'	35
27	30th Av.	e/o Date Palm Dr.	Mixed-Use (N)/Residential	44'	40
28	Ramon Rd.	w/o Landau Bl.	Open Space (Water)	63'	40
29	Ramon Rd.	e/o Landau Bl.	Commercial/Residential	63'	40
30	Ramon Rd.	w/o Da Vall Dr.	Commercial/Residential	63'	40
31	Dinah Shore Dr.	w/o Cathedral Cyn. Dr.	Business Park/Residential	63'	40
32	Dinah Shore Dr.	e/o Date Palm Dr.	Business Park/Residential	63'	45
33	Gerald Ford Dr.	e/o Date Palm Dr.	Open Space (P)/Residential	56'	45
34	Perez Rd.	w/o Cathedral Cyn. Dr.	Industrial	56'	40
35	Perez Rd.	e/o Cathedral Cyn. Dr.	Industrial	56'	40
36	Hwy. 111	w/o Canyon Plaza Dr. W.	Commercial/Public	63'	50
37	, Hwy. 111	w/o Cathedral Cyn. Dr.	Commercial	63'	40
38	, Hwy. 111	w/o Date Palm Dr.	Commercial	63'	40
39	, Hwy. 111	e/o Sungate Wy.	Commercial	63'	40

### TABLE 6-1: OFF-SITE ROADWAY PARAMETERS

<sup>1</sup> Source: Proposed General Plan Land Use Map.

<sup>2</sup> Distance to adjacent land use is based upon the right-of-way distances for each functional roadway classification provided in the General Plan Classifications.

<sup>3</sup> Source: Cathedral City General Plan Transportation Analysis, Urban Crossroads, Inc.



			Averag	e Daily Traffic (1	,000's) <sup>1</sup>
ID	Roadway	Segment	Existing	Adopted General Plan Buildout	Proposed General Plan Buildout
1	Palm Dr.	n/o I-10 WB Ramps	29.9	35.6	35.6
2	Gene Autry Tr.	s/o I-10 EB Ramps	31.8	35.0	35.0
3	Mountain View Rd.	n/o Varner Rd.	11.2	37.5	37.5
4	Landau Bl.	n/o Ramon Rd.	19.1	35.1	36.2
5	Cathedral Cyn Dr.	n/o Dinah Shore Dr.	16.1	17.8	17.9
6	Cathedral Cyn Dr.	s/o Dinah Shore Dr.	19.5	20.0	19.0
7	Date Palm Dr.	s/o Varner Rd.	8.4	30.3	30.3
8	Date Palm Dr.	s/o I-10 EB Ramps	32.8	46.6	47.3
9	Date Palm Dr.	n/o 30th Av.	27.3	32.8	34.0
10	Date Palm Dr.	n/o Ramon Rd.	27.3	30.0	31.6
11	Date Palm Dr.	n/o Dinah Shore Dr.	28.4	31.2	33.0
12	Date Palm Dr.	n/o Gerald Ford Dr.	25.5	34.8	35.7
13	Date Palm Dr.	n/o Hwy. 111	17.2	28.9	31.7
14	Da Vall Dr.	n/o Ramon Rd.	8.7	27.3	29.0
15	Da Vall Dr.	s/o Ramon Rd.	8.0	20.4	21.5
16	Bob Hope Dr.	n/o I-10 WB Ramps	13.0	51.7	51.7
17	Bob Hope Dr.	s/o I-10 EB Ramps	22.0	34.7	34.7
18	Varner Rd.	e/o Palm Dr.	1.9	5.0	5.0
19	Varner Rd.	w/o Date Palm Dr.	16.2	39.7	39.7
20	Varner Rd.	e/o Date Palm Dr.	4.8	22.8	22.8
21	Valley Center Bl.	e/o Palm Dr.	n/a	15.1	15.1
22	Valley Center Bl.	e/o Date Palm Dr.	n/a	9.1	9.1
23	Valley Center Bl.	e/o Da Vall Dr.	n/a	6.0	6.0
24	Vista Chino	w/o Landau Bl.	26.1	33.1	35.5
25	Vista Chino	w/o Date Palm Dr.	24.4	30.4	32.0
26	30th Av.	w/o Date Palm Dr.	7.7	15.6	16.9
27	30th Av.	e/o Date Palm Dr.	9.4	16.1	18.4
28	Ramon Rd.	w/o Landau Bl.	40.9	57.2	54.3
29	Ramon Rd.	e/o Landau Bl.	38.7	42.6	41.1
30	Ramon Rd.	w/o Da Vall Dr.	31.1	39.4	39.6
31	Dinah Shore Dr.	w/o Cathedral Cyn. Dr.	18.0	37.0	33.2
32	Dinah Shore Dr.	e/o Date Palm Dr.	22.5	35.9	34.4
33	Gerald Ford Dr.	e/o Date Palm Dr.	13.5	26.2	26.6
34	Perez Rd.	w/o Cathedral Cyn. Dr.	10.6	21.5	21.5
35	Perez Rd.	e/o Cathedral Cyn. Dr.	11.6	23.3	23.3
36	Hwy. 111	w/o Canyon Plaza Dr. W.	45.6	50.1	46.3
37	Hwy. 111	w/o Cathedral Cyn. Dr.	36.8	44.0	44.5
38	Hwy. 111	w/o Date Palm Dr.	42.7	47.4	46.2
39	Hwy. 111	e/o Sungate Wy.	47.0	58.3	57.4

### TABLE 6-2: AVERAGE DAILY TRAFFIC VOLUMES

<sup>1</sup> Source: Cathedral City General Plan Transportation Analysis, Urban Crossroads, Inc.

"n/a" = Roadway segment does not exist under the given scenario.

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 on I-10 is based on traffic volumes provided by the 2016 Annual Average Daily Truck Traffic (AADT) on the California Highway System, prepared by the Caltrans Traffic Data Branch. (28) The vehicle mix provides the hourly distribution percentages of automobile, medium trucks, and heavy trucks for input into the FHWA noise prediction model.

Time Period	Vehicle Type				
Time Period	Autos	Medium Trucks	Heavy Trucks		
Daytime (7:00 a.m 7:00 p.m.)	78.2%	85.9%	89.4%		
Evening (7:00 p.m 10:00 p.m.)	12.4%	5.5%	5.6%		
Nighttime (10:00 p.m 7:00 a.m.)	9.5%	8.6%	5.0%		
Total:	100.0%	100.0%	100.0%		

TABLE 6-3: TIME OF DAY VEHICLE SPLITS

Based on an existing vehicle count taken Highway 111 and Date Palm Drive on April 25, 2018. Vehicle mix percentage values rounded to the nearest one-hundredth.

TABLE 6-4: DISTRIBUTION OF TRAFFIC FLOW BY VEHICLE TYPE (VEHICLE MIX)
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	Poadway			
Roadway	Autos	Medium Trucks	Heavy Trucks	Total
I-10 <sup>1</sup>	73.80%	6.89%	19.31%	100.00%
All Roadways <sup>2</sup>	93.68%	3.63%	2.69%	100.00%

<sup>1</sup> Source: Caltrans Data Branch Annual Average Daily Truck Traffic on the California Highways System, 2016.

<sup>2</sup> Based on an existing vehicle count taken Highway 111 and Date Palm Drive on April 25, 2018. Vehicle mix percentage values rounded to the nearest one-hundredth.

Table 6-5 shows the future traffic conditions on I-10 which are based on the Level of Service (LOS) D "design capacity" identified in the *Transportation Analysis*. (2) Future volumes based on the LOS D "design capacity" equate to approximately double the existing volumes on I-10. The Table 6-5 traffic noise model input data for I-10 are used to calculate the noise level contour boundaries and assess future land use compatibility in the City. Appendix 6.1 includes the FHWA traffic noise prediction model inputs and resulting noise levels for input into the CadnaA noise prediction model, discussed later in this section.

Roadway	Lanes	Existing	Future	Speed Limit (mph) <sup>2</sup>	Site Conditions
I-10	8	86,000	161,000	70	Soft

TABLE 6-5: FREEWAY TRAFFIC NOISE MODEL INPUTS

<sup>1</sup> Future volumes based on LOS D "design capacity" as indicated in the Cathedral City General Plan Transportation Analysis, Urban Crossroads, Inc..

<sup>2</sup> Posted speed limit.

### 6.3 RAIL NOISE AND VIBRATION METHODS

The following describes the rail noise prediction model inputs used in this analysis, in addition to the FTA criteria for on-site vibration assessment.

### 6.3.1 RAIL NOISE MODEL PREDICTION INPUTS

This report uses the Federal Transit Administration (FTA) Noise Impact Assessment methodology for railroad-related noise modeling. (29) Table 6-6 shows the existing and future railroad volumes and speed used in this analysis consistent with U.S. Department of Transportation Crossing Inventory Form data. The existing rail volume is doubled to present a conservative approach for future railroad noise analysis. Appendix 6.1 includes the FTA rail noise prediction model inputs and resulting noise levels for input into the CadnaA noise prediction model.

 TABLE 6-6: RAIL NOISE MODEL INPUTS

Rail <sup>1</sup>	Existing <sup>1</sup>	Future <sup>2</sup>	Average Speed (mph) <sup>2</sup>
UPRR	40	80	70

<sup>1</sup> Source: Cathedral City General Plan Noise Element, Page V-39.

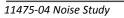
<sup>2</sup> Future volume is based on a conservative doubling of the existing volume.

<sup>3</sup> Source: U.S. Department of Transportation Crossing Inventory Form, 760702S.

"UPRR" = Union Pacific Railroad

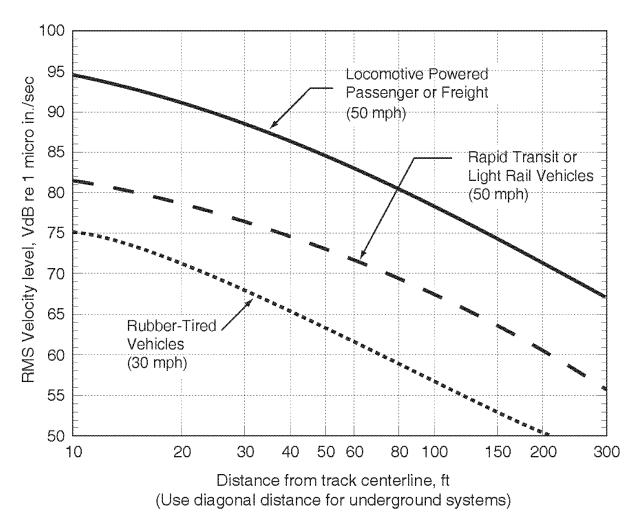
### 6.3.2 RAIL VIBRATION

This analysis focuses on the potential ground-borne vibration associated with rail transportation activities. Railroad vibration impacts from the UPRR lines are estimated using the FTA *Transit Noise and Vibration Impact Assessment* General Vibration Assessment methodology. The FTA General Vibration Assessment calculates the predicted vibration level based on generalized ground surface vibration curves which were developed using actual measurements of representative North American transit systems. (15) Figure 10-1 of the FTA *Transit Noise and Vibration Impact Assessment* shows the generalized ground surface vibration curves for three types of transit sources, as shown on Exhibit 6-A of this report. The generalized reference curves are used to identify the appropriate reference vibration level,





before any adjustments, for the Project based on the type of train, speed, and distance to receiver locations. The FTA reference curves are provided in VdB to describe the human response to vibration levels.





Source: FTA Transit Noise and Vibration Impact Assessment, Figure 10-1.

Based on the reference curve for a locomotive powered passenger or freight rail system, such as the UPRR lines, the reference vibration level at 50 feet from a rapid-transit train traveling at 50 miles per hour (mph) is approximately 84 VdB. However, as previously shown on Table 6-6, the trains passing the Project site are expected to travel at an average speed of 70 mph. Therefore, to describe the actual vibration conditions, the FTA provides vibration source and propagation adjustments to the reference vibration curve levels based on the characteristics of the trains and rail lines in the study area. Using the adjustments provided by the FTA, the vibration levels at the future uses within the Project are estimated in Section 8.5 to evaluate potential on-site vibration levels.



### 6.4 CADNAA NOISE PREDICTION MODEL

To calculate the existing and future transportation noise level contour boundaries due to existing and future traffic and rail volumes in the Project study area, Urban Crossroads, Inc. developed a noise prediction model using the CadnaA (Computer Aided Noise Abatement) computer program. CadnaA can analyze the noise level of multiple types of noise sources and calculates the noise levels at any location using the spatially accurate Project site plan. The program can analyze the noise propagation of multiple types of noise sources and calculate the attenuation and reflection from topography, buildings, and multiple barriers.

Using flown aerial imagery from Google Earth and roadway and rail line centerline data, a CadnaA noise prediction model of the Project study area was developed. The noise model provides a spatially accurate three-dimensional representation of the Project study area using the following key data inputs:

- Ground absorption;
- Study area roadway centerline data;
- I-10 freeway centerline data;
- UPRR data;
- Calculated sound power levels based on:
  - Off-site traffic noise levels (CNEL) presented in Section 7 for each roadway segment;
  - I-10 and UPRR noise levels (CNEL);
- Multiple line source locations and heights.

Based on these data inputs, the CadnaA noise prediction model is used to calculate the noise level contour boundaries for use in this report. It is important to note that the transportation noise level contour boundaries calculated in the CadnaA noise model apply only to first-line receptors, as receptors set back further from the noise sources will benefit from the shielding provided by intervening land uses and structures. Further, the contours do not assume the presence of any existing or future sound walls, barriers, or intervening structures. Appendix 6.1 includes the CadnaA noise prediction model inputs.

### 6.5 CONSTRUCTION VIBRATION ASSESSMENT METHODOLOGY

This analysis focuses on the potential ground-borne vibration associated with construction activities. Construction activity 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 reference vibration levels provided by the Federal Transit Administration (FTA) for various construction equipment types, it is possible to estimate the potential building damage and human response (annoyance) using the following vibration assessment methods defined by the FTA and Caltrans. To describe the potential vibration impacts, the following equation is used:  $PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$ 



Equipment	PPV (in/sec) at 25 feet
Small bulldozer	0.003
Jackhammer	0.035
Loaded Trucks	0.076
Large bulldozer	0.089

### TABLE 6-7: VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT

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



### 7 OFF-SITE TRAFFIC NOISE IMPACTS

To assess the off-site traffic-related CNEL noise level impacts associated with development of the proposed Project (General Plan Buildout), noise contours were developed based on the *Cathedral City General Plan Update Transportation Analysis*, prepared by Urban Crossroads, Inc. (2) 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 (2017/2018)</u>: This scenario refers to the existing present-day noise conditions.
- <u>Adopted General Plan Buildout (2040)</u>: This scenario refers to the background noise conditions at future Year 2040 based on the Adopted General Plan.
- <u>Proposed General Plan Buildout (2040)</u>: This scenario refers to the background noise conditions at future Year 2040 based on the Proposed General Plan.

### 7.1 TRAFFIC NOISE CONTOURS

The 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 consider the effect of any existing noise barriers or topography that may attenuate ambient noise levels. In addition, because the noise contours reflect modeling of vehicular noise on area roadways, they appropriately do not reflect noise contributions from the surrounding stationary noise sources within the Project study area. Tables 7-1 through 7-3 present a summary of the exterior traffic noise levels, without barrier attenuation, for the 39 study area roadway segments analyzed in each of the two timeframes: Existing and General Plan Buildout conditions (including Adopted General Plan and Proposed General Plan). Appendix 7.1 includes a summary of the traffic noise level contours for each of the three traffic scenarios.



				dBA CN		NEL		
ID	Road	Segment	Adjacent	@ Adj.	70	65	60	
	Noau	Jegment	Land Use <sup>1</sup>	Land	CL	to Cont	our	
				Use	Distance (Feet)			
1	Palm Dr.	n/o I-10 WB Ramps	Mixed-Use (Urban)	74.8	131	283	610	
2	Gene Autry Tr.	s/o I-10 EB Ramps	Vacant	75.1	137	295	636	
3	Mountain View Rd.	n/o Varner Rd.	Open Space (Public)	70.5	68	147	317	
4	Landau Bl.	n/o Ramon Rd.	Residential	71.2	67	144	310	
5	Cathedral Cyn Dr.	n/o Dinah Shore Dr.	Residential	71.8	58	125	269	
6	Cathedral Cyn Dr.	s/o Dinah Shore Dr.	Business Park/Residential	72.6	66	142	306	
7	Date Palm Dr.	s/o Varner Rd.	Mixed-Use (Urban)	68.3	RW	105	226	
8	Date Palm Dr.	s/o I-10 EB Ramps	Commercial	74.2	121	260	561	
9	Date Palm Dr.	n/o 30th Av.	Mixed-Use/Business Park	73.4	107	230	496	
10	Date Palm Dr.	n/o Ramon Rd.	Commercial/Residential	73.4	107	230	496	
11	Date Palm Dr.	n/o Dinah Shore Dr.	Commercial/Residential	72.6	94	202	435	
12	Date Palm Dr.	n/o Gerald Ford Dr.	Commercial	71.0	73	158	340	
13	Date Palm Dr.	n/o Hwy. 111	Commercial	69.3	RW	121	261	
14	Da Vall Dr.	n/o Ramon Rd.	Public/Residential	67.7	RW	85	184	
15	Da Vall Dr.	s/o Ramon Rd.	Commercial/Residential	68.4	RW	94	204	
16	Bob Hope Dr.	n/o I-10 WB Ramps	Mixed-Use (Urban)	71.2	75	162	350	
17	Bob Hope Dr.	s/o I-10 EB Ramps	Mixed-Use (Urban)	73.5	107	231	497	
18	Varner Rd.	e/o Palm Dr.	Mixed-Use (Urban)	63.1	RW	RW	90	
19	Varner Rd.	w/o Date Palm Dr.	Open Space (Public)	72.1	87	188	405	
20	Varner Rd.	e/o Date Palm Dr.	Mixed-Use (Neighborhood)	67.1	RW	78	168	
21	Valley Center Bl.	e/o Palm Dr.	Mixed-Use (Urban)	n/a	n/a	n/a	n/a	
22	, Valley Center Bl.	e/o Date Palm Dr.	Mixed-Use (Urban)	n/a	n/a	n/a	, n/a	
23	Valley Center Bl.	e/o Da Vall Dr.	Open Space (Public)	n/a	n/a	n/a	n/a	
24	Vista Chino	w/o Landau Bl.	Commercial/Residential	73.2	104	223	481	
25	Vista Chino	w/o Date Palm Dr.	Commercial/Residential	73.0	99	214	460	
26	30th Av.	w/o Date Palm Dr.	Commercial/Residential	66.2	RW	53	114	
27	30th Av.	e/o Date Palm Dr.	Mixed-Use (N)/Residential	68.3	RW	73	158	
28	Ramon Rd.	w/o Landau Bl.	Open Space (Water)	73.0	100	216	466	
29	Ramon Rd.	e/o Landau Bl.	Commercial/Residential	72.8	97	208	449	
30	Ramon Rd.	w/o Da Vall Dr.	Commercial/Residential	71.8	84	180	388	
31	Dinah Shore Dr.	w/o Cathedral Cyn. Dr.	Business Park/Residential	69.5	RW	125	269	
32	Dinah Shore Dr.	e/o Date Palm Dr.	Business Park/Residential	71.6	80	173	372	
33	Gerald Ford Dr.	e/o Date Palm Dr.	Open Space (P)/Residential	69.6	RW	114	246	
34	Perez Rd.	w/o Cathedral Cyn. Dr.	Industrial	67.5	RW	82	176	
35	Perez Rd.	e/o Cathedral Cyn. Dr.	Industrial	67.9	RW	87	187	
36	Hwy. 111	w/o Canyon Plaza Dr. W.	Commercial/Public	75.7	150	324	698	
37	Hwy. 111	w/o Cathedral Cyn. Dr.	Commercial	72.6	93	201	434	
38	Hwy. 111	w/o Date Palm Dr.	Commercial	73.2	103	222	479	
39	Hwy. 111	e/o Sungate Wy.	Commercial	73.6	110	237	511	

TABLE 7-1:	<b>EXISTING CONDITIONS NOISE CONTOURS</b>
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<sup>1</sup> Source: Proposed General Plan Land Use Map.
 <sup>2</sup> "RW" = Location of the respective noise contour falls within the right-of-way of the road. "n/a" = Roadway segment does not exist under the given scenario.

				dBA CNEL			
ID	Road	Sogmont	Adjacent	@ Adj.	70	65	60
טו	Road	Segment	Land Use <sup>1</sup>	Land	CL	to Cont	our
				Use	Distance (Feet) <sup>2</sup>		
1	Palm Dr.	n/o I-10 WB Ramps	Mixed-Use (Urban)	75.5	148	318	685
2	Gene Autry Tr.	s/o I-10 EB Ramps	Vacant	75.5	146	314	677
3	Mountain View Rd.	n/o Varner Rd.	Open Space (Public)	75.8	153	329	709
4	Landau Bl.	n/o Ramon Rd.	Residential	73.8	100	216	465
5	Cathedral Cyn Dr.	n/o Dinah Shore Dr.	Residential	72.2	62	134	288
6	Cathedral Cyn Dr.	s/o Dinah Shore Dr.	Business Park/Residential	72.7	67	144	311
7	Date Palm Dr.	s/o Varner Rd.	Mixed-Use (Urban)	73.9	115	247	532
8	Date Palm Dr.	s/o I-10 EB Ramps	Commercial	75.8	153	329	709
9	Date Palm Dr.	n/o 30th Av.	Mixed-Use/Business Park	74.2	121	260	561
10	Date Palm Dr.	n/o Ramon Rd.	Commercial/Residential	73.9	114	245	528
11	Date Palm Dr.	n/o Dinah Shore Dr.	Commercial/Residential	73.0	100	215	463
12	Date Palm Dr.	n/o Gerald Ford Dr.	Commercial	72.3	90	194	418
13	Date Palm Dr.	n/o Hwy. 111	Commercial	71.5	80	171	369
14	Da Vall Dr.	n/o Ramon Rd.	Public/Residential	72.7	85	183	394
15	Da Vall Dr.	s/o Ramon Rd.	Commercial/Residential	72.5	82	176	380
16	Bob Hope Dr.	n/o I-10 WB Ramps	Mixed-Use (Urban)	77.2	189	408	879
17	Bob Hope Dr.	s/o I-10 EB Ramps	Mixed-Use (Urban)	75.4	145	313	674
18	Varner Rd.	e/o Palm Dr.	Mixed-Use (Urban)	67.3	RW	80	172
19	Varner Rd.	w/o Date Palm Dr.	Open Space (Public)	76.0	159	342	737
20	Varner Rd.	e/o Date Palm Dr.	Mixed-Use (Neighborhood)	73.9	102	220	473
21	Valley Center Bl.	e/o Palm Dr.	Mixed-Use (Urban)	72.1	77	167	360
22	Valley Center Bl.	e/o Date Palm Dr.	Mixed-Use (Urban)	69.9	RW	119	257
23	Valley Center Bl.	e/o Da Vall Dr.	Open Space (Public)	68.1	RW	90	194
24	Vista Chino	w/o Landau Bl.	Commercial/Residential	74.3	122	262	564
25	Vista Chino	w/o Date Palm Dr.	Commercial/Residential	73.9	115	247	533
26	30th Av.	w/o Date Palm Dr.	Commercial/Residential	69.3	RW	85	183
27	30th Av.	e/o Date Palm Dr.	Mixed-Use (N)/Residential	70.7	49	105	226
28	Ramon Rd.	w/o Landau Bl.	Open Space (Water)	74.5	125	270	582
29	Ramon Rd.	e/o Landau Bl.	Commercial/Residential	73.2	103	222	478
30	Ramon Rd.	w/o Da Vall Dr.	Commercial/Residential	72.9	98	211	454
31	Dinah Shore Dr.	w/o Cathedral Cyn. Dr.	Business Park/Residential	72.6	94	202	435
32	Dinah Shore Dr.	e/o Date Palm Dr.	Business Park/Residential	73.6	109	236	508
33	Gerald Ford Dr.	e/o Date Palm Dr.	Open Space (P)/Residential	72.5	82	178	383
34	Perez Rd.	w/o Cathedral Cyn. Dr.	Industrial	70.5	61	131	282
35	Perez Rd.	e/o Cathedral Cyn. Dr.	Industrial	70.9	64	138	297
36	Hwy. 111	w/o Canyon Plaza Dr. W.	Commercial/Public	76.1	160	345	744
37	Hwy. 111	w/o Cathedral Cyn. Dr.	Commercial	73.3	105	227	489
38	Hwy. 111	w/o Date Palm Dr.	Commercial	73.7	111	238	514
39	Hwy. 111	e/o Sungate Wy.	Commercial	74.6	127	274	590

<sup>1</sup> Source: Proposed General Plan Land Use Map.
 <sup>2</sup> "RW" = Location of the respective noise contour falls within the right-of-way of the road.

				dBA CNEL			
ID	Road	Adjacent		@ Adj.	70	65	60
טו	Road	Segment	Land Use <sup>1</sup>	Land	CL	to Cont	our
				Use	Distance (Feet) <sup>2</sup>		
1	Palm Dr.	n/o I-10 WB Ramps	Mixed-Use (Urban)	75.2	140	302	, 652
2	Gene Autry Tr.	s/o I-10 EB Ramps	Vacant	75.1	139	299	644
3	Mountain View Rd.	n/o Varner Rd.	Open Space (Public)	76.3	152	327	704
4	Landau Bl.	n/o Ramon Rd.	Residential	74.2	97	210	452
5	Cathedral Cyn Dr.	n/o Dinah Shore Dr.	Residential	72.2	62	133	287
6	, Cathedral Cyn Dr.	s/o Dinah Shore Dr.	Business Park/Residential	72.5	64	139	299
7	, Date Palm Dr.	s/o Varner Rd.	Mixed-Use (Urban)	73.6	109	235	506
8	Date Palm Dr.	s/o I-10 EB Ramps	Commercial	75.5	147	316	681
9	Date Palm Dr.	n/o 30th Av.	Mixed-Use/Business Park	74.1	118	253	546
10	Date Palm Dr.	n/o Ramon Rd.	Commercial/Residential	73.8	112	241	520
11	Date Palm Dr.	n/o Dinah Shore Dr.	Commercial/Residential	72.9	98	212	457
12	Date Palm Dr.	n/o Gerald Ford Dr.	Commercial	72.1	87	188	404
13	Date Palm Dr.	n/o Hwy. 111	Commercial	71.6	80	173	374
14	Da Vall Dr.	n/o Ramon Rd.	Public/Residential	72.7	84	181	391
15	Da Vall Dr.	s/o Ramon Rd.	Commercial/Residential	72.4	81	174	375
16	Bob Hope Dr.	n/o I-10 WB Ramps	Mixed-Use (Urban)	77.4	198	426	917
17	Bob Hope Dr.	s/o I-10 EB Ramps	Mixed-Use (Urban)	75.7	151	326	703
18	Varner Rd.	e/o Palm Dr.	Mixed-Use (Urban)	67.9	RW	79	171
19	Varner Rd.	w/o Date Palm Dr.	Open Space (Public)	76.5	158	339	731
20	Varner Rd.	e/o Date Palm Dr.	Mixed-Use (Neighborhood)	74.5	101	219	471
21	Valley Center Bl.	e/o Palm Dr.	Mixed-Use (Urban)	72.5	82	176	379
22	Valley Center Bl.	e/o Date Palm Dr.	Mixed-Use (Urban)	70.3	58	125	270
23	Valley Center Bl.	e/o Da Vall Dr.	Open Space (Public)	68.4	RW	95	205
24	Vista Chino	w/o Landau Bl.	Commercial/Residential	74.2	110	237	510
25	Vista Chino	w/o Date Palm Dr.	Commercial/Residential	73.7	103	221	476
26	30th Av.	w/o Date Palm Dr.	Commercial/Residential	68.9	RW	81	174
27	30th Av.	e/o Date Palm Dr.	Mixed-Use (N)/Residential	70.6	48	103	223
28	Ramon Rd.	w/o Landau Bl.	Open Space (Water)	74.8	120	259	558
29	Ramon Rd.	e/o Landau Bl.	Commercial/Residential	73.5	100	215	464
30	Ramon Rd.	w/o Da Vall Dr.	Commercial/Residential	73.4	97	210	452
31	Dinah Shore Dr.	w/o Cathedral Cyn. Dr.	Business Park/Residential	72.9	81	175	377
32	Dinah Shore Dr.	e/o Date Palm Dr.	Business Park/Residential	74.2	99	213	460
33	Gerald Ford Dr.	e/o Date Palm Dr.	Open Space (P)/Residential	72.6	80	173	373
34	Perez Rd.	w/o Cathedral Cyn. Dr.	Industrial	69.8	RW	113	244
35	Perez Rd.	e/o Cathedral Cyn. Dr.	Industrial	70.2	56	120	258
36	Hwy. 111	w/o Canyon Plaza Dr. W.	Commercial/Public	75.4	145	311	671
37	Hwy. 111	w/o Cathedral Cyn. Dr.	Commercial	73.1	101	217	468
38	Hwy. 111	w/o Date Palm Dr.	Commercial	73.2	103	223	480
39	Hwy. 111	e/o Sungate Wy.	Commercial	74.2	120	258	555

### TABLE 7-3: PROPOSED GENERAL PLAN CONDITIONS NOISE CONTOURS

<sup>1</sup> Source: Proposed General Plan Land Use Map. <sup>2</sup> "RW" = Location of the respective noise contour falls within the right-of-way of the road.

### 7.2 EXISTING CONDITION TRAFFIC NOISE LEVELS

Table 7-1 presents the Existing condition CNEL noise levels. The exterior noise levels are expected to range from 63.1 to 75.7 dBA CNEL under Existing conditions, which do not account for any noise attenuation features such as noise barriers or topography.

### 7.3 GENERAL PLAN BUILDOUT TRAFFIC NOISE LEVELS

Table 7-2 shows that the Adopted (2009) General Plan Buildout exterior noise levels are expected to range from 67.3 to 77.2 dBA CNEL. Table 7-3 presents the Proposed General Plan Buildout noise level contours that are expected to range from 67.9 to 77.4 dBA CNEL. As shown on Table 7-4 the Proposed General Plan Buildout conditions will generate traffic noise level changes ranging from decreases of 0.7 to increases of 0.6 dBA CNEL on the study area roadway segments. These decreases and increases are based on the Year 2040 ADT volumes from the *Transportation Analysis*, which vary by roadway segment based on the changes in conditions between Adopted (2009) General Plan and Proposed General Plan conditions. Using on the significance criteria in Section 4, the Project-related increases represent a *less than significant* impact under Proposed General Plan conditions.



ID	Road	Segment	CNEL at Adjacent Land Use (dBA) <sup>1</sup> No With Project Project Project Addition			Threshold Exceeded? <sup>2</sup>
1	Palm Dr.	n/o I-10 WB Ramps	75.5	75.2	-0.3	No
2	Gene Autry Tr.	s/o I-10 EB Ramps	75.5	75.1	-0.4	No
3	Mountain View Rd.	n/o Varner Rd.	75.8	76.3	0.5	No
4	Landau Bl.	n/o Ramon Rd.	73.8	70.3	0.4	No
5	Cathedral Cyn Dr.	n/o Dinah Shore Dr.	73.0	72.2	0.4	No
6	Cathedral Cyn Dr.	s/o Dinah Shore Dr.	72.7	72.5	-0.2	No
7	Date Palm Dr.	s/o Varner Rd.	73.9	72.5	-0.2	No
8	Date Palm Dr.	s/o I-10 EB Ramps	75.8	75.5	-0.3	No
9	Date Palm Dr.	n/o 30th Av.	73.8	73.5	-0.3	No
10	Date Palm Dr.	n/o Ramon Rd.	73.9	73.8	-0.1	No
10	Date Palm Dr.	n/o Dinah Shore Dr.	73.9	73.8	-0.1	No
	Date Palm Dr.	· ·	73.0	72.9		-
12		n/o Gerald Ford Dr.			-0.2	No No
13	Date Palm Dr. Da Vall Dr.	n/o Hwy. 111	71.5 72.7	71.6	0.1	-
14 15	Da Vall Dr.	n/o Ramon Rd. s/o Ramon Rd.	72.7	72.7	0.0	No No
16	Bob Hope Dr.	n/o I-10 WB Ramps	77.2	77.4	0.2	No
17	Bob Hope Dr.	s/o I-10 EB Ramps	75.4	75.7	0.3	No
18	Varner Rd.	e/o Palm Dr.	67.3	67.9	0.6	No
19	Varner Rd.	w/o Date Palm Dr.	76.0	76.5	0.5	No
20	Varner Rd.	e/o Date Palm Dr.	73.9	74.5	0.6	No
21	Valley Center Bl.	e/o Palm Dr.	72.1	72.5	0.4	No
22	Valley Center Bl.	e/o Date Palm Dr.	69.9	70.3	0.4	No
23	Valley Center Bl.	e/o Da Vall Dr.	68.1	68.4	0.3	No
24	Vista Chino	w/o Landau Bl.	74.3	74.2	-0.1	No
25	Vista Chino	w/o Date Palm Dr.	73.9	73.7	-0.2	No
26	30th Av.	w/o Date Palm Dr.	69.3	68.9	-0.4	No
27	30th Av.	e/o Date Palm Dr.	70.7	70.6	-0.1	No
28	Ramon Rd.	w/o Landau Bl.	74.5	74.8	0.3	No
29	Ramon Rd.	e/o Landau Bl.	73.2	73.5	0.3	No
30	Ramon Rd.	w/o Da Vall Dr.	72.9	73.4	0.5	No
31	Dinah Shore Dr.	w/o Cathedral Cyn. Dr.	72.6	72.9	0.3	No
32	Dinah Shore Dr.	e/o Date Palm Dr.	73.6	74.2	0.6	No
33	Gerald Ford Dr.	e/o Date Palm Dr.	72.5	72.6	0.1	No
34	Perez Rd.	w/o Cathedral Cyn. Dr.	70.5	69.8	-0.7	No
35	Perez Rd.	e/o Cathedral Cyn. Dr.	70.9	70.2	-0.7	No
36	Hwy. 111	w/o Canyon Plaza Dr. W.	76.1	75.4	-0.7	No
37	Hwy. 111	w/o Cathedral Cyn. Dr.	73.3	73.1	-0.2	No
38	Hwy. 111	w/o Date Palm Dr.	73.7	73.2	-0.5	No
39	Hwy. 111	e/o Sungate Wy.	74.6	74.2	-0.4	No

TABLE 7-4: PROPOSED GENERAL PLAN BUILDOUT TRAFFIC NOISE IMPACTS

<sup>1</sup> The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest adjacent land use. <sup>2</sup> Significance Criteria (Section 4).



### 8 ON-SITE TRANSPORTATION IMPACTS

The following section describes the future on-site transportation-related noise and vibration impacts at lands and land uses adjacent to the modeled transportation corridors.

### 8.1 EXTERIOR NOISE ANALYSIS

An exterior noise impact analysis has been completed to determine the existing and future transportation-related noise levels and to identify potential necessary mitigation measures for future uses adjacent to transportation corridors within the Cathedral City General Plan Update. It is expected that the primary source of noise impacts to Project land uses will be traffic-related noise from I-10 and the study area roadways, and rail-related noise from the UPRR lines.

Using the FHWA and FTA noise prediction models and the parameters outlined in Tables 6-1 to 6-6, the existing and future (General Plan Buildout) exterior noise level contour boundaries were calculated. Exhibit 8-A shows the existing and Exhibit 8-B shows the future transportation noise level contour boundaries for the entire Cathedral City limits.

It is important to note that the transportation noise level contour boundaries shown on Exhibits 8-A and 8-B apply only to first-line receptors. Receptors set back further from the noise sources will benefit from the shielding provided by intervening land uses and structures. Further, the contours do not assume the presence of any existing or future sound walls, barriers, or intervening structures.

The results of the future transportation noise analysis show that the future noise-sensitive uses within the General Plan Update, may experience future unmitigated exterior noise levels greater than the *normally acceptable* exterior noise level compatibility criteria identified in the 2009 Cathedral City General Plan Noise Element. (4)

Based on the results of this analysis and the proximity of future noise-sensitive land uses to I-10, other study area roadways, and the UPRR lines, the on-site transportation-related noise impacts at future noise-sensitive uses are expected to potentially exceed the Cathedral City General Plan Noise Element land use compatibility guidelines. Therefore, impacts are *potentially significant* and require noise mitigation. With the noise mitigation measures identified in this report the on-site transportation noise levels at future developments within Cathedral City are anticipated to be reduced to range from *normally acceptable to normally unacceptable* levels, and shall be conditioned such that interior noise levels satisfy the 45 dBA CNEL interior noise level standard for noise-sensitive uses. Therefore, on-site traffic noise impacts are considered *less than significant* with mitigation for future development as a part of the Cathedral City General Plan Update.



### 8.2 **ON-SITE EXTERIOR NOISE MITIGATION**

To reduce the on-site transportation noise levels for future land uses, a site-specific noise study is required for all future development located within the Cathedral City General Plan Update, as follows:

**NOI-1** Prior to approval of development plans or the issuance of a building permit for new noisesensitive development projects, the Project Applicant/Developer shall submit a draft and/or final acoustical report to the Cathedral City Planning Department, or designee, which shall identify all reasonable and feasible noise mitigation measures that shall be applied to the development to satisfy the exterior noise level compatibility criteria for its applicable land use(s), as defined by the Cathedral City General Plan.



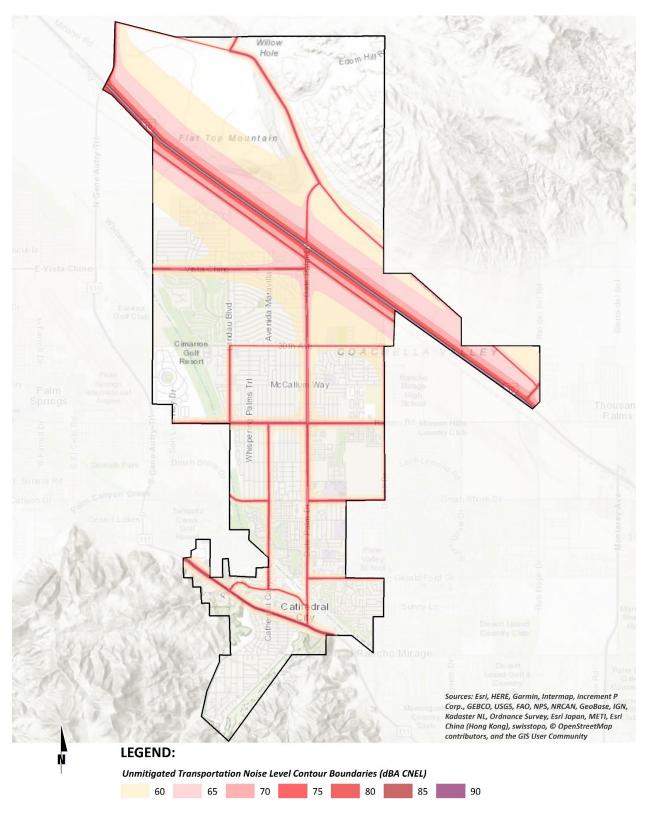


EXHIBIT 8-A: EXISTING TRANSPORTATION NOISE LEVEL CONTOURS



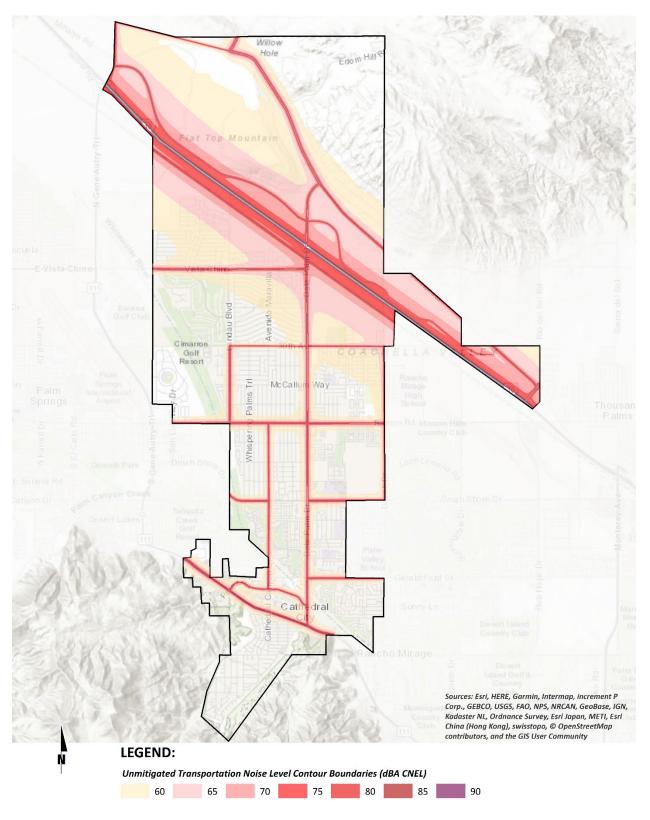


EXHIBIT 8-B: FUTURE TRANSPORTATION NOISE LEVEL CONTOURS



### 8.3 INTERIOR NOISE ANALYSIS

To ensure that the interior noise levels of future dwelling units comply with the Cathedral City interior noise level standards, future exterior noise levels discussed in Section 8.1 are used in this section to evaluate potential interior noise levels of the Project.

### 8.3.1 NOISE REDUCTION METHODOLOGY

The interior noise level is the difference between the predicted exterior noise level at the building façade and the noise reduction (NR) of the structure. Typical building construction will provide a noise reduction of approximately 12 dBA with "windows open" and a minimum 25 dBA noise reduction with "windows closed." (5; 6) 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.

### 8.3.2 INTERIOR NOISE LEVEL ASSESSMENT

To provide the necessary interior noise level reduction, many buildings in the community are anticipated to require a windows-closed condition and a means of mechanical ventilation (e.g. air conditioning). With typical building construction and a windows-closed condition, a minimum 25 dBA CNEL reduction is achievable for potentially impacted dwelling units. (5; 6) However, since the exterior noise levels from I-10, the study area roadways, and the UPRR lines have the potential to exceed 70 dBA CNEL, the minimum 25 dBA CNEL with standard building construction may result in interior noise levels greater than 45 dBA CNEL. Therefore, detailed interior noise analysis based on site-specific architectural floor plans and elevations is required to satisfy the Cathedral City General Plan and Title 24, Part 2, of the California Building Code 45 dBA CNEL interior noise level standard for residential dwelling units. Therefore, since future interior noise levels of residential dwelling units may exceed 45 dBA CNEL, the noise level impact will be *potentially significant*, requiring interior noise mitigation. However with the detailed interior noise analysis mitigation measure identified below, on-site transportation noise impacts will be *less than significant*.

### 8.4 ON-SITE INTERIOR NOISE MITIGATION

To reduce the on-site interior noise levels for future dwelling units, a site-specific noise study is required for all future development located within the Cathedral City General Plan Update which will or may occur in identified high-noise environments, as follows:

**NOI-2** Prior to approval of development plans or the issuance of a building permit for new noisesensitive development projects, the Project Applicant/Developer shall submit a draft and/or final acoustical report to the Cathedral City Planning Department, or designee, that demonstrates that the interior noise levels in all habitable rooms will satisfy the 45 dBA CNEL interior noise level standard of the Cathedral City General Plan and Title 24, Part 2, of the California Building Code.



### 8.5 VIBRATION ANALYSIS

Based on the methodology provided by the FTA *Transit Noise and Vibration Impact Assessment* General Vibration Assessment, previously discussed in Section 6 of this report, rail activities are anticipated to generate vibration levels of up to 84 VdB at 50 feet from trains traveling at 50 mph. At the average speed of 70 mph, previously shown on Table 6-6, the reference vibration level is increased by 2.9 VdB, and results in estimated vibration impacts of 86.9 VdB at 50 feet from the railroad tracks. It is important to note that this rail vibration assessment likely overstates the vibration levels at the future Project uses since the FTA *Transit Noise and Vibration Impact Assessment* states that *although actual levels fluctuate widely, it is rare that ground-borne vibration will exceed the curves in Figure 10-1* (Exhibit 6-A of this report) by more than one or two decibels unless there are extenuating circumstances, such as wheel or runningsurface defects. (15)

Table 8-1 shows the adjusted reference vibration levels at 50 feet and additional estimated vibration levels at screening distances of 100 and 150 feet. As shown on Table 8-1, vibration levels range from 79.9 VdB at 100 feet to 76.9 VdB at 150 feet. Note that these screening distances and associated vibration levels do not include any adjustments provided by the FTA for vehicle parameters, track conditions or treatments, or other factors affecting the vibration path. With the applicable development-specific adjustments to on-site vibration levels, as determined during the draft and/or final vibration study required by MM NOI-3, on-site vibration levels are anticipated to be less than or equal to those identified on Table 8-1 for screening purposes.

Should residential and non-residential uses within the Project be located within 50 to 150 feet of the UPRR railroad tracks, they may experience vibration levels which would exceed the noise-sensitive 72 VdB and non-noise-sensitive 75 VdB criteria for occasional rail events. Therefore, impacts due to on-site vibration levels are considered *potentially significant* and require mitigation, as identified below, to reduce potential impacts at future project-specific development to *less than significant* impacts.

FTA General Adjustment Factors <sup>1</sup>	Site-Specific Adjustments	Vibration Level/ Adjustment (VdB) <sup>1</sup>
Reference Noise Level	Locomotive @ 50 mph @ 50'	84
Speed Adjustment	70 mph	2.9
Resulting Refere	86.9	
Screening Dis	Vibration Level (VdB)	
	86.9	
	79.9	
	76.9	

### TABLE 8-1: VIBRATION LEVELS AND SCREENING DISTANCES

<sup>1</sup> Source: FTA Transit Noise and Vibration Impact Assessment, Figure 10-1 and Table 10-1.



### 8.6 VIBRATION MITIGATION

To reduce the on-site rail vibration levels for future land uses, a site-specific noise study is required for all future development located within the Cathedral City General Plan Update, as follows:

**NOI-3** Prior to approval of development plans or the issuance of a building permit for new development projects within 150 feet of UPRR railroad tracks, the Project Applicant/Developer shall submit a draft and/or final vibration study to the Cathedral City Planning Department, or designee, which shall identify all reasonable and feasible mitigation measures to satisfy the 72 VdB noise-sensitive and 75 VdB non-noise-sensitive vibration level standards, as defined by the FTA for frequent rail events. Said measures shall be incorporated in site and building plans approved by the City prior to the issuance of building permits.



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# 9 OPERATIONAL IMPACTS

This section discusses the potential noise and vibration impacts due to the operation of the various land uses associated with General Plan buildout.

# 9.1 OPERATIONAL NOISE LEVELS

Project-related stationary-source (operational) noise would be generated by the operation of potential non-residential uses, such as industrial and commercial uses, included in development associated with General Plan buildout. At the time this Noise and Vibration Impact Analysis was prepared, the specific users and/or tenants of future recreation, commercial, and industrial/business park uses were unknown. Therefore, the on-site Project-related noise sources for potential future uses are expected to include: air conditioning units, loading dock activities, outdoor restaurant dining activities, outdoor park activities, and parking lot vehicle movements. These expected Project-related noise sources are consistent with existing noise sources observed in the Project study area. Further, the proposed residential land uses are considered noise levels beyond the typical noise sources associated with existing residential land use in the Project study area.

Moreover, the noise levels due to buildout and use of City lands will vary depending on the specific tenant and use, and therefore, the impacts due to Project operational noise levels from potential non-residential uses is determined to be *potentially significant*. Special noise generators such as sound amplification devices, industrial ventilation equipment associated with specific uses (e.g., cultivation or other industrial uses), and other tenant-specific noise sources shall require a site-specific noise analysis prior to project approval or building permit approval. With the mitigation measures identified below, operational noise impacts associated with buildout and operation land uses authorized under the General Plan will be *less than significant*.

# 9.2 OPERATIONAL NOISE MITIGATION

The following mitigation measures are identified to reduce the operational noise levels associated with the Project.

- **NOI-4** Prior to project approval and the issuance of a building permit and/or certificate of occupancy for non-residential development projects, as appropriate, the Project Applicant/Developer shall submit a draft and/or final acoustical report to the Cathedral City Planning Department, or designee, that demonstrates:
  - 1. Exterior noise levels at adjacent property lines will satisfy the Cathedral City Municipal Code Section 11.96.030(6) exterior noise level limits, and satisfy any conditions of approval. The site-specific noise study shall identify the necessary noise mitigation measures, if any, required to reduce exterior noise levels to below the Cathedral City Municipal Code Section 11.96.030(6);



2. Acoustical isolation between units has been included in the project design for residential dwelling units above non-residential uses. (7)

# 9.3 OPERATIONAL VIBRATION LEVELS

The buildout of the General Plan is not expected to include any specific type of operational vibration sources, and therefore, the potential operational vibration impacts for the Cathedral City General Plan Update noise-sensitive land uses are considered *less than significant*.



# **10 CONSTRUCTION IMPACTS**

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

# **10.1** CONSTRUCTION NOISE LEVELS

Noise generated by construction equipment will include a combination of mobile equipment, trucks, power tools, concrete mixers, and portable generators that when combined can reach high levels. This construction noise analysis was prepared using reference noise level measurements taken by Urban Crossroads, Inc. to describe the highest construction activity noise levels during construction. The construction reference noise level measurements represent a list of typical construction activity noise levels. Noise levels generated by heavy construction equipment can range from approximately 68 dBA to in excess of 80 dBA when measured at 50 feet. "Hard site" conditions are used in the construction noise analysis which result in noise levels that attenuate (or decrease) at a rate of 6 dBA for each doubling of distance from a point source (i.e. construction equipment). For example, a noise level of 80 dBA measured at 50 feet from the noise source to the receiver would be reduced to 74 dBA at 100 feet from the source to the receiver and would be further reduced to 68 dBA at 200 feet from the source to the receiver. Under soft site conditions, these noise levels would attenuate at a greater rate of 7.5 dBA per doubling of distance.

# **10.2** CONSTRUCTION REFERENCE NOISE LEVELS

To describe anticipated construction noise levels associated with General Plan buildout, measurements were collected for similar activities at several construction sites. Table 10-1 provides a summary of construction reference noise level measurements. Since the reference noise levels were collected at varying distances, all construction noise level measurements presented on Table 10-1 have been adjusted to describe a common reference distance of 50 feet.

ID	Noise Source	Duration (h:mm:ss)	Reference Distance From Source (Feet)	Reference Noise Levels (dBA L <sub>eq</sub> ) <sup>7</sup>	
				@ Ref. Dist.	@ 50'
1	Truck Pass-Bys & Background Dozer Activity <sup>1</sup>	0:01:15	30'	63.6	59.2
2	Dozer Activity <sup>1</sup>	0:01:00	30'	68.6	64.2
3	Construction Vehicle Maintenance Activities <sup>2</sup>	0:01:00	30'	71.9	67.5
4	Foundation Trenching <sup>2</sup>	0:01:01	30'	72.6	68.2
5	Rough Grading Activities <sup>2</sup>	0:05:00	30'	77.9	73.5
6	Framing <sup>3</sup>	0:02:00	30'	66.7	62.3
7	Water Truck Pass-By & Backup Alarm <sup>4</sup>	0:00:45	30'	76.3	71.9
8	Dozer Pass-By <sup>4</sup>	0:00:32	30'	84.0	79.6
9	Two Scrapers & Water Truck Pass-By <sup>4</sup>	0:00:32	30'	83.4	79.0
10	Two Scrapers Pass-By <sup>4</sup>	0:00:30	30'	83.7	79.3
11	Scraper, Water Truck, & Dozer Activity <sup>4</sup>	0:30:00	30'	79.7	75.3
12	Concrete Mixer Truck Movements <sup>5</sup>	0:01:00	50'	71.2	71.2
13	Concrete Paver Activities <sup>5</sup>	0:01:00	30'	70.0	65.6
14	Concrete Mixer Pour & Paving Activities <sup>5</sup>	0:01:00	30'	70.3	65.9
15	Concrete Mixer Backup Alarms & Air Brakes <sup>5</sup>	0:00:20	50'	71.6	71.6
16	Concrete Mixer Pour Activities <sup>5</sup>	1:00:00	50'	67.7	67.7
17	Forklift, Jackhammer, & Metal Truck Bed Loading	0:02:06	50'	67.9	67.9

TABLE 10-1: CONSTRUCTION REFERENCE NOISE LEVELS

<sup>1</sup>As measured by Urban Crossroads, Inc. on 10/14/15 at a business park construction site located at the northwest corner of Barranca Parkway and Alton Parkway in the City of Irvine.

<sup>2</sup> As measured by Urban Crossroads, Inc. on 10/20/15 at a construction site located in Rancho Mission Viejo.

<sup>3</sup> As measured by Urban Crossroads, Inc. on 10/20/15 at a residential construction site located in Rancho Mission Viejo.

<sup>4</sup> As measured by Urban Crossroads, Inc. on 10/30/15 during grading operations within an industrial construction site located in the City of Ontario. <sup>5</sup> Reference noise level measurements were collected from a nighttime concrete pour at an industrial construction site, located at 27334 San

Bernardino Avenue in the City of Redlands, between 1:00 a.m. to 2:00 a.m. on 7/1/15.

<sup>6</sup> As measured by Urban Crossroads, Inc. on 9/9/16 during the demolition of an existing parking lot at 41 Corporate Park in Irvine.

<sup>7</sup> Reference noise levels are calculated at 50 feet using a drop off rate of 6 dBA per doubling of distance (point source).



# **10.3** CONSTRUCTION NOISE ANALYSIS

As previously shown on Table 10-1, the highest reference construction noise level is 79.6 dBA  $L_{eq}$  at 50 feet based on a reference noise level measurement of a dozer pass-by event. Mobile construction equipment, such as the reference dozer pass-by, typically generates the highest construction noise levels during construction activities. As such, the highest construction reference noise level of 79.6 dBA  $L_{eq}$  at 50 feet is used in this program-level analysis to determine potential impacts at sensitive receiver locations adjacent to development within the Cathedral City General Plan Update.

To evaluate whether a specific development facilitated by the Project will generate potentially significant temporary construction noise levels at off-site sensitive receiver locations, this analysis uses the FTA *Transit Noise and Vibration Impact Assessment* threshold of 80 dBA L<sub>eq</sub> during daytime at residential (noise-sensitive) uses, and 85 dBA L<sub>eq</sub> during daytime hours at commercial uses. (15) The highest reference construction noise level of 79.6 dBA L<sub>eq</sub> at 50 feet is expected to satisfy the FTA 80 dBA L<sub>eq</sub> residential and 85 dBA L<sub>eq</sub> commercial 8-hour construction noise level thresholds at distances greater than 50 feet, as shown on Table 10-2. However, at distances of 50 feet or less, Project construction noise levels are anticipated to exceed the FTA thresholds at nearby receiver locations. Therefore, Project-related construction noise levels at receiver locations within 50 feet of construction activities, such as existing residential, commercial, and office uses in the Project study area, are considered *potentially significant* noise levels during future development as part of the Cathedral City General Plan Update.

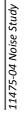
With the application of the noise mitigation measures identified in this study, it is anticipated the Project construction noise levels at nearby receiver locations would be reduced to below the FTA construction noise level thresholds. Therefore, Project construction-source noise impacts are considered *less than significant* with mitigation.



Analysis Location	Hig Noise I	hest Projec Levels at Sc	Highest Project Construction Noise Levels at Screening Distance <sup>1</sup>	tion stance <sup>1</sup>	Threshold <sup>2</sup>	10	Threshold Exceeded at Screening Distance? <sup>3</sup>	Threshold Exceeded t Screening Distance? <sup>3</sup>	m
	50'	100'	200'	400'		50'	100'	,002	400'
Noise-Sensitive Receiver Locations	79.6	73.6	67.6	61.6	80	NO	No	No	No
Non-Noise- Sensitive Receiver Locations	79.6	73.6	67.6	61.6	85	No	No	No	° Z
<sup>1</sup> Highest unmitigated reference construction noise level, as shown on Table 10-1	erence constru	iction noise lev	vel, as shown c	on Table 10-1.					

# TABLE 10-2: UNMITIGATED CONSTRUCTION NOISE LEVELS

<sup>2</sup> Significance criteria (Table 4-1). <sup>3</sup> Do the unmitigated construction noise levels exceed the threshold?





# **10.4** 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. Ground-borne vibration levels resulting from construction activities occurring within the Project were estimated by data published by the Federal Transit Administration (FTA). Construction activities that would have the potential to generate low levels of ground-borne vibration within the Project site include mobile equipment activities, among others. Using the vibration source level of construction equipment provided on Table 6-7 and the construction vibration impacts. Table 10-3 presents the expected Project related vibration levels at distances ranging from 25 to 400 feet from construction activity.

Based on the reference vibration levels provided by the FTA, a large bulldozer represents the highest source of typical construction-related vibration with a reference velocity of 0.089 in/sec PPV at 25 feet. At distances ranging from 25 to 400 feet from the Project site, typical construction vibration velocity levels are expected to range from 0.001 to 0.089 in/sec PPV, as shown on Table 10-3, which equates to perceived vibration levels ranging from 0.003 to 0.063 in/sec RMS.

Compared with the County of Riverside construction vibration threshold of 0.01 in/sec RMS, the proposed Project typical construction activities will exceed the vibration standard at receiver locations within 50 feet of loaded trucks, large bulldozers, and jackhammers if used during construction. Therefore, the use of loaded trucks, large bulldozers, and jackhammers within 50 feet of nearby sensitive land uses (e.g. residential, school, etc.) shall be minimized unless the vibration levels are shown to be less than the County of Riverside root-mean-square velocity (RMS) threshold of 0.01 in/sec RMS. With the recommended mitigation measures in this study, the Project-related vibration impacts at the nearby sensitive receiver locations represents a *less than significant* impact during the worst-case construction activities at the Project site boundary.

The construction vibration levels at the site of the closest sensitive receivers 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. Further, construction will be restricted to Municipal Code daytime construction hours, unless otherwise permitted by the City, thereby reducing potential vibration impacts during the sensitive nighttime hours.



Distance to Construction	Receiver PPV Levels (in/sec) <sup>1</sup>			Highest	RMS	Threshold	
Activity (Feet)	Small Bulldozer	Jack- hammer	Loaded Trucks	Large Bulldozer	Vibration Level	Vibration Level <sup>2</sup>	Exceeded? <sup>3</sup>
25'	0.003	0.035	0.076	0.089	0.089	0.063	Yes
50'	0.001	0.012	0.027	0.031	0.031	0.022	Yes
100'	0.000	0.004	0.010	0.011	0.011	0.008	No
200'	0.000	0.002	0.003	0.004	0.004	0.003	No
400'	0.000	0.001	0.001	0.001	0.001	0.001	No

TABLE 10-3: CONSTRUCTION EQUIPMENT VIBRATION LEVELS

<sup>1</sup> Based on the Vibration Source Levels of Construction Equipment included on Table 6-7.

<sup>2</sup> Vibration levels in PPV are converted to RMS velocity using a 0.71 conversion factor identified in the Caltrans

Transportation and Construction Vibration Guidance Manual, September 2013.

<sup>3</sup> Does the peak vibration exceed the vibration threshold of 0.01 in/sec RMS shown on Table 4-2?

# **10.5** CONSTRUCTION NOISE AND VIBRATION MITIGATION MEASURES

Though construction noise and vibration are temporary, intermittent and of short duration, and will not present any long-term impacts, the following mitigation measures would reduce noise and vibration levels produced by construction equipment to nearby noise-sensitive uses.

- **NOI-5** Prior to the issuance of a building permit for new development, when sensitive receiver locations are within 50 feet of proposed construction activities, the Project Applicant/Developer shall submit a final acoustical report to the Cathedral City Planning Department, or designee, that demonstrates:
  - Exterior construction noise levels at the closest sensitive receiver locations will satisfy the FTA 80 dBA  $L_{eq}$  residential and 85 dBA  $L_{eq}$  commercial 8-hour construction noise level standards and the County of Riverside 0.01 in/sec RMS vibration standard for sensitive uses. The site-specific study shall identify the necessary noise and/or vibration mitigation measures, if any, required to reduce exterior noise and vibration levels to below FTA noise and County of Riverside vibration thresholds; and
  - Measures to reduce construction noise and vibration levels, such as those provided below, shall be incorporated in the final noise study, if necessary:
    - Install temporary construction noise barriers at the Project site boundary which break the line of sight for occupied sensitive uses for the duration of construction activities. The noise control barrier(s) must provide a solid face from top to bottom and shall:
      - Provide a minimum transmission loss of 20 dBA and be constructed with an acoustical blanket (e.g. vinyl acoustic curtains or quilted blankets) attached to the construction site perimeter fence or equivalent temporary fence posts;
      - Properly maintained with any damage promptly repaired. Gaps, holes, or weaknesses in the barrier or openings between the barrier and the ground shall be promptly repaired.



- Install sound dampening mats or blankets to the engine compartments of heavy mobile equipment (e.g. graders, dozers, heavy trucks). The dampening materials must be capable of a 5 dBA minimum noise reduction, must be installed prior to the use of heavy mobile construction equipment, and must remain installed for the duration of the equipment use.
- Construction activities requiring loaded trucks, large bulldozers, and jackhammers within 50 feet of nearby sensitive land uses (e.g. residential, school, etc.) shall be minimized, or alternative equipment or methods shall be used, unless the vibration levels are shown to be less than the County of Riverside threshold of 0.01 in/sec RMS.
- **NOI-6** Construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturers' standards, and all stationary construction equipment shall be placed so that emitted noise is directed away from the noise-sensitive use nearest the construction activity.
- **NOI-7** The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and noise-sensitive receiver nearest to the construction activity.
- **NOI-8** The construction contractor shall limit haul truck deliveries to the same hours specified for construction equipment by Section 11.96.070 of the Cathedral City Municipal Code. The contractor shall design delivery routes to minimize the exposure of sensitive land uses to delivery truck noise.

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- 24. U.S. Department of Transportation, Federal Highway Administration. FHWA Highway Traffic Noise Prediction Model. December 1978. FHWA-RD-77-108.
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# 12 CERTIFICATION

The contents of this report represent an accurate depiction of the noise environment and impacts associated with the proposed Cathedral City General Plan Update Project. The information contained in this 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. 260 E. Baker Street, Suite 200 Costa Mesa, CA 92626 (949) 336-5979 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:

CATHEDRAL CITY MUNICIPAL CODE



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#### Chapter 11.96 NOISE CONTROL

#### 11.96.010 Purpose and intent.

A. It is the purpose of these regulations to implement the goals and objectives of the noise element of the city's general plan to establish community-wide noise standards and to serve as a reference for locating other city regulations relating to noise in the community. It is further the purpose of these regulations to recognize that the existence of excessive noise within the city is a condition which is detrimental to the health, safety, welfare and quality of life of the citizens and shall be regulated in the public interest.

B. In furtherance of the foregoing purpose, it is found and declared as follows:

1. The making, creation or maintenance of such loud, unnecessary, unnatural or unusual noises that are prolonged, unusual, annoying, disturbing and unnatural in their time, place and use are a detriment to public health, comfort, convenience, safety, general welfare and the peace and quiet of the city and its inhabitants; and

2. The public interest necessity for the provisions and prohibitions hereinafter contained and enacted is declared as a matter of legislative determination and public policy, and it is further declared that the provisions and prohibitions hereinafter contained and enacted are in pursuance of and for the purpose of securing and promoting the public health, comfort, convenience, safety, general welfare and property and the peace and quiet of the city and its inhabitants. (Ord. 635 § 2, 2007)

## 11.96.020 Definitions.

As used in this chapter, the following terms have the meanings given:

"Compliance officer" means a city code compliance officer or peace officer authorized to enforce the provisions and prohibitions of this chapter pursuant to Section 11.96.080.

"Construction equipment" means tools, machinery or equipment used in connection with construction operations, including all types of "special construction" equipment as defined in the pertinent sections of California Vehicle Code when used in the construction process on any construction site, home improvement site or property maintenance site, regardless of whether such site be located on-highway or off-highway.

"Plainly audible" means any sound that can be detected by a person using his or her unaided hearing faculties. As an example, if the sound source under investigation is a portable or personal vehicular sound amplification or reproduction device, the investigating compliance officer need not determine the title of a song, specific words, or the artist performing the song. The detection of the vibration from the rhythmic bass component of the music is sufficient to constitute a plainly audible sound.

"Public right-of-way" means any street, avenue, boulevard, highway, sidewalk, alley or similar place, owned or controlled by a government entity.

"Public space" means any real property or structures on real property, owned by a government entity and normally accessible to the public, including, but not limited to, parks and other recreation areas.

"Responsible person" means: (1) any person who owns, leases or is lawfully in charge of the property or motor vehicle where the noise violation takes place; or (2) any person who owns or controls the source of the noise or violation. If the responsible person is a minor, then the parent or guardian who has custody of the child at the time of the violation shall be the responsible person who is liable under this chapter. (Ord. 776 § 24, 2016; Ord. 635 § 2, 2007)

## 11.96.030 Prohibited acts.

A. It is unlawful for any person to engage in the following activities:

1. Sounding any horn or signal device on any automobile, motorcycle, bus or other motor vehicle in any other manner or circumstances or for any other purpose than required or permitted by the Vehicle Code or other California laws.

2. Racing the engine of any motor vehicle while the vehicle is not in motion, except when necessary to do so in the course of repairing, adjusting or testing the same.

3. Operating or permitting the use of any motor vehicle on any public right-of-way or public place or on private property within a residential zone for which the exhaust muffler, intake muffler or any other noise abatement device has been modified or changed in a manner such that the noise emitted by the motor vehicle is increased above that emitted by the vehicle as originally manufactured.

4. The intentional sounding or permitting the sounding outdoors of any fire, burglar, or civil defense alarm, siren, whistle, or any motor vehicle burglar alarm, except for emergency purposes or for testing, unless such alarm is terminated within fifteen minutes of activation.

5. Creating excessive noise adjacent to any school, church, court or library while the same is in use, or adjacent to any hospital or care facility, which unreasonably interferes with the workings of such institution, or which disturbs or unduly annoys patients in the hospital, provided conspicuous signs are displayed in such streets indicating the presence of a school, institution of learning, church, court or hospital.

6. To produce, suffer or allow to be produced noise or sounds that exceeds the dB(A) levels in the table below. Exterior noise shall be measured at the lot line of the lot where the noise or sounds are emanating. If the measurement location is on the boundary between two different noise zones, the lower noise level standard applicable to the noise zone shall apply. Interior noise shall be measured at least four feet from the wall, floor, or ceiling nearest to the noise source and with all windows, doors and other openings to the exterior closed.

Noises caused by motor vehicles or trains are exempt from these standards.

In the event the ambient noise level exceeds these levels, no person shall produce, suffer or allow to be produced noise or sounds in excess of the ambient noise level.

Zone	Time	dB(A) Level
Residential – Exterior Noise	7 a.m 10 p.m.	65
	10 p.m 7 a.m.	50
Residential – Interior Noise	7 a.m 10 p.m.	50
	10 p.m 7 a.m.	40
Commercial/Industrial – Exterior Noise	7 a.m 10 p.m.	85
	10 p.m 7 a.m.	55

B. A violation of this section is an infraction and a public nuisance.

C. A violation of this section may result in the following.

- 1. Issuance of an infraction citation;
- 2. Issuance of a notice of public nuisance;
- 3. Imposition of criminal and civil penalties; and

4. Confiscation and impoundment as evidence, of the components that are amplifying or transmitting the prohibited noise.

D. An enforcement officer who encounters a violation of this section may issue a written notice to the responsible person demanding immediate abatement of the violation (written notice). The written notice shall inform the recipient that a second violation of the same provision within a seventy-two-hour period may result in the issuance of a criminal citation and/or notice of public nuisance, the imposition of criminal and civil penalties, and confiscation and impoundment as evidence, of the components that are amplifying or transmitting the prohibited noise.

E. Any peace officer who encounters a second violation of this section within a seventy-two-hour period following issuance of a written notice is empowered to confiscate and impound as evidence, any or all of the components amplifying or transmitting the sound.

F. Any person claiming legal ownership of the items confiscated and impounded under this section may request the return of the item by filing a written request with the police department within seven calendar days of the confiscation. Such requests shall be processed in accordance with the procedures adopted by the department.

G. This section shall not apply to any noise emanating from a city operated or sponsored special event, or other events held on public property where the operator of the event has obtained all necessary permits and approvals for the event. (Ord. 791 § 1, 2017; Ord. 635 § 2, 2007)

#### 11.96.040 Excessive noise and vibration emanating from a motor vehicle.

A. No person shall operating or occupy a motor vehicle on any public right-of-way, public place or private property, while operating or permitting the use or operation of any radio, stereo receiver, musical instrument, television, computer, compact disc player, tape recorder, cassette player or any other device for the production or reproduction of sound from within the motor vehicle so that the sound is plainly audible at a distance of fifty feet from such vehicle, or in the case of a motor vehicle on private property, beyond the property line.

B. Pursuant to Section 11.96.130, a violation of this section is a misdemeanor offense and a public nuisance.

- C. A violation of this section may result in the following:
- 1. Issuance of a misdemeanor citation;
- 2. Issuance of a notice of public nuisance;
- 3. Imposition of criminal and civil penalties; and

4. Immediate confiscation and impoundment as evidence, of the components that are amplifying or transmitting the prohibited noise or the immediate confiscation and impoundment of the motor vehicle to which the component is attached if the same may not be removed without causing harm to the vehicle or the component.

D. Any person claiming legal ownership of a motor vehicle confiscated and impounded under this section may request the return of the vehicle by filing a written request with the police department within seven calendar days of the confiscation. Such requests shall be processed in accordance with the procedures adopted by the department.

E. Any person claiming legal ownership of the items confiscated and impounded under this section, other than a motor vehicle, may request the return of the item by filing a written request with the police department, which shall be processed in accordance with the procedures adopted by the department. (Ord. 635 § 2, 2007)

#### 11.96.050 Controlled hours of operation.

It is unlawful for any person to engage in the following activities other than between the hours of eight a.m. and eight p.m. in residential zones and other than between the hours of seven a.m. to eight p.m. in all other zones:

A. Operate or permit the use of powered model vehicles and planes;

B. Load or unload any vehicle, or operate or permit the use of dollies, carts, forklifts, or other wheeled equipment that causes any impulsive sound, raucous or unnecessary noise within one thousand feet of a residence;

C. Operate or permit the use of domestic power tools, or machinery or any other equipment or tool in any garage, workshop, house or any other structure;

D. Operate or permit the use of gasoline or electric powered leaf blowers, such as commonly used by gardeners and other persons for cleaning lawns, yards, driveways, gutters and other property;

E. Operate or permit the use of privately operated street/parking lot sweepers or vacuums, except that emergency work and/or work necessitated by unusual conditions may be performed with the written consent of the city manager;

F. Operate or permit the use of pile driver, steam or gasoline shovel, pneumatic hammer, steam or electric hoist or other similar devices;

G. Operate or permit the use of electrically operated compressor, fan, and other similar devices;

H. Perform ground maintenance on golf course grounds and tennis courts contiguous to golf courses that creates a noise disturbance across a residential or commercial property line;

I. Operate or permit the use of any motor vehicle with a gross vehicle weight rating in excess of ten thousand pounds, or of any auxiliary equipment attached to such a vehicle, including, but not limited to, refrigerated truck compressors, for a period longer than fifteen minutes in any hour while the vehicle is stationary and on a public right-of-way or public space except when movement of the vehicle is restricted by other traffic;

J. Repair, rebuild, reconstruct or dismantle any motor vehicle or other mechanical equipment or devices in a manner so as to be plainly audible across property lines. (Ord. 635 § 2, 2007)

#### 11.96.060 Exemptions.

The following activities and noise sources shall be exempt from the provisions of this chapter:

A. Those noise events in the community (e.g., airport noise, arterial traffic noise, railroad noise) that are more accurately measured by application of the general plan noise element policy, utilizing the community noise equivalent level (CNEL) method;

B. Activities conducted on the grounds of any public or private school during regular hours of operation;

C. Outdoor gatherings, public dances, shows and sporting and entertainment events provided the events are authorized by the city;

D. Activities conducted at public spaces during regular hours of operation;

E. Any mechanical device, apparatus or equipment used, related to or connected with emergency machinery, vehicle or work;

F. All mechanical devices, apparatus or equipment which are utilized for the protection or salvage of agricultural crops during periods of potential or actual frost damage or other adverse weather conditions;

G. Mobile noise sounds associated with agricultural operations provided such operations do not take place between the hours of eight p.m. and seven a.m. on weekdays, including Saturdays, or at any time on Sunday or a state holiday;

H. Mobile noise sources associated with agricultural pest control through pesticide application;

I. Warning devices necessary for the protection of the public safety, including, but not limited to, police, fire and ambulance sirens and train horns and sounds for the purpose of alerting persons to the existence of an emergency;

J. Construction, repair or excavation necessary for the immediate preservation of life or property;

K. Construction, operation, maintenance and repairs of equipment, apparatus or facilities of park and recreation departments, public work projects or essential public services and facilities, including trash collection and those of public utilities subject to the regulatory jurisdiction of the California Public Utilities Commission;

L. Construction, repair or excavation work performed pursuant to a valid written agreement with the city or any of its political subdivisions which agreement provides for noise mitigation measures;

M. Any activity to the extent regulation thereof has been preempted by state or federal law; and

N. Any activity or noise source governed elsewhere in this code. Such activities include, but are not limited to:

1. Security alarm systems (see Chapter 8.28 of this code),

2. Animal noise (see Title 10 of this code),

3. Sound trucks and advertising by sound (see Chapter 5.68 of this code),

4. Performance standards for Class A and B business and industrial uses (see Chapter 9.86 of this code),

5. Noise making devices utilized by food vendors (see Section 12.28.100 of this code),

6. Noise requirements for peddlers (see Section 5.48.110 of this code);

O. Sounds generated in commercial and industrial zones that are necessary and incidental to the uses permitted therein;

P. Sounds generated from or incidental to emergency repairs to any public works function;

Q. Sounds generated in connection with speech or communication protected by the U.S. Constitution or the California Constitution, expect to the extent such sounds are subject to permissible time, manner and place restrictions.

#### **11.96.070 Disturbances from construction activity.**

A. No person shall be engaged or employed, or cause any other person to be engaged or employed, in any work of construction, erection, alteration, repair, addition, movement, demolition, or improvement to any building or structure except within the hours provided for by subsection B of this section.

B. The permitted hours for such construction work are as follows:

1. October 1st through April 30th.

Monday—Friday:	7:00 a.m. to 5:30 p.m.
Saturday:	8:00 a.m. to 5:00 p.m.
Sunday:	No permissible hours
State holidays:	No permissible hours

2. May 1st through September 30th:

Monday—Friday:	6:00 a.m. to 7:00 p.m.
Saturday:	8:00 a.m. to 5:00 p.m.
Sunday:	No permissible hours
State holidays:	No permissible hours

C. For purposes of this section, the following definitions shall apply:

"Building" means any structure used or intended for supporting or sheltering any use or occupancy.

"Structure" means that which is built or constructed, an edifice or building of any kind, or any piece of work artificially built up or composed of parts joined together in some definite manner.

- D. For purposes of this section, the following exceptions shall apply:
- 1. Emergency repair of existing installations, equipment, or appliances; and

2. Such work that complies with the terms and conditions of a written early work permit issued by the city manager or designee upon a showing of a sufficient need and justification for the permit due to hot or inclement weather, the use of an unusually long process material, or other circumstances of an unusual and compelling nature. (Ord. 635 § 2, 2007)

#### 11.96.080 Administration.

Except as otherwise provided, the provisions and prohibitions of this chapter shall be jointly administered by and the responsibility of the city's police and code compliance division. (Ord. 776 § 25, 2016; Ord. 635 § 2, 2007)

#### 11.96.090 Cost recovery for second response.

A. whenever any enforcement officer issues a written warning to a responsible person to discontinue a noise violation, the responsible person shall be liable for the actual cost of each subsequent response required to abate the violation within seventy-two hours of the issuance of the written warning (response charge).

B. The bill for the response charge shall be served upon the responsible person within thirty days after the violation. If the responsible person has no last known business or residence address, the location of the violation shall be deemed to

be the proper address for service. The bill shall include a notice of the right of the person being charged to request a hearing to dispute the imposition of the response charge or the amount of the charge.

C. The response charge shall be deemed to be a civil debt to the city.

D. All responsible persons shall be jointly and severally liable for the response charge regardless of whether or not they received a written notice. (Ord. 635 § 2, 2007)

#### 11.96.100 Public nuisance.

A violation of this chapter by any person responsible for committing, causing or maintaining such violation shall constitute a public nuisance which shall be subject to the provisions of Chapters 13.80 and 13.90. (Ord. 635 § 2, 2007)

#### 11.96.110 Infraction violation.

A violation of Section 11.96.030, 11.96.050 or 11.96.070 of this chapter by any person responsible for committing, causing or maintaining such violation shall constitute an infraction violation and the violator shall be subject to the provisions set forth in Chapter 13.65, including, but not limited to, the imposition of any and all criminal penalties set forth therein. (Ord. 635 § 2, 2007)

#### 11.96.120 Misdemeanor violation.

A violation of Section 11.96.040 of this chapter by any person responsible for committing, causing or maintaining such violation shall constitute a misdemeanor violation which shall be subject to the provisions set forth in Chapter 13.70, including, but not limited to, the imposition of any and all criminal penalties set forth therein. (Ord. 635 § 2, 2007)

#### 11.96.130 Civil fines.

Any person convicted of an infraction or misdemeanor violation under this chapter shall, for each separate violation, be subject to: (a) a fine in an amount not to exceed two hundred fifty dollars for a first conviction of an offense; (b) a fine in an amount not to exceed five hundred dollars for a second conviction of the same offense within a twelve-month period from the date of the first offense; and (c) a fine in an amount not to exceed seven hundred fifty dollars for the third conviction of the same offense within a twelve-month period from the date of the first offense. The fine for a fourth and any subsequent convictions of the same offense within a twelve-month period from the date of the first offense shall be one thousand dollars. (Ord. 635 § 2, 2007)

#### **11.96.140** Modification, suspension and/or revocation of validly issued city permit and/or city license.

A violation of this chapter by the holder of any city permit and/or city license validly issued pursuant to this or any other chapter shall constitute grounds for modification, suspension and/or revo-

cation of the permit and/or license pursuant to the provisions set forth in Chapter 13.150. (Ord. 635 § 2, 2007)

#### 11.96.150 Additional penalties.

Nothing in this chapter shall preclude the city from pursuing the remedies provided by Chapter 13.140 including, but not limited to, as applicable, denial or revocation of certificates of occupancy, issuance of stop work orders and injunctive relief. (Ord. 635 § 2, 2007)

APPENDIX 5.1:

NOISE MEASUREMENT STUDY AREA PHOTOS



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L2 (1) 33, 51' 15.200000", 116, 28' 45.210000"

L2 (2) 33, 51' 15.180000", 116, 28' 45.210000"





L1 (3) 33, 53' 1.920000", 116, 30' 1.980000"



33, 53' 1.900000", 116, 30' 1.980000"

L1 (2) 33, 53' 1.870000", 116, 30' 1.950000"



L1 (1) 33, 53' 1.860000", 116, 30' 1.980000"



JN:11475 Study Area Photos

89

#### 90

L3 (4) 33, 51' 9.870000", 116, 27' 29.100000"



L3 (3) 33, 51' 9.870000", 116, 27' 29.130000"



L3 (1) 33, 51' 9.880000", 116, 27' 29.080000"



33, 51' 9.850000", 116, 27' 29.100000"

33, 51' 15.140000", 116, 28' 45.210000"







33, 50' 1.970000", 116, 26' 57.820000"

91

L5 (3)



L5 (2) 33, 50' 1.970000", 116, 26' 57.820000"

L4 (3) 33, 49' 50.080000", 116, 28' 33.620000"





33, 49' 50.090000", 116, 28' 33.650000"



L4 (2) 33, 49' 50.080000", 116, 28' 33.620000"

L5 (1) 33, 50' 1.990000", 116, 26' 57.760000"



L6 (1) 33, 48' 53.160000", 116, 29' 6.080000"



L6 (2) 33, 48' 53.200000", 116, 29' 6.220000"



L6 (3) 33, 48' 53.200000", 116, 29' 6.220000"



L6 (4) 33, 48' 53.200000", 116, 29' 6.220000"



L7 (1) 33, 49' 10.020000", 116, 27' 37.400000"



L7 (2) 33, 49' 9.980000", 116, 27' 37.340000"



L7 (3) 33, 49' 10.020000", 116, 27' 37.400000"



L8 (1) 33, 48' 1.050000", 116, 27' 25.340000"



L8 (2) 33, 48' 1.030000", 116, 27' 25.310000"



L8 (3) 33, 48' 1.050000", 116, 27' 25.340000"



L9 (1) 33, 47' 7.130000", 116, 28' 31.260000"



L9 (2) 33, 47' 7.130000", 116, 28' 31.180000"



L9 (3) 33, 47' 7.130000", 116, 28' 31.180000"



L9 (4) 33, 47' 7.130000", 116, 28' 31.180000"



L10 (1) 33, 47' 12.590000", 116, 27' 59.890000"



L10 (2) 33, 47' 12.580000", 116, 27' 59.920000"



L10 (3) 33, 47' 12.590000", 116, 27' 59.860000"



L10 (4) 33, 47' 12.590000", 116, 27' 59.920000"



L11 (1) 33, 46' 53.710000", 116, 26' 28.900000"



L11 (2) 33, 46' 53.740000", 116, 26' 28.900000"



L11 (3) 33, 46' 53.800000", 116, 26' 28.840000"



L12 (1) 33, 49' 34.330000", 116, 24' 36.320000"



L12 (2) 33, 49' 34.290000", 116, 24' 36.320000"



L12 (3) 33, 49' 34.330000", 116, 24' 36.340000"



L12 (4) 33, 49' 34.310000", 116, 24' 36.320000"



S1 (1) 33, 53' 1.810000", 116, 30' 3.300000"



33, 53' 1.830000", 116, 30' 3.350000"



S1 (3) 33, 53' 1.820000", 116, 30' 3.380000"



S1 (4) 33, 53' 1.830000", 116, 30' 3.350000"



S1 (5) 33, 53' 1.820000", 116, 30' 3.320000"



S2 (1) 33, 50' 54.650000", 116, 28' 1.270000"



S3 (1) 33, 48' 56.250000", 116, 28' 31.860000"



S3 (2) 33, 48' 56.250000", 116, 28' 31.890000"



S3 (3) 33, 48' 56.290000", 116, 28' 31.890000"



S3 (4) 33, 48' 56.260000", 116, 28' 31.890000"



S3 (5) 33, 48' 56.250000", 116, 28' 31.860000"



S4 (1) 33, 48' 56.580000", 116, 26' 31.200000"



S4 (2) 33, 48' 56.520000", 116, 26' 31.230000"



S4 (3) 33, 48' 56.560000", 116, 26' 31.260000"



S4 (4) 33, 48' 56.550000", 116, 26' 31.230000"



S4 (5) 33, 48' 56.540000", 116, 26' 31.260000"



S5 (1) 33, 47' 31.890000", 116, 27' 29.930000"



S5 (2) 33, 47' 31.830000", 116, 27' 29.900000"



S5 (3) 33, 47' 31.830000", 116, 27' 29.900000"



S5 (4) 33, 47' 31.830000", 116, 27' 29.900000"



S5 (5) 33, 47' 31.890000", 116, 27' 29.930000"



S6 (1) 33, 46' 43.860000", 116, 27' 34.050000"



S6 (2) 33, 46' 43.850000", 116, 27' 34.050000"

### JN:11475 Study Area Photos



S6 (3) 33, 46' 43.850000", 116, 27' 34.050000"



S6 (4) 33, 46' 43.850000", 116, 27' 34.050000"



S6 (5) 33, 46' 43.860000", 116, 27' 34.050000"

APPENDIX 5.2:

### LONG-TERM NOISE LEVEL MEASUREMENT WORKSHEETS



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	: 11475 : A.Wolfe				0.62		23		Adj. L <sub>eq</sub>	65.1	65.3	67.4	67.9	69.3 33.4	72.1	57.2	56.2	55.7	57.5	54.0	54.3 EE 2	55.1	55.5	60.5	61.6 61.2	2.10 66 5	65.6	65.8	69.3	69.0		Nighttime	59,2		(PA)			
	JN: Analyst:				8.03 8.03	$\square$	21 22		Adj.	10.0	10.0	10.0	10.0	10.0	10.0 10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	5.0	10.0	10.0 L (dBA)	ha	Daytime	58.7		z4-nour unel (aba)	(	66.0	
					9.09		20		L <sub>eq</sub>	55.1	55.3	57.4 	57.9 -2.2	59.3	62.1 62.1	57.2	56.2	55.7	57.5	54.0	54.3 FF 2	55.1	55.5	60.5	61.6 61.2	5 T D	60.6	60.8	59.3	59.0		24-Hour	58.9		U-47			
				•	5 <sup>-</sup> T9		19		%667	46.0	47.0	48.0	51.0 	52.0	56.0	49.0	47.0	47.0	47.0	48.0	48.0	49.0	47.0	50.0	54.0 55	0.05	54.0	55.0	53.0	52.0 1 <b>99%</b>	47.0	55.0		54.0	U.CC	46.0	56.0	51.2
	lo l			+	2 <sup>.</sup> T9		17 18		<b>195%</b>	48.0	49.0	50.0	52.0	54.0	57.0	50.0	48.0	48.0	48.0	49.0	49.0	50.0	49.0	53.0	55.0	56.0 56.0	56.0	56.0	55.0	54.0 195%	48.0	56.0	50.3	56.0	0.02	48.0 48.0	57.0	52.9
	<i>Meter:</i> Piccolo I				<mark>5.09</mark>		16				_	_																	_				$\left  \right $			+	_	
	Ŵ				<b>S'SS</b>		15		%067	49.0	50.0	51.0	53.0	54.0	58.0 58.0	51.0	49.0	48.0	49.0	50.0	50.0	21.0	50.0	54.0	56.0	0.70	56.0	57.0	55.0	190%	48.0	57.0	51.3	56.0	./ C	49.0 49.0	58.0	53.6
Jummary	existing				T'SS		13 14		<b>720%</b>	52.0	54.0	56.0	57.0	57.0	60.0 60.0	55.0	52.0	52.0	51.0	52.0	22.0	53.0	53.0	58.0	59.0	0.9C	59.0	59.0	58.0	150%	51.0	59.0	54.2	58.0	59.0	52.0	60.0	56.8
irement \$	orth of I-10, and es in a vacant lot.	(unadjusted			<mark>5.43</mark>			ginning	L25%	54.0	56.0	58.0	58.0	59.0	62.0 62.0	57.0	54.0	54.0	53.0	54.0	54.0 55.0	55.0	56.0	60.0	61.0 60.0	60.0	60.09	61.0	59.0	59.0 125%	53.0	61.0	56.1	60.0	0.10	60.3 54.0	62.0	58.6
el Measu	ve, north o I uses in a '	A Readings			0.43			Hour Beginning	%87	56.0	58.0	60.0	60.0 22.2	62.0	64.0 64.0	59.0	57.0	58.0	57.0		0.72	57.0	58.0	63.0	63.0 62.0	0.00	63.0	63.0	62.0	61.0 <b>18%</b>	56.0	63.0	58.8	62.0 62.0	03.U	62.7 56.0	64.0	60.8
Voise Lev	ar Palm Dri d residentia	Hourly L <sub>eq</sub> dBA Readings (unadjusted)			S'/S		9 10		<b>L5%</b>	57.0	59.0	61.0	61.0 62.0	63.0 67.0	65.0	60.0	59.0	59.0	58.0	58.0	58.0		59.0	64.0	65.0 64.0	63.0 63.0	64.0	64.0	63.0	62.0 <b>15%</b>	58.0	65.0	60.0	63.0	04.U	63.7 57.0	65.0	61.8
24-Hour Noise Level Measurement Summary	L1 - Located near Palm Drive, north of I-10, and existing commercial and residential uses in a vacant lot.	Н			<b>Z:95</b>		×		L2%	58.0	60.0	62.0	62.0 22 2	65.0	67.0	61.0	63.0	64.0	62.0	60.0	60.0 60.0	61.0	61.0	66.0	68.0 67.0	07.U 66.0	66.0	65.0	64.0	64.0 L <b>2</b> %	60.0	68.0	62.8	65.0 66.0	00.U	58.0	67.0	63.2
	Location: L1 - com				<b>2.72</b>	$\square$	7		71%	59.0					68.0 68.0						61.0				70.0				_	11%			$\square$	67.0		67.3 59.0		64.3
	Γος					$\square$	5					_	_																									64
	e				£.92		4		L <sub>min</sub>	44.8	45.6	46.3	48.7	51.2	54.6	47.2	46.8	45.9	46.0	47.3	47.2	4.0.4	46.0	48.6	53.7	7.52	52.6	54.0	52.5	L 20.7	45.4	53.7	Average:	52.6	54.U	Average: 44.8		Average:
	018 Plan Updat				6.72		m		L <sub>max</sub>	81.3	62.9	66.8 20	67.3	71.4	80.0	77.9	79.4	73.4	83.0	68.4 	70.6	74.5	69.4	81.6	81.7	87.7	75.3	75.3	70.1	/8.0	- mux 68.4	83.0	4	75.3		65.9	81.3	4
	April 18, 20 :y General				£.22		1 2		L <sub>eq</sub>	55.1	55.3	57.4	57.9 - 2 2	59.3	62.1 62.1	57.2	56.2	55.7	57.5	54.0	54.3 56.2	55.1	55.5	60.5	61.6 61.2	01.2 61 5	60.6	60.8	59.3	59.U	54.0	61.6	57.8	60.6 61 E	C.10	61.U 55.1	62.1	59.2
	<i>Date:</i> Wednesday, April 18, 2018 <i>oject:</i> Cathedral City General Plan Update				T.SS		0		Hour	0	1	2	m ·	4 ı	o م	7	8	6	10	11	12	01 14	15	16	17	10	20	21	22	23 Hour	Min	Max	erage	Min	INIAX	Min	Max	erage
	Date: W Project: Ca				<b>Ηουτίγ</b>				Timeframe				Night								Day						Evening		Night	Timeframe	6	рау	Energy Average	Evening	Enormy Av	Energy Average Mir	Night	Energy Average

U:\Uclobs\\_11100-11500\\_11400\11475\Field Work\Measurements\11475 L1 Summary

Project: (	Cathedral C	Cathedral City General Plan Update	lan Update			Elementary School, south of I-I Landaur Boulevard.	scnool, sou ulevard.	th of I-10 an	U and the UPKK lines, west of	ulites, west u					Analyst:	Analyst: A.Wolfe
( <b>A8b</b> ) 85.0 75.0 77.0 77.0 77.0 77.0 77.0 77.0 7							Hourly L <sub>eq</sub> dBA Kea		angs (unaajustea)							
<b>۲۰۵۱ ای ا</b> ۱۳۵۹ ای ۲۰۵۵ ۱۳۵۹ ای ۲۰۵۹ ۱۳۹۹ ای ۲۰۵۹ ای ۲۰۵۹ ۱۳۹۹ ای ۲۰۹۹	9:55	£.82	0.22	t.72	0.23	£.82	5.02	0.92	0.42	25.0 56.7	<u>7.64</u>	0.722	9:95	<i>L.T</i> 2	2.72 2.72	8:82
	0	1 2	ε	4 5	9	7 8	6	10 11 Hour B	11 12 Hour Beginning	13 14	15 16	6 17	18 19	20	21 22	23
Timeframe	Hour	L eq	L <sub>max</sub>	L <sub>min</sub>	11%	L2%	<b>L5%</b>	<i>%8</i> 7	125%	150%	%061	195%	<i>766</i> 7	L eq	Adj.	Adj. L <sub>eq</sub>
	0	55.6	71.8	46.0	62.0	61.0	60.0	59.0	56.0	53.0	49.0	48.0	46.0	55.6	10.0	65.6
	<del>,</del> , ,	56.4	6.9 70 F	42.7 7 C 4	66.0	63.0 60.0	61.0 67.0	60.0	56.0	53.0	47.0	46.0	44.0	56.4	10.0	66.4
Night	νv	55.0	6.27 67.2	44.1	64.0	0.9.0 63.0	58.0	57.0	55.0	52.0	49.0	48.0	46.0	55.0	10.0	65.0
	4	57.7	69.1	48.8	66.0	65.0	63.0	61.0	57.0	55.0	52.0	51.0	50.0	57.7	10.0	67.7
	o u	58.4 62.0	70.9 77.1	50.5 53.2	67.0 71.0	66.0 70.0	63.0 67.0	62.0 66.0	57.0 60.0	55.0 58.0	53.0 56.0	52.0 55.0	51.0 54.0	58.4 62.0	10.0 10.0	68.4 72.0
	7	56.1	74.4	43.3	66.0	62.0	59.0	58.0	56.0	52.0	46.0	45.0	45.0	56.1	0.0	56.1
	∞	49.8	69.69	40.7	58.0	57.0	54.0	53.0	48.0	46.0	43.0	42.0	42.0	49.8	0.0	49.8
	6	50.5	73.2	39.4	61.0	58.0 -2.0	55.0	53.0	47.0	44.0	41.0	40.0	39.0	50.5	0.0	50.5
	10	50.0 56.0	68.6 76 q	3.95 3 0 2	62.0 68 0	59.0 66.0	53.0 61 0	51.0	47.0 51 0	45.0	42.0	41.0	40.0	50.0 56.0	0.0	50.0 56.0
ć	12	54.0	75.9	41.1	65.0	62.0 62.0	56.0	55.0	51.0	48.0	44.0	43.0	42.0	54.0	0.0	54.0
лау	13	56.7	85.1	41.8	66.0	64.0	58.0	56.0	53.0	50.0	44.0	44.0	42.0	56.7	0.0	56.7
	14	52.0	74.7	40.9	63.0	60.0	55.0	53.0	49.0	46.0	42.0	42.0	41.0	52.0	0.0	52.0
	15	49.4 40.7	68.6 70 E	40.3	61.0 E8 0	58.0 E 6 0	53.0	51.0	46.0	44.0	42.0	41.0	41.0	49.4	0.0	49.4
	17	57.0	83.2	40.9	0.0 67.0	0.00 64.0	61.0	59.0 59.0	55.0	52.0	44.0	43.0	42.0	57.0	0.0	57.0
	18	56.3	72.3	48.4	64.0	63.0	61.0	60.0	56.0	53.0	51.0	50.0	49.0	56.3	0.0	56.3
	19	56.6	71.4	48.6	64.0	62.0	60.0	60.0	56.0	54.0	52.0	51.0	50.0	56.6	5.0	61.6
Evening	20	57.7	80.5 60.6	49.1 10 2	65.0 65.0	63.0 64.0	61.0 62.0	60.0	57.0	54.0	52.0	51.0	50.0	57.7	5.0	62.7 62.0
+d~:IA	22	57.2	9.69	47.1	65.0	63.0	61.0	60.0	57.0	55.0	51.0	50.0	48.0	57.2	10.0	67.2
אוצוור	23	58.3	70.0	48.6	66.0	65.0	63.0	62.0	58.0	56.0	52.0	51.0	50.0	58.3	10.0	68.3
Timeframe	Hour	L eq	L max	L <sub>min</sub>	11%	L2%	L5%	78% 78%	L25%	L50%	%067	195%	%66T		L <sub>eq</sub> (dBA)	
Day	Min Max	49.4 57.0	68.6 85.1	39.4 48.4	58.0 68.0	56.0 66.0	53.0 61.0	51.0 60.0	46.0 56.0	44.0 53.0	41.0 51.0	40.0 50.0	39.0 49.0	24-Hour	Daytime	Nighttime
Energy A	Aver	54.1	Avei	Average:	63.3	60.8	56.6	54.8	50.6	47.8	43.8	43.0	42.2	בכ ב	<b>E</b> A O	L 0 1
Evening	Min	56.6	69.69 200 5	48.3	64.0	62.0	60.0	60.0	56.0	54.0	51.0	51.0	49.0			
Fnerøv Average	Average	57.1 1	C.U0 191/0	49.1 Δνατασα	0.00	63.0 63.0	61.0	60.0	0.76	0.4.0	51.7	01.0	0.UC	-+7	z4-nour oner (aba)	(Hat
Night	Min	55.0	67.2		62.0	61.0	58.0	57.0	55.0	52.0	47.0	46.0	44.0		64.6	
	IVIAX	07.0	//.1	23.2	/T.U	/0.0	0.10	00.0	PU.U	0.85	0.0č	0.66	54.0			

U:\Uclobs\\_11100-11500\\_11400\11475\Field Work\Measurements\11475 L2 Summary

							12 - Located workh of 1.10 on Date Dalm Drive version	uth of 1 10 on Date D	ato Dalmo Drive a								
Date: Project:	Wednesda) Cathedral C	<i>Date:</i> Wednesday, April 18, 2018 <i>oject:</i> Cathedral City General Plan Update	118 'lan Update		Location:		d.					Meter: Piccolo I	l olo			JN: Analyst:	JN: 11475 Analyst: A.Wolfe
							Hourly L <sub>eq</sub>	Hourly L <sub>eq</sub> dBA Readings (unadjusted)	gs (unadjust	(pa							
85.0 80.0																	
A8b 75.0																	
<b>L</b> ef (65.0		+		8.0	8.6	۲۰ ۲۰ ۲۰	S.		8		S.'	<b>Z</b> .	<b>S.8</b>	9.8	6.8	2 <sup>.</sup>	2.
	<b>6.3</b>	4.18 0.28	S.18	2 8.48	59	29 89	<b>99</b>	<mark>7.59</mark>	<mark>8.63</mark>	99 • 79	<mark>29</mark> 99	<mark>/9</mark>			<mark>39</mark>	·99	<b>/9</b>
<b>Hot</b> 45.0			) ) 														
35.0		- - -	- ~	4 - -	- -	 8	σ	10	- - -	13	4 1 7	16	17 18	19	20	رر 1ر در	23
	)		)		)		)	Т	our Beginning			0			2		)
Timeframe	Hour	L ea	L max	L min	11%	12%	<b>T5%</b>	78%	125%	<b>T20%</b>	%067 %		195%	%667	L ea	Adj.	Adj. L <sub>ea</sub>
	0	60.3	78.2	47.2	70.0	68.0	64.0	62.0	59.0	-			51.0	49.0	60.3	10.0	70.3
	1	61.4	77.1	49.3	70.0	68.0	65.0	64.0	61.0	59.0		_	54.0	52.0	61.4	10.0	71.4
-	2	62.0	80.6	46.8	70.0	68.0	66.0	65.0	61.0	59.0		_	53.0	50.0	62.0	10.0	72.0
Night	<b>∩</b> •	61.5	80.3	49.0	71.0	69.0 23.0	66.0	64.0	60.0	58.0	_	_	53.0	52.0	61.5	10.0	71.5 71.5
	4 г	64.8 70 5	86.U 88 q	52.7 55 A	75.0 81.0	79.0	75.0	67.0 73.0	63.0 69.0	60.0 65 0	0 56.0 610		55.0 61.0	54.0 59.0	64.8 70 5	10.0	74.8 80 5
	r 9	69.8	85.3	57.0	0.10 78.0	76.0	74.0	73.0	70.07	67.0			0.09	58.0	69.8	10.0	79.8
	7	68.3	90.2	50.5	78.0	76.0	73.0	72.0	68.0	63.0			53.0	52.0	68.3	0.0	68.3
	∞	67.1	85.9	48.5	77.0	75.0	72.0	71.0	66.0	61.0			51.0	50.0	67.1	0.0	67.1
	б (	66.5	88.3	45.3	78.0	75.0	71.0	70.0	64.0	57.0			49.0	47.0	66.5	0.0	66.5
	10	66.4	89.2	47.3	78.0	75.0	71.0	69.0	62.0	56.0			50.0	48.0	66.4 C2.2	0.0	66.4
	1 5	03.2 63.8	81.5	44.2 44.2	75.0	0.17	0.69	68.0 68.0	62 U	0.66 0.75	49.0		48.U 46.0	45.0 45.0	03.2 63.8	0.0	03.2 63.8
Day	13	64.3	82.8	44.3	74.0	73.0	70.0	69.0	63.0	57.0			48.0	47.0	64.3	0.0	64.3
	14	66.8	88.0	45.2	78.0	75.0	71.0	70.0	65.0	59.0			49.0	46.0	66.8	0.0	66.8
	15	67.5	89.2	46.8	77.0	75.0	72.0	70.0	66.0	60.0			50.0	48.0	67.5	0.0	67.5
	16 17	67.2 68.2	87.8 88.3	48.3	78.0	75.0	72.0	71.0	66.0 68 0	61.0 62.0	53.0 54.0		52.0 52.0	50.0 50.0	67.2 68.2	0.0	67.2 68.2
	18	68.8 68.8	86.0	55.2	77.0	76.0	74.0	73.0	69.0	64.0			59.0	57.0	68.8 68.8	0.0	68.8
	19	68.6	87.6	55.7	76.0	75.0	73.0	72.0	69.0	64.0			59.0	58.0	68.6	5.0	73.6
Evening	20	68.9 67.6	88.5 01.6	55.9	78.0	76.0	74.0	72.0	68.0	64.0	0 60.0		59.0	57.0 E7.0	68.9 67.6	5.0	73.9 77.6
	17	66.2	81.4	55.5	74.0	73.0	71.0	70.0	66.0	63.0		ł	58.0	0.72	66.2	10.0	76.2
Night	23	67.2	79.9	52.6	75.0	74.0	72.0	71.0	67.0	64.0		_	58.0	57.0	67.2	10.0	77.2
Timeframe	Hour	L eq	L max	L min	11%	L2%	L5%	<i>87</i>	L25%	<b>150%</b>			195%	%667		L eq (dBA)	
Dav	Min	63.2	81.5	44.2	73.0	71.0	0.69	67.0	62.0	55.0			46.0	45.0	74-Hour	Davtime	Nighttime
	Мах	68.8	90.2	55.2	78.0	76.0	74.0	73.0	0.69	64.0			59.0	57.0			
Energy /	Average	66.8 2- 2	AVE	Average:	76.7	74.5	71.4	70.2	65.1	59.2			50.6 50.6	48.8	6,99	67.2	66.3
Evening	NIN XeM	0./0 68.9	81.6 88 5	55.0	78.0	0.6/	74.0	72.0	0./9	63.0 64.0	0 59.0		59.0	0./c	-92	24-Hour CNEL (dBA)	
Energy Average	lverage	68.4		Average:	76.7	75.3	73.3	72.0	68.0				58.7	57.3			
Night	Min	60.3	77.1	46.8	70.0	68.0	64.0	62.0	59.0				51.0	49.0		72 2	
	Max	70.5	88.9	57.0	81.0	79.0	75.0	73.0	70.0	67.0	0 62.0	+	61.0 FF 0	59.0		) ) )	
Energy Average	AVerage	00.3	AVE	Average:	/3.8	12.0	69.I	6/./	04.0	61.3			55.9	24.2			

24-Hour Noise Level Measurement Summary

Analyst: A.Wolte	2.09 2.09	22 23	Adj. Adj. L <sub>eq</sub>			10.0 61.2 10.0 64.9		10.0 73.7 10.0 75.9	ŀ			9.c0 0.0				0.0 60.3		0.0 66.5		5.0 69.4 5.0 69.1		10.0 70.6	L <sub>eq</sub> (dBA)	Daytime Nighttime		1.00 2.0	24-Hour CNEL (dBA)		68.7	
AI	<b>T.43</b>	20 21	L eq A		_	51.2 1 54.9 1		63.7 1 65.9 1	ŀ			65.9				67.3		66.5 (		64.4 64.1	┝	60.6 1	L <sub>eq</sub>	24-Hour Day	2 0 2	01.0	24-Hour (	ļ	89	
	<b>5.99</b>	18 19	%667	39.0	39.0	39.0 41.0	43.0	47.0 52.0	50.0	49.0	47.0	49.U	48.0	49.0	50.0	0.22	49.0	52.0	52.0	50.0 49.0	48.0	47.0	%66T	47.U 52.0	49.5	49.0	52.0	50.3	52.0	
	9.99	17	<b>L95%</b>	39.0	41.0	39.0 41.0	43.0	49.0 54.0	53.0	51.0	50.0	52 N	51.0	51.0	52.0	53.U	51.0	54.0	54.0	51.0 51.0	49.0	50.0	195%	50.0 54.0	51.8	51.0	54.0	52.3	54.0 54.0	
	ε <sup>-</sup> 29 ε <sup>-</sup> 99	15 16	%067	40.0	41.0	40.0 41.0	44.0	50.0 55.0	54.0	52.0	51.0	53.0 53.0	52.0	53.0	54.0	0.cc 0.77	52.0	55.0	55.0	53.0 52.0	51.0	52.0	7-0% 7-0%	51.U 55.0	53.3	52.0	55.0	53.3	40.0 55.0	
	<b>5.2</b> 3	13 14	<b>T</b> 20%	43.0	43.0	44.0 44.0	48.0	56.0 62.0	62.0	60.0	59.0	60.U	59.0	60.0	61.0	62.0 62.0	60.0	61.0	60.0	0.92 59.0	57.0	57.0	150%	59.0 62.0	60.5	59.0	60.0	59.3	43.0 62.0	
adings (unadjusted)	6.63	11 12 1 Hour Beginning	125%	48.0	46.0	47.0 49.0	53.0	62.0 66.0	60.09 66.0	65.0	64.0	64.0 64.0	63.0	64.0	65.0	0.29	65.0	64.0	63.0	63.U 62.0	60.0	60.0	L25%	63.U 66.0	64.5	62.0	63.0	62.7 AC 0	40.0 66.0	1.1
Hourly L <sub>eq</sub> dBA Readings (una	9.99 6.29	10 11 Hour B	<i>87</i> %	58.0	53.0	52.0 58.0	62.0	68.0 70.0	70.0	69.0	68.0	0.69 69.0	68.0	69.0	69.0	/ 0.U 69 D	0.69	68.0	67.0	67.0 66.0	64.0	63.0	78% 18%	68.U 70.0	68.9	66.0	67.0	66.7 E 2 0	0.02 70.0	
Hourly L <sub>eq</sub> dBA Red	<b>64.3</b>	- 5	<b>T5%</b>	60.0	57.0	55.0 61.0	63.0	69.0 71.0	71.0	71.0	0.69	70.0	69.0	70.0	71.0	71.0	71.0	70.0	68.0	67.0	65.0	64.0	L5%	71.0	70.3	67.0	69.0	68.0 EE 0	71.0	
	<b>0.8</b> 9	7 8	12%	64.0	62.0 62.0	60.0 65.0	67.0	73.0	73.0	74.0	71.0	73.0	72.0	73.0	73.0	73.0	74.0	73.0	71.0	71.0	68.0	67.0	12%	74.0	73.0	71.0	71.0	71.0	73.0	
I	6.29	9	11%	66.0	65.0	63.0 67.0	69.0	75.0	75.0	77.0	73.0	0.6/	73.0	76.0	75.0	76.0	77.0	75.0	73.0	74.0	70.0	70.0	11%	77.0	75.3	73.0	74.0	73.7	75.0	
	T'LS	- 4 - 5	L <sub>min</sub>	39.3	39.3	39.3 39.3	42.3	45.7 49.1	48.3	43.5	44.8	46.7	44.0	47.1	48.2	49.U 46 9	48.1	49.5	49.2	47.8	47.0	45.3	L min	43.5 49.5	Average:	46.8	49.2	Average:	49.1	
	6'tS	2 3	L <sub>max</sub>	72.2	74.4	73.3 72.8	76.2	83.8 83.8	88.5	92.6	86.3	91.1 91.3	82.7	98.2	82.7	с.88 р. ср	90.1	93.9	88.2	8.c8 0.09	80.2	81.6	L max	82.7 98.2	4	85.8	90.0		83.8	
	9'75		L eq	53.5	52.6	51.2 54.9	57.1	63.7 65 9	66.4	68.0	64.3	6.60 66.6	63.9	69.3	65.5	67.3	6.60	66.5	64.4	64.1 64.1	60.7	60.6	L eq	63.9 69.3	9.99	64.1	64.4	64.3 E1 2	5.1.2 65.9	
	8887 0000000000000000000000000000000000	0	me Hour			t 3		ъ ч		∞	σ (	01 1			14	ง 1	17	18		1g 20				Max	Energy Average		<sup>o</sup> Max	Energy Average		
	(A8b) <sub>p9</sub> J YhuoH		Timeframe			Night	)						Č	Лау					I	Evening	Niaht	ISIN	Timeframe	Day	Ene	Evening		Ene	Night	

106

U:\Uclobs\\_11100-11500\\_11400\11475\Field Work\Measurements\11475 L4 Summary

colo I JN: 11475 Analyst: A.Wolfe
Meter: Piccolo I
and James Workman Middle School. Hourly Leg dBA Readings (unadjusted)
and James workingh whode School. Hourly L <sub>eq</sub> dBA Readings (unadjusted)
n ba - Kunnu
: Cathedral City General Plan Update

U:\Uclobs\\_11100-11500\\_11400\11475\Field Work\Measurements\11475 L5 Summary

107

Nednesd:	Wednesday, April 18, 2018 Cathedral City General Plan Update	18 lan Update		Location:		L6 - Located south of Ramon Ro uses, southeast of Palm Springs	L6 - Located south of Ramon Road near existing comm uses, southeast of Palm Springs International Airport.	ar existing national Aí	ad near existing commercial International Airport.	Meter:	<i>Meter:</i> Piccolo I			JN: Analvst:	JN: 11475 Analyst: A.Wolfe
														•	
		-			-	Hourly L <sub>eq</sub>	Hourly L <sub>eq</sub> dBA Readings (unadjusted)	(unadjuste	ſĿ			-	-		
6.94	2.74 8.84	T.92	T:722 6:122	2 <sup>.</sup> T9	0.62 7.62	<i>L.</i>	9 <sup>.</sup> T9	9.09	8.2 <b>3</b>	2.92 7.82	S'ZS	9 <sup>.82</sup>	S'ZS	9.72	\$* <b>\$</b> \$
0	1 2	m	4 5	9	7 8	 م	10 11 Hour Be	11 12 Hour Beginning	13 14	15 16	5 17	18 19	20	21 22	23
Hour	L ea	Lmax	Lmin	11%	12%	L5%	18%	وسسو 125%	150%	<i>*100%</i>	195%	667	Lea	Adi.	Adj. L
0	49.9	68.8	41.2	59.0	57.0	55.0	53.0	49.0	46.0	42.0	42.0	41.0	49.9	10.0	59.9
	47.5	63.8	40.6	56.0	54.0	51.0	50.0	47.0	45.0	42.0	41.0	41.0	47.5	10.0	57.5
2	48.8	62.7	41.2	55.0	54.0	53.0	52.0	49.0	47.0	43.0	42.0	41.0	48.8	10.0	58.8
ŝ	56.1	70.8	42.9	66.0	63.0	61.0	60.0	55.0	51.0	46.0	45.0	44.0	56.1	10.0	66.1
4	51.9	69.4	44.9	58.0	56.0	54.0	54.0	52.0	50.0	48.0	47.0	46.0	51.9	10.0	61.9
പറ	57.1 61.7	75.9 84.6	47.4 52.2	66.0 71.0	64.0 68.0	61.0 66.0	60.0 63.0	56.0 59.0	54.0 57.0	51.0 55.0	50.0 54.0	49.0 53.0	57.1 61.7	10.0 10.0	67.1 71.7
7	59.7	85.0	48.3	67.0	66.0	63.0	62.0	58.0	57.0	53.0	52.0	51.0	59.7	0.0	59.7
∞	59.0	80.6	47.9	68.0	66.0	62.0	61.0	57.0	55.0	51.0	51.0	49.0	59.0	0.0	59.0
6	57.7	80.0	45.9	66.0	64.0	61.0	59.0	57.0	55.0	51.0	50.0	48.0	57.7	0.0	57.7
10	59.9	79.7	47.8	71.0	0.69	63.0	61.0	57.0	55.0	51.0	50.0	49.0	59.9	0.0	59.9
11	61.6	80.7	47.3 47.0	74.0	70.0	65.0	64.0	59.0	56.0	52.0	51.0	49.0	61.6 60.6	0.0	61.6 50.5
3 5	00.0 62.8	C.20	47.U 48.8	75.0	0.07	64.U	0.10	0.72	0.00 0.55	0.16	0.0c	49.0 70 0	00.0 67.8	0.0	0.00 67.8
14	59.2	84.5	48.8	68.0	65.0	62.0	60.0	57.0	54.0	51.0	50.0	49.0	59.2	0.0	59.2
15	58.7	77.5	48.4	70.0	67.0	62.0	60.0	56.0	54.0	51.0	50.0	49.0	58.7	0.0	58.7
16	56.2	74.1	47.7	63.0	62.0	60.0	59.0	56.0	54.0	51.0	50.0	49.0	56.2	0.0	56.2
17 18	57.5 58.6	72.6 73 0	48.3 10.7	66.0 68 0	64.0 66.0	61.0 62.0	60.0 61.0	57.0	55.0 56.0	52.0	51.0	50.0	57.5 58 6	0.0	57.5 58.6
19	57.4	74.4	49.5	66.0	64.0	61.0	0.09	57.0	55.0	52.0	51.0	50.0	57.4	5.0	62.4
20	57.5	77.8	48.0	66.0	64.0	61.0	60.0	56.0	54.0	51.0	50.0	49.0	57.5	5.0	62.5
21	57.0	74.9	46.9	67.0	64.0	61.0	59.0	56.0	53.0	50.0	49.0	48.0	57.0	5.0	62.0
22	57.6	77.9	47.8	67.0	65.0	62.0	60.0	56.0	54.0	50.0	49.0	48.0	57.6	10.0	67.6
23	54.4	72.8	46.0	63.0	61.0	58.0	56.0	54.0	52.0	49.0	48.0	47.0	54.4	10.0	64.4
	L eq		L min			%C1		0 23 2 2 0			%CC7	0 01		r eq (uun)	
Max	50.2 62.8	85.0	49.7	75.0	72.0	67.0	64.0	59.0	57.0	53.0	52.0	51.0	24-Hour	Daytime	Nighttime
Average	59.6	Avei	Average:	69.0	66.8	62.7	60.9	57.2	55.1	51.6	50.7	49.4			1 9 1
Min	57.0	74.4	46.9	66.0	64.0	61.0	59.0	56.0	53.0	50.0	49.0	48.0	0.00	0.00	
Мах	57.5	77.8	49.5	67.0	64.0	61.0	60.0	57.0	55.0	52.0	51.0	50.0	24-	24-Hour CNEL (dBA)	(BA)
Average	57.3		Average:	66.3	64.0	61.0	59.7	56.3	54.0	51.0	50.0	49.0			
Min	47.5 61 7	62.7	40.6	55.0	54.0	51.0	50.0	47.0	45.0	42.0	41.0	41.0			
		Y I P	<b>Г) )</b>	71.0	68.0	66.0	63.0	005	57.0	С 2 2		53.0		03.4	

U:\Uclobs\\_11100-11500\\_11400\11475\Field Work\Measurements\11475 L6 Summary

108

	11475 A.Wolfe					6.55		23		Adj. L <sub>eq</sub>	20.3 26.1	56.9	57.7	60.6	62.8 65.3	53.0	53.5	57.5	59.2	2.22 5.4.4	53.8	56.5	55.4	ر.05 م جج	55.8	60.6	59.8 60.8	62.6	63.9		Nighttime	с1 Г	C'TC	(BA)			
	JN: Analyst:					9°Z	S	21 22		Adj.	10.01	10.0	10.0	10.0	10.0 10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	5.0	10.0	10.0	L <sub>eq</sub> (dBA)	Daytime	0 11	0.00	24-Hour CNEL (dBA)		59.3	
						8.42		20		L eq	40.5 46.1	46.9	47.7	50.6	52.8 55.3	53.0	53.5	57.5	59.2	2.22 54.4	53.8	56.5	55.4	50.5 55.0	55.8	55.6	54.8 55 8	52.6	53.9		24-Hour	בע כ	04.0	24-H			
						9'SS		18 19		تى ن ئى ن	42.0	42.0	42.0	44.0	46.0 49.0	47.0	46.0	46.0	47.0	47.0 47.0	46.0	48.0	48.0	48.U	48.0	48.0	48.0	46.0	46.0	%667	46.U 48.0	47.2	47.0	48.0	47.7	42.0 49.0	44.3
	ccolo I					0.22		17 1		195% دور	43.0	43.0	42.0	45.0	46.0 50.0	48.0	47.0	47.0	48.0	47.0	47.0	49.0	48.0	49.0	49.0	49.0	49.0	47.0	47.0	195%	47.U 49.0	47.8	48.0	49.0	48.7	42.0 50.0	45.1
	<i>Meter:</i> Piccolo I					5:9S		15 16		<u>ئى م</u>	43.0	43.0	43.0	45.0	47.0 51.0	48.0	47.0	47.0	49.0	48.U	48.0	49.0	49.0	49.0	49.0	50.0	49.0 19.0	47.0	47.0	<del>1</del> 90%	47.0 49.0	48.3	49.0	50.0	49.3	43.0 51.0	45.4
ımary	ad.					S:95		14		L50%	44.0	45.0	45.0	48.0	51.0 53.0	50.0	50.0	50.0	53.0	51.0	50.0	52.0	52.0	51.0	52.0	52.0	52.0 53.0	50.0	50.0	L50%	50.U 53.0	51.1	52.0	53.0	52.3	44.0 53.0	47.8
24-Hour Noise Level Measurement Summary	Drive near existing s north of Ramon Road	nadjusted)				<b>4.4</b> 2		12 13	8 IIIII	L25%	40.U	46.0	46.0	50.0	53.0 55.0	52.0	52.0	53.0	59.0	53.0 53.0	53.0	55.0	54.0	0.42 53.0	55.0	56.0	55.0 55.0	52.0	53.0	L25%	52.U 59.0	53.9	55.0	56.0	55.3	45.0 55.0	49.6
el Measur		Hourly L <sub>eq</sub> dBA Readings (unadjusted)				<b>2:25</b>		11 Uour Bozi		ہتے ن ہتے ن	47.0	50.0	51.0	54.0	55.0 58.0	56.0	56.0	58.0	61.0	57.0	57.0	60.0	58.0	60.0 57.0	58.0	59.0	58.0	56.0	58.0		56.U 61.0	58.0	58.0	59.0	58.7	47.0 58.0	53.0
Noise Lev	est of Date F nd residentia	Iourly L <sub>eq</sub> dB,				<b>2.62</b>		9 10		L5%	49.0	51.0	52.0	55.0	56.0 59.0	57.0	58.0	60.0	62.0	61.U	59.0	62.0	60.0	61.U 59.D	60.09	60.0	59.0 61.0	57.0	59.0	L5%	57.U 62.0	59.8	59.0	61.0	60.0	49.0 59.0	54.1
24-Hour	L7 - Located west of Date Palm commercial and residential use	4				<b>S.</b> E		∞		L2%	0.00 0.12	53.0	54.0	57.0	58.0 61.0	60.0	61.0	66.0	65.0	63.U	61.0	65.0	62.0 64.0	62.0	63.0	62.0	61.0 62.0	60.0	61.0	L2%	60.0 66.0	62.8	61.0	62.0	61.7	51.0 61.0	56.4
	Location: L <sup>-</sup>					22:3		6 7		L1%	04.0 53 0	54.0	55.0	58.0	60.0 62.0	61.0	63.0	0.69	70.0	0.60	63.0	66.0	64.0 66.0	65.0	65.0	63.0	63.0 64.0	61.0	63.0	L1%	0.10 70.0	65.1	63.0	64.0	63.3	53.0 63.0	57.8
						9.0		т С		L min	42.2	42.1	41.9	43.8	45.0 48.5	46.4	45.9	45.2	45.5	45.9 46.1	46.1	47.4	47.0	46.8 47.4	47.4	47.3	47.6 46.6	45.8	45.4	L <sub>min</sub>	47.4		46.6	47.6		41.9 48.5	
	s n Update					Z.T.		3 4		L max	03.2 63 8	59.9	71.1	67.3	67.8 72.3	68.3	71.2	81.7	80.7	74.0	69.3	72.9	74.8	76.5	77.0	70.0	68.6 73.0	66.8	70.1	L max	68.3 81.7	Average:	68.6	73.0	Average	59.9 72.3	Average:
	vpril 18, 2018 General Pla					6.9.		1 2		L eq	40.3 46.1	46.9	47.7	50.6	52.8 55.3	53.0	53.5	57.5	59.2	5.4 d	53.8	56.5	55.4	50.5 0.57	55.8	55.6	54.8 55.8	52.6	53.9	L eq	53.U 59.2	55.8	54.8	55.8	55.4	46.1 55.3	51.5
	<i>Date:</i> Wednesday, April 18, 2018 <i>oject:</i> Cathedral City General Plan Update					£.3		0		Hour		2	с	4	5	7	∞	<b>б</b>	10	1 5	13	14	15	16 17	18	19	20	22	23	Hour	Min Max	erage	Min	Мах	erage	Min Max	erage
	Date: V Project: C		, 85.0 80.0	Aab)	65.0 60.0	<b>μουτίγ</b> 4 50.0	<b>1</b> 40.0 35.0			Timeframe			Night								Day						Evening	+ -	INIBIIL	Timeframe	Day	Energy Average	Fvening		Energy Average	Night	Energy Average

U:\Uclobs\\_11100-11500\\_11400\11475\Field Work\Measurements\11475 L7 Summary

109

	JN: 11475 Analyst: A.Wolfe				1.94	23	Adi I	FAIL Eq	55.3	57.9	56.3	59.6 64.4	72.0	57.7	56.6	0.72	61.1	58.5	62.7 52.2	59.2 59.3	62.2	58.0	0.80 8.09	58.5	57.1	62.2	1.93. (	Niahttime		54.2	(dBA)		_	
	JN: Analyst:				2.22	21 22	7.47	10 0	10.0	10.0	10.0	10.0 10.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	5.0	10.0	L eg (dBA)	Davtime		58.8	24-Hour CNEL (dBA)		61.9	
					5.52	20		<b>- eq</b> AA D	45.3	47.9	46.3	49.6 54.4	62.0	57.7	56.6 E7.0	0.75	61.1	58.5	62.7 52.2	59.2 59.3	62.2	58.0	0.90 55 8	53.5	52.1	52.2	49.I	24-Hour		57.6	24-H			
					8.22	8	/0001	38.0	38.0	35.0	38.0	40.0 45.0	48.0	44.0	43.0	41.0	43.0	43.0	43.0	44.0 44.0	44.0	45.0	40.0	44.0	43.0	42.0	42.0 <b>L99%</b>	41.0	46.0	43.6	43.0	44.7	35.0 48.0	40.7
	colo I				0.82	17 18	1059/	38.0	38.0	38.0	38.0	41.0 46.0	49.0	45.0	44.0	43.0 44.0	45.0	44.0	46.0	45.0 45.0	46.0	47.0	47.0	45.0	44.0	44.0	42.0 <b>L95%</b>	43.0	47.0	45.2	44.0	45.3	38.0 49.0	41.6
	Meter: Piccolo I					16	/0001	38 0	38.0	38.0	38.0 12.0	42.0 47.0	50.0	46.0	45.0	44.0 45.0	45.0	45.0	47.0	47.0 46.0	47.0	48.0	40.0	46.0	45.0	44.0	43.U <b>L90%</b>	44.0	48.0	46.1	43.0	46.3	38.0 50.0	42.0
nary	mle				2.62 2.62	14 15	1 500/		40.0	39.0	40.0	45.0 49.0	52.0	50.0	49.0	48.0 48.0	49.0	49.0	51.0	51.0 49.0	51.0	52.0	0.2C	50.0	48.0	48.0	45.U <b>L50%</b>	48.0	52.0	49.9	40.0 51.0	49.7	39.0 52.0	44.3
easurement Summary	L8 - Located south of Dina Shore Drive, east of Date Palm Drive, near existing commercial and residential uses.	djusted)			S.82	2 13			41.0	41.0	43.0	47.0 51.0	54.0	52.0	51.0	51.0	53.0	53.0	54.0	52.0	53.0	54.0	04.0 54.0	52.0	50.0	50.0	47.0 L25%		54.0	52.7	54.0	52.0	41.0 54.0	46.2
	ore Drive, ea ial and resid	teadings (unadjusted)			C.L3	11 12 12			44.0	45.0	46.0	51.0 54.0	60.0	57.0	59.0	58.0	61.0	60.0	63.0 66.0	60.0 60.0	58.0	59.0	58 D	55.0	53.0	54.0			63.0	59.4	58.0	55.3	44.0 60.0	49.9
oise Level	h of Dina Sh ng commerc	Hourly L <sub>eq</sub> dBA Rea			₽.72 0.72	10		0 LV				52.0 56.0			62.0 62.0					63.0 64.0			03.U				51.0 <b>L5%</b>			62.8 F 4 0			46.0 64.0	
24-Hour Noise Level N	L8 - Located south of Dina Shore Drive, near existing commercial	Hou			9:95	8	/06-1					56.0 61.0			67.0					69.0			03.0				L2%			68.3			49.0 72.0	
	Location: L8 - I Drive				<i>L'L</i> S	-	1 1 0/					59.0 64.0 6				20.07				71.0			67.0				11% 158.0			+	67.0		52.0 <sup>2</sup> 76.0 7	H
	007				54.4 54.4	5		<b>-</b> <i>min</i> <b>- - - - -</b>				40.0 5 44.1 6			42.2 6					43.2 / / 43.1 7			45.9 / AF 7 6			_	41.2 5		43.9 7		45.7 0 45.7 6		35.3 5 45.5 7	
	late				9.64	4																								Average:		Average:		Average:
	3, 2018 ral Plan Upc				6.74 8.34	2 3		- max				79.2			76.4					82.1			0.67				L 11.9		93.6		74.4		66.0 82.7	
	Wednesday, April 18, 2018 Cathedral City General Plan Update				6.34	1		L eq	45.3	47.9	46.3	49.6 54.4	62.0	57.7	56.6	0.76	61.1	58.5	62.7	59.2	62.2	58.0	0.95.0 8.77.8	53.5	52.1	52.2	L 60	56.6	62.7	59.5	55.8	54.1	44.0 62.0	54.2
	Wednesd Cathedra				<b>0.</b> 44.0	0				2	ς γ	4 N	9	L (	∞ ⊂	ۍ 10 س	11	12	13	15	16	17	10	202	21	22	23 Hour		Max	y Average	Max	Energy Average	Min Max	Energy Average
	Date: Project:	о В	98 <b>Р)</b>	, <b>1</b>	<b>400019</b>	35					Night							Dav	622					Evening		Night	Timeframe	Dav		Energy	Evening	Energy	Night	Energy

U:\Uclobs\\_11100-11500\\_11400\11475\Field Work\Measurements\11475 L8 Summary

110

	/: 11475 :: A.Wolfe					£.72		23		Adj. L <sub>eq</sub>	60.1	60.3	57.6	50.2 60.2	67.3	69.5	60.6 61 F	6.10 614	59.7	63.0	61.3	63.3	62.0 61 7	62.4	59.9	60.9 60.4	63.1 67 7	61.1	69.2	67.3		Nighttime		0.00	(dBA)		_	
	JN: Analyst:					Z.ez		21 22		Adj.	10.0	10.0	10.0	10.0	10.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 0	5.0	10.0	10.0	L <sub>eq</sub> (uDA)	Daytime	C 1 3	C'TO	24-Hour CNEL (dBA)		63.9	
					ζ.	79		20 2		L eq	50.1	50.3	47.6 47.7	47.7 50.2	57.3	59.5	60.6	C.10	59.7	63.0	61.3	63.3	62.0 61 7	62.4	59.9	60.9	58.1 62.7	56.1	59.2	57.3		24-Hour		27.2	24-H			
						<b>2:8:1</b>		18 19		%667	44.0	43.0	43.0	43.U	45.0	49.0	47.0	47.U 46.0	46.0	47.0	48.0	52.0	49.0 19.0	47.0	47.0	46.0	46.U 48.0	45.0	47.0	45.0	8667	40.U 52.0	47.6		48.0	46.3	43.0 49.0	44.7
	iccolo I					5.62		17 1		<b>762%</b>	45.0	44.0	43.0	43.0	46.0	50.0	50.0	49.0	49.0	50.0	50.0	55.0	50.0	50.0	48.0	48.0	48.0	46.0	53.0	48.0	195%	48.U 55.0	49.8	46.0	50.0	48.0	43.0 53.0	46.2
	Meter: Piccolo I					729 779		15 16		%067	45.0	44.0	43.0	45.0 45.0	47.0	51.0	51.0	0.06	51.0	51.0	51.0	56.0	52.0	51.0 51	49.0	49.0	48.U 53.0	46.0	56.0	49.0	190%	49.U 56.0	51.1	46.0	53.0	49.0	43.0 56.0	47.0
mmary	jacent to es.					. <b>79</b>		14		L50%	46.0	46.0	45.0	44.U 47 D	50.0	56.0	58.0	0.72	56.0	57.0	57.0	59.0	58.0 57.0	57.0	56.0	54.0	53.U 62 0	52.0	57.0	52.0	L50%	59.0 59.0	56.9	52.0	62.0	55.7	44.0 57.0	49.2
24-Hour Noise Level Measurement Summary	L9 - Located near Highway 111 and Perez Road, adjacent to existing commercial and automobile dealership uses.	(unadjusted)			2 <sup>-3</sup>	E9 		12 13	ginning	L25%	48.0	49.0	46.0	40.0 49.0	55.0	59.0	61.0 60.0	60.0 60.0	60.0 60.0	60.0	60.0	62.0	61.0 60 0	61.0	59.0	58.0	0./c 64.0	56.0	58.0	57.0	6271	58.U 62.0	60.2	56.0	64.0	59.0	46.0 59.0	51.9
evel Measu	ay 111 and Pe automobile	Hourly L <sub>eq</sub> dBA Readings (unadjusted)				<mark>89</mark>		10 11	Hour Beginning	%8T	53.0	54.0	49.0 E0.0	0.05	61.0	63.0	64.0 65.0	0.60	63.0	64.0	64.0	66.0	64.0 64.0	04.0 65.0	62.0	62.0 64 0	01.0 65.0	60.0	61.0	60.0	18%	02.0 66.0	63.9	60.0	65.0	62.0	49.0 63.0	56.0
ur Noise Le	L9 - Located near Highway 111 existing commercial and autom	Hourly L <sub>eq</sub> (						ნ		r5%	55.0	56.0	50.0	0.1C	62.0	64.0	65.0 66.0	0.00	65.0	66.0	65.0	68.0	66.0 66.0	00.0 67.0	64.0	63.U	0.29 65.0	61.0	62.0	60.0	15%	63.U 68.0	65.5	61.0	65.0	62.7	50.0 64.0	57.2
24-Ho	L9 - Locatec existing con				+	<sup>•</sup> Т9		7 8		L2%	58.0	59.0	53.0 EE 0	0.00	65.0	66.0	67.0 70.0	0.07	67.0	70.0	68.0	71.0	69.0 69.0	71.0	67.0	67.0	0.60	63.0	66.0	62.0	%Z1	07.0 71.0	68.8	63.0	67.0	65.0	53.0 66.0	60.2
	Location:				9	S.92		9		L1%	60.0	60.0	56.0 E 0	0.00 60.0	68.0	68.0	69.0 72.0	71.0	0.1.0	74.0	71.0	73.0	72.0	73.0	69.0	/0.0	68.0 68.0	64.0	68.0	64.0	60 0 811	74.0	71.3	64.0	68.0	66.0 5 0	56.0 68.0	62.4
						57.3 57.3	)5	4 5		L <sub>min</sub>	44.0	42.9	42.8 42.8	42.0 47 q	44.6	48.0	45.9 45.5	C.C4 4.4.4	45.4	46.1	46.2	49.4	47.6 47.5	46.4	46.1	45.5	45.0 45.0	44.3	45.7	44.2	L min	44.4 49.4	age:	44.3	45.9		42.8 48.0	age:
	8 an Update					Γ.Γ	47	Ω		L <sub>max</sub>	67.3	64.7	68.7 64.1	04.1 64.4	76.6	75.9	78.6	/ 8. U 80 4	73.5	86.1	83.4	85.6	82.2 81 7	82.7	81.7	88.3	81.9 75.4	75.4	74.5	81.0	7. max	6.57 88.3	Average:	75.4	81.9	Average	64.1 81.0	Average:
	Wednesday, April 18, 2018 Cathedral City General Plan Update					٤.0 ٥.٢		1 2		L <sub>eq</sub>	50.1	50.3	47.6 47.7	47.7 50.2	57.3	59.5	60.6 61 E	C.10 61 4	59.7	63.0	61.3	63.3	62.0 61 7	62.4	59.9	60.9 20.1	1.8c 67.7	56.1	59.2	57.3	L eq	63.3	61.6	56.1	62.7	59.9	47.6 59.5	55.5
	Wednesday, Cathedral Cit					τ.0		0		Hour	0	-	° 5	0 4	ĿЮ	9	r 0	οσ	01	11	12	13	14 15	16	17	18	91 00	21	22	23	Hour	Max	Average	Min	Max	Average	Min Max	Average
	Date: ' Project: (		<b>4)</b>	<b>48b)</b>	0.00 ۲ ۳ ۳ ۳ ۳ ۳ ۳	<b>10001</b>	<b>H</b> 40.0 35.0			Timeframe			Nich+	ואוצוור							Dav	652					Fvening	0	Night	511916	IImejrame	Day	Energy Average	Evening	Evening	Energy Average	Night	Energy Average

U:\Uclobs\\_11100-11500\\_11400\11475\Field Work\Measurements\11475 L9 Summary



	JN: 11475 Analyst: A.Wolfe					.29		22 23		A		10.0 69.5 10.0 EE 8			.0 78.4 10 81.1	-			0 /1.9				0 72.8 0 74.5		0 76.4		_	10.0 75.8 20.0 74 F		ime Niahttime		.2 65.5	VEL (dBA)			
	Anc				£.6			20 21		L eq Adj.		59.5 10.0			68.4 10.0 71.1 10.0	ŀ			0.0 0.0				74.5 0.0		71.4 5.0		_		64.5 I 10.0 L <i>et</i> (dBA)	24-Hour Davtime		70.7 72.2	-Hc		74.2	
					£.17			18 19		%667	39.0	39.0 26.0	36.0	41.0	48.0 54.0	54.0	50.0	52.0	50.0 52.0	49.0	49.0	50.0	50.0 51.0	48.0	0.0c	45.0	47.0	42.0	40.0 <b>L99%</b>		54.0		_	46.3	36.0 54.0	41.7
	Meter: Piccolo I			H	6'TZ			16 17		767	39.0	39.0	37.0	43.0	50.0 56.0	58.0	55.0	57.0	0.66	53.0	54.0	55.0	54.0 55.0	52.0	0.45 0.49 0	48.0	49.0	48.0	41.0 <b>L95%</b>	52.0	58.0	0.00	49.0	48.7	36.0 56.0	43.2
	Meter			$\square$	8.27			15 1		%067	39.0	39.0	0.7c 39.0	48.0	51.0 58.0	60.0	59.0	59.0	58.U	56.0	57.0	58.0	59.0	55.0	0.05	50.0	50.0	50.0	44.0 <b>L90%</b>	55.0	60.0	0.70 E0.0	52.0	50.7	37.0 58.0	45.0
summary	existing .	(		$\square$	<mark>5.47</mark>			13 14		<b>720%</b>	42.0	42.0	0.ec 39.0	55.0	60.0 68.0	69.0	0.69	67.0	62.0	67.0 67.0	67.0	68.0	68.0 69.0	67.0	00.0	62.0	60.0	58.0	1./۶ 1.50%	66.0	69.0	60.0	64.0	62.0	39.0 68.0	51.1
Aeasurement Summary	iyon Drive near an commercial uses.	s (unadjusted			<mark>5.27</mark>			12	our Beginning	L25%	46.0	47.0	44.0	59.0	67.0 71.0	72.0	72.0	71.0	71.0	72.0	71.0	72.0	73.0	72.0	0.17	0.69	67.0	63.0	60.0 L25%	71.0	73.0	/T/	70.0	68.7	41.0 71.0	55.3
Level Meas	L10 - Located on Cathedral Canyon Drive near an existing recreational vehicle resort and commercial uses.	Hourly L <sub>eq</sub> dBA Readings (unadjusted)			<mark>2.57</mark> 9.17			10 11	Hour E	<b>%8</b> 7	61.0	63.0	56.0	66.0	73.0 75.0	76.0	76.0	75.0	75.0	76.0	75.0	77.0	77.0	76.0	0.67	73.0	73.0	70.0	07.0 <b>18%</b>	75.0	77.0	0.07	75.0	73.7	50.0 75.0	64.6
24-Hour Noise Level N	L10 - Located on Cathedral Car recreational vehicle resort and	Hourly L <sub>eq</sub>			<mark>2.27</mark>			6		<b>75%</b>	65.0	67.0 E.E. 0	61.0	69.0	74.0 76.0	77.0	77.0	76.0	/6.0	77.0	76.0	78.0	78.0	77.0	76.0	75.0	74.0	72.0	10.0 70.0	76.0	78.0	0.07	76.0	75.0	56.0 76.0	67.8
24-H				H	<mark>2.27</mark>			7 8		L2%	71.0	70.0	68.0 68.0	72.0	76.0 78.0	79.0	80.0	79.0	0.9/	80.0	78.0	82.0	81.0	79.0	78.0	77.0	76.0	74.0	13.0 L2%	78.0	82.0	0.92	78.0	77.0	66.0 78.0	72.0
	Location:				τ.τ.			9		<b>L1%</b>	73.0	72.0	71.0	75.0	78.0 79.0	81.0	82.0	81.0	81.0	82.0	81.0	84.0	82.0 85.0	81.0	81.0 81.0	78.0	78.0	76.0	0.c/ L1%	81.0	85.0	01.9 70 0	81.0	79.0	69.0 79.0	74.2
					4.8	39 2'E9		4 - 5		L min	36.3	38.6 26.2	36.3	39.3	45.7 52 4	51.5	48.9	49.1	48.1	46.8	47.1	47.4	47.0	45.3	48.2	42.7	45.8	40.8	L min	45.3	51.5	Average.	45.8	Average:	36.3 52.4	Average:
	2018 Plan Update					Ţ.Ţ		- -		L max	87.8	81.7	78.8	85.6	89.7 87.6	89.7	90.6	94.5	94.2	92.0 92.0	91.5	99.1	89.2 96.6	91.1	91./ 93.4	88.3	92.0	84.3	L max	89.2	99.1	00 J	93.4	A	78.8 89.7	
	Wednesday, April 18, 2018 Cathedral City General Plan Update					S.e2		1 2		L eq	61.3	59.5 EE 0	57.1	63.7	68.4 71 1	72.5	72.4	72.2	72.7	72.3	71.6	74.3	74.5	71.9	1.1.1	69.1	68.9	65.8	L ea	71.1	74.5	1/2/	71.4	70.0	55.8 71.1	65.5
			0.0			<b>61.3</b>		0		e Hour	0	<del>с</del> с	γm	4	ы u	2	∞	б ;	10	12	13	14	15	17	10			22	e Hour		Max	sy Avelage		Energy Average	Min Max	Energy Average
	Date: Project:		<b>)</b>	48b	000 ₽9 ₽ ₽ • •	ວິດດີ ເ ໄ <b>ໄມາດ</b>	н 940 140 140 100 100 100 100 100 100 100 1	, ,		Timeframe			Night	)							Day					Evening		Night	Timeframe	Dav	L		Evening	Energ	Night	Energ

112

U:\Uclobs\\_11100-11500\\_11400\11475\Field Work\Measurements\11475 L10 Summary

רוטכנני. במווכטומו טווץ שבוובומו רומוו טףטמוב							Hourly I dBA Rea	dBA Readings	dinas (unadiusted)							
ر <b>A8b)</b> 850.00 700000 700000000000000000000000000																
Hourly 45:000 45:000 75:0000 75:0000 75:0000 75:0000 75:0000 75:0000 75:0000 75:0000000000	40.8	41'3 41'6	£.24	25'3 74'3	2.72	Z.82	<b>4.92</b>	295.3	E:95 6:55	6'55	) <sup>.</sup> T9 /.//S	E.ez	5.52	T.SS	2.122 6.122	0.84
	- 0	1 2	- M	4 5	- 9	7 8	- 6	10 11	12 13	3 14	15 16	17	18 19	20	21 22	23
								Hour Bé	Hour Beginning							
Timeframe	Hour	L <sub>eq</sub>	L <sub>max</sub>	L <sub>min</sub>	<b>L1%</b>	r2%	<b>L5%</b>	%8 <b>7</b>	L25%	720%	%061	762%	%667	L <sub>eq</sub>	Adj.	Adj. L <sub>eq</sub>
	0	40.8	62.5	34.7	53.0	50.0	42.0	39.0	37.0	37.0	37.0	35.0	35.0	40.8	10.0	50.8
	r	41.9	63.1 66 p	34.7	53.0	51.0 48.0	45.0	42.0	37.0	37.0	35.0 2F 0	35.0	35.0 25.0	41.9	10.0	51.9
Night	γm	41.5 45.1	00.0 72.2	34.7 34.7	57.0	40.U 53.0	42.0 48.0	44.0	37.0 38.0	37.0	37.0	35.0 35.0	35.0	41.5 45.1	10.0 10.0	55.1
)	4	47.3	67.2	34.7	58.0	57.0	54.0	51.0	42.0	39.0	37.0	37.0	37.0	47.3	10.0	57.3
	ഗ	52.3 57.2	71.6 70.6	39.4 17 3	62.0 64 0	60.0 63 0	58.0 62.0	57.0 61.0	51.0 58.0	46.0 54.0	41.0 45.0	40.0	39.0 43.0	52.3 57.2	10.0	62.3 67 2
	2	59.7	78.5	40.7	66.0	65.0	63.0	63.0 63.0	60.0 60.0	58.0	51.0	48.0	43.0	59.7	0.0	59.7
	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	58.2	80.0	40.6	66.0	63.0	61.0	61.0	58.0	56.0	49.0	46.0	43.0	58.2	0.0	58.2
	6	56.4	73.8	40.4	66.0	64.0	61.0	59.0	56.0	53.0	45.0	44.0	42.0	56.4	0.0	56.4
	10	57.5	84.2 77 0	39.3	64.0	62.0 C2.0	60.0	59.0	57.0	53.0	44.0	43.0	40.0	57.5	0.0	57.5
	11	5.00 55.9	70.1	40.3	64.0 63.0	02.0 62.0	0.09 60.0	0.6c	56.0	54.0	40.0 47.0	45.0	43.0 43.0	55.9	0.0	55.9
Day	13	56.3	74.9	42.3	65.0	63.0	61.0	59.0	56.0	53.0	45.0	44.0	43.0	56.3	0.0	56.3
	14	55.9	69.4	41.5	64.0	62.0	60.0	59.0	57.0	53.0	46.0	45.0	43.0	55.9	0.0	55.9
	15	57.7	79.8	42.3	66.0	64.0	61.0	61.0	58.0	55.0	47.0	45.0	43.0	57.7	0.0	57.7
	16	61.0 50.2	78.6 78.6	39.9 20.4	70.0 68 0	69.0 66 0	67.0 65.0	65.0 64.0	60.0 5 0 0	57.0 51.0	50.0 45 0	48.0	42.0	61.0 50.2	0.0	61.0 50 2
	18	53.5	0.97 68.9	38.7	0.00 62.0	0.00 60.0	59.0	04.0 58.0	54.0	49.0	43.0	41.0	40.0	53.5	0.0	53.5
	19	54.4	76.7	39.0	65.0	62.0	58.0	57.0	52.0	48.0	42.0	40.0	39.0	54.4	5.0	59.4
Evening	20	55.1	76.4	37.7	67.0	65.0	59.0	58.0	53.0	48.0	41.0	39.0	38.0	55.1	5.0	60.1
	21	51.9	67.8	40.6	61.0	59.0	57.0	55.0	52.0	48.0	42.0	41.0	41.0	51.9	5.0	56.9
Night	22 77	51.7	69.0 72.7	39.4 27.6	61.0 E7.0	59.0	57.0	55.0 49.0	51.0 4F.0	47.0	42.0	41.0	40.0	51.7	10.0	61.7 Fe o
Timeframe	Hour	L ea	L max	L min	0.72 L1%	0.4.0 L2%	0.00	<b>7.8%</b>	L25%	<b>L50%</b>	%067	0.72	%66 <b>1</b>	40.0	L ea (dBA)	0.00
Day	Min	53.5	68.9	38.7	62.0 	60.0 60.0	59.0	58.0	54.0	49.0	43.0	41.0	40.0	24-Hour	Daytime	Nighttime
Fnerøv A	Average	0.10	04.2 Aver	Average:	/U.U 65.3	63.5	61.5	0.50	57.3	54.0	46.5 46.5	40.0	43.0			
5	Min	51.9	67.8	37.7	61.0	59.0	57.0	55.0	52.0	48.0	41.0	39.0	38.0	אכל /	2./ל	50.6
Evening	Мах	55.1	76.7	40.6	67.0	65.0	59.0	58.0	53.0	48.0	42.0	41.0	41.0	24-H	24-Hour CNEL (dBA)	BA)
Energy Average	Average	54.0	Ave	Average:	64.3	62.0	58.0	56.7	52.3	48.0	41.7	40.0	39.3			
Night	Min Max	40.8 57.2	62.5 73.2	34.7 42.3	52.0 64 0	48.0 63.0	42.0 62.0	39.0 61.0	37.0 FP.0	37.0	35.0 45.0	35.0	35.0		<b>С 65</b>	
					0.10	0.00	0.20	0.10	0.80	0.4.0	40.0	44.0	43.0			

U:\Uclobs\\_11100-11500\\_11400\11475\Field Work\Measurements\11475 L11 Summary

8.82	0.03	T.29	8.23	<b>4.3</b> 3	97.0 62.0 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	<b>T.13</b>	0.03	<b>2.12</b>	<b>5.13</b>	<b>5.43</b>	63:3	9.£3	2.59	0.63	8.29
Ţ	5	- K	4 5	9	7 8	- б	10 11 Hour P	11 12 Hour Beginning	13 14	15 16	6 17	18 19	20	21 22	23
7	Lea	L max	L <sub>min</sub>	L1%	12%	L5%	18%	125%	150%	%067	<b>L95%</b>	%667	Lea	Adi.	Adj. L ea
55	59.5	81.8	45.1	0.69	66.0	63.0	61.0	58.0	56.0	53.0	52.0	50.0	59.5	10.0	69.5
58	58.8	75.7	46.7	67.0	65.0	63.0	61.0	58.0	56.0	52.0	51.0	49.0	58.8	10.0	68.8
90	60.0	78.3	48.1	68.0	66.0	64.0	63.0	59.0	57.0	54.0	53.0	50.0	60.0	10.0	70.0
62	62.1 52 F	88.5	48.2 Г2.0	71.0	68.0	64.0	63.0	60.0	58.0	54.0	53.0	52.0	62.1 52 F	10.0	72.1 7 C C C
07 9	62.2d	81.9 82 F	53.U 56.7	75.0	73.0	66.U	64.0 70.0	0770 6710	60.0 61 0	50.0	58.0	0.43	6.20 65.8	10.0	75 8
99	66.4	6.co 81.7	50.2 57.3	75.0	74.0	72.0	71.0	66.0	07.0 62.0	59.0	59.0	58.0	0.c0 66.4	10.0	76.4
64	64.3	79.4	49.2	74.0	72.0	70.0	69.0	63.0	58.0	53.0	52.0	51.0	64.3	0.0	64.3
62	62.0	79.5	43.0	72.0	71.0	0.69	67.0	60.0	52.0	46.0	45.0	43.0	62.0	0.0	62.0
61	61.1 50.1	78.5 80.2	42.7	72.0	70.0	68.0	66.0 C T O	58.0	50.0	45.0	45.0	44.0	61.1	0.0	61.1
	0.0 60.0	80.3 77.8	41.0 43.3	0.17 70.0	0.69	00.0 66.0	0.60	58.0	50.0 50.0	44.0 45.0	44.0 45.0	43.U 44.0	1.Uð	0.0	T.Uð
61	61.7	85.9	41.1	71.0	70.0	67.0	66.0	59.0	50.0	45.0	43.0	42.0	61.7	0.0	61.7
61	61.5	79.1	44.0	71.0	70.0	67.0	66.0	60.0	52.0	48.0	47.0	45.0	61.5	0.0	61.5
62	62.4	79.3	44.0	72.0	70.0	68.0	67.0	62.0	53.0	47.0	46.0	45.0	62.4	0.0	62.4
03	63.4	79.9	45.6 46.2	73.0	71.0	69.0 70.0	68.0	63.0	54.0	48.0	48.0	46.0	63.4	0.0	63.4
04 03	64.3 63.3	84.7 80.4	40.3 45.3	73.0	72.0	0.07	0.90 68.0	64.0 62.0	53.0	49.0	46.0	47.0	64.3 63.3	0.0	64.3 63.3
63	63.6	80.9	46.1	73.0	72.0	70.0	69.0	61.0	57.0	50.0	48.0	47.0	63.6	0.0	63.6
63	63.8	76.8	53.3	73.0	72.0	70.0	69.0	62.0	59.0	56.0	55.0	54.0	63.8	5.0	68.8
63	63.7	82.3	53.7	73.0	72.0	70.0	68.0	61.0	59.0	56.0	56.0	55.0	63.7	5.0	68.7
63	63.U	6.00	51.5	/3.0	71.0	69.0	67.0	60.0	58.0	0.42 76.0	54.0	53.0	63.0 63.0	5.0	68.U
	67.3	L.CD	73.6	0.57	0.07	0.60	00.00 65 0	0.10 62 0	0.60	0.0C	0.00 7 7 0		03.0 67 3	10.0	0.07 203
Γ,	L ea	L <sub>max</sub>	L min	L1%	L2%	L5%	78%	L25%	L50%	%067	L95%	%667	0::20	L ea (dBA)	0.12
90	60.0	77.8	41.1	70.0	0.69	66.0	65.0	57.0	49.0	44.0	43.0	42.0	24-Hour	Davtime	Niahttime
64	64.3 C2 F	85.9	49.2	74.0	72.0	70.0	69.0	64.0	58.0	53.0	52.0	51.0			
70	6.20 C 2	Average:		7.21	/.0/	60.3 60.0	1./9	60.6 60.0	52.8	41.3 FF 0	46.5 F 4 0	45.3 F3 0	62.9	62.8	63.1
03 (03	03.U 63.8	/0.8 82.3	5.1c 53.7	73.0	72.0	0.07	0.70	60.0 62.0	59.0	56.0	56.0	55.0	24-	24-Hour CNEL (dBA)	(BA)
63	63.5	Average:		73.0	72.0	69.7	68.0	61.0	58.7	55.7	55.0	54.0			
58	58.8 66.4		45.1 57 2	67.0 75 0	65.0 74.0	63.0 72.0	61.0 71.0	58.0	56.0	52.0	51.0	49.0 F8.0		69.7	
00.4	00.4	07.0	0.10	0.01	D.11	12.1	D'T I					K			

24-Hour Noise Level Measurement Summary

APPENDIX 5.3:

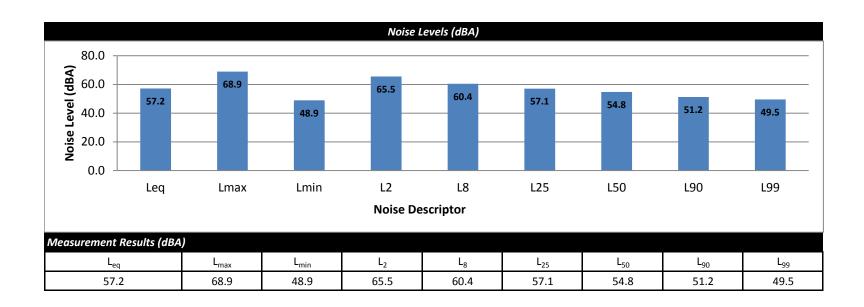
## SHORT-TERM NOISE LEVEL MEASUREMENT WORKSHEETS



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	Short-Term Noise L	evel Measuremen	t Summary			
Project Name:	Cathedral City General Plan Update	JN:	11475	Measur	ement Time (hh:	mm:ss)
Measurement ID:	S1	Analyst:	A. Wolfe	Start	Stop	Duration
		Date:	4/17/2018	1:30:45 PM	1:40:45 PM	0:10:00
Sound Level Meter:	Larson Davis LxT Type 1				<b>S1</b>	
Response:	Slow					
Noise Source:	Existing commercial uses, including a fast-food	l restaurant (Jack ir	n the Box) with			

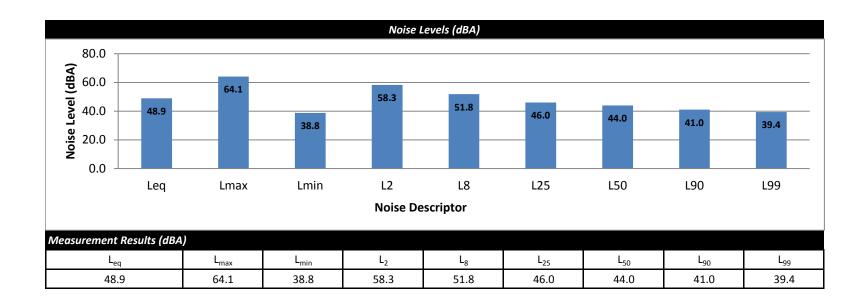
drive-through activities.





Proiect Name:	Short-Term Noise I Cathedral City General Plan Update		11475	Measu	rement Time (hh:	mm:ss)
Measurement ID:	, ,		A. Wolfe	Start	Stop	Duration
		Date:	4/17/2018	1:11:04 PM	1:21:04 PM	0:10:00
Sound Level Meter:	Larson Davis LxT Type 1				<b>S2</b>	
Response:	Slow					
Noise Source:	Ambient noise levels near existing residential	homes and Rio Vist	a Elementary			

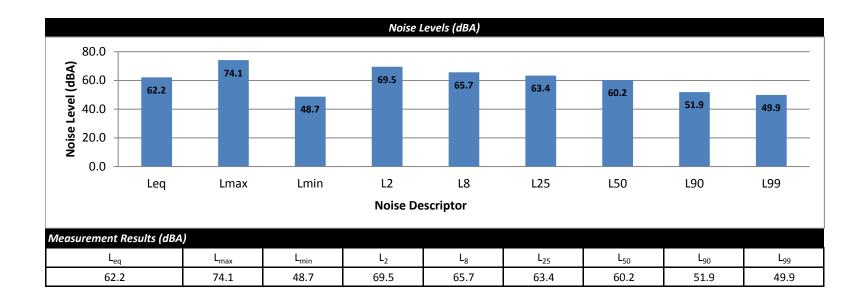
School, south of I-10.





	Short-Term Noise	Level Measuremen	t Summary			
Project Name:	Cathedral City General Plan Update	JN:	11475	Measur	ement Time (hh:ı	nm:ss)
Measurement ID:	S3	Analyst:	A. Wolfe	Start	Stop	Duratior
		Date:	4/17/2018	12:17:02 PM	12:27:02 PM	0:10:00
Sound Level Meter:	Larson Davis LxT Type 1				<b>S3</b>	
Response:	Slow					
Noise Source:	Ambient noise levels on Ramon Road near exi	sting commercial, re	esidential, and			

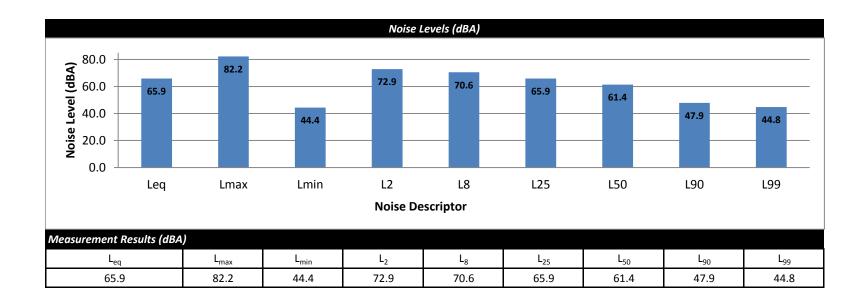
recreation uses.





Short-Term Noise	Level Measurement Summary			
Project Name: Cathedral City General Plan Update	JN: 11475	Measu	rement Time (hh:	mm:ss)
Measurement ID: S4	Analyst: A. Wolfe	Start	Stop	Duration
	Date: 4/17/2018	11:55:53 AM	12:05:53 PM	0:10:00
Sound Level Meter: Larson Davis LxT Type 1			<b>S4</b>	
Response: Slow				

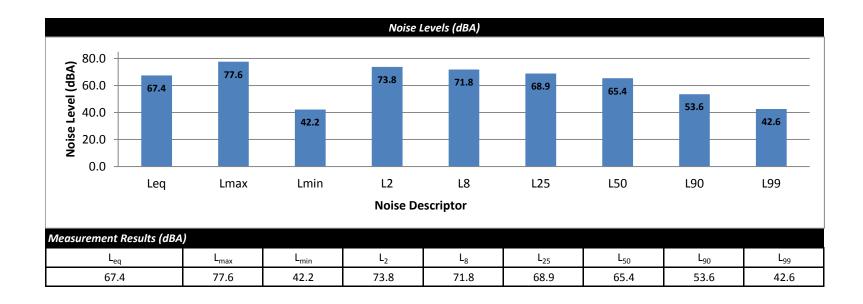
*Noise Source:* Ambient noise levels south of Ramon Road and west of Da Vall Drive near existing medical, commercial, and institutional uses.





	Short-Term Noise I	Level Measurement Summary			
Project Name:	Cathedral City General Plan Update	JN: 11475	Measur	ement Time (hh:ı	mm:ss)
Measurement ID:	S5	Analyst: A. Wolfe	Start	Stop	Duration
		Date: 4/17/2018	11:32:27 AM	11:42:27 AM	0:10:00
Sound Level Meter:	Larson Davis LxT Type 1			<b>S5</b>	
Response:	Slow				

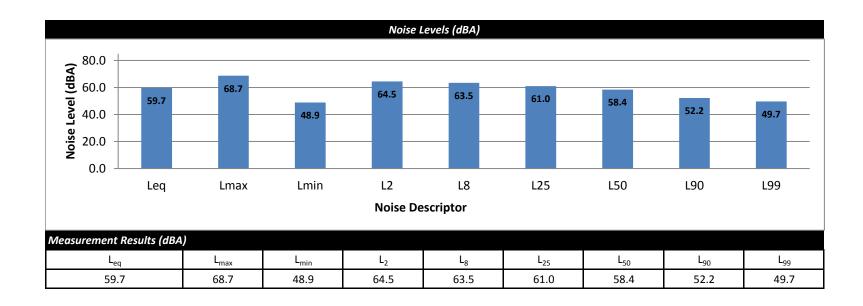
*Noise Source:* Ambient noise levels adjacent to an existing commercial parking lot on of Date Palm Drive near Converse Road.





Short-Term Noise L	evel Measurement Summary			
Project Name: Cathedral City General Plan Update	JN: 11475	Measur	ement Time (hh:	mm:ss)
Measurement ID: S6	Analyst: A. Wolfe	Start	Stop	Duration
	Date: 4/17/2018	11:08:51 AM	11:18:51 AM	0:10:00
Sound Level Meter: Larson Davis LxT Type 1			<b>S6</b>	

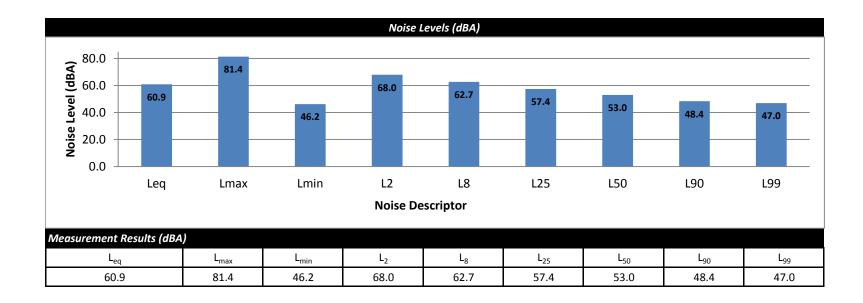
*Noise Source:* Ambient noise levels north of Highway 111 and west of Date Palm Drive.





Short-Term Noise	Level Measurement Summary			
Project Name: Cathedral City General Plan Update	JN: 11475	Measur	rement Time (hh:	mm:ss)
Measurement ID: S7	Analyst: A. Wolfe	Start	Stop	Duration
	Date: 4/17/2018	12:38:40 AM	12:42:11 AM	0:03:31
Sound Level Meter: Larson Davis LxT Type 1			<b>S7</b>	

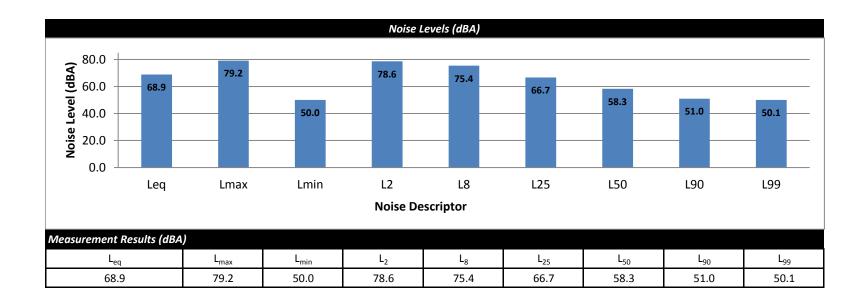
Noise Source: Ambient noise levels southeast of Palm Springs International Airport, without aircraft activity, east of San Luis Rey Drive and south of Sunny Dunes Road.





'5	Measurem	nent Time (hh:m	าm:ss)
olfe Sta	art	Stop	Duration
/2018 12:58:	43 AM 1	2:59:43 AM	0:01:00
		<b>S8</b>	
			2018 12:58:43 AM 12:59:43 AM

Noise Source: Ambient noise levels southeast of Palm Springs International Airport, with an aircraft flyover event, east of San Luis Rey Drive and south of Sunny Dunes Road.





APPENDIX 6.1:

**CADNAA NOISE MODEL INPUTS** 



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# ExistingRoads

		Commont	CNEL		CNELCE	CNELCO	CNELEE	Calibrated DWI
	Palm Dr.	n/o I-10 WB Ramps	<b>74.79</b>		283.00	610.00	1.314.00	Callul aleu FWL
2	Gene Autry Tr.	s/o I-10 EB Ramps	75.06			636.00	1,369.00	100.1
3	Mountain View Rd.	n/o Varner Rd.	70.52	68.00	147.00	317.00	683.00	95.5
4	Landau Bl.	n/o Ramon Rd.	71.15	67.00	144.00	310.00	668.00	95.4
5	Cathedral Cyn Dr.	n/o Dinah Shore Dr.	71.80	58.00	125.00	269.00	580.00	94.5
9	Cathedral Cyn Dr.	s/o Dinah Shore Dr.	72.64	66.00	142.00	306.00	659.00	95.3
7	Date Palm Dr.	s/o Varner Rd.	68.32	49.00	105.00	226.00	487.00	93.4
8	Date Palm Dr.	s/o l-10 EB Ramps	74.24	121.00	260.00	561.00	1,208.00	99.2
6	Date Palm Dr.	n/o 30th Av.	73.44	107.00	230.00	496.00	1,069.00	98.4
10	Date Palm Dr.	n/o Ramon Rd.	73.44	107.00	230.00	496.00	1,069.00	98.4
11	Date Palm Dr.	n/o Dinah Shore Dr.	72.58	94.00	202.00	435.00	936.00	97.6
12	Date Palm Dr.	n/o Gerald Ford Dr.	70.98	73.00	158.00	340.00	732.00	95.9
13	Date Palm Dr.	n/o Hwy. 111	69.27	56.00	121.00	261.00	563.00	94.2
14	Da Vall Dr.	n/o Ramon Rd.	67.74	40.00	85.00	184.00	396.00	92.0
15	Da Vall Dr.	s/o Ramon Rd.	68.41	44.00	94.00	204.00	438.00	92.7
16	Bob Hope Dr.	n/o l-10 WB Ramps	71.17	75.00	162.00	350.00	754.00	96.1
17	Bob Hope Dr.	s/o l-10 EB Ramps	73.46	107.00	231.00	497.00	1,071.00	98.4
18	Varner Rd.	e/o Palm Dr.	63.11	19.00	42.00	90.00	195.00	87.2
19	Varner Rd.	w/o Date Palm Dr.	72.13	87.00	188.00	405.00	873.00	97.1
20	Varner Rd.	e/o Date Palm Dr.	67.14	36.00	78.00	168.00	361.00	91.3
21	Valley Center Bl.	e/o Palm Dr.	ı	I	I	ı	I	I
22	Valley Center Bl.	e/o Date Palm Dr.	ı	ı	ı	ı	ı	I
23	Valley Center Bl.	e/o Da Vall Dr.	·	I	-	ı	1	I
24	Vista Chino	w/o Landau Bl.	73.25	104.00	223.00	481.00	1,037.00	98.3
25	Vista Chino	w/o Date Palm Dr.	72.96	00.66	214.00	460.00	992.00	97.9
26	30th Av.	w/o Date Palm Dr.	66.21	25.00	53.00	114.00	246.00	89.0
27	30th Av.	e/o Date Palm Dr.	68.33	34.00	73.00	158.00	341.00	91.0
28	Ramon Rd.	w/o Landau Bl.	73.03	100.00	216.00	466.00	1,003.00	98.0
29	Ramon Rd.	e/o Landau Bl.	72.79	97.00	208.00	449.00	967.00	97.8
30	Ramon Rd.	w/o Da Vall Dr.	71.84	84.00	180.00	388.00	836.00	96.9
31	Dinah Shore Dr.	w/o Cathedral Cyn. Dr.	69.47	58.00	125.00	269.00	580.00	94.5
32	Dinah Shore Dr.	e/o Date Palm Dr.	71.57	80.00	173.00	372.00	802.00	96.5
33	Gerald Ford Dr.	e/o Date Palm Dr.	69.64	53.00	114.00	246.00	530.00	93.9
34	Perez Rd.	w/o Cathedral Cyn. Dr.	67.46	38.00	82.00	176.00	379.00	91.7
35	Perez Rd.	e/o Cathedral Cyn. Dr.	67.85	40.00	87.00	187.00	403.00	92.0
36	Hwy. 111	w/o Canyon Plaza Dr. W.	75.67	150.00	324.00	698.00	1,505.00	100.6
37	Hwy. 111	w/o Cathedral Cyn. Dr.	72.57	93.00	201.00	434.00	935.00	97.5
38	Hwy. 111	w/o Date Palm Dr.	73.22	103.00	222.00	479.00	1,032.00	98.2
39	Hwy. 111	e/o Sungate Wy.	73.63	110.00	237.00	511.00	1,100.00	98.6

# ExistingFwy

LotInfolD	RoadName	Segment	CNEL	CNEL70	CNEL65	CNEL60	<b>CNEL55</b>	<b>Calibrated PWL</b>
1	_	n/o Cathedral City	83.26	766.00	1,650.00	3,554.00	7,657.00	111.3

LotInfoID	RoadName	Segment	CNEL	CNEL70	CNEL65	CNEL60	<b>CNEL55</b>	Calibrated PWL
1	Palm Dr.	n/o l-10 WB Ramps	75.22	140.00	302.00	652.00	1,404.00	100.2
2	Gene Autry Tr.	s/o l-10 EB Ramps	75.15	139.00	299.00	644.00	1,388.00	100.1
3	Mountain View Rd.	n/o Varner Rd.	76.26	152.00	327.00	704.00	1,517.00	100.7
4	Landau Bl.	n/o Ramon Rd.	74.21	97.00	210.00	452.00	973.00	97.8
5	Cathedral Cyn Dr.	n/o Dinah Shore Dr.	72.22	62.00	133.00	287.00	618.00	94.9
9	Cathedral Cyn Dr.	s/o Dinah Shore Dr.	72.47	64.00	139.00	299.00	643.00	95.1
7	Date Palm Dr.	s/o Varner Rd.	73.57	109.00	235.00	506.00	1,090.00	98.6
8	Date Palm Dr.	s/o l-10 EB Ramps	75.50	147.00	316.00	681.00	1,466.00	100.5
6	Date Palm Dr.	n/o 30th Av.	74.07	118.00	253.00	546.00	1,177.00	99.1
10	Date Palm Dr.	n/o Ramon Rd.	73.75	112.00	241.00	520.00	1,121.00	98.7
11	Date Palm Dr.	n/o Dinah Shore Dr.	72.91	98.00	212.00	457.00	984.00	97.9
12	Date Palm Dr.	n/o Gerald Ford Dr.	72.11	87.00	188.00	404.00	871.00	97.1
13	Date Palm Dr.	n/o Hwy. 111	71.60	80.00	173.00	374.00	805.00	96.5
14	Da Vall Dr.	n/o Ramon Rd.	72.66	84.00	181.00	391.00	842.00	96.9
15	Da Vall Dr.	s/o Ramon Rd.	72.39	81.00	174.00	375.00	808.00	96.6
16	Bob Hope Dr.	n/o l-10 WB Ramps	77.44	198.00	426.00	917.00	1,975.00	102.4
17	Bob Hope Dr.	s/o l-10 EB Ramps	75.71	151.00	326.00	703.00	1,514.00	100.7
18	Varner Rd.	e/o Palm Dr.	67.89	37.00	79.00	171.00	369.00	91.5
19	Varner Rd.	w/o Date Palm Dr.	76.51	158.00	339.00	731.00	1,576.00	101.0
20	Varner Rd.	e/o Date Palm Dr.	74.48	101.00	219.00	471.00	1,014.00	98.1
21	Valley Center Bl.	e/o Palm Dr.	72.45	82.00	176.00	379.00	816.00	96.7
22	Valley Center Bl.	e/o Date Palm Dr.	70.25	58.00	125.00	270.00	582.00	94.5
23	Valley Center Bl.	e/o Da Vall Dr.	68.45	44.00	95.00	205.00	441.00	92.7
24	Vista Chino	w/o Landau Bl.	74.16	110.00	237.00	510.00	1,099.00	98.6
25	Vista Chino	w/o Date Palm Dr.	73.71	103.00	221.00	476.00	1,025.00	98.2
26	30th Av.	w/o Date Palm Dr.	68.94	37.00	81.00	174.00	374.00	91.5
27	30th Av.	e/o Date Palm Dr.	70.57	48.00	103.00	223.00	480.00	93.2
28	Ramon Rd.	w/o Landau Bl.	74.75	120.00	259.00	558.00	1,203.00	99.2
29	Ramon Rd.	e/o Landau Bl.	73.54	100.00	215.00	464.00	00.066	98.0
30	Ramon Rd.	w/o Da Vall Dr.	73.38	97.00	210.00	452.00	974.00	97.8
31	Dinah Shore Dr.	w/o Cathedral Cyn. Dr.	72.91	81.00	175.00	377.00	813.00	96.6
32	Dinah Shore Dr.	e/o Date Palm Dr.	74.20	99.00	213.00	460.00	991.00	97.9
33	Gerald Ford Dr.	e/o Date Palm Dr.	72.58	80.00	173.00	373.00	803.00	96.5
34	Perez Rd.	w/o Cathedral Cyn. Dr.	69.83	53.00	113.00	244.00	526.00	93.9
35	Perez Rd.	e/o Cathedral Cyn. Dr.	70.18	56.00	120.00	258.00	555.00	94.2
36	Hwy. 111	w/o Canyon Plaza Dr. W.	75.41	145.00	311.00	671.00	1,445.00	100.4
37	Hwy. 111	w/o Cathedral Cyn. Dr.	73.07	101.00	217.00	468.00	1,009.00	98.1
38	Hwy. 111	w/o Date Palm Dr.	73.23	103.00	223.00	480.00	1,035.00	98.2
39	Hwy. 111	e/o Sungate Wy.	74.17	120.00	258.00	555.00	1,196.00	99.2

# FutureFwy

LotInfoID	RoadName	Segment	CNEL	CNEL70	CNEL65	CNEL60	<b>CNEL55</b>	Calibrated PWL
1		n/o Cathedral City	85.98	1,163.00	2,506.00	5,399.00	11,631.00	114.0

CadnaA Noise Prediction Model 11475-10 Existing Contours.cna Date: 28.03.19 Analyst: A.Wolfe

#### Line Source(s)

Name	ID		Lw/L	i
		Туре	, Value	norm.
				dB(A)
1	1	Lw'	99.8	
2	2	Lw'	100.1	
3	3	Lw'	95.5	
4	4	Lw'	95.4	
5	5	Lw'	94.5	
6	6	Lw'	95.3	
7	7	Lw'	93.4	
8	8	Lw'	99.3	
9	9	Lw'	98.4	
10	10	Lw'	98.4	
11	11	Lw'	97.6	
12	12	Lw'	95.9	
13	13	Lw'	94.2	
14	14	Lw'	92	
15	15	Lw'	92.7	
16	16	Lw'	96.1	
17	17	Lw'	98.4	
18	18	Lw'	87.2	
19	19	Lw'	97.1	
20	20	Lw'	91.3	
24	24	Lw'	98.3	
25	25	Lw'	97.9	
26	26	Lw'	89	
27	27	Lw'	91	
28	28	Lw'	98	
29	29	Lw'	97.8	
30	30	Lw'	96.9	
31	31	Lw'	94.5	
32	32	Lw'	96.5	
33	33	Lw'	93.9	
34	34	Lw'	91.7	
35	35	Lw'	92	
36	36	Lw'	100.6	
37	37	Lw'	97.5	
38	38	Lw'	98.2	
39	39	Lw'	98.6	
I-10	0	Lw'	111.3	
UPRR	0	Lw'	94.48	

CadnaA Noise Prediction Model 11475-10 Future Contours.cna Date: 27.03.19 Analyst: A.Wolfe

### Line Source(s)

Name	ID		Lw/L	i
		Туре	Value	norm.
				dB(A)
1	1	Lw'	100.2	
2	2	Lw'	100.1	
3	3	Lw'	100.7	
4	4	Lw'	97.8	
5	5	Lw'	94.9	
6	6	Lw'	95.1	
7	7	Lw'	98.6	
8	8	Lw'	100.5	
9	9	Lw'	99.1	
10	10	Lw'	98.7	
11	11	Lw'	97.9	
12	12	Lw'	97.1	
13	13	Lw'	96.5	
14	14	Lw'	96.9	
15	15	Lw'	96.6	
16	16	Lw'	102.4	
17	17	Lw'	100.7	
18	18	Lw'	91.5	
19	19	Lw'	101	
20	20	Lw'	98.1	
21	21	Lw'	96.7	
22	22	Lw'	94.5	
23	23	Lw'	92.7	
24	24	Lw'	98.6	
25	25	Lw'	98.2	
26	26	Lw'	91.5	
27	27	Lw'	93.2	
28	28	Lw'	99.2	
29	29	Lw'	98	
30	30	Lw'	97.8	
31	31	Lw'	96.6	
32	32	Lw'	97.9	
33	33	Lw'	96.5	
34	34	Lw'	93.9	
35	35	Lw'	94.2	
36	36	Lw'	100.4	
37	37	Lw'	98.1	
38	38	Lw'	98.2	
39	39	Lw'	99.2	
I-10	0	Lw'	114	
UPRR	0	Lw'	97.38	

Federal Transit Administration Noise Impact Assessment Spreadsheet Copyright 2007 HMMH Inc. version: 7/3/2007

Project: 11475		
	Project:	11475

Receiver Parameters	
Receiver:	Rail Calibration
Land Use Category:	2. Residential
Existing Noise (Measured or Generic Value):	

Noise Source Parameters

Number of Noise Sources: 2

Noise Source Param	eters	Source 1
	Source Type:	Fixed Guideway
	Specific Source:	Diesel Electric Locomotive
Daytime hrs	Avg. Number of Locos/train	2
	Speed (mph)	70
	Avg. Number of Events/hr	1.7
Nighttime hrs	Avg. Number of Locos/train	2
	Speed (mph)	70
	Avg. Number of Events/hr	1.7
Distance	Distance from Source to Receiver (ft)	50
	Number of Intervening Rows of Buildings	0
Adjustments		

Noise Source Param	eters	Source 2
	Source Type:	Fixed Guideway
	Specific Source:	Rail Car
Daytime hrs	Avg. Number of Rail Cars/train	80
	Speed (mph)	70
	Avg. Number of Events/hr	1.7
Nighttime hrs	Avg. Number of Rail Cars/train	80
	Speed (mph)	70
	Avg. Number of Events/hr	1.7
Distance	Distance from Source to Receiver (ft)	50
	Number of Intervening Rows of Buildings	0
Adjustments	Noise Barrier?	No
	Jointed Track?	No
	Embedded Track?	No
	Aerial Structure?	No

Project:	11475
Receiver:	Rail Calibration

<u>Hour</u>	Source 1	Source 2	Source 3	LOG SUM	<u>Adj.</u>
0	60.3	70.7		71.0	81.0
1	60.3	70.7		71.0	81.0
2	60.3	70.7		71.0	81.0
3	60.3	70.7		71.0	81.0
4	60.3	70.7		71.0	81.0
5	60.3	70.7		71.0	81.0
6	60.3	70.7		71.0	81.0
7	60.3	70.7		71.0	71.0
8	60.3	70.7		71.0	71.0
9	60.3	70.7		71.0	71.0
10	60.3	70.7		71.0	71.0
11	60.3	70.7		71.0	71.0
12	60.3	70.7		71.0	71.0
13	60.3	70.7		71.0	71.0
14	60.3	70.7		71.0	
15	60.3	70.7		71.0	71.0
16	60.3	70.7		71.0	71.0
17	60.3	70.7		71.0	71.0
18	60.3	70.7		71.0	71.0
19				71.0	
20				71.0	
21	60.3			71.0	
22	60.3	70.7		71.0	81.0
23	60.3	70.7		71.0	81.0

<u>CNEL</u> 77.7

Federal Transit Administration Noise Impact Assessment Spreadsheet Copyright 2007 HMMH Inc. version: 7/3/2007

Project:	11475

Receiver Parameters	
Receiver:	Rail Calibration
Land Use Category:	2. Residential
Existing Noise (Measured or Generic Value):	

Noise Source Parameters

Number of Noise Sources: 2

Noise Source Param	eters	Source 1
	Source Type:	Fixed Guideway
	Specific Source:	Diesel Electric Locomotive
Daytime hrs	Avg. Number of Locos/train	2
	Speed (mph)	70
	Avg. Number of Events/hr	3.3
Nighttime hrs	Avg. Number of Locos/train	2
	Speed (mph)	70
	Avg. Number of Events/hr	3.3
Distance	Distance from Source to Receiver (ft)	50
	Number of Intervening Rows of Buildings	0
Adjustments		

Noise Source Parameters		Source 2
	Source Type:	Fixed Guideway
	Specific Source:	Rail Car
Daytime hrs	Avg. Number of Rail Cars/train	80
	Speed (mph)	70
	Avg. Number of Events/hr	3.3
Nighttime hrs	Avg. Number of Rail Cars/train	80
	Speed (mph)	70
	Avg. Number of Events/hr	3.3
Distance	Distance from Source to Receiver (ft)	50
	Number of Intervening Rows of Buildings	0
Adjustments	Noise Barrier?	No
	Jointed Track?	No
	Embedded Track?	No
	Aerial Structure?	No

Project:	11475
Receiver:	Rail Calibration

<u>Hour</u>	Source 1	Source 2	Source 3	LOG SUM	<u>Adj.</u>
0	63.1	73.5		73.9	83.9
1	63.1	73.5		73.9	83.9
2	63.1	73.5		73.9	83.9
3	63.1	73.5		73.9	83.9
4	63.1	73.5		73.9	83.9
5	63.1	73.5		73.9	83.9
6	63.1	73.5		73.9	83.9
7	63.1	73.5		73.9	73.9
8	63.1	73.5		73.9	73.9
9	63.1	73.5		73.9	73.9
10	63.1	73.5		73.9	73.9
11	63.1	73.5		73.9	73.9
12	63.1	73.5		73.9	73.9
13	63.1	73.5		73.9	73.9
14	63.1	73.5		73.9	73.9
15	63.1	73.5		73.9	73.9
16	63.1	73.5		73.9	73.9
17	63.1	73.5		73.9	73.9
18	63.1	73.5		73.9	73.9
19	63.1			73.9	
20				73.9	
21	63.1			73.9	
22	63.1	73.5		73.9	
23	63.1	73.5		73.9	83.9

<u>CNEL</u> 80.6

APPENDIX 7.1:

**OFF-SITE TRAFFIC NOISE LEVEL CONTOURS** 

11475-04 Noise Study



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	FHV	VA-RD-77-108	HIGHWA	AY NO	ISE PRE	EDICTIO				
Scenario Road Name Road Segmen		B Ramps					me: CCG ber: 1147			
SITE S	PECIFIC IN	PUT DATA				NO	SE MOD	EL INPUT	s	
Highway Data				Sit	e Cond	itions (H	ard = 10, S	Soft = 15)		
Average Daily T Peak Hour I Peak Ho	Percentage:	29,900 vehicle 10% 2,990 vehicle					Autos s (2 Axles, (3+ Axles,	: 15		
Veh	icle Speed:	55 mph		1/0	hicle Mi	lu				
Near/Far Lar	e Distance:	78 feet		ve		leType	Dav	Evening	Night	Daily
Site Data					Vernor	Aut		0	9.5%	
		0.0 feet			Mea	lium Truc			8.6%	
	rier Height:	0.0 feet				eavv Truc			5.0%	
Barrier Type (0-Wa Centerline Dis		0.0 63.0 feet								
Centerline Dist. t		63.0 feet		No	ise Sou		ations (in	feet)		
Barrier Distance t		0.0 feet				Autos:	0.000			
Observer Height (/		5.0 feet		1		Trucks:	2.297			
0 1	d Flevation:	0.0 feet			Heavy	Trucks:	8.006	Grade Ad	justment	: 0.0
Roa	d Elevation:	0.0 feet		La	ne Equi	ivalent D	istance (in	feet)		
F	Road Grade:	0.0%				Autos:	49.729			
	Left View:	-90.0 deare	es	1	Medium	Trucks:	49.551			
	Right View:	90.0 degree	es		Heavy	Trucks:	49.568			
FHWA Noise Mode	l Calculation:	s								
VehicleType	REMEL	Traffic Flow	Distan	се	Finite R	load	Fresnel	Barrier Att	en Ber	m Atten
Autos:	71.78	1.76		-0.07		-1.20	-4.70	0.0	000	0.00
Medium Trucks:	82.40	-12.35		-0.04		-1.20	-4.88	0.0	000	0.00
Heavy Trucks:	86.40	-13.65		-0.05		-1.20	-5.32	0.0	000	0.000
Unmitigated Noise	Levels (with	out Topo and	barrier a	ttenua	tion)					
VehicleType	Leq Peak Hou	r Leq Day	Le	eq Ever	ning	Leq Nig	ıht	Ldn	C	NEL
Autos:	72.	-	70.4		68.4		62.5	71.2	-	71.
Medium Trucks:	68.		67.4		61.5		58.6	67.5		67.
Heavy Trucks:	71.		70.2		64.2		58.9	69.3	-	69.7
Vehicle Noise:	75.	.9	74.3		70.4		65.2	74.3	3	74.
Centerline Distanc	e to Noise Co	ontour (in feet	)							
				70 dB	4	65 dB	4	60 dBA	55	dBA
			Ldn: VFL:	123 131		264 283		569 610	1,	226

	FHV	VA-RD-77-108	HIGH	WAY NO	DISE PF	REDICTIO	on Mo	DEL			
Scenar	io: Existing					Project N	lame:	CCGP			
Road Nan	ne: Gene Autry	Tr.				Job Nu	mber:	11475			
Road Segme	nt: s/o I-10 EB	Ramps									
	SPECIFIC IN	IPUT DATA							L INPUT	s	
Highway Data				S	ite Con	ditions (I	Hard =	: 10, So	oft = 15)		
Average Daily	Traffic (Adt): 3	31,800 vehicles	6					Autos:	15		
Peak Hour	Percentage:	10%			Me	dium Truo	cks (2 )	Axles):	15		
Peak H	lour Volume:	3,180 vehicles	6		He	avy Truck	(3+ )	Axles):	15		
Ve	hicle Speed:	55 mph		V	ehicle l	Mix					
Near/Far La	ne Distance:	78 feet		-		icleType		Day	Evening	Night	Daily
Site Data							itos:	78.2%	•		93.68
Ba	rrier Height:	0.0 feet			Me	edium Tru	icks:	85.9%	5.5%	8.6%	3.639
Barrier Type (0-W	•	0.0			F	leavy Tru	icks:	89.4%	5.6%	5.0%	2.699
Centerline Di		63.0 feet				ource Ele		- // #	4)		
Centerline Dist.	to Observer:	63.0 feet		N	oise sc				eet)		
Barrier Distance	to Observer:	0.0 feet				Autos:		000			
Observer Height	(Above Pad):	5.0 feet				n Trucks:		297	Grade Ad	i untrant	
P	ad Elevation:	0.0 feet			Heav	y Trucks:	8.	006	Grade Ad	jusiment	0.0
Ro	ad Elevation:	0.0 feet		Li	ane Eq	uivalent	Distan	ce (in	feet)		
	Road Grade:	0.0%				Autos:	49.	.729			
	Left View:	-90.0 degree	s		Mediur	n Trucks:	49.	.551			
	Right View:	90.0 degree	s		Heav	y Trucks:	49.	.568			
FHWA Noise Mod	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fresi	nel	Barrier Att	en Ber	m Atten
Autos:	71.78	2.03		-0.07		-1.20		-4.70	0.0	000	0.00
Medium Trucks:	82.40	-12.09		-0.04		-1.20		-4.88	0.0	000	0.00
Heavy Trucks:	86.40	-13.39		-0.05		-1.20		-5.32	0.0	000	0.00
Unmitigated Nois	e Levels (with	out Topo and	barrie								
VehicleType	Leq Peak Hou			Leq Eve		Leq N			Ldn		VEL
Autos:	72		70.7		68.7		62.8		71.4		72.
Medium Trucks:			67.6		61.7		58.9		67.8		68.
Heavy Trucks:		-	70.5		64.5		59.2		69.6		69.
Vehicle Noise:			74.6		70.7		65.4	4	74.0	6	75.
Centerline Distan	ce to Noise Co	ontour (in feet)	)	70 -1	24	05 -1	04		0.404		-/D.4
			Lday	70 dE 128		65 d			60 dBA		dBA 277
			Ldn: IEL:	128					593 636		277 369
						29					

Tuesday, March 19, 2019

	FHV	VA-RD-77-108	HIGHW	AY N	IOISE PF	EDICTI	ON MOD	DEL			
Scenario							Name: C				
	Mountain V					Job N	umber: 1	1475			
Road Segment.	n/o Varner	Rd.									
	PECIFIC IN	PUT DATA							L INPUTS		
Highway Data				1	Site Con	ditions	(Hard = )	10, So	oft = 15)		
Average Daily Tr	affic (Adt): 1	1,200 vehicles						utos:			
Peak Hour P	ercentage:	10%					icks (2 A	/			
Peak Ho	ur Volume:	1,120 vehicles			Hea	avy Truc	ks (3+ A	xles):	15		
	cle Speed:	55 mph			Vehicle I	Nix					
Near/Far Lane	e Distance:	78 feet		F		cleType	l	Day	Evening	Night	Daily
Site Data						A	utos: 7	, 8.2%	12.3%	9.5%	93.68%
Barri	er Heiaht:	0.0 feet			Me	dium Tr	ucks: 8	35.9%	5.5%	8.6%	3.63%
Barrier Type (0-Wai		0.0			E	leavy Tr	ucks: 8	39.4%	5.6%	5.0%	2.69%
Centerline Dist.	. ,	63.0 feet		H	Noise So			(In 6	4)		
Centerline Dist. to	Observer:	63.0 feet		-	voise So	Autos			eet)		
Barrier Distance to	Observer:	0.0 feet			Marthum	Autos n Trucks					
Observer Height (A	bove Pad):	5.0 feet				n Trucks v Trucks			Grade Adju	otmont	0.0
Pad	Elevation:	0.0 feet			neav	y mucks	. 0.0	00	Graue Auju	sunen.	0.0
Road	Elevation:	0.0 feet		1	Lane Equ	ivalent	Distanc	e (in	feet)		
Ro	oad Grade:	0.0%				Autos	: 49.7	29			
	Left View:	-90.0 degree	s		Mediur	n Trucks	: 49.5	51			
F	Right View:	90.0 degree	S		Heav	y Trucks	: 49.5	68			
FHWA Noise Model	Calculation	s									
VehicleType	REMEL	Traffic Flow	Dista	nce	Finite	Road	Fresne	e/	Barrier Atte	n Ber	m Atten
Autos:	71.78	-2.50		-0.07	7	-1.20	-	4.70	0.00	00	0.000
Medium Trucks:	82.40	-16.62		-0.04	4	-1.20	-	4.88	0.00	00	0.000
Heavy Trucks:	86.40	-17.92		-0.05	5	-1.20	-	5.32	0.00	00	0.000
Unmitigated Noise											
,,	eq Peak Hou			.eq E	/ening	Leq	Vight		Ldn	Cl	VEL
Autos:	68.		6.2		64.2		58.2		66.9		67.5
Medium Trucks:	64.		3.1		57.2		54.3		63.2		63.
Heavy Trucks:	67.		6.0		60.0		54.7		65.0		65.4
Vehicle Noise:	71.		0.0		66.2		60.9		70.1		70.5
Centerline Distance	to Noise Co	ontour (in feet)	-	70 0		65 (		4	0 dBA	55	dBA
		,	dn:	700		000			296		ава 37
			an: FL:	6		14			296	-	37 83

	FHV	/A-RD-77-108	HIGHW	AY N	NOISE PF	REDICTI	ON MO	DEL			
Road Nam	o: Existing e: Landau Bl. nt: n/o Ramon	Rd.				Project Job Ni	Name: umber:				
SITE	SPECIFIC IN	PUT DATA				N	OISE N	IODEL	INPUT	s	
Highway Data					Site Con	ditions (	(Hard =	10, So	ft = 15)		
Average Daily	Traffic (Adt): 1	9,100 vehicles	6				,	Autos:	15		
Peak Hour	Percentage:	10%			Me	dium Tru	icks (2 A	xles):	15		
Peak H	our Volume:	1,910 vehicles	6		Hea	avy Truc	ks (3+ A	xles):	15		
Vei	hicle Speed:	45 mph		-	Vehicle I	AL.					
Near/Far Lai	ne Distance:	60 feet		-		cleType		Day	Evening	Night	Daily
Site Data					Veni			78.2%	12.3%	9.5%	
				_	Me	edium Tr		85.9%	5.5%	8.6%	3.63%
	rier Height:	0.0 feet				leavy Tr		89.4%	5.6%	5.0%	2.69%
Barrier Type (0-W	. ,	0.0				icavy m	uch3.	00.470	5.070	0.070	2.0070
Centerline Dis Centerline Dist.		56.0 feet 56.0 feet			Noise So	urce Ele	evation	s (in fe	et)		
Barrier Distance		0.0 feet				Autos	a: 0.0	000			
					Mediur	n Trucks	: 2.2	297			
Observer Height (	,	5.0 feet			Heav	y Trucks	:: 8.0	006	Grade Adj	justment.	0.0
	d Elevation:	0.0 feet		-	Lane Equ	ivalent	Distan	o (in f	oot)		
	d Elevation: Road Grade:	0.0 feet		÷	Lane Ly	Autos					
r	l eft View:	0.0%			Madium	n Trucks					
	Right View:	-90.0 degree 90.0 degree				y Trucks					
FHWA Noise Mode	el Calculations	5									
VehicleType	REMEL	Traffic Flow	Dista	nce	Finite	Road	Fresn	el l	Barrier Att	en Ber	m Atten
Autos:	68.46	0.69		0.2	2	-1.20		-4.67	0.0	000	0.000
Medium Trucks:	79.45	-13.43		0.2	5	-1.20		-4.87	0.0	000	0.000
Heavy Trucks:	84.25	-14.73		0.2	5	-1.20		-5.37	0.0	000	0.000
Unmitigated Noise											
1	Leq Peak Hou			.eq E	vening	Leq I	· ·		Ldn		VEL
Autos:	68.	-	66.3		64.3		58.4		67.0		67.6
Medium Trucks:	65.		63.6		57.7		54.9		63.7		64.0
Heavy Trucks:	68.	-	67.3		61.3		56.0		66.4		66.7
Vehicle Noise:	72.	3	70.8		66.7		61.4		70.7	7	71.2
Centerline Distanc	e to Noise Co	ntour (in feet)	)	70	-10.4	05.	10.4		0 -10 4		-10.4
			L		dBA	65 0			0 dBA		dBA
			Ldn:		2	13			290		25
		Cl	VEL:	6	<i></i>	14	14		310	6	68

### Tuesday, March 19, 2019

	FH	WA-RD-77-108	HIGHW	Y NOIS		ON MOI	DEL			
Scenari	o: Existing				Project N	lame: 0	CGP			
	e: Cathedral				Job Nu	mber: 1	1475			
Road Segmer	nt: n/o Dinah	Shore Dr.								
	SPECIFIC IN	NPUT DATA							S	
Highway Data				Site	Conditions (I	Hard =	10, So	ft = 15)		
Average Daily	Traffic (Adt):	16,100 vehicle	s				lutos:	15		
	Percentage:	10%			Medium Truc			15		
	our Volume:	1,610 vehicle	s		Heavy Truck	(3+ A	xles):	15		
	hicle Speed:	45 mph		Vehi	cle Mix					
Near/Far Lar	ne Distance:	44 feet			VehicleType		Day	Evening	Night	Daily
Site Data					A	itos:	78.2%	12.3%	9.5%	93.68%
Bar	rier Height:	0.0 feet			Medium Tru	icks:	85.9%	5.5%	8.6%	3.63%
Barrier Type (0-W	all, 1-Berm):	0.0			Heavy Tru	icks:	89.4%	5.6%	5.0%	2.69%
Centerline Dis		44.0 feet		Nois	e Source Ele	vations	s (in fe	et)		
Centerline Dist.		44.0 feet			Autos:	0.0	100			
Barrier Distance		0.0 feet		Me	dium Trucks:	2.2	97			
Observer Height (	,	5.0 feet		F	leavy Trucks:	8.0	06	Grade Adj	iustment	0.0
	ad Elevation:	0.0 feet		Long	Equivalant	Diotone	o (in f	in n4)		
	ad Elevation:	0.0 feet		Lane	Equivalent Autos:			eel)		
ŀ	Road Grade: Left View:	0.0%			Autos: dium Trucks:					
	Left View: Right View:	-90.0 degre			eaum Trucks: leavy Trucks:					
	Right view.	90.0 degre	es		ieavy mucks.	30.2	24			
FHWA Noise Mode										
VehicleType	REMEL	Traffic Flow	Distan		nite Road	Fresn		Barrier Atte		rm Atten
Autos:	68.46			1.61	-1.20		4.61	0.0		0.00
Medium Trucks:	79.45			1.65	-1.20		4.87	0.0		0.00
Heavy Trucks:	84.25			1.65	-1.20		-5.50	0.0	00	0.00
Unmitigated Noise VehicleType	Levels (with Leg Peak Ho					Undert		Ldn		NEL
Autos:			67.0	eq Evenir	ig Leq N i5.0	1gnt 59.0		Lan 67.7		INEL 68.3
Medium Trucks:			64.3		8.4	55.5		64.4		64.
Heavy Trucks:			67.9		i0.4 i2.0	56.7		67.0		67.4
Vehicle Noise:		3.0	71.4		57.3	62.1		71.4		71.
Centerline Distanc	e to Noise C	ontour (in fee	)							
				70 dBA	65 d	RA	6	0 dBA	55	dBA
				10 UDA	05 U				00	
			Ldn:	54	11		0	252		542

	FHW	/A-RD-77-108 H	HIGHW	AY N	OISE PF	REDICTI	ON MO	DEL			
	e: Existing e: Cathedral C t: s/o Dinah S						Name: umber:				
SITE S	PECIFIC IN	PUT DATA				N	OISE	NODE		s	
Highway Data				S	ite Con	ditions	(Hard =	10, So	oft = 15)		
Average Daily T	raffic (Adt): 1	9,500 vehicles						Autos:	15		
Peak Hour F	Percentage:	10%			Mee	dium Tru	icks (2 /	Axles):	15		
Peak Ho	our Volume:	1,950 vehicles			Hea	avy Truc	:ks (3+ )	Axles):	15		
Veh	icle Speed:	45 mph		V	ehicle l	Niv					
Near/Far Lan	e Distance:	44 feet		-		cleType		Day	Evening	Night	Daily
Site Data					VCIII		lutos:	78.2%		9.5%	
		0.0 feet			Me	dium Tr	ucks:	85.9%		8.6%	3.63%
Barrier Type (0-Wa	rier Height:	0.0 reet 0.0			F	leavy Tr	ucks:	89.4%	5.6%	5.0%	
Centerline Dis		0.0 44.0 feet				,					
Centerline Dist. to		44.0 feet		۸	loise So				eet)		
Barrier Distance to		0.0 feet				Autos		000			
Observer Height (A		5.0 feet				n Trucks		297			
<b>U</b> 1	d Flevation:	0.0 feet			Heav	y Trucks	s: 8.	006	Grade Ad	justment:	0.0
Roa	d Elevation:	0.0 feet		L	ane Equ	uivalent	Distan	ce (in	feet)		
R	oad Grade:	0.0%				Autos	s: 38.	432			
	Left View:	-90.0 degrees	3		Mediur	n Trucks	s: 38.	201			
	Right View:	90.0 degrees	8		Heav	y Trucks	s: 38.	224			
FHWA Noise Mode	I Calculations	;									
VehicleType	REMEL	Traffic Flow	Dista	nce	Finite	Road	Fresr	nel	Barrier Att	en Ber	m Atten
Autos:	68.46	0.78		1.61		-1.20		-4.61	0.0	000	0.000
Medium Trucks:	79.45	-13.34		1.65		-1.20		-4.87	0.0	000	0.00
Heavy Trucks:	84.25	-14.64		1.65		-1.20		-5.50	0.0	000	0.00
Unmitigated Noise											
	Leq Peak Hou			eq Ev		Leq	Night		Ldn		VEL
Autos:	69.		7.8		65.8		59.9		68.5		69.
Medium Trucks:	66.		5.1		59.2		56.3		65.2		65.
Heavy Trucks:	70.		8.8		62.8		57.5		67.9		68.2
Vehicle Noise:	73.		2.3		68.2		62.9	9	72.2	2	72.6
Centerline Distance	e to Noise Co	ntour (in feet)	-	70 d	DA I	CE.	dBA		60 dBA	55	dBA
		,	dn:	70 a. 62			38A 33		286		ава 16
		CN		66		14			306		59

Tuesday, March 19, 2019

		/A-RD-77-108	110							_	
Scenario: Existing		_					Name: C				
Road Name: Date Pa						Job Ni	umber: 1	1475			
Road Segment: s/o Varr	her F	ka.									
SITE SPECIFIC	IN	PUT DATA							L INPUTS	;	
Highway Data					Site Con	ditions	(Hard = 1	0, Sc	oft = 15)		
Average Daily Traffic (Adt	):	8,400 vehicles	5				A	utos:	15		
Peak Hour Percentage	e:	10%			Me	dium Tru	icks (2 Ax	des):	15		
Peak Hour Volume	e:	840 vehicles	5		He	avy Truc	ks (3+ Ax	des):	15		
Vehicle Speed	1:	50 mph		-	Vehicle I	Mix					
Near/Far Lane Distance	ə:	78 feet		-		icleType	Г	Day	Evening	Night	Daily
Site Data					1011			8.2%	•	9.5%	
	4.	0.0 feet			Me	edium Tr		5.9%		8.6%	3.639
Barrier Heigh Barrier Type (0-Wall, 1-Berm		0.0 feet				Heavy Tr		9.4%		5.0%	2.69%
Centerline Dist. to Barrie	· · · ·	63.0 feet		_							
Centerline Dist. to Observe		63.0 feet		_	Noise So				eet)		
Barrier Distance to Observe		0.0 feet				Autos					
Observer Height (Above Pad		5.0 feet				m Trucks					
Pad Elevation	· · · ·	0.0 feet			Heav	ry Trucks	8.00	06	Grade Adjı	istment	: 0.0
Road Elevation		0.0 feet		-	Lane Eq	uivalent	Distance	e (in i	feet)		
Road Grade		0.0%		-		Autos			,		
Left Viev		-90.0 degree	s		Mediur	m Trucks	: 49.5	51			
Right Viev		90.0 degree				v Trucks					
FHWA Noise Model Calculat	ions										
VehicleType REMEL		Traffic Flow	Di	stance		Road	Fresne		Barrier Atte		m Atten
	.20	-3.34		-0.0		-1.20		4.70	0.00		0.00
	.00	-17.45		-0.0		-1.20		4.88	0.00		0.00
Heavy Trucks: 85	.38	-18.75		-0.0	15	-1.20		5.32	0.00	00	0.00
Unmitigated Noise Levels (w	/itho	out Topo and	barri	ier atter	nuation)						
VehicleType Leq Peak	Houi	r Leq Day		Leq E	vening	Leq I	Vight		Ldn	C	NEL
Autos:	65.	6 6	63.7		61.7		55.8		64.5		65.
Medium Trucks:	62.3	3 6	60.9		55.0		52.1		61.0		61.
Heavy Trucks:	65.	4 6	64.1		58.1		52.8		63.2		63.
Vehicle Noise:	69.	4 6	67.9		63.9		58.7		67.9		68.
Centerline Distance to Noise	Co	ntour (in feet)	)								
		,,		70	dBA	65 0	1BA	e	60 dBA	55	dBA
		1	Ldn:	4	15	9	8		211	4	55
		<u></u>	IFI :		19	10			226		87

	FH	NA-RD-77-108	HIGHW	AY N	OISE PR	EDICT	ON MODE	L			
Road Nam	io: Existing ie: Date Palm						Name: CC umber: 11				
Road Segme	nt: s/o I-10 EB	Ramps									
	SPECIFIC IN	IPUT DATA					OISE MC			s	
Highway Data				5	Site Cond	ditions	(Hard = 10	), So	oft = 15)		
Average Daily	Traffic (Adt):	32,800 vehicles	\$				Au	tos:	15		
Peak Hour	Percentage:	10%			Med	lium Tra	icks (2 Axl	es):	15		
Peak H	lour Volume:	3,280 vehicles	\$		Hea	avy Truc	ks (3+ Axl	es):	15		
Ve	hicle Speed:	50 mph			Vehicle N	Niv					
Near/Far La	ne Distance:	78 feet				cleType	Da	21/	Evening	Night	Daily
Site Data	-				Venic			.2%	12.3%	9.5%	
				_	Mo	, dium Ti		.9%		8.6%	
	rrier Height:	0.0 feet				leavy Ti		.4%		5.0%	
Barrier Type (0-W		0.0								0.070	2.037
Centerline Di		63.0 feet		1	Voise So	urce El	evations (	in fe	et)		
Centerline Dist. Barrier Distance		63.0 feet				Autos	. 0.00	)			
		0.0 feet			Medium	n Truck	2.29	7			
Observer Height	· ,	5.0 feet			Heavy	/ Truck:	8.00	6	Grade Adj	justment	t: 0.0
	ad Elevation:	0.0 feet			ano Equ	ivalor	Distance	(in f	ioot)		
	ad Elevation:	0.0 feet		-	Lane Lyu	Auto			eer)		
	Road Grade:	0.0%			Medium						
	Left View:	-90.0 degree									
	Right View:	90.0 degree	*S		Heavy	/ Truck:	49.56	5			
FHWA Noise Mod	el Calculation	s									
VehicleType	DEMEL		Distar								A
vonioio i ypo	REMEL	Traffic Flow	Distai	nce	Finite I	Road	Fresnel		Barrier Att	en Be	rm Atten
Autos:	REMEL 70.20	Traffic Flow 2.58	Distai	nce -0.07		Road -1.20		70		en Bei 000	
			Distai		7		-4		0.0		0.000
Autos:	70.20	2.58	Distar	-0.07	7	-1.20	-4. -4.	70	0.0	000	0.000
Autos: Medium Trucks: Heavy Trucks:	70.20 81.00 85.38	2.58 -11.54 -12.84		-0.07 -0.04 -0.05	7 1 5	-1.20 -1.20	-4. -4.	70 88	0.0	000	0.000
Autos: Medium Trucks: Heavy Trucks:	70.20 81.00 85.38	2.58 -11.54 -12.84 out Topo and	barrier a	-0.07 -0.04 -0.05	7 1 5	-1.20 -1.20 -1.20	-4. -4.	70 88	0.0	000	0.000
Autos: Medium Trucks: Heavy Trucks: <b>Unmitigated Nois</b>	70.20 81.00 85.38 e Levels (with	2.58 -11.54 -12.84 <b>out Topo and</b> <i>Ir</i> Leq Day	barrier a	-0.07 -0.04 -0.05	7 1 5 uation)	-1.20 -1.20 -1.20	-4. -4. -5.	70 88	0.0 0.0 0.0	000 000 000 C	0.000 0.000 0.000
Autos: Medium Trucks: Heavy Trucks: <b>Unmitigated Nois</b> VehicleType	70.20 81.00 85.38 <b>e Levels (with</b> Leg Peak Hou	2.58 -11.54 -12.84 out Topo and Ir Leq Day .5	barrier a	-0.07 -0.04 -0.05	7 1 5 <i>uation)</i> /ening	-1.20 -1.20 -1.20	-4. -4. -5. Vight	70 88	0.0 0.0 0.0	000 000 000 C	0.000 0.000 0.000 NEL 71.0
Autos: Medium Trucks: Heavy Trucks: Unmitigated Noise VehicleType Autos:	70.20 81.00 85.38 e Levels (with Leg Peak Hou 71	2.58 -11.54 -12.84 out Topo and rr Leq Day .5 ( .2 (	barrier a	-0.07 -0.04 -0.05	7 4 5 <i>uation)</i> /ening 67.7	-1.20 -1.20 -1.20	-4. -4. -5. <u>Vight</u> 61.7	70 88	0.0 0.0 0.0 <i>Ldn</i> 70.4	000 000 000 C 4	0.000 0.000 0.000 NEL 71.0 67.3
Autos: Medium Trucks: Heavy Trucks: Unmitigated Nois VehicleType Autos: Medium Trucks:	70.20 81.00 85.38 <b>e Levels (with</b> Leq Peak Hou 71 68	2.58 -11.54 -12.84 out Topo and r Leq Day .5 ( .2 ( .3 )	barrier a 69.7	-0.07 -0.04 -0.05	7 4 5 <i>vening</i> 67.7 60.9	-1.20 -1.20 -1.20	-4. -4. -5. Night 61.7 58.0	70 88	0.0 0.0 0.0 <i>Ldn</i> 70.4 66.9	000 000 000 1 1	0.000 0.000 0.000 NEL 71.0 67.2 69.4
Autos: Medium Trucks: Heavy Trucks: Unmitigated Noiss VehicleType Autos: Medium Trucks: Heavy Trucks:	70.20 81.00 85.38 e Levels (with Leq Peak Hot 71 68 71 75	2.58 -11.54 -12.84 out Topo and IT Leq Day .5 ( .2 ( .3 ) .4	barrier a 69.7 66.8 70.0 73.8	-0.07 -0.04 -0.05 atteni eq Ev	7 4 5 <i>vening</i> 67.7 60.9 64.0 69.8	-1.20 -1.20 -1.20 <i>Leq</i>	-4. -4. -5. <u>Vight</u> 61.7 58.0 58.7 64.6	70 88 32	0.0 0.0 0.0 <i>Ldn</i> 70.4 66.9 69.1 73.8	000 000 000 4 3	0.000 0.000 0.000 NEL 71.0 67.2 69.4 74.2
Autos: Medium Trucks: Heavy Trucks: Unmitigated Noiss VehicleType Autos: Medium Trucks: Heavy Trucks: Vehicle Noise:	70.20 81.00 85.38 e Levels (with Leq Peak Hot 71 68 71 75	2.58 -11.54 -12.84 out Topo and a rr Leq Day 5 ( 2 ( 3 ) .4 ) ontour (in feet)	barrier a 69.7 66.8 70.0 73.8	-0.07 -0.04 -0.05 atteni eq Ev	7 4 5 <i>vening</i> 67.7 60.9 64.0 69.8 <i>IBA</i>	-1.20 -1.20 -1.20	-4. -4. -5. <u>Vight</u> 61.7 58.0 58.7 64.6	70 88 32	0.0 0.0 0.0 1.0 60.9 69.1 73.8 0 dBA	000 000 000 100 100 100 100 100 100 100	0.000 0.000 0.000 NEL 71.0 67.3 69.4 74.3
Autos: Medium Trucks: Heavy Trucks: Unmitigated Noiss VehicleType Autos: Medium Trucks: Heavy Trucks: Vehicle Noise:	70.20 81.00 85.38 e Levels (with Leq Peak Hot 71 68 71 75	2.58 -11.54 -12.84 out Topo and a rr Leq Day 5 ( 2 ( 3 ) .4 ) ontour (in feet)	barrier a 69.7 66.8 70.0 73.8	-0.07 -0.04 -0.05 atteni eq Ev	7 4 5 <i>vening</i> 67.7 60.9 64.0 69.8 <i>IBA</i>	-1.20 -1.20 -1.20 <i>Leq</i>	-4. -4. -5 Night 61.7 58.0 58.7 64.6	70 88 32	0.0 0.0 0.0 <i>Ldn</i> 70.4 66.9 69.1 73.8	000 000 000 100 100 100 100 100 100 100	0.000 0.000 NEL 71.0 67.2 69.4 74.2

Tuesday, March 19, 2019

	FHV	VA-RD-77-108	HIGHWA	Y NO	ISE PF	EDICTIC	N MO	DEL			
Road Nam	io: Existing e: Date Palm nt: n/o 30th Av					Project N Job Nui					
SITE	SPECIFIC IN	IPUT DATA				NC	DISE N	IODE		s	
Highway Data				Sit	te Con	ditions (H	lard =	10, So	ft = 15)		
	Traffic (Adt): 2 Percentage: lour Volume:	27,300 vehicle 10% 2,730 vehicle				dium Truc avy Truck	:ks (2 A		15 15 15		
Ve	hicle Speed:	50 mph		Ve	hicle I	Nix					
Near/Far La	ne Distance:	78 feet		-		cleType		Dav	Evening	Night	Daily
Site Data								78.2%	12.3%	9.5%	
Ba	rier Height:	0.0 feet			Me	dium Tru	cks:	85.9%	5.5%	8.6%	3.63%
Barrier Type (0-W	'all, 1-Berm):	0.0			H	leavy Tru	cks:	89.4%	5.6%	5.0%	2.69%
Centerline Dis		63.0 feet		No	oise So	urce Ele	vation	s (in fe	et)		
Centerline Dist.		63.0 feet				Autos:	0.0	000			
Barrier Distance		0.0 feet			Mediur	n Trucks:	2.2	297			
Observer Height (. Pa	Above Pad): ad Elevation:	5.0 feet 0.0 feet			Heav	y Trucks:	8.0	006	Grade Adj	iustment	: 0.0
Roa	ad Elevation:	0.0 feet		La	ne Equ	uivalent L	Distand	e (in f	eet)		
1	Road Grade:	0.0%				Autos:	49.3	729			
	Left View:	-90.0 degre	es		Mediur	n Trucks:	49.	551			
	Right View:	90.0 degre			Heav	y Trucks:	49.	568			
FHWA Noise Mode	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Distan	ce	Finite	Road	Fresn	el	Barrier Atte	en Bei	m Atten
Autos:	70.20	1.78		0.07		-1.20		-4.70	0.0	00	0.000
Medium Trucks:	81.00	-12.33		0.04		-1.20		-4.88	0.0	00	0.000
Heavy Trucks:	85.38	-13.64		0.05		-1.20		-5.32	0.0	00	0.00
Unmitigated Noise											
VehicleType	Leq Peak Hou			q Eve		Leq N			Ldn		NEL
Autos:	70		68.9		66.9		60.9		69.6		70.2
Medium Trucks:	67		66.0		60.1		57.2		66.1		66.4
Heavy Trucks:	70		69.2		63.2		57.9		68.3		68.
Vehicle Noise:	74		73.0		69.0		63.8		73.0	)	73.4
Centerline Distance	ce to Noise Co	ontour (in feet		70 dB	Δ	65 di	R4	6	0 dBA	55	dBA
			I dn:	100		215			463		98
		G	VEL:	100		230			496		069
		0.		.07		200	,				

	HWA	-RD-77-108	HIGH	HWAY N	IOISE PR	EDICT	ION MO	DEL			
Scenario: Existing Road Name: Date Pa Road Segment: n/o Ran	lm Dr						t Name: lumber:				
SITE SPECIFIC		UT DATA				ſ	IOISE I	NODE	L INPUT	s	
Highway Data				(a)	Site Con	ditions	(Hard =	: 10, S	oft = 15)		
Average Daily Traffic (Adt	): 27,	300 vehicles	5					Autos:	15		
Peak Hour Percentage	e:	10%			Med	dium Tr	ucks (2 )	Axles).	15		
Peak Hour Volume	e: 2,	730 vehicles	6		Hea	avy Tru	cks (3+ )	Axles).	15		
Vehicle Speed	1:	50 mph			Vehicle N	Niv					
Near/Far Lane Distance	ə:	78 feet		H		cleType	-	Day	Evening	Night	Daily
Site Data					1011		Autos:	78.2%	•	9.5%	
		0.0 feet			Me	dium T	nucks:	85.9%		8.6%	
Barrier Heigh Barrier Type (0-Wall, 1-Berm		0.0 feet					rucks:	89.4%		5.0%	
Centerline Dist. to Barrie		63.0 feet									
Centerline Dist. to Observe		63.0 feet		1	Noise So				eet)		
Barrier Distance to Observe		0.0 feet				Auto		000			
Observer Height (Above Pad		5.0 feet			Mediun			297			
Pad Elevation		0.0 feet			Heav	y Truck	's: 8.	006	Grade Ad	justment.	0.0
Road Elevation	n:	0.0 feet		1	Lane Equ	ıivalen	t Distan	ce (in	feet)		
Road Grade	e:	0.0%				Auto	s: 49.	729			
Left Viev	v: -	-90.0 degree	s		Mediun	n Truck	s: 49.	551			
Right View	V:	90.0 degree	s		Heav	y Truck	's: 49.	568			
FHWA Noise Model Calculat	ions										
VehicleType REMEL	T	raffic Flow	Dis	stance	Finite	Road	Fresi	nel	Barrier Att	en Ber	m Atten
	20	1.78		-0.07		-1.20		-4.70		000	0.00
Medium Trucks: 81		-12.33		-0.04		-1.20		-4.88		000	0.00
Heavy Trucks: 85	.38	-13.64		-0.05	5	-1.20		-5.32	0.0	000	0.00
Unmitigated Noise Levels (w					í ,						
VehicleType Leq Peak		Leq Day		Leq Ev		Leq	Night		Ldn 69.0		VEL 70.
Autos:	70.7		38.9 36.0		66.9		60.9 57.2		69.0	-	70. 66.
Medium Trucks:	67.4 70.5		56.0 59.2		60.1 63.2		57.3	-	68.3		68.
Heavy Trucks:								-		-	
Vehicle Noise:	74.6		73.0		69.0		63.	5	73.0	J	73.
Centerline Distance to Noise	Con	tour (in feet,	1	70 c	₩RΔ	65	dBA	1	60 dBA	55	dBA
			l dn:	10			15	· · · ·	463		98

Tuesday, March 19, 2019

Scenario:	victing					Proiect	Nomo	2000	>			
Road Name: 1		٦r					imber:					
Road Segment: 1						000 110	innocr.	11473				
-								100		TC		
SILE SPE Highway Data	CIFIC IN	PUT DATA			Site Con				EL INPU	15		
Average Daily Trat	fic (Adt): 2	9 400 vohiclos			0.10 00.1	unuono		Autos	,			
Peak Hour Per	. ,	10%			Me	dium Tru						
Peak Hour		2.840 vehicles				avy Truc						
	e Speed:	45 mph					101017	5000)	10			
Near/Far Lane [		78 feet			Vehicle I					1		
	nstance.	70 1000			Vehi	icleType		Day	Evenin	~	ight	Daily
Site Data								78.2%				93.68%
Barrier	Height:	0.0 feet				edium Tr		85.9%		-	8.6%	3.63%
Barrier Type (0-Wall,	1-Berm):	0.0			F	leavy Tr	ucks:	89.4%	5.69	6	5.0%	2.69%
Centerline Dist. to	Barrier:	63.0 feet		F	Noise Sc	ource El	vation	s (in f	eet)			
Centerline Dist. to C	bserver:	63.0 feet		F		Autos		000	,			
Barrier Distance to C	bserver:	0.0 feet			Mediur	n Trucks		297				
Observer Height (Abo	ve Pad):	5.0 feet				y Trucks		006	Grade	Adiust	ment:	0.0
Pad E	levation:	0.0 feet				, ,						
	levation:	0.0 feet		-	Lane Eq				feet)			
	d Grade:	0.0%				Autos						
-	eft View:	-90.0 degree				n Trucks						
Rig	ght View:	90.0 degree	S		Heav	y Trucks	: 49.	568				
FHWA Noise Model C	alculations	5										
VehicleType F	REMEL	Traffic Flow	Dista	ance	Finite	Road	Fresn	el	Barrier	Atten	Berr	n Atten
Autos:	68.46	2.41		-0.0	17	-1.20		-4.70		0.000		0.00
Medium Trucks:	79.45	-11.71		-0.0	4	-1.20		-4.88		0.000		0.00
Heavy Trucks:	84.25	-13.01		-0.0	15	-1.20		-5.32		0.000		0.00
Unmitigated Noise Le	vels (with	out Topo and I	oarrier	atter	nuation)							
VehicleType Leo	Peak Hou	r Leq Day	L	Leq E	vening	Leq I	Vight		Ldn		CN	IEL
Autos:	69.	6 6	7.7		65.8		59.8		6	8.5		69.
Medium Trucks:	66.	5 6	5.0		59.2		56.3		6	5.2		65.
Heavy Trucks:	70.	0 6	8.7		62.7		57.4		6	7.8		68.
Vehicle Noise:	73.	7 7	2.2		68.1		62.9	1	7	2.1		72.
Centerline Distance to	o Noise Co	ntour (in feet)										
				70	dBA	65 0	IBA		60 dBA		55 0	dBA
		L	.dn:	8	38	18	9		406		87	75

	FHV	/A-RD-77-108 HI	GHWAY	NOISE PF	REDICTIO	N MODEL			
Road Nam	o: Existing e: Date Palm I nt: n/o Gerald I					ame: CCG nber: 1147			
SITE	SPECIFIC IN	PUT DATA			NC	ISE MOD	EL INPUT	S	
Highway Data				Site Con	ditions (H	lard = 10, S	Soft = 15)		
Average Daily	Traffic (Adt): 2	5,500 vehicles				Autos	: 15		
Peak Hour	Percentage:	10%		Me	dium Truc	ks (2 Axles	: 15		
Peak H	our Volume:	2,550 vehicles		He	avy Truck	s (3+ Axles	: 15		
Ve	hicle Speed:	40 mph		Vehicle I	<i>a</i>				
Near/Far La	ne Distance:	78 feet			icleType	Dav	Evening	Night	Daily
Site Data				ven		tos: 78.2	~	9.5%	
				Me	dium Tru			8.6%	3.63%
	rier Height:	0.0 feet			leavy Tru			5.0%	2.69%
Barrier Type (0-W		0.0			,			5.070	2.0370
Centerline Dis Centerline Dist.		63.0 feet 63.0 feet		Noise Sc	ource Ele	vations (in	feet)		
Barrier Distance		0.0 feet			Autos:	0.000			
Observer Height (		5.0 feet		Mediur	n Trucks:	2.297			
	ad Elevation:	0.0 feet		Heav	y Trucks:	8.006	Grade Ac	ljustment.	0.0
	ad Elevation: ad Elevation:	0.0 feet		Lane Eq	uivalent I	Distance (ir	feet)		
	Road Grade:	0.0%			Autos:	49.729			
,	Left View:	-90.0 degrees		Modiur	n Trucks:	49.551			
	Right View:	90.0 degrees			y Trucks:	49.568			
FHWA Noise Mode	el Calculations	5							
VehicleType	REMEL	Traffic Flow	Distance	Finite	Road	Fresnel	Barrier At	ten Ber	m Atten
Autos:	66.51	2.46	-0.0	07	-1.20	-4.70	0.	000	0.000
Medium Trucks:	77.72	-11.66	-0.0	04	-1.20	-4.88	0.	000	0.000
Heavy Trucks:	82.99	-12.96	-0.0	05	-1.20	-5.32	0.	000	0.000
Unmitigated Noise									
VehicleType	Leq Peak Hou			Evening	Leq N	•	Ldn		VEL
Autos:	67.		-	63.8		57.9	66.		67.2
Medium Trucks:	64.			57.5		54.6	63.		63.8
Heavy Trucks:	68.		-	61.5		56.2	66.	-	66.9
Vehicle Noise:	72.	2 70.	7	66.4		61.2	70.	5	71.0
Centerline Distand	ce to Noise Co	ntour (in feet)							
				) dBA	65 dE		60 dBA		dBA
		Ldr		68	148		318		85
		CNEI	L:	73	158	6	340	7	32

### Tuesday, March 19, 2019

F	HWA-RD-77-1	08 HIGH	WAY NOIS		ION MC	DEL			
Scenario: Existing Road Name: Date Pa Road Segment: n/o Hwy					Name: lumber:				
SITE SPECIFIC	INPUT DAT	4		P	OISE	MODE		5	
Highway Data			Site	Conditions	(Hard =	: 10, So	ft = 15)		
Average Daily Traffic (Adt)	: 17,200 vehic	les				Autos:	15		
Peak Hour Percentage	: 10%			Medium Tr	ucks (2	Axles):	15		
Peak Hour Volume	1,720 vehic	les		Heavy Tru	cks (3+	Axles):	15		
Vehicle Speed	: 40 mph		Veh	icle Mix					
Near/Far Lane Distance	: 78 feet			VehicleType	9	Day	Evening	Night	Daily
Site Data					Autos:	78.2%	12.3%	9.5%	93.68%
Barrier Height	: 0.0 feet			Medium T	rucks:	85.9%	5.5%	8.6%	3.63%
Barrier Type (0-Wall, 1-Berm)	: 0.0			Heavy T	rucks:	89.4%	5.6%	5.0%	2.69%
Centerline Dist. to Barrier			Noi	se Source E	levatior	ıs (in fe	et)		
Centerline Dist. to Observer	00.0 1000			Auto	s: 0.	000			
Barrier Distance to Observer	0.0 1000		M	ledium Truck	s: 2	297			
Observer Height (Above Pad)				Heavy Truck	s: 8	006	Grade Adj	iustment	0.0
Pad Elevation Road Elevation			1 20	e Equivalen	t Dictor	co (in f	inot)		
Road Elevation Road Grade	0.0 1000		Lan	Auto		729	001/		
Left View	0.070	1000	N	edium Truck		.551			
Right View				Heavy Truck		.568			
FHWA Noise Model Calculati	ons								
VehicleType REMEL	Traffic Flov	/ Dist	ance F	inite Road	Fres	nel	Barrier Atte	en Ber	m Atten
Autos: 66.			-0.07	-1.20		-4.70	0.0		0.00
Medium Trucks: 77.			-0.04	-1.20		-4.88	0.0		0.00
Heavy Trucks: 82.			-0.05	-1.20		-5.32	0.0	00	0.00
Unmitigated Noise Levels (w				,		-			
VehicleType Leq Peak H			Leq Eveni		Night		Ldn		NEL
Autos: Medium Trucks:	66.0 63.1	64.1 61.6		62.1 55.8	56. 52	-	64.9 61.8		65.4 62.1
Heavy Trucks:	67.1	65.8		59.8	52. 54.	-	64.9		65.3
Vehicle Noise:	70.5	68.9		64.7	54.	-	68.8		69.3
Centerline Distance to Noise	Contour (in fe	et)							
	•	Í	70 dBA	65	dBA	6	0 dBA	55	dBA
		Ldn:	53	1	13		245	5	27
		CNFI :	56	4	21		261	6	63

Fł	WA-RD-77-108	HIGHW	AY NO		TION MO	DDEL			
Scenario: Existing Road Name: Da Vall D Road Segment: n/o Ramo					ct Name: Number:				
SITE SPECIFIC I	NPUT DATA				NOISE	MODE		s	
Highway Data			Si	te Condition	s (Hard :	= 10, So	oft = 15)		
Average Daily Traffic (Adt):	8,700 vehicles					Autos:	15		
Peak Hour Percentage:	10%			Medium 7	rucks (2	Axles):	15		
Peak Hour Volume:	870 vehicles			Heavy Tr	ucks (3+	Axles):	15		
Vehicle Speed:	45 mph		14	ehicle Mix					
Near/Far Lane Distance:	60 feet			VehicleTyp	0	Day	Evening	Night	Daily
Site Data				veniereryp	Autos:	78.2%		9.5%	
	0.0 feet			Medium		85.9%		8.6%	3.63%
Barrier Height: Barrier Type (0-Wall, 1-Berm):	0.0 feet				Trucks:			5.0%	
Centerline Dist. to Barrier:	56.0 feet								
Centerline Dist. to Observer:	56.0 feet		N	oise Source			eet)		
Barrier Distance to Observer:	0.0 feet			Aut		.000			
Observer Height (Above Pad):	5.0 feet			Medium Truc		.297			
Pad Elevation:	0.0 feet			Heavy Truc	ks: 8	.006	Grade Ad	justment:	0.0
Road Elevation:	0.0 feet		Lá	ane Equivale	nt Dista	nce (in	feet)		
Road Grade:	0.0%			Aut	os: 47	.550			
Left View:	-90.0 degree	s		Medium Truc	ks: 47	.364			
Right View:	90.0 degree			Heavy Truc	ks: 47	.382			
FHWA Noise Model Calculatio	ns								
VehicleType REMEL	Traffic Flow	Distan	ice	Finite Road	Fres	nel	Barrier Att	en Ber	m Atten
Autos: 68.4	6 -2.73		0.22	-1.20	)	-4.67	0.0	000	0.00
Medium Trucks: 79.4			0.25	-1.20		-4.87		000	0.00
Heavy Trucks: 84.2			0.25	-1.20	)	-5.37	0.0	000	0.00
Unmitigated Noise Levels (wit		-		,		-			
VehicleType Leq Peak H			eq Eve		q Night		Ldn		VEL
		52.9		60.9	55		63.6		64.
		0.2 3.9		54.3 57.9	51 52		60.3 63.0	-	60.
								-	63.
		67.4		63.3	58	.0	67.3	5	67.
Centerline Distance to Noise	contour (in feet)		70 dE	84 6	5 dBA		60 dBA	55	dBA
		dn:			80		172		70
			37						

Tuesday, March 19, 2019

Cooperie	. Eviating					Droject	Name: C	COR			
	2: Existing 2: Da Vall Dr.						umber: 1				
Road Segmen		Rd				500 14	uniber. I	1475			
÷											
	PECIFIC IN	PUT DATA							L INPUTS	;	
Highway Data					Site Con	ditions					
Average Daily 1	raffic (Adt):	8,000 vehicles						utos:	15		
Peak Hour F		10%					icks (2 A				
Peak Ho	our Volume:	800 vehicles			Hea	avy Truc	ks (3+ A	xles):	15		
	icle Speed:	50 mph			Vehicle I	Mix					
Near/Far Lan	e Distance:	60 feet		-		cleType	[	Day	Evening	Night	Daily
Site Data								8.2%	•	9.5%	
	rier Height:	0.0 feet			Ме	edium Tr	ucks: 8	5.9%	5.5%	8.6%	3.639
Barrier Type (0-Wa		0.0			E	leavy Tr	ucks: 8	9.4%	5.6%	5.0%	2.699
Centerline Dis	. ,	56.0 feet				,					
Centerline Dist. ti		56.0 feet		1	Noise So				eet)		
Barrier Distance to		0.0 feet				Autos					
Observer Height (A		5.0 feet				n Trucks					
0 1	d Elevation:	0.0 feet			Heav	y Trucks	8.0	06	Grade Adju	istment.	0.0
	d Elevation:	0.0 feet			Lane Equ	uivalent	Distanc	e (in f	feet)		
F	oad Grade:	0.0%				Autos	: 47.5	50			
	Left View:	-90.0 degree	s		Mediur	n Trucks	: 47.3	64			
	Right View:	90.0 degree			Heav	y Trucks	47.3	82			
FHWA Noise Mode	I Calculations	5									
VehicleType	REMEL	Traffic Flow	Distar	nce	Finite	Road	Fresne	2	Barrier Atte	n Ber	m Atter
Autos:	70.20	-3.55		0.22	2	-1.20	-	4.67	0.0	00	0.00
Medium Trucks:	81.00	-17.67		0.2	5	-1.20	-	4.87	0.0	00	0.00
Heavy Trucks:	85.38	-18.97		0.2	5	-1.20	-	5.37	0.0	00	0.00
Unmitigated Noise											
	Leq Peak Hou			eq Ei	vening	Leq I			Ldn	Cl	VEL
Autos:	65.		3.8		61.8		55.9		64.6		65
Medium Trucks:	62.		0.9		55.0		52.2		61.1		61.
Heavy Trucks:	65.		4.2		58.2		52.9		63.3		63.
Vehicle Noise:	69.		8.0		64.0		58.7		68.0		68.
Centerline Distanc	e to Noise Co	ntour (in feet)		70 (	ND A	65 (	ND A	6	0 dBA	55	dBA
				100				0			
		,	dn:	4	1	8	8		190	1	09

	FHV	VA-RD-77-108	HIGHW	VAYN		EDICTI	ON MO				
Road Nan	rio: Existing ne: Bob Hope I ent: n/o I-10 WB					Project Job Ni	Name: Imber:				
SITE	SPECIFIC IN	IPUT DATA							L INPUT	s	
Highway Data					Site Con	ditions (	Hard =	10, So	oft = 15)		
Average Daily	Traffic (Adt):	13,000 vehicle	s					Autos:	15		
Peak Hour	Percentage:	10%			Med	dium Tru	cks (2 /	(xles)	15		
Peak H	our Volume:	1,300 vehicle	s		Hea	avy Truc	ks (3+ /	(xles)	15		
Ve	hicle Speed:	55 mph		-	Vehicle N	Aise .					
Near/Far La	ne Distance:	78 feet		-		cleType		Day	Evening	Night	Daily
Site Data					Veni		utos:	78.2%	v	9.5%	
					Ma	dium Tr		85.9%		8.6%	
	rrier Height:	0.0 feet				leavy Tr		89.4%		5.0%	
Barrier Type (0-V	. ,	0.0				cavy m	uons.	05.470	0.070	0.07	2.007
	ist. to Barrier:	63.0 feet		1	Noise So	urce Ele	evation	s (in fe	eet)		
Centerline Dist. Barrier Distance		63.0 feet				Autos	: 0.0	000			
		0.0 feet			Mediun	n Trucks	: 2.:	297			
Observer Height	· ,	5.0 feet			Heav	y Trucks	: 8.0	006	Grade Ad	justmen	t: 0.0
	ad Elevation: ad Elevation:	0.0 feet 0.0 feet		H	Lane Equ	iivələnt	Distan	no (in	foot)		
	au Elevalion. Road Grade:	0.0%		F	Lano Lqu	Autos					
	Left View:	-90.0 degree			Modium	n Trucks					
	Right View:	90.0 degree				v Trucks					
	rugin nom.	00.0 009.0				,					
FHWA Noise Mod		-	Dista		Finite	Deed	<b>E</b>	-1	Damian Au		
VehicleType	REMEL	Traffic Flow	Dista		Finite		Fresr	-	Barrier Att		rm Atten
VehicleType Autos:	REMEL 71.78	Traffic Flow -1.85	Dista	-0.0	7	-1.20		-4.70	0.0	000	0.000
VehicleType Autos: Medium Trucks:	REMEL 71.78 82.40	Traffic Flow -1.85 -15.97		-0.0	7 4	-1.20 -1.20		-4.70 -4.88	0.0 0.0	000	0.000
VehicleType Autos: Medium Trucks: Heavy Trucks:	REMEL 71.78 82.40 86.40	Traffic Flow -1.85 -15.97 -17.27		-0.0 -0.0	7 4 5	-1.20		-4.70	0.0 0.0	000	0.000
VehicleType Autos: Medium Trucks: Heavy Trucks: <b>Unmitigated Nois</b>	REMEL 71.78 82.40 86.40 e Levels (with	Traffic Flow -1.85 -15.97 -17.27 out Topo and	barrier	-0.0 -0.0 -0.0	7 4 5 nuation)	-1.20 -1.20 -1.20		-4.70 -4.88	0.0 0.0	000	0.000
VehicleType Autos: Medium Trucks: Heavy Trucks:	REMEL 71.78 82.40 86.40 e Levels (with Leq Peak Hou	Traffic Flow -1.85 -15.97 -17.27 <b>out Topo and</b> Ir Leq Day	barrier	-0.0 -0.0 -0.0	7 4 5	-1.20 -1.20		-4.70 -4.88 -5.32	0.0 0.0 0.0	000	0.000 0.000 0.000
VehicleType Autos: Medium Trucks: Heavy Trucks: <b>Unmitigated Nois</b> VehicleType	REMEL 71.78 82.40 86.40 e Levels (with Leq Peak Hou 68	Traffic Flow           -1.85           -15.97           -17.27           out Topo and           ir         Leq Day           .7	barrier	-0.0 -0.0 -0.0	7 4 5 <b>nuation)</b> ivening	-1.20 -1.20 -1.20	Vight	-4.70 -4.88 -5.32	0.0 0.0 0.0 <i>Ldn</i>	000 000 000	0.000 0.000 0.000 0.000 CNEL 68.1
VehicleType Autos: Medium Trucks: Heavy Trucks: Unmitigated Nois VehicleType Autos: Medium Trucks:	REMEL 71.78 82.40 86.40 e Levels (with Leq Peak Hou 68 65	Traffic Flow           -1.85           -15.97           -17.27           out Topo and           rr           Leq Day           .7           .2	<b>barrier</b> / [	-0.0 -0.0 -0.0	7 4 5 <i>nuation)</i> <i>vening</i> 64.8	-1.20 -1.20 -1.20	Vight 58.9	-4.70 -4.88 -5.32	0.0 0.0 0.0 <i>Ldn</i> 67.5	000 000 000 000 000	0.000 0.000 0.000 CNEL 68.1 64.2
VehicleType Autos: Medium Trucks: Heavy Trucks: <b>Unmitigated Nois</b> VehicleType Autos:	REMEL 71.78 82.40 86.40 e Levels (with Leg Peak Hou 68 65 65	Traffic Flow           -1.85           -15.97           -17.27           out Topo and           rr           Leq Day           .7           .2           .9	barrier /	-0.0 -0.0 -0.0	7 4 5 <i>ivening</i> 64.8 57.9	-1.20 -1.20 -1.20	Vight 58.9 55.0	-4.70 -4.88 -5.32	0.0 0.0 0.0 <i>Ldn</i> 67.5 63.5	000 000 000 5 5 7	0.000 0.000 0.000 <i>ENEL</i> 68.7 64.2 66.0
VehicleType Autos: Medium Trucks: Heavy Trucks: <b>Unmitigated Nois</b> VehicleType Autos: Medium Trucks: Heavy Trucks: Vehicle Noise:	REMEL           71.78         82.40           86.40         86.40           e Levels (with         68           65         67           72         72	Traffic Flow           -1.85           -15.97           -17.27           Out Topo and           rr           Leq Day           .7           .2           .9           .2	barrier / 1 66.8 63.7 66.6 70.7	-0.0 -0.0 -0.0	7 4 5 vening 64.8 57.9 60.6	-1.20 -1.20 -1.20	Vight 58.9 55.0	-4.70 -4.88 -5.32	0.0 0.0 <i>Ldn</i> 67.5 63.5 65.7	000 000 000 5 5 7	0.000 0.000 0.000 CNEL 68. 64.2 64.2
VehicleType Autos: Medium Trucks: Heavy Trucks: <b>Unmitigated Nois</b> VehicleType Autos: Medium Trucks: Heavy Trucks: Vehicle Noise:	REMEL           71.78         82.40           86.40         86.40           e Levels (with         68           65         67           72         72	Traffic Flow           -1.85           -15.97           -17.27           Out Topo and           rr           Leq Day           .7           .2           .9           .2	barrier / 1 66.8 63.7 66.6 70.7	-0.0 -0.0 -0.0 <b>atten</b> Leq E	7 4 5 vening 64.8 57.9 60.6	-1.20 -1.20 -1.20	Vight 58.9 55.0 55.3 61.5	-4.70 -4.88 -5.32	0.0 0.0 <i>Ldn</i> 67.5 63.5 65.7	000 000 000 5 7 7	0.000 0.000 0.000 <i>ENEL</i> 68.7 64.2 66.0
VehicleType Autos: Medium Trucks: Heavy Trucks: Unmitigated Nois VehicleType Autos: Medium Trucks: Heavy Trucks:	REMEL           71.78         82.40           86.40         86.40           e Levels (with         68           65         67           72         72	Traffic Flow           -1.85           -15.97           -17.27           out Topo and           Ir         Leq Day           .7           .2           .9           .2           ontour (in feet)	barrier / 1 66.8 63.7 66.6 70.7	-0.0 -0.0 -0.0 atten Leg E	7 4 5 5 5 5 7 9 60.6 66.8	-1.20 -1.20 -1.20 <i>Leq I</i>	Vight 58.9 55.0 55.3 61.9	-4.70 -4.88 -5.32	0.0 0.0 <i>Ldn</i> 67.5 63.5 65.7 70.7	000 000 000 5 7 7 7	0.000 0.000 0.000 CNEL 68.1 64.2 66.0 71.2

Tuesday, March 19, 2019

	FHV	VA-RD-77-108	HIGHW	AY N	OISE PF	REDICTIO	N MOI	DEL			
	o: Existing e: Bob Hope I at: s/o I-10 EB					Project N Job Nur					
SITE S	SPECIFIC IN	IPUT DATA				NO	ISE N	IODEI	L INPUTS	5	
Highway Data				S	lite Con	ditions (H	lard =	10, So	ft = 15)		
	Traffic (Adt): 2 Percentage: our Volume:	22,000 vehicle: 10% 2,200 vehicle:				dium Truc avy Truck:	ks (2 A	,	15 15 15		
Vel	hicle Speed:	55 mph		v	ehicle l	Mix					
Near/Far Lar	ne Distance:	78 feet		-		icleType		Day	Evening	Night	Daily
Site Data								78.2%	12.3%	9.5%	
Bar	rier Height:	0.0 feet			Me	edium Truc	cks:	85.9%	5.5%	8.6%	3.63%
Barrier Type (0-Wa	all, 1-Berm):	0.0			ŀ	leavy Tru	cks:	89.4%	5.6%	5.0%	2.69%
Centerline Dis		63.0 feet		٨	loise Sc	ource Elev	ation	s (in fe	et)		
Centerline Dist. t		63.0 feet				Autos:	0.0	00	,		
Barrier Distance t		0.0 feet			Mediur	n Trucks:	2.2	97			
Observer Height (/	Above Pad): d Elevation:	5.0 feet 0.0 feet			Heav	y Trucks:	8.0	06	Grade Adj	ustment	: 0.0
	d Elevation:	0.0 feet		L	ane Eq	uivalent D	Distand	e (in f	eet)		
	Road Grade:	0.0%				Autos:	49.7				
	Left View:	-90.0 deares	s		Mediur	n Trucks:	49.5	551			
	Right View:	90.0 degree			Heav	y Trucks:	49.5	68			
FHWA Noise Mode	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Distar	ice	Finite	Road	Fresn	el I	Barrier Atte	en Ber	m Atten
Autos:	71.78	0.43		-0.07		-1.20		4.70	0.0		0.00
Medium Trucks:	82.40	-13.69		-0.04		-1.20		4.88	0.0		0.00
Heavy Trucks:	86.40	-14.99		-0.05		-1.20		-5.32	0.0	00	0.00
Unmitigated Noise			1								
	Leq Peak Hou			eq Ev	ening	Leq Ni			Ldn		NEL
Autos:	70		69.1		67.1		61.2		69.8		70.4
Medium Trucks:	67		66.0		60.1		57.3		66.2		66.4
Heavy Trucks:	70		68.9		62.9		57.6		68.0		68.
Vehicle Noise:	74		73.0		69.1		63.8		73.0		73.
Centerline Distanc	e to Noise Co	ontour (in feet	)	70 d	DA I	65 dE	2.4	6	0 dBA	55	dBA
			1					6			
			Ldn: VFL:	10	-	215 231			464 497	-	99
		CI	VEL:	10	(	231			497	1,	071

	FH\	NA-RD-77-108	HIGH	IWAY N	IOISE PF	REDICTIO	ON MO	DEL			
Scenar	io: Existing					Project N	lame:	CCGP			
Road Nan	e: Varner Rd.					Job Nu	mber:	11475			
Road Segme	nt: e/o Palm D	r.									
SITE	SPECIFIC IN	IPUT DATA							L INPUT	s	
Highway Data				1	Site Con	ditions (l	Hard =	: 10, So	oft = 15)		
Average Daily	Traffic (Adt):	1,900 vehicle	s					Autos:	15		
Peak Hour	Percentage:	10%			Mee	dium Truo	cks (2 )	Axles):	15		
Peak H	lour Volume:	190 vehicle	s		Hea	avy Truck	(3+ )	Axles):	15		
	hicle Speed:	55 mph		1	Vehicle I	Mix					
Near/Far La	ne Distance:	60 feet				icleTvpe		Dav	Evening	Night	Daily
Site Data						A	itos:	78.2%			93.689
Ba	rrier Height:	0.0 feet			Me	edium Tru	icks:	85.9%	5.5%	8.6%	3.63%
Barrier Type (0-V	•	0.0			F	leavy Tru	icks:	89.4%	5.6%	5.0%	2.69%
Centerline Di		56.0 feet		-							
Centerline Dist.	to Observer:	56.0 feet		1	Noise So	ource Ele			eet)		
Barrier Distance	to Observer:	0.0 feet				Autos:		000			
Observer Height	(Above Pad):	5.0 feet				n Trucks:		297	Grade Ad	i unternant	
- P	ad Elevation:	0.0 feet			Heav	y Trucks:	8.	006	Graue Mu	Jusuneni	0.0
Ro	ad Elevation:	0.0 feet		1	Lane Equ	uivalent	Distan	ce (in i	feet)		
	Road Grade:	0.0%				Autos:	47.	550			
	Left View:	-90.0 degree	es		Mediur	n Trucks:	47.	364			
	Right View:	90.0 degree	es		Heav	y Trucks:	47.	382			
FHWA Noise Mod	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fresi	nel	Barrier Att	en Ber	m Atten
Autos:	71.78	-10.20		0.22	2	-1.20		-4.67	0.0	000	0.00
Medium Trucks:	82.40	-24.32		0.25	5	-1.20		-4.87	0.0	000	0.00
Heavy Trucks:	86.40	-25.62		0.25	5	-1.20		-5.37	0.0	000	0.00
Unmitigated Nois	e Levels (with	out Topo and	barrie	er atten	uation)						
VehicleType	Leq Peak Hou			Leg Ev		Leq N			Ldn		VEL
Autos:	60		58.7		56.7		50.8		59.5		60.
Medium Trucks:			55.7		49.8		46.9		55.8		56.
Heavy Trucks:		-	58.5		52.6		47.2		57.6		58.
Vehicle Noise:	64	.2	62.6		58.7		53.	5	62.	7	63
Centerline Distan	ce to Noise Co	ontour (in feet	)								
					dBA	65 d		6	i0 dBA		dBA
			Ldn:	18	8	39			84	1	82
			NEL:	1		42			90		95

Tuesday, March 19, 2019

	p: Existing					Proiect N	ame: (	CCGP			
	e: Varner Rd.					Job Nur					
Road Segmen	t: w/o Date Pa	alm Dr.									
	SPECIFIC IN	PUT DATA								s	
Highway Data				2	site Con	ditions (F		· ·	,		
Average Daily	, ,		S					Autos:	15		
	Percentage:	10%				dium Truc		/			
	our Volume:	1,620 vehicles	S		Hea	avy Truck	s (3+ A	xles):	15		
	nicle Speed:	55 mph		1	/ehicle N	<i>lix</i>					
Near/Far Lar	ne Distance:	78 feet			Vehi	cleType		Day	Evening	Night	Daily
Site Data						Au	tos:	78.2%	12.3%	9.5%	93.68
Bar	rier Heiaht:	0.0 feet			Me	dium Tru	cks:	85.9%	5.5%	8.6%	3.63
Barrier Type (0-Wa		0.0			H	leavy Tru	cks:	89.4%	5.6%	5.0%	2.69
Centerline Dis		63.0 feet		٨	Voise So	urce Ele	ations	s (in fe	eet)		
Centerline Dist. t		63.0 feet				Autos:	0.0		,		
Barrier Distance t	o Observer:	0.0 feet			Mediun	n Trucks:	2.2	97			
Observer Height (/	,	5.0 feet			Heav	v Trucks:	8.0	06	Grade Ad	iustment	: 0.0
	d Elevation:	0.0 feet									
	d Elevation:	0.0 feet		1	ane Equ	uivalent L			leet)		
F	Road Grade:	0.0%				Autos:	49.7				
	Left View:	-90.0 degree				n Trucks:	49.5				
	Right View:	90.0 degree	es		Heav	y Trucks:	49.5	68			
FHWA Noise Mode		-									
VehicleType	REMEL	Traffic Flow	Distan		Finite		Fresn	-	Barrier Att		m Atten
Autos:	71.78	-0.90		-0.07		-1.20		4.70		000	0.00
Medium Trucks:	82.40	-15.01		-0.04		-1.20		4.88		000	0.00
Heavy Trucks:	86.40	-16.32		-0.05		-1.20		-5.32	0.0	000	0.00
Unmitigated Noise											
	Leq Peak Hou			eq Ev	ening	Leq N	· ·		Ldn		NEL
Autos:	69	-	67.8		65.8		59.8		68.5		69
Medium Trucks:	66		64.7		58.8		55.9		64.8		65
Heavy Trucks:	68		67.6		61.6		56.3		66.6	·	67
	73	-	71.6		67.8		62.5		71.7	·	72
Vehicle Noise:			)								
Centerline Distanc	e to Noise Co	ontour (in feet	, 	70 -	0.4	05 45	24				-10.4
	e to Noise Co		, Ldn:	70 d		65 dE		6	0 dBA 378		dBA

	FHV	VA-RD-77-108 H	IGHWA	NOISE PR	REDICTIO	ON MODE	ΞL			
Road Nam	o: Existing e: Varner Rd. ht: e/o Date Pa	alm Dr.				Vame: CC Imber: 11				
SITE	SPECIFIC IN	IPUT DATA			N	DISE MO	DDEL I	INPUT	s	
Highway Data				Site Con	ditions (	Hard = 10	), Soft	= 15)		
Average Daily	Traffic (Adt):	4,800 vehicles				Au	itos:	15		
Peak Hour	Percentage:	10%		Me	dium Tru	cks (2 Axi	les):	15		
Peak H	our Volume:	480 vehicles		He	avy Trucl	ks (3+ Axi	les):	15		
Vei	hicle Speed:	55 mph								
Near/Far La		60 feet		Vehicle I					Alladat	Delle
Site Data				ven	icleType	Utos: 78		vening	Night	Daily
					Al dium Tri		3.2% 5.9%	12.3%	9.5%	93.68% 3.63%
	rier Height:	0.0 feet					9.9% 9.4%	5.6%	5.0%	
Barrier Type (0-W	. ,	0.0		,	leavy Tru	ICKS: 85	9.4%	5.6%	5.0%	2.69%
Centerline Dis		56.0 feet		Noise So	ource Ele	vations (	in feet	)		
Centerline Dist.		56.0 feet			Autos.	: 0.00	0			
Barrier Distance		0.0 feet		Mediu	n Trucks.	2.29	7			
Observer Height (	,	5.0 feet		Heav	v Trucks.	8.00	6 GI	rade Adj	justment.	0.0
	d Elevation:	0.0 feet		Lana Fr		Distance	() f= -	4		
	d Elevation:	0.0 feet		Lane Eq		Distance		et)		
F	Road Grade:	0.0%			Autos.					
	Left View:	-90.0 degrees			m Trucks.					
	Right View:	90.0 degrees		Heav	y Trucks.	47.38	2			
FHWA Noise Mode	el Calculation	s								
VehicleType	REMEL	Traffic Flow	Distance			Fresnel		rrier Att		m Atten
Autos:	71.78	-6.18		.22	-1.20		.67		000	0.000
Medium Trucks:	82.40	-20.30		.25	-1.20		.87		000	0.000
Heavy Trucks:	86.40	-21.60	C	.25	-1.20	-5	.37	0.0	000	0.000
Unmitigated Noise										
1	Leq Peak Hou	1 1		Evening	Leq N	•	Lo			VEL
Autos:	64			60.8		54.8		63.5		64.1
Medium Trucks:	61			53.8		50.9		59.8		60.1
Heavy Trucks:	63		-	56.6		51.3		61.7		62.0
Vehicle Noise:	68	.2 66	.7	62.8		57.5		66.7	7	67.1
Centerline Distand	e to Noise Co	ontour (in feet)					_			
				0 dBA	65 d		60 0			dBA
		Lo		34	73		15			37
		CNE	EL:	36	78	3	16	68	3	61

### Tuesday, March 19, 2019

	FHW	/A-RD-77-108	HIGH	IWAY I	NOISE PF	REDICTIO	N MODEL			
Scenario: E Road Name: \ Road Segment: e	/alley Cent						ame: CCGP nber: 11475			
SITE SPE	CIFIC IN	PUT DATA				NO	ISE MODE	L INPUT	S	
Highway Data					Site Con	ditions (H	ard = 10, Se	oft = 15)		
Average Daily Traf	fic (Adt):	100 vehicle	s				Autos:	15		
Peak Hour Pere	centage:	10%			Me	dium Truck	(2 Axles):	15		
Peak Hour	Volume:	10 vehicle	s		He	avy Trucks	: (3+ Axles):	15		
	e Speed:	55 mph		-	Vehicle I	Mix				
Near/Far Lane D	Distance:	60 feet		-	Vehi	cleType	Dav	Evening	Night	Daily
Site Data						Aut	os: 78.2%	•	9.5%	
Barrier	Height:	0.0 feet			Me	edium Truc	ks: 85.9%	5.5%	8.6%	3.63%
Barrier Type (0-Wall,		0.0			F	łeavy Truc	ks: 89.4%	5.6%	5.0%	2.69%
Centerline Dist. to		56.0 feet		H	Noine Co	uree Elev	ations (in f	a a 41		
Centerline Dist. to O	bserver:	56.0 feet		-	NOISe SC	Autos:	0.000	eel)		
Barrier Distance to O	bserver:	0.0 feet			Modiuu	n Trucks:	2.297			
Observer Height (Abo	ve Pad):	5.0 feet				y Trucks:	8.006	Grade Ad	ustment	0.0
Pad E	levation:	0.0 feet		_						0.0
	levation:	0.0 feet		-	Lane Eq		istance (in	feet)		
	d Grade:	0.0%				Autos:	47.550			
	eft View:	-90.0 degre				n Trucks:	47.364			
Rig	ht View:	90.0 degre	es		Heav	y Trucks:	47.382			
FHWA Noise Model C		-								
	REMEL	Traffic Flow	Dis	tance	Finite		Fresnel	Barrier Atte		m Atten
Autos:	71.78	-22.99		0.2	-	-1.20	-4.67	0.0		0.00
Medium Trucks:	82.40	-37.11		0.2		-1.20	-4.87	0.0		0.000
Heavy Trucks:	86.40	-38.41		0.2	-	-1.20	-5.37	0.0	00	0.000
Unmitigated Noise Le					<u> </u>				T	
	Peak Hou			Leq E	vening	Leq Nig		Ldn		VEL
Autos:	47.	-	46.0		44.0		38.0	46.7		47.3
Medium Trucks:	44. 47.	-	42.9 45.8		37.0 39.8		34.1	43.0 44.8		43.
Heavy Trucks: Vehicle Noise:	47.	-	45.8 49.8		39.8 46.0		34.5 40.7	44.8		45.2
					46.0		40.7	49.9	,	50.
Centerline Distance to	o Noise Co	ntour (in fee	2	70	dBA	65 dB		60 dBA	55	dBA
			I dn:		aba 3	65 dB	M (	12		dBA 25
		C	NEL:		3 3	5		12		25 27
		0	* <b>L</b> L.		0	0		10	4	

F	HWA-RD-77-10	8 HIGH	WAY N	OISE PR	EDICTI		:L		
Scenario: Existing						Name: CC			
Road Name: Valley Ce					Job NL	imber: 11	475		
Road Segment: e/o Date	Palm Dr.								
SITE SPECIFIC	INPUT DATA						DEL INPU	TS	
Highway Data			s	Site Cond	litions (	Hard = 10	), Soft = 15)		
Average Daily Traffic (Adt).	100 vehicle	es				Au	tos: 15		
Peak Hour Percentage.	10%			Med	lium Tru	cks (2 Axl	es): 15		
Peak Hour Volume.	10 vehicle	es		Hea	vy Truc	ks (3+ Axl	es): 15		
Vehicle Speed.	55 mph		L.	ehicle N	liv				
Near/Far Lane Distance.	60 feet		-		leType	De	ay Evening	Night	Dailv
Site Data						utos: 78	.2% 12.3%	, v	93.68
Barrier Height	0.0 feet			Me	dium Tri	ucks: 85	.9% 5.5%	6 8.6%	3.63
Barrier Type (0-Wall, 1-Berm)				н	eavy Tri	ucks: 89	.4% 5.6%	6 5.0%	6 2.69
Centerline Dist. to Barrier				laina C-		evations (	in fact)		
Centerline Dist. to Observer	56.0 feet		^	ioise so			,		
Barrier Distance to Observer	0.0 feet				Autos				
Observer Height (Above Pad)	5.0 feet				Trucks				
Pad Elevation	0.0 feet			Heavy	/ Trucks	: 8.006	5 Grade A	Adjustmer	1. 0.0
Road Elevation	0.0 feet		L	ane Equ	ivalent	Distance	(in feet)		
Road Grade	0.0%				Autos	: 47.55	0		
Left View	-90.0 degre	ees		Medium	Trucks	: 47.36	4		
Right View	90.0 degre	ees		Heavy	/ Trucks	: 47.38	2		
FHWA Noise Model Calculation	ons								
VehicleType REMEL	Traffic Flow	Dist	ance	Finite I	Road	Fresnel	Barrier A	Atten Be	erm Atter
Autos: 71.7	'8 -22.99	9	0.22		-1.20	-4.	.67 (	0.000	0.00
Medium Trucks: 82.4	-37.11	1	0.25		-1.20	-4.	.87 (	0.000	0.00
Heavy Trucks: 86.4	-38.41	I	0.25		-1.20	-5.	.37 (	0.000	0.00
Unmitigated Noise Levels (wi	thout Topo and	d barrie	r attenı	uation)					
VehicleType Leq Peak H			Leq Ev		Leq I		Ldn		NEL
	47.8	46.0		44.0		38.0		6.7	47
	44.3	42.9		37.0		34.1		3.0	43
	47.0	45.8		39.8		34.5		4.8	45
	51.4	49.8		46.0		40.7	49	9.9	50
Centerline Distance to Noise	Contour (in fee	et)							-
		L	70 d		65 0		60 dBA	5	5 dBA
		Ldn: CNFL :	3		5		12 13		25 27

Tuesday, March 19, 2019

Seene	rio: Existing					Proiect I	Vamo: 1	0000			
	ne: Vallev Cent	or DI					mber:				
	nt: e/o Da Vall					300 ML	mber.	11475			
ů											
SITE Highway Data	SPECIFIC IN	PUT DATA		S	Site Con	N ditions (			L INPUTS off = 15)	5	
Average Daily	Traffic (Adt):	100 vehicles				unuenie (		Autos:	,		
,	Percentage:	10%			Me	dium Tru					
	lour Volume:	10 vehicles				avy Truc					
	hicle Speed:	55 mph		-				,	-		
	ane Distance:	60 feet		V	/ehicle I			_			
					Veni	cleType		Day	Evening	Night	Daily
Site Data				_				78.2%		9.5%	
	rrier Height:	0.0 feet				edium Tru		85.9%		8.6%	3.63%
Barrier Type (0-V	Vall, 1-Berm):	0.0			F	leavy Tri	icks:	89.4%	5.6%	5.0%	2.69%
	ist. to Barrier:	56.0 feet		٨	loise Sc	ource Ele	vation	s (in fe	eet)		
Centerline Dist.		56.0 feet				Autos	: 0.0	000	,		
Barrier Distance		0.0 feet			Mediur	n Trucks	: 2.2	297			
Observer Height	• /	5.0 feet			Heav	y Trucks	: 8.0	006	Grade Adj	ustment.	0.0
-	ad Elevation:	0.0 feet				,			,		
	ad Elevation:	0.0 feet		L	ane Equ	uivalent			reet)		
	Road Grade:	0.0%				Autos					
	Left View:	-90.0 degree				n Trucks					
	Right View:	90.0 degree	S		Heav	y Trucks	: 47.3	382			
FHWA Noise Mod	lel Calculation	s									
VehicleType	REMEL	Traffic Flow	Dista		Finite		Fresn	-	Barrier Atte		m Atten
Autos:		-22.99		0.22		-1.20		-4.67	0.0		0.00
Medium Trucks:		-37.11		0.25		-1.20		-4.87	0.0		0.00
Heavy Trucks:	86.40	-38.41		0.25		-1.20		-5.37	0.0	00	0.00
Unmitigated Nois	e Levels (with	out Topo and I	barrier	atteni	uation)						
VehicleType	Leq Peak Hou			eq Ev	ening	Leq N	·		Ldn		VEL
Autos:		-	6.0		44.0		38.0		46.7		47.3
Medium Trucks:	44	-	2.9		37.0		34.1		43.0		43.
Heavy Trucks:	47	.0 4	5.8		39.8		34.5		44.8		45.
Vehicle Noise:	51	.4 4	9.8		46.0		40.7		49.9		50.3
	ce to Noise Co	ontour (in feet)									
Centerline Distan				70 d	'BA	65 0	BA	6	0 dBA	55	dBA
Centerline Distan											
Centerline Distan		l	dn:	3		5			12	2	25

	FH	NA-RD-77-108	HIGHW	AY NO	ISE PREDICI		DDEL			
Road Nan	rio: Existing ne: Vista Chino ent: w/o Landau					t Name: Number:				
SITE	SPECIFIC IN	IPUT DATA						L INPUT	s	
Highway Data				Sit	te Conditions	: (Hard :	= 10, S	oft = 15)		
Average Daily	Traffic (Adt):	26,100 vehicle	s				Autos:	15		
Peak Hour	Percentage:	10%			Medium T	rucks (2	Axles).	15		
Peak H	lour Volume:	2,610 vehicle	s		Heavy Tru	icks (3+	Axles).	15		
Ve	ehicle Speed:	50 mph		1/0	hicle Mix					
Near/Far La	ane Distance:	78 feet		ve	VehicleTyp		Day	Evening	Night	Daily
Site Data						Autos:	78.2%	•	9.5%	
				-	Medium		85.9%		8.6%	
	rrier Height:	0.0 feet			Heavy T				5.0%	
Barrier Type (0-V	. ,	0.0			neavy i	rucks.	00.47	0.070	0.0 /	2.057
	ist. to Barrier:	63.0 feet		No	oise Source E	levatio	ns (in f	eet)		
Centerline Dist.		63.0 feet			Auto	os: 0	.000			
Barrier Distance		0.0 feet			Medium Truci	ks: 2	.297			
Observer Height	. ,	5.0 feet			Heavy Truck	(s: 8	.006	Grade Ad	justmen	t: 0.0
	ad Elevation: ad Elevation:	0.0 feet 0.0 feet		12	ne Equivaler	t Dista	nco (in	foot)		
	Road Grade:	0.0%			Auto		.729	1000)		
	Left View:	-90.0 degre			Medium Truci		.551			
	Right View:	90.0 degre			Heavy Truck		.568			
	•	0								
FHWA Noise Mod		-	Distar	~	Finite Road	Fros	nol	Rarrier Att	on Ro	rm Atton
VehicleType	REMEL	Traffic Flow	Distar		Finite Road	Fres		Barrier Att		rm Atten
VehicleType Autos:	REMEL 70.20	Traffic Flow 1.59		0.07	-1.20		-4.70	0.0	000	0.000
VehicleType	REMEL 70.20 81.00	Traffic Flow						0.0 0.0		0.000
VehicleType Autos: Medium Trucks: Heavy Trucks:	REMEL 70.20 81.00 85.38	Traffic Flow 1.59 -12.53 -13.83		-0.07 -0.04 -0.05	-1.20 -1.20 -1.20		-4.70 -4.88	0.0 0.0	000	0.000
VehicleType Autos: Medium Trucks: Heavy Trucks:	REMEL 70.20 81.00 85.38	Traffic Flow 1.59 -12.53 -13.83 out Topo and	barrier a	-0.07 -0.04 -0.05	-1.20 -1.20 -1.20 ation)		-4.70 -4.88	0.0 0.0	000 000 000	0.000
VehicleType Autos: Medium Trucks: Heavy Trucks: <b>Unmitigated Nois</b>	REMEL 70.20 81.00 85.38 <b>e Levels (with</b> Leg Peak Hou	Traffic Flow           1.59           -12.53           -13.83           out Topo and           r         Leq Day	barrier a	-0.07 -0.04 -0.05	-1.20 -1.20 -1.20 ation)		-4.70 -4.88 -5.32	0.0 0.0 0.0	000 000 000	0.000 0.000 0.000
VehicleType Autos: Medium Trucks: Heavy Trucks: <b>Unmitigated Nois</b> VehicleType	REMEL 70.20 81.00 85.38 <b>e Levels (with</b> Leq Peak Hou 70	Traffic Flow           1.59           -12.53           -13.83           out Topo and           Ir         Leq Day           1.5	barrier a	-0.07 -0.04 -0.05	-1.20 -1.20 -1.20 ation) ning Lea	Night	-4.70 -4.88 -5.32	0.0 0.0 0.0	000 000 000 000 C	0.000 0.000 0.000 NEL 70.0
VehicleType Autos: Medium Trucks: Heavy Trucks: Unmitigated Nois VehicleType Autos:	REMEL 70.20 81.00 85.38 e Levels (with Leq Peak Hou 70 67	Traffic Flow           1.59           -12.53           -13.83           out Topo and           Ir         Leq Day           1.5           .2	<b>barrier a</b> / Le 68.7	-0.07 -0.04 -0.05	-1.20 -1.20 -1.20 ning Leq 66.7	Night 60.	-4.70 -4.88 -5.32 7 .0	0.0 0.0 0.0 <i>Ldn</i> 69.4	000 000 000 000 4 9	0.000 0.000 0.000 NEL 70.0 66.2
VehicleType Autos: Medium Trucks: Heavy Trucks: Unmitigated Nois VehicleType Autos: Medium Trucks:	REMEL 70.20 81.00 85.38 e Levels (with Leq Peak Hou 70 67 70	Traffic Flow           1.59           -12.53           -13.83           out Topo and           r           Leq Day           .5           .2           .3	<b>barrier a</b> / Le 68.7 65.8	-0.07 -0.04 -0.05	-1.20 -1.20 -1.20 ning Lea 66.7 59.9	Night 60. 57.	-4.70 -4.88 -5.32 7 0 7	0.0 0.0 0.0 <i>Ldn</i> 69.4 65.5	000 000 000 1000 4 1	0.000 0.000 0.000 NEL 70.0 66.2 68.5
VehicleType Autos: Medium Trucks: Heavy Trucks: Unmitigated Noiss VehicleType Autos: Medium Trucks: Heavy Trucks: Vehicle Noise:	REMEL 70.20 81.00 85.38 re Levels (with Leq Peak Hol 70 67 70 74	Traffic Flow           1.59           -12.53           -13.83           Out Topo and           ur         Leq Day           .5           .2           .3           .4	barrier a / Le 68.7 65.8 69.0 72.8	-0.07 -0.04 -0.05 <i>ttenua</i> <i>eq Eve</i>	-1.20 -1.20 -1.20 ning Lec 66.7 59.9 63.0 68.8	Night 60. 57. 57. 63.	-4.70 -4.88 -5.32 7 0 7 6	0.0 0.0 <i>Ldn</i> 69.4 65.9 68. 72.8	000 000 000 4 1 3	0.000 0.000 <i>NEL</i> 70.0 66.2 68.5 73.2
VehicleType Autos: Medium Trucks: Heavy Trucks: Unmitigated Nois VehicleType Autos: Medium Trucks: Heavy Trucks:	REMEL 70.20 81.00 85.38 re Levels (with Leq Peak Hol 70 67 70 74	Traffic Flow           1.59           -12.53           -13.83           out Topo and           Ir         Leq Day           .5           .2           .3           .4           ontour (in feet)	<i>barrier a</i> / <i>Le</i> 68.7 65.8 69.0 72.8	-0.07 -0.04 -0.05 ttenua cq Even	-1.20 -1.20 -1.20 -1.20 -1.20 66.7 59.9 63.0 68.8 A 65	Night 60. 57. 57. 63.	-4.70 -4.88 -5.32 7 0 7 6	0.0 0.0 0.0 69.4 65.5 68. 72.8 60 dBA	000 000 000 4 3 5 5	0.000 0.000 NEL 70.0 66.2 68.5 73.2
VehicleType Autos: Medium Trucks: Heavy Trucks: Unmitigated Noiss VehicleType Autos: Medium Trucks: Heavy Trucks: Vehicle Noise:	REMEL 70.20 81.00 85.38 re Levels (with Leq Peak Hol 70 67 70 74	Traffic Flow           1.59           -12.53           -13.83           out Topo and           Ir           Leq Day           .5           .2           .3           .4	barrier a / Le 68.7 65.8 69.0 72.8	-0.07 -0.04 -0.05 <i>ttenua</i> <i>eq Eve</i>	-1.20 -1.20 -1.20 ning Leq 66.7 59.9 63.0 68.8 A 65	Night 60. 57. 57. 63.	-4.70 -4.88 -5.32 7 0 7 6	0.0 0.0 <i>Ldn</i> 69.4 65.9 68. 72.8	000 000 000 4 1 3 55	0.000 0.000 <i>NEL</i> 70.0 66.2 68.5 73.2

Tuesday, March 19, 2019

	FH\	WA-RD-77-108	HIGHW	AY NO	SE PI	REDICTIO	ON MO	DEL			
	io: Existing					Project N					
	e: Vista Chino	-				Job Nu	mber:	11475			
Road Segmer	nt: w/o Date P	alm Dr.									
	SPECIFIC IN	NPUT DATA							L INPUT	s	
Highway Data				Sit	e Con	ditions (	Hard :	= 10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	24,400 vehicle	s					Autos:	15		
	Percentage:	10%				dium True			15		
	our Volume:	2,440 vehicle	s		He	avy Truck	ks (3+	Axles):	15		
	hicle Speed:	50 mph		Ve	hicle	Mix					-
Near/Far La	ne Distance:	78 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data						A	utos:	78.2%	12.3%	9.5%	93.68%
Bar	rier Height:	0.0 feet			M	edium Tru	icks:	85.9%	5.5%	8.6%	3.63%
Barrier Type (0-W	all, 1-Berm):	0.0			ŀ	Heavy Tru	icks:	89.4%	5.6%	5.0%	2.69%
Centerline Dis		63.0 feet		No	ise So	ource Ele	vatio	ıs (in fe	et)		-
Centerline Dist.		63.0 feet				Autos:	0	.000			
Barrier Distance		0.0 feet		/	Nediu	m Trucks.	2	.297			
Observer Height (	,	5.0 feet			Heav	y Trucks:	8	.006	Grade Ad	justment	.: 0.0
	ad Elevation:	0.0 feet		1.0		uluelent	Diotor	naa (in i	[0.04]		
	ad Elevation: Road Grade:	0.0 feet		Ldi	ie Eq	uivalent Autos		.729	eel)		
,	Road Grade:	0.0%			Andiu	m Trucks.		.729			
	Right View:	-90.0 degre 90.0 degre				y Trucks:		.568			
FHWA Noise Mode	el Calculation	-									
VehicleType	REMEL	Traffic Flow	Dista	nce	Finite	Road	Fres	nel	Barrier Att	en Be	rm Atten
Autos:	70.20	1.30		-0.07		-1.20		-4.70	0.0	000	0.00
Medium Trucks:	81.00	-12.82		-0.04		-1.20		-4.88	0.0	000	0.00
Heavy Trucks:	85.38	-14.12		-0.05		-1.20		-5.32	0.0	000	0.00
Unmitigated Noise	e Levels (with	out Topo and	barrier	attenua	tion)						-
VehicleType	Leq Peak Ho			eq Ever		Leq N			Ldn		NEL
Autos:		).2	68.4		66.4		60.	-	69.1		69.7
Medium Trucks:			65.5		59.6		56.		65.6		65.9
Heavy Trucks:			68.7		62.7		57.		67.8	-	68.
Vehicle Noise:		1.1	72.5		68.5		63.	3	72.5	>	73.
Centerline Distance	ce to Noise C	ontour (in fee	9	70 dB/	4	65 d	RΔ	6	0 dBA	55	i dBA
			I dn:	93	•	20			430		926
		С	NFL:	99		21	-		460		992
		0		50		2.					

F	HWA-RD-77-108	BHIGHW	AY NO	ISE PREDICT		DEL			
Scenario: Existing Road Name: 30th Av. Road Segment: w/o Date	Palm Dr.				t Name: Number:				
SITE SPECIFIC	INPUT DATA		1		NOISE	MODE	L INPUT	s	
Highway Data			Si	te Conditions					
Average Daily Traffic (Adt)	7,700 vehicle	es				Autos:	15		
Peak Hour Percentage				Medium T	rucks (2	Axles):	15		
Peak Hour Volume		es		Heavy Tru	icks (3+	Axles):	15		
Vehicle Speed	35 mph		1/4	hicle Mix					
Near/Far Lane Distance.	44 feet		VE	VehicleTyp	0	Day	Evening	Night	Daily
Site Data					Autos:	78.2%		9.5%	
				Medium T		85.9%		8.6%	3.63%
Barrier Height				Heavy T				5.0%	
Barrier Type (0-Wall, 1-Berm). Centerline Dist. to Barrier				nouty i	ruono.	00.170	0.070	0.070	2.007
Centerline Dist. to Barrier			No	oise Source E	levatio	ns (in fe	eet)		
Barrier Distance to Observer				Auto	os: 0	.000			
	0.0 1001			Medium Truci	ks: 2	.297			
Observer Height (Above Pad)				Heavy Truck	(s: 8	.006	Grade Ad	justment:	0.0
Pad Elevation Road Elevation			1.2	ne Equivaler	+ Distar	nco (in	foot)		
Road Elevation. Road Grade	0.0 1001		La	Auto		.432	ieel)		
Left View	0.070			Medium Truci		.432			
Right View.	oo.o dogre			Heavy Truck		.201			
FHWA Noise Model Calculation	ons								
VehicleType REMEL	Traffic Flow	Distar	nce	Finite Road	Fres	nel	Barrier Att	en Ber	m Atten
Autos: 64.3	-2.16	;	1.61	-1.20		-4.61	0.0	000	0.00
Medium Trucks: 75.7	5 -16.28		1.65	-1.20		-4.87	0.0	000	0.00
Heavy Trucks: 81.5	-17.58		1.65	-1.20		-5.50	0.0	000	0.00
Unmitigated Noise Levels (wi				,				т	
VehicleType Leq Peak H			eq Eve		Night		Ldn		VEL
	62.5	60.7		58.7	52.		61.4		62.
	59.9	58.5		52.6	49.		58.6	-	58.
	64.4	63.2		57.2	51.	-	62.2		62.0
	67.4	66.0		61.6	56.	4	65.8	3	66.
Centerline Distance to Noise	Contour (in fee	t)	=0						
			70 dE		dBA	6	60 dBA		dBA
		Ldn: NFL:	23 25		50 53		107 114		30 46

Tuesday, March 19, 2019

	FHV	A-RD-77-108	HIGH	WAY	NOISE PR	REDICTI	ON MO	DEL			
Scenarie Road Name Road Segmen		ılm Dr.				Project Job Ni	Vame: Imber:				
	SPECIFIC IN	PUT DATA							L INPUTS	5	
Highway Data					Site Con	ditions (		<u> </u>	,		
Average Daily	, ,	9,400 vehicles						Autos:			
Peak Hour		10%				dium Tru					
Peak He	our Volume:	940 vehicles			He	avy Truc	ks (3+ /	(xles)	15		
	nicle Speed:	40 mph		F	Vehicle I	Mix					
Near/Far Lar	ne Distance:	44 feet		F	Vehi	cleType		Day	Evening	Night	Daily
Site Data							utos:	78.2%	•	9.5%	
Bar	rier Heiaht:	0.0 feet			Me	edium Tr	ucks:	85.9%	5.5%	8.6%	3.63%
Barrier Type (0-Wa		0.0 1001			F	leavy Tr	ucks:	89.4%	5.6%	5.0%	2.69%
Centerline Dis	. ,	44.0 feet		-	Noise Sc			- // 4	41		
Centerline Dist. t	o Observer:	44.0 feet		H	Noise Sc	Autos		<b>s (in 1</b> 200	eet)		
Barrier Distance t	o Observer:	0.0 feet									
Observer Height ()	Above Pad):	5.0 feet				n Trucks		297	Ore de Arl		
0 1	d Elevation:	0.0 feet			Heav	y Trucks	: 8.	006	Grade Adj	ustment	: 0.0
Roa	d Elevation:	0.0 feet		1	Lane Eq	uivalent	Distan	ce (in	feet)		
F	Road Grade:	0.0%		L L		Autos	: 38.	432			
	Left View:	-90.0 degree	s		Mediur	n Trucks	: 38.	201			
	Right View:	90.0 degree	s		Heav	y Trucks	: 38.	224			
FHWA Noise Mode	Calculation:	5									
VehicleType	REMEL	Traffic Flow	Dist	ance	Finite	Road	Fresr	iel	Barrier Atte	en Ber	m Atten
Autos:	66.51	-1.88		1.6	1	-1.20		-4.61	0.0	00	0.00
Medium Trucks:	77.72	-16.00		1.6	5	-1.20		-4.87	0.0	00	0.00
Heavy Trucks:	82.99	-17.30		1.6	5	-1.20		-5.50	0.0	00	0.00
Unmitigated Noise											
	Leq Peak Hou			Leq E	vening	Leq I	·		Ldn		NEL
Autos:	65.		3.2		61.2		55.3		63.9		64.
Medium Trucks:	62.		0.7		54.8		52.0		60.8		61.
Heavy Trucks:	66.		i4.9		58.9		53.6		63.9		64.
Vehicle Noise:	69.	.5 6	6.8		63.8		58.6	6	67.9		68.3
Centerline Distanc	e to Noise Co	ontour (in feet)		=		05					10.4
					dBA	65 0			60 dBA		dBA
		L	.dn:	3	12	69	9		148	3	319
			FI :	-	4	73			158		341

	FH\	NA-RD-77-108	HIGH	WAYN		EDICTI	ON MO	DEL			
Road Nan	rio: Existing ne: Ramon Rd ent: w/o Landau					Project Job Ni	Name: Imber:				
SITE	SPECIFIC IN	IPUT DATA							L INPUT	s	
Highway Data					Site Con	ditions (	(Hard =	10, So	oft = 15)		
Average Daily	Traffic (Adt):	40,900 vehicle	s					Autos:	15		
Peak Hour	Percentage:	10%			Med	dium Tru	cks (2 /	Axles):	15		
Peak H	lour Volume:	4,090 vehicle	s		Hea	avy Truc	ks (3+ /	Axles):	15		
Ve	ehicle Speed:	40 mph		H	Vehicle I	Aise .					
Near/Far La	ne Distance:	78 feet		H		n <b>ix</b> cleType		Day	Evening	Night	Daily
Site Data					Vern		utos:	78.2%	v	9.5%	
					Ma	dium Tr		85.9%		8.6%	
	rrier Height:	0.0 feet				leavy Tr		89.4%		5.0%	
Barrier Type (0-V	. ,	0.0				cavy m	uons.	05.470	0.070	0.07	2.007
	ist. to Barrier:	63.0 feet			Noise So	urce Ele	evation	s (in fe	eet)		
Centerline Dist.		63.0 feet				Autos	: 0.0	000			
Barrier Distance		0.0 feet			Mediun	n Trucks	: 2.:	297			
Observer Height	, ,	5.0 feet			Heav	y Trucks	: 8.0	006	Grade Ad	justmen	t: 0.0
	ad Elevation: ad Elevation:	0.0 feet 0.0 feet		H	Lane Equ	iivələnt	Distan	co (in	foot)		
	Road Grade:	0.0 reet		-	Lune Ly	Autos			1001)		
	Road Grade: Left View:		~~		Modium	n Trucks					
	Right View:	-90.0 degre 90.0 degre				v Trucks					
	night view.	30.0 degre	63		nouv,	y mucho	5.	000			
FHWA Noise Mod	lel Calculation	s									
FHWA Noise Mod VehicleType	lel Calculation REMEL	s Traffic Flow	Dist	tance	Finite	Road	Fresr	nel	Barrier Att	en Be	rm Atten
VehicleType Autos:	REMEL 66.51	-	Dist	tance -0.0		Road -1.20		iel -4.70		en Be	
VehicleType	REMEL 66.51	Traffic Flow	Dist		7			-	0.0		0.000
VehicleType Autos:	REMEL 66.51 77.72	Traffic Flow 4.51	Dist	-0.0	7	-1.20		-4.70	0.0 0.0	000	0.000
VehicleType Autos: Medium Trucks: Heavy Trucks:	REMEL 66.51 77.72 82.99	Traffic Flow 4.51 -9.61 -10.91		-0.0 -0.0	7 4 5	-1.20 -1.20		-4.70 -4.88	0.0 0.0	000	0.000
VehicleType Autos: Medium Trucks: Heavy Trucks:	REMEL 66.51 77.72 82.99	Traffic Flow 4.51 -9.61 -10.91 out Topo and	barrie	-0.0 -0.0 -0.0	7 4 5	-1.20 -1.20		-4.70 -4.88	0.0 0.0	000	0.000
VehicleType Autos: Medium Trucks: Heavy Trucks: <b>Unmitigated Nois</b>	REMEL 66.51 77.72 82.99 e Levels (with Leg Peak Hou	Traffic Flow           4.51           -9.61           -10.91           out Topo and           Image: state of the state of th	barrie	-0.0 -0.0 -0.0	7 4 5 nuation)	-1.20 -1.20 -1.20		-4.70 -4.88 -5.32	0.0 0.0 0.0	000	0.000 0.000 0.000
VehicleType Autos: Medium Trucks: Heavy Trucks: <b>Unmitigated Nois</b> VehicleType	REMEL 66.51 77.72 82.99 e Levels (with Leg Peak Hou 69	Traffic Flow           4.51           -9.61           -10.91           out Topo and           Ir         Leq Day           .8	barrie	-0.0 -0.0 -0.0	7 4 5 <b>nuation)</b> ivening	-1.20 -1.20 -1.20	Vight	-4.70 -4.88 -5.32	0.0 0.0 0.0	000 000 000	0.000 0.000 0.000 0.000 CNEL 69.2
VehicleType Autos: Medium Trucks: Heavy Trucks: Unmitigated Nois VehicleType Autos:	REMEL 66.51 77.72 82.99 e Levels (with Leg Peak Hou 69 66	Traffic Flow           4.51           -9.61           -10.91           out Topo and           Ir         Leq Day           .8           .9	<i>barrie</i> / 67.9	-0.0 -0.0 -0.0	7 4 5 <b>nuation)</b> ivening 65.9	-1.20 -1.20 -1.20	Vight 60.0	-4.70 -4.88 -5.32	0.0 0.0 0.0 <i>Ldn</i> 68.6	000 000 000 000 000	0.000 0.000 0.000 CNEL 69.2 65.8
VehicleType Autos: Medium Trucks: Heavy Trucks: Unmitigated Nois VehicleType Autos: Medium Trucks:	REMEL 66.51 77.72 82.99 e Levels (with Leq Peak Hou 69 66 70	Traffic Flow           4.51           -9.61           -10.91           out Topo and           ur         Leq Day           .8           .9           .8	<i>barrie</i> / 67.9 65.4	-0.0 -0.0 -0.0	7 4 5 5 5 5 5 5 5 5 5 9 5 9.5	-1.20 -1.20 -1.20	Vight 60.0 56.6	-4.70 -4.88 -5.32	0.0 0.0 0.0 <i>Ldn</i> 68.6 65.5	000 000 000 000 5 5 5	0.000 0.000 0.000 <i>ENEL</i> 69.2 65.8 69.0
Autos: Medium Trucks: Heavy Trucks: Unmitigated Nois VehicleType Autos: Medium Trucks: Heavy Trucks:	REMEL 66.51 77.72 82.99 e Levels (with Leg Peak Hou 69 66 70 70 74	Traffic Flow           4.51           -9.61           -10.91           Out Topo and           ur         Leq Day           .8           .9           .8           .2	<i>barrie</i> / 67.9 65.4 69.6 72.7	-0.0 -0.0 -0.0 er atten Leg E	7 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	-1.20 -1.20 -1.20 <i>Leq I</i>	Vight 60.0 56.6 58.3 63.3	-4.70 -4.88 -5.32	0.0 0.0 <i>Ldn</i> 68.6 65.5 68.6 72.6	000 000 000 5 5 5 5	0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.000000
VehicleType Autos: Medium Trucks: Heavy Trucks: Unmitigated Noiss VehicleType Autos: Medium Trucks: Heavy Trucks: Vehicle Noise:	REMEL 66.51 77.72 82.99 e Levels (with Leg Peak Hou 69 66 70 70 74	Traffic Flow           4.51           -9.61           -10.91           Out Topo and           ur         Leq Day           .8           .9           .8           .2	<i>barrie</i> 67.9 65.4 69.6 72.7	-0.0 -0.0 -0.0 er atten Leq E	7 4 5 5 <u>ivening</u> 65.9 59.5 63.6 68.5 dBA	-1.20 -1.20 -1.20 <i>Leq I</i>	Vight 60.0 56.6 58.3 63.3	-4.70 -4.88 -5.32	0.0 0.0 0.0 68.0 65.5 68.0 72.0	000 000 000 5 5 5 5 5 5 5 5 5 5 5 5 5 5	0.000 0.000 0.000 CNEL 69.2 65.8 69.0 73.0
VehicleType Autos: Medium Trucks: Heavy Trucks: Unmitigated Noiss VehicleType Autos: Medium Trucks: Heavy Trucks: Vehicle Noise:	REMEL 66.51 77.72 82.99 e Levels (with Leg Peak Hou 69 66 70 70 74	Traffic Flow           4.51           -9.61           -10.91           out Topo and           Image: Image of the second s	<i>barrie</i> / 67.9 65.4 69.6 72.7	-0.0 -0.0 -0.0 er atten Leq E 70 0	7 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	-1.20 -1.20 -1.20 <i>Leq I</i>	Vight 60.0 56.6 58.3 63.3 1BA	-4.70 -4.88 -5.32	0.0 0.0 <i>Ldn</i> 68.6 65.5 68.6 72.6	000 000 000 5 5 5 5 5 5 5 5 5 5 5 5 5 5	0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.000000

Tuesday, March 19, 2019

Scenario:     Existing Road Name:     Project Name:     CCGP Job Number:       Road Segment:     el candau Bl.     Job Number:     11475       SITE SPECIFIC INPUT DATA     NOISE MODEL INPUT       Highway Data     Site Conditions (Hard = 10, Soft = 15)       Average Daily Traffic (Adt):     38,700 vehicles     Autos:     15       Peak Hour Porontage:     10%     Medium Trucks (2 Autes):     15       Vehicle Speed:     40 mph     Heavy Trucks (3+ Axles):     15       Vehicle Speed:     40 mph     Vehicle Mix     Vehicle Mix       Site Data     Autos:     78.2%     12.3%       Barrier Height:     0.0 feet     Heavy Trucks:     85.9%     5.5%       Barrier Type (0-Wall, 1-Berm):     0.0     Heavy Trucks:     89.4%     5.6%       Centerline Dist. to Barrier:     63.0 feet     Noise Source Elevations (in feet)     Noise Source Elevations (in feet)       Variors:     0.00     Elevations (in feet)     Autos:     0.00	<u>'S</u>
Site Specific INPUT DATA         NOISE MODEL INPUT           Highway Data         Site Conditions (Hard = 10, Soft = 15)           Average Daily Traffic (Adi): 38,700 vehicles         Autos: 15           Peak Hour Volume: 3,870 vehicles         Autos: 15           Vehicle Speed: 40 mph         Medium Trucks (2 Axles): 15           Vehicle Speed: 40 mph         Vehicle Mix           Near/Far Lane Distance: 78 feet         Vehicle Mix           Barrier Height: 0.0 feet         Autos: 78.2% 12.3%           Barrier Type (0-Wall, 1-Berm): 0.0         Centerline Dist to Distrier: 63.0 feet           Centerline Dist to Distrier: 63.0 feet         Noise Source Elevations (in feet)	'S
Highway Data     Site Conditions (Hard = 10, Soft = 15)       Average Daily Traffic (Adt): 38,700 vehicles     Autos: 15       Peak Hour Porcentage: 10%     Medium Trucks (2 Axles): 15       Peak Hour Volume: 3,870 vehicles     Medium Trucks (2 Axles): 15       Vehicle Speed: 40 mph     Heavy Trucks (3+ Axles): 15       Vehicle Speed: 78 feet     Vehicle Mix       Site Data     Autos: 78.2% 12.3%       Barrier Height: 0.0 feet     Medium Trucks: 89.4% 5.6%       Centerline Dist to Darmer: 63.0 feet     Noise Source Elevations (in feet)	'S
Average Daily Traffic (Ad):     38,700 vehicles     Autos:     15       Peak Hour Percentage:     10%     Medium Trucks (2 Axles):     15       Peak Hour Volume:     3,870 vehicles     Medium Trucks (2 Axles):     15       Vehicle Speed:     40 mph     Vehicle Mix     Vehicle Mix       Site Data     Autos:     78 feet     Autos:     78.2%       Barrier Height:     0.0 feet     Medium Trucks:     89.4%     5.6%       Centerline Dist to Denser:     63.0 feet     Noise Source Elevations (in feet)	
Vehicle Speed:         40 mph           Near/Far Lane Distance:         78 feet           Site Data         Autos:         78.2%           Barrier Height:         0.0 feet           Barrier Type (0-Wall, 1-Berri):         0.0           Centerline Dist to Disrere:         63.0 feet           Noise Source Elevations (in feet)	
Near/Far Lane Distance:         78 feet         Venicle Trype         Day         Evening           Site Data         Autos:         78.2%         12.3%         12.3%           Barrier Height:         0.0 feet         Medium Trucks:         85.9%         5.5%           Barrier Type (0-Wall, 1-Berm):         0.0         Heavy Trucks:         89.4%         5.6%           Centerline Dist to Dispreser:         63.0 feet         Noise Source Elevations (in feet)         Noise Source Elevations (in feet)	
Site Data         Autos:         78.2%         12.3%           Barrier Height:         0.0 feet         Medium Trucks:         85.9%         5.5%           Barrier Type (0-Wall, 1-Berm):         0.0         Heavy Trucks:         89.4%         5.6%           Centerline Dist to Disreier:         63.0 feet         Noise Source Elevations (in feet)         Noise Source Elevations (in feet)	Night Daily
Barrier Height:         0.0 feet         Medium Trucks:         85.9%         5.5%           Barrier Type (0-Wall, 1-Berm):         0.0         Heavy Trucks:         89.4%         5.6%           Centerline Dist. to Barrier:         63.0 feet         Nolse Source Elevations (in feet)         Nolse Source Elevations (in feet)	, ,
Centerline Dist to Observer: 62.0 foot	8.6% 3.63%
Centerline Dist to Observer: 62.0 foot	
Barrier Distance to Observer         0.0 feet         Medium Trucks:         2.297           Observer Height (Above Pad):         5.0 feet         Heavy Trucks:         8.006         Grade Ac           Pad Elevation:         0.0 feet         Heavy Trucks:         8.006         Grade Ac	djustment: 0.0
Road Elevation: 0.0 feet Lane Equivalent Distance (in feet) Road Grade: 0.0% Autos: 49.729	
Road Grade:         0.0%         Autos:         49.729           Left View:         -90.0 degrees         Medium Trucks:         49.551           Right View:         90.0 degrees         Heavy Trucks:         49.568	
FHWA Noise Model Calculations	
VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier At	ten Berm Atten
	000 0.00
	000 0.00
Unmitigated Noise Levels (without Topo and barrier attenuation)	
VehicleType Leg Peak Hour Leg Day Leg Evening Leg Night Ldn	CNEL
Autos: 69.5 67.7 65.7 59.7 68.	
Medium Trucks: 66.6 65.2 59.3 56.4 65.	3 65.
Heavy Trucks: 70.6 69.3 63.3 58.0 68.	4 68.
Vehicle Noise: 74.0 72.5 68.2 63.0 72.	4 72.
Centerline Distance to Noise Contour (in feet)	
70 dBA 65 dBA 60 dBA	
Ldn: 90 195 420	55 dBA
CNEL: 97 208 449	55 dBA 904 967

	FH\	VA-RD-77-108	HIGHW	AY NO	OISE PF	REDICTIO	ON MO	DEL			
Scenari	o: Existing					Project N	lame:	CCGP			
Road Nam	e: Ramon Rd					Job Nu	mber:	11475			
Road Segmer	nt: w/o Da Val	Dr.									
	SPECIFIC IN	IPUT DATA							L INPUT	s	
Highway Data				S	ite Con	ditions (l	Hard =	10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	31,100 vehicles					,	Autos:	15		
Peak Hour	Percentage:	10%			Mee	dium Truc	cks (2 A	(xles)	15		
Peak H	our Volume:	3,110 vehicles			Hea	avy Truck	(3+ A	(xles):	15		
Vei	hicle Speed:	40 mph		V	ehicle l	Mix					
Near/Far Lai	ne Distance:	78 feet				icleType		Day	Evening	Night	Daily
Site Data					1011			78.2%	•	•	93.689
	rier Height:	0.0 feet			Me	dium Tru	icks:	85.9%		8.6%	3.639
Barrier Type (0-W		0.0			F	leavy Tru	icks:	89.4%	5.6%	5.0%	2.69%
Centerline Dis		63.0 feet									
Centerline Dist.		63.0 feet		N	loise So	ource Ele			eet)		
Barrier Distance		0.0 feet				Autos:		000			
Observer Height (		5.0 feet				n Trucks:		297			
	ad Elevation:	0.0 feet			Heav	y Trucks:	8.0	006	Grade Ad	justment.	0.0
	d Elevation:	0.0 feet		L	ane Equ	uivalent	Distan	ce (in t	feet)		
	Road Grade:	0.0%				Autos:					
	Left View:	-90.0 degree	-		Mediur	n Trucks:					
	Right View:	90.0 degree			Heav	y Trucks:					
FHWA Noise Mode	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dista	nce	Finite	Road	Fresn	el	Barrier Att	en Ber	m Atten
Autos:	66.51	3.32		-0.07		-1.20		-4.70	0.0	000	0.00
Medium Trucks:	77.72	-10.80		-0.04		-1.20		-4.88	0.0	000	0.00
Heavy Trucks:	82.99	-12.10		-0.05		-1.20		-5.32	0.0	000	0.00
Unmitigated Noise											
51	Leq Peak Hou	1 1		eq Eve		Leq N			Ldn		VEL
Autos:	68		6.7		64.7		58.8		67.4		68.
Medium Trucks:	65		4.2		58.3		55.5		64.3		64.
Heavy Trucks:	69		8.4		62.4		57.1		67.5		67.
Vehicle Noise:	73	-	1.5		67.3		62.1		71.4	1	71.
Centerline Distance	ce to Noise Co	ontour (in feet)		70 dl	D4	05 -1	04				-/0.4
eontonnio Biotane					DA	65 d	DA	1 0	0 dBA	1 35	dBA
		,	-						000	-	00
eontonino piotane		-	.dn: FI :	78		16	-		363 388		82 36

Tuesday, March 19, 2019

	FHV	VA-RD-77-108	HIGHW		IOISE PH	EDICTI		DEL			
	io: Existing e: Dinah Shor	- D-				Project	Name: umber:				
	e. Dinan Shor nt: w/o Cathed					JOD IN	umber.	114/5			
SITE	SPECIFIC IN	IPUT DATA				N	OISE	NODE		6	
lighway Data					Site Con	ditions	(Hard =	10, S	oft = 15)		
Average Daily	Traffic (Adt):	18,000 vehicles						Autos:	15		
Peak Hour	Percentage:	10%			Me	dium Tru	icks (2 )	Axles):	15		
Peak H	our Volume:	1,800 vehicles			He	avy Truc	:ks (3+ )	Axles):	15		
Ve	hicle Speed:	40 mph		F	Vehicle I	Mix					
Near/Far La	ne Distance:	78 feet		F		cleType		Day	Evening	Night	Daily
Site Data				-		A	lutos:	78.2%	-	9.5%	93.68%
Bai	rier Height:	0.0 feet			Me	edium Tr	ucks:	85.9%	5.5%	8.6%	3.63%
Barrier Type (0-W		0.0			ŀ	łeavy Tr	ucks:	89.4%	5.6%	5.0%	2.69%
Centerline Dis	st. to Barrier:	63.0 feet		Ŀ	Noise Sc	urce Fl	evation	s (in f	eet)		
Centerline Dist.	to Observer:	63.0 feet		F		Autos		000	000		
Barrier Distance	to Observer:	0.0 feet			Mediur	n Trucks		297			
Observer Height (	Above Pad):	5.0 feet				y Trucks		006	Grade Adj	ustment	: 0.0
Pa	ad Elevation:	0.0 feet		L		, 			,		
	ad Elevation:	0.0 feet		4	Lane Eq				feet)		
1	Road Grade:	0.0%				Autos		729			
	Left View:	-90.0 degree				n Trucks		551			
	Right View:	90.0 degree	S		Heav	y Trucks	3: 49.	568			
FHWA Noise Mod		-									
VehicleType	REMEL	Traffic Flow	Dista		Finite		Fresi		Barrier Atte		m Atten
Autos:	66.51	0.94		-0.0		-1.20		-4.70	0.0		0.00
Medium Trucks:	77.72	-13.17		-0.0		-1.20		-4.88	0.0		0.000
Heavy Trucks:	82.99	-14.48		-0.0	5	-1.20		-5.32	0.0	00	0.00
Unmitigated Noise											
VehicleType	Leq Peak Hou			.eq E	vening	Leq	Night		Ldn		NEL
Autos:	66		4.3		62.3		56.4		65.1		65.0
Medium Trucks:	63		1.8		56.0		53.1		62.0 65.1		62.3
Heavy Trucks:	67		6.0		60.0		54.7				65.4
Vehicle Noise:	70		9.1		64.9		59.7		69.0		69.
Centerline Distand	ce to Noise Co	ontour (in feet)	1	=0				1			
			-		dBA		dBA	1 1	60 dBA		dBA
		L	.dn:	-	4		17		252 269		43 80
			FI :	5			25				

	FH\	VA-RD-77-108	HIGHWA		REDICTIO				
Road Nam	io: Existing e: Dinah Shor nt: e/o Date Pa					Vame: CCG Imber: 1147			
SITE	SPECIFIC IN	IPUT DATA					EL INPUT	s	-
Highway Data				Site Co	nditions (	Hard = 10,	Soft = 15)		
Average Daily	Traffic (Adt):	22,500 vehicles	;			Auto	s: 15		
Peak Hour	Percentage:	10%		N	ledium Tru	cks (2 Axles	:): 15		
Peak H	our Volume:	2,250 vehicles	;	F	eavy Truck	ks (3+ Axles	;): 15		
Ve	hicle Speed:	45 mph		Vehicle	Miy				
Near/Far La	ne Distance:	78 feet			hicleType	Day	Evening	Night	Daily
Site Data						utos: 78.2	•	9.5%	
Pa	rier Height:	0.0 feet		1	Medium Tru	ucks: 85.9	% 5.5%	8.6%	3.63%
Barrier Type (0-W		0.0			Heavy Tru	ucks: 89.4	% 5.6%	5.0%	2.69%
Centerline Di	. ,	63.0 feet							
Centerline Dist.		63.0 feet		Noise		evations (in	feet)		
Barrier Distance	to Observer:	0.0 feet		14-14	Autos.				
Observer Height (	Above Pad):	5.0 feet			um Trucks.		Crada Aa	i untro nt	
Pa	d Elevation:	0.0 feet		He	avy Trucks.	8.006	Grade Ad	Justinent	0.0
Roa	ad Elevation:	0.0 feet		Lane E	quivalent	Distance (i	n feet)		
	Road Grade:	0.0%			Autos.	: 49.729			
	Left View:	-90.0 degree	s	Medi	um Trucks.	49.551			
	Right View:	90.0 degree	S	He	avy Trucks.	49.568			
FHWA Noise Mod	el Calculation	s							
VehicleType	REMEL	Traffic Flow	Distan		e Road	Fresnel	Barrier At	en Ber	m Atten
Autos:	68.46	1.40	-	0.07	-1.20	-4.7	0 0.0	000	0.00
Medium Trucks:	79.45	-12.72		0.04	-1.20	-4.8		000	0.00
Heavy Trucks:	84.25	-14.02	-	0.05	-1.20	-5.3	2 0.0	000	0.00
Unmitigated Noise									-
VehicleType	Leq Peak Hou	1 ,		q Evening	Leq N	•	Ldn		NEL
Autos:	68		6.7	64.		58.8	67.		68.
Medium Trucks:	65		64.0	58.		55.3	64.		64.
Heavy Trucks:	69	-	67.7	61.		56.4	66.		67.1
Vehicle Noise:	72		71.2	67.	1	61.9	71.	1	71.6
Centerline Distan	e to Noise C	ontour (in feet)							
				70 dBA	65 d		60 dBA		dBA
			_dn: IFI :	75 80	16 17		348 372		749 302

Tuesday, March 19, 2019

	FH	WA-RD-77-108	BHIGHV	VAY NO	DISE PI	REDICTIO	ON MO	DEL			
Scenari	o: Existing					Project N	lame:	CCGP			
	e: Gerald For					Job Nu	mber:	11475			
Road Segmen	nt: e/o Date P	alm Dr.									
SITE S Highway Data	SPECIFIC II	NPUT DATA		s	ite Cor	NC ditions (I			L INPUT	S	
Average Daily	Traffic (Adt):	13 500 vehicle	e.	-				Autos:	15		
• •	Percentage:	10%	.5		Me	dium Truc			15		
	our Volume:	1.350 vehicle	s		He	avy Truck	s (3+ )	Axles):	15		
Vel	hicle Speed:	45 mph			- 1- 1 - 1 -						
Near/Far Lar	ne Distance:	60 feet		V	ehicle	icleType		Day	Evening	Night	Daily
Site Data					VCII		itos:	78.2%	0	9.5%	
	ula u Haladati	0.0 feet			М	edium Tru		85.9%		8.6%	
Barrier Type (0-Wa	rier Height:	0.0 feet			1	leavy Tru	cks:	89.4%	5.6%	5.0%	
Centerline Dis		56.0 feet				,					
Centerline Dist. t		56.0 feet		N	oise S	ource Ele			eet)		
Barrier Distance t	to Observer:	0.0 feet				Autos:		000			
Observer Height (/	Above Pad):	5.0 feet				m Trucks:		297	Grade Ad	iustmon	- 00
Pa	d Elevation:	0.0 feet			Heat	ry Trucks:	8.	006	Graue Au	usunen	. 0.0
Roa	d Elevation:	0.0 feet		L	ane Eq	uivalent l	Distan	ce (in f	feet)		
F	Road Grade:	0.0%				Autos:		550			
	Left View:	-90.0 degre				m Trucks:		364			
	Right View:	90.0 degre	es		Heav	y Trucks:	47.	382			
FHWA Noise Mode	el Calculation	าร									
VehicleType	REMEL	Traffic Flow	Dista		Finite	Road	Fresr		Barrier Att		rm Atten
Autos:	68.46			0.22		-1.20		-4.67		000	0.00
Medium Trucks:	79.45			0.25		-1.20		-4.87		000	0.00
Heavy Trucks:	84.25			0.25		-1.20		-5.37	0.0	000	0.00
Unmitigated Noise VehicleType	Leq Peak Ho					Logh	laht	1	l dn		NFI
Autos:		ur Leq Daj 6.7	64.8	Leq Eve	62.8	Leq N	56.9	2	65.5	-	66.
Medium Trucks:		3.6	62.1		56.2		53.3		62.2		62.
Heavy Trucks:		7.1	65.8		59.8		54.5		64.9	-	65.
Vehicle Noise:	70	0.8	69.3		65.2		59.9	)	69.2	2	69.
Centerline Distanc	e to Noise C	ontour (in fee	t)								
				70 dł	BA	65 d		6	0 dBA		dBA
			Ldn:	50		10	7		230	4	196
			NFL:	53		114			246		530

	FHW	/A-RD-77-108	HIGH	HWAY N	IOISE PR	REDICT	ION MO	DDEL			
Scenario: Existing	,					Project	Name:	CCGF			
Road Name: Perez F	Rd.					Job N	lumber:	11475			
Road Segment: w/o Cat	hedr	al Cyn. Dr.									
SITE SPECIFIC	C INI	PUT DATA							L INPUT	S	
Highway Data				3	Site Con	ditions	(Hard :	= 10, S	oft = 15)		
Average Daily Traffic (Ad	t): 1	0,600 vehicles	3					Autos:	15		
Peak Hour Percentag	e:	10%			Med	dium Tr	ucks (2	Axles).	15		
Peak Hour Volum	e:	1,060 vehicles	3		Hea	avy Tru	cks (3+	Axles).	15		
Vehicle Spee	d:	40 mph			Vehicle I	Niv					
Near/Far Lane Distanc	e:	60 feet		H		cleType		Dav	Evening	Night	Dailv
Site Data					Vern		Autos:	78.2%	•	9.5%	
					Ma	dium T		85.9%		8.6%	
Barrier Heigh		0.0 feet					rucks: rucks:	89.4%		5.0%	
Barrier Type (0-Wall, 1-Bern		0.0			-	icavy I	iuuns.	09.47	5.0%	3.0%	2.09
Centerline Dist. to Barrie		56.0 feet		1	Noise So	ource E	levatio	ns (in f	eet)		
Centerline Dist. to Observe		56.0 feet				Auto	s: 0	.000			
Barrier Distance to Observe		0.0 feet			Mediun	n Truck	:s: 2	.297			
Observer Height (Above Pac	·	5.0 feet			Heav	y Truck	's: 8	.006	Grade Ad	justment.	0.0
Pad Elevatio		0.0 feet		Ŀ.							
Road Elevatio		0.0 feet		1	Lane Equ				teet)		
Road Grad		0.0%				Auto		.550			
Left Viel		-90.0 degree			Mediun			.364			
Right Viel	W:	90.0 degree	es		Heav	y Truck	's: 47	.382			
FHWA Noise Model Calculat	tions	:									
VehicleType REMEL		Traffic Flow	Dis	stance	Finite		Fres		Barrier Att	en Ber	m Atter
Autos: 66	.51	-1.36		0.22	2	-1.20		-4.67	0.0	000	0.00
Medium Trucks: 77	.72	-15.47		0.25	5	-1.20		-4.87	0.0	000	0.00
Heavy Trucks: 82	.99	-16.78		0.25	5	-1.20		-5.37	0.0	000	0.00
Unmitigated Noise Levels (v			barri								
VehicleType Leq Peak				Leq Ev		Leq	Night		Ldn		VEL
Autos:	64.3		62.3		60.3		54.		63.1		63.
Medium Trucks:	61.3		59.8		54.0		51.		60.0		60.
Heavy Trucks:	65.3		64.0		58.0		52.		63.1		63.
Vehicle Noise:	68.0	6	67.1		62.9		57.	.7	67.0	D	67.
Centerline Distance to Nois	e Co	ntour (in feet	)								
			L	70 c			dBA		60 dBA		dBA
			Ldn:	35	5		76		165	3	55
			IFI :	38			32		176		79

Tuesday, March 19, 2019

FH	WA-RD-77-108	HIGH	NAY N	OISE PF	EDICTIC	ON MO	DDEL			
Scenario: Existing					Project N					
Road Name: Perez Rd.					Job Nu	mber:	11475			
Road Segment: e/o Catheo	Iral Cyn. Dr.									
SITE SPECIFIC II	NPUT DATA							L INPUT	S	
Highway Data			5	Site Con	ditions (l	Hard	- , -			
Average Daily Traffic (Adt):							Autos:			
Peak Hour Percentage:	10%				dium Truc		/			
Peak Hour Volume:	1,160 vehicles			Hea	avy Truck	(3+	Axles):	15		
Vehicle Speed:	40 mph		1	/ehicle I	Лix					
Near/Far Lane Distance:	60 feet		F	Vehi	cleType		Day	Evening	Night	Daily
Site Data					AL	itos:	78.2%	12.3%	9.5%	93.689
Barrier Height:	0.0 feet			Me	dium Tru	icks:	85.9%	5.5%	8.6%	3.63%
Barrier Type (0-Wall, 1-Berm):	0.0			E	leavy Tru	icks:	89.4%	5.6%	5.0%	2.69
Centerline Dist. to Barrier:	56.0 feet		-	loiso Sa	urce Ele	vatio	ne (in f	not)		
Centerline Dist. to Observer:	56.0 feet		-	10/36 30	Autos:		.000	eel)		
Barrier Distance to Observer:	0.0 feet			Modiur	n Trucks:	-	.000			
Observer Height (Above Pad):	5.0 feet				v Trucks:		.006	Grade Ad	iustmon	. 0.0
Pad Elevation:	0.0 feet			neav	y muchs.	0	.000	Orade Hu	usunon	. 0.0
Road Elevation:	0.0 feet		L	ane Equ	ivalent l	Distaı	nce (in	feet)		
Road Grade:	0.0%				Autos:	47	.550			
Left View:	-90.0 degree	s		Mediur	n Trucks:	47	.364			
Right View:	90.0 degree	s		Heav	y Trucks:	47	.382			
FHWA Noise Model Calculation	IS									
VehicleType REMEL	Traffic Flow	Dist	ance	Finite	Road	Fres	nel	Barrier Att	en Bei	m Atten
Autos: 66.51	-0.96		0.22		-1.20		-4.67	0.0	000	0.00
Medium Trucks: 77.72	-15.08		0.25		-1.20		-4.87	0.0	000	0.00
Heavy Trucks: 82.99	-16.38		0.25		-1.20		-5.37	0.0	000	0.00
Unmitigated Noise Levels (with	out Topo and I	barriei	r atten	uation)						
VehicleType Leq Peak Ho	ur Leq Day		Leq Ev	rening	Leq N	light		Ldn	-	NEL
Autos: 64	1.6 6	62.7		60.7		54	8	63.4	4	64.
Medium Trucks: 6'		60.2		54.3		51	5	60.4	4	60.
Heavy Trucks: 65	5.7 6	64.4		58.4		53	1	63.5	5	63.
Vehicle Noise: 69	9.0 6	67.5		63.3		58	.1	67.4	4	67.
Centerline Distance to Noise C	ontour (in feet)									
			70 a		65 di		(	60 dBA		dBA
	l	dn:	38	-	81			175		377
		IFI :		)				187		03

	FHV	VA-RD-77-108	HIGHWA	Y NO	ISE PR	REDICTIO	N MOD	EL			
Road Nam	io: Existing le: Hwy. 111 nt: w/o Canyor	n Plaza Dr. W.				Project N Job Nur					
SITE	SPECIFIC IN	IPUT DATA				NO	ISE M	ODEL	INPUT	s	
Highway Data				Sit	e Con	ditions (H	lard = 1	0, Sof	t = 15)		
Average Daily	Traffic (Adt): 4	15,600 vehicles					A	utos:	15		
Peak Hour	Percentage:	10%			Med	dium Truc	ks (2 Ax	(les):	15		
Peak H	lour Volume:	4,560 vehicles			Hea	avy Truck	s (3+ Ax	des):	15		
Ve	hicle Speed:	50 mph		Ve	hicle N	Mix					
Near/Far La	ne Distance:	78 feet				cleType	D	ay I	Evening	Night	Daily
Site Data								8.2%	12.3%	9.5%	
Ba	rrier Heiaht:	0.0 feet			Me	dium True	cks: 8	5.9%	5.5%	8.6%	3.63%
Barrier Type (0-W		0.0			H	leavy Tru	cks: 8	9.4%	5.6%	5.0%	2.69%
Centerline Di	st. to Barrier:	63.0 feet		No	iso So	urce Elev	ations	(in foc	14)		
Centerline Dist.	to Observer:	63.0 feet		/10	130 00	Autos:	0.00		.9		
Barrier Distance	to Observer:	0.0 feet			Modium	n Trucks:	2.29				
Observer Height (	Above Pad):	5.0 feet				v Trucks:	8.00		Grade Ad	iustment	.00
Pa	ad Elevation:	0.0 feet								uoumoni	. 0.0
Roa	ad Elevation:	0.0 feet		La	ne Equ	uivalent E	Distance	e (in fe	et)		
	Road Grade:	0.0%				Autos:	49.72	29			
	Left View:	-90.0 degree	S	1		n Trucks:	49.55				
	Right View:	90.0 degree	S		Heav	y Trucks:	49.56	68			
FHWA Noise Mod	el Calculation	s		-1							
VehicleType	REMEL	Traffic Flow	Distand	e	Finite	Road	Fresne		arrier Att	en Bei	m Atten
Autos:	70.20	4.01		0.07		-1.20		4.70		000	0.000
Medium Trucks:	81.00	-10.11		0.04		-1.20		1.88		000	0.000
Heavy Trucks:	85.38	-11.41	-	0.05		-1.20	-8	5.32	0.0	000	0.000
Unmitigated Noise	e Levels (with	out Topo and I	oarrier at	tenua	tion)						
VehicleType	Leq Peak Hou			q Ever	<u> </u>	Leq Ni	v	L	dn		NEL
Autos:	72		1.1		69.1		63.2		71.8		72.4
Medium Trucks:	69		8.2		62.3		59.4		68.3		68.6
Heavy Trucks:	72		1.4		65.5		60.2		70.5		70.9
Vehicle Noise:	76		5.2		71.3		66.0		75.2	2	75.7
Centerline Distant	ce to Noise Co	ontour (in feet)									
				70 dB,	4	65 dE			dBA		dBA
			dn:	141		303			352		405
		CN	EL:	150		324		6	698	1,	505

Tuesday, March 19, 2019

	FH	WA-RD-77-108	HIGHW	AY NOISE P	REDICTIO				
Scenari	o: Existing				Project Na	me: CCGF			
	e: Hwy. 111				Job Num	ber: 11475			
Road Segmen	nt: w/o Catheo	dral Cyn. Dr.							
	SPECIFIC IN	NPUT DATA						S	
Highway Data				Site Col	nditions (H	ard = 10, S	oft = 15)		
Average Daily	Traffic (Adt):		S			Autos.			
Peak Hour	Percentage:	10%			edium Truck	, ,			
Peak He	our Volume:	3,680 vehicle	S	He	eavy Trucks	(3+ Axles)	: 15		
	hicle Speed:	40 mph		Vehicle	Mix				
Near/Far Lar	ne Distance:	78 feet		Vel	nicleType	Day	Evening	Night	Daily
Site Data					Aut	os: 78.2%	6 12.3%	9.5%	93.68%
Bar	rier Height:	0.0 feet		N	ledium Truc	ks: 85.9%	6 5.5%	8.6%	3.63%
Barrier Type (0-Wa	all, 1-Berm):	0.0			Heavy Truc	ks: 89.4%	5.6%	5.0%	2.69%
Centerline Dis		63.0 feet		Noise S	ource Elev	ations (in f	eet)		
Centerline Dist. t		63.0 feet			Autos:	0.000			
Barrier Distance t		0.0 feet		Mediu	ım Trucks:	2.297			
Observer Height (/	,	5.0 feet		Hea	vy Trucks:	8.006	Grade Ad	iustment	0.0
	ad Elevation:	0.0 feet		Long Ed	windont D	iatanaa (in	fact		
	ad Elevation:	0.0 feet		Lane Eu	quivalent D Autos:	49.729	leel)		
F	Road Grade: Left View:	0.0%		Madi	im Trucks:	49.729			
	Right View:	-90.0 degre			vy Trucks:	49.551			
	Right view.	90.0 degre	es	i iea	vy mucks.	49.500			
FHWA Noise Mode						T			
VehicleType	REMEL	Traffic Flow	Distar			Fresnel	Barrier Att		rm Atten
Autos:	66.51			-0.07	-1.20	-4.70	0.0		0.00
Medium Trucks:	77.72 82.99			-0.04 -0.05	-1.20 -1.20	-4.88 -5.32		000	0.00
Heavy Trucks:					-1.20	-0.32	0.0	000	0.00
Unmitigated Noise VehicleType	Lea Peak Ho			ettenuation) ag Evening	Leg Nic	the	Ldn	0	NEL
Autos:		al Leq Da	67.4	q Evening 65.4		59.5	68.2		68.1
Medium Trucks:		3.4	64.9	59.1		56.2	65.1	-	65.
Heavy Trucks:		).4	69.1	63.1		57.8	68.2		68.
Vehicle Noise:		3.8	72.2	68.0		62.8	72.1	-	72.0
Centerline Distanc	e to Noise C	ontour (in fee	t)						
				70 10 4	05.10	4	60 dBA	EE	dBA
				70 dBA	65 dB.	9	UU UDA	55	UDA
			Ldn:	87	65 dB. 188	4	406		375

F	HWA-RD-77-10	8 HIGH\	WAY NO	DISE PREDIC	TION MO	DDEL			
Scenario: Existing Road Name: Hwy. 11					ct Name: Number:				
Road Segment: w/o Date	Palm Dr.								
SITE SPECIFIC	INPUT DATA						L INPUT	s	
Highway Data			S	ite Condition	s (Hard :	= 10, So	oft = 15)		
Average Daily Traffic (Adt)	42,700 vehicl	es				Autos:	15		
Peak Hour Percentage	10%			Medium T	rucks (2	Axles):	15		
Peak Hour Volume	4,270 vehicl	es		Heavy Tr	ucks (3+	Axles):	15		
Vehicle Speed	40 mph		V	ehicle Mix					
Near/Far Lane Distance	78 feet			VehicleTyp	0	Day	Evening	Night	Daily
Site Data				venieryp	Autos:	78.2%		9.5%	
				Medium		85.9%		8.6%	3.63%
Barrier Height					Trucks:			5.0%	
Barrier Type (0-Wall, 1-Berm) Centerline Dist, to Barrier				nouty	nuono.	00.170	0.070	0.070	2.007
Centerline Dist. to Barrier Centerline Dist. to Observer			N	oise Source	Elevatio	ns (in fe	eet)		
Barrier Distance to Observer				Aut	os: 0	.000			
	0.0 1001			Medium Truc	ks: 2	.297			
Observer Height (Above Pad) Pad Elevation				Heavy Truc	ks: 8	.006	Grade Ad	justment:	0.0
Road Elevation			1	ane Equivale	nt Dista	nce (in	foot)		
Road Grade	0.0 1001		-	Aut		0.729			
Left View	0.070			Medium Truc		0.551			
Right View	00.0 0090			Heavy Truc		9.568			
FHWA Noise Model Calculati	-								
VehicleType REMEL	Traffic Flow	Dist	ance	Finite Road	Fres	nel	Barrier Att	en Ber	m Atten
Autos: 66.			-0.07	-1.20		-4.70		000	0.00
Medium Trucks: 77.3		-	-0.04	-1.20		-4.88		000	0.00
Heavy Trucks: 82.9			-0.05	-1.20		-5.32		000	0.00
Unmitigated Noise Levels (w	thout Topo and	d barrie	r attenu	ation)					
VehicleType Leq Peak F	lour Leq Da	ay	Leg Eve	ening Le	q Night		Ldn	CI	VEL
Autos:	69.9	68.1		66.1	60	.2	68.8	3	69.
Medium Trucks:	67.0	65.6		59.7	56	.8	65.	7	66.
Heavy Trucks:	71.0	69.7		63.8	58	.5	68.8	3	69.
Vehicle Noise:	74.4	72.9		68.7	63	.5	72.8	3	73.
Centerline Distance to Noise	Contour (in fee	et)							
			70 dl		5 dBA	6	60 dBA		dBA
		Ldn:	97		208		448	9	66
		ONFL:	103		222		479		032

Tuesday, March 19, 2019

Occuration Entertion						Designed	Name: Of	0.0			
Scenario: Existing Road Name: Hwy, 1							Name: CC umber: 11				
Road Segment: e/o Su		My				JOD IN	uniber. 11	4/5			
	·	,									
SITE SPECIFIC	CIN	PUT DATA			044 0		OISE MC				
Highway Data					Site Con	aitions	(Hard = 10	-	,		
Average Daily Traffic (Ad	·					. <del>.</del>		tos: 1			
Peak Hour Percentag		10%					icks (2 Axl	,			
Peak Hour Volum		4,700 vehicles			He	avy Truc	ks (3+ Axl	es): 1	5		
Vehicle Spee		40 mph			Vehicle I	Mix					
Near/Far Lane Distand	e:	78 feet			Vehi	cleType	Da	y Eve	ning N	Vight	Daily
Site Data						A	utos: 78	.2% 12	2.3%	9.5%	93.68
Barrier Heigl	ht.	0.0 feet			Me	edium Tr	ucks: 85	.9% !	5.5%	8.6%	3.63
Barrier Type (0-Wall, 1-Berr		0.0			F	łeavy Tr	ucks: 89	.4%	5.6%	5.0%	2.69
Centerline Dist. to Barri	er:	63.0 feet		-	Noise Sc	urce El	evations (	in foot)			
Centerline Dist. to Observ	er:	63.0 feet		F	110/30 00	Autos					
Barrier Distance to Observ	er:	0.0 feet			Modiur	n Trucks					
Observer Height (Above Pa	d):	5.0 feet				y Trucks			de Adjus	stment	0.0
Pad Elevation	on:	0.0 feet		L		, ,			ao najac		0.0
Road Elevation	on:	0.0 feet			Lane Eq	uivalent	Distance	(in feet)			
Road Grad	le:	0.0%				Autos	49.72	Э			
Left Vie	w:	-90.0 degree	s		Mediur	n Trucks	49.55	1			
Right Vie	W:	90.0 degree	s		Heav	y Trucks	49.56	3			
FHWA Noise Model Calcula	tions	;									
VehicleType REMEL	-	Traffic Flow	Dis	stance	Finite	Road	Fresnel	Barr	ier Atten	Ber	m Atter
Autos: 66	6.51	5.11		-0.0	7	-1.20	-4	70	0.00	0	0.00
Medium Trucks: 77	7.72	-9.01		-0.0	4	-1.20	-4	88	0.00	0	0.00
Heavy Trucks: 82	2.99	-10.31		-0.0	5	-1.20	-5	32	0.00	0	0.00
Unmitigated Noise Levels (	witho	out Topo and I	barri	er atter	nuation)						
VehicleType Leq Peak	Hou	r Leq Day		Leq E	vening	Leq I	Vight	Ldn		CI	IEL
Autos:	70.	4 6	6.8		66.5		60.6		69.2		69
Medium Trucks:	67.	5 6	6.0		60.1		57.2		66.1		66
Heavy Trucks:	71.	4 7	0.2		64.2		58.9		69.2		69
Vehicle Noise:	74.	8 7	73.3		69.1		63.9		73.2		73
Centerline Distance to Nois	e Co	ntour (in feet)									
	_		Τ		dBA	65 0		60 dE			dBA
			dn:		03	22		478			030
			IFI :		10	23		511			100

Scenario: General Plan Buildout (Adopted) Road Name: Palm Dr. Road Segment: no! 10 WB Ramps         Project Name: CCGP Job Number: 11475           SITE SPECIFIC INPUT DATA         NOISE MODEL INPUTS           Highway Data         Site Conditions (Hard = 10, Soft = 15)           Average Daily Traffic (Adt): 35,600 vehicles Peak Hour Percentage: 10%         Medium Trucks (2 Avels): 15           Vehicle Speed: 55 mph Near/Far Lane Distance: 78 feet         Medium Trucks (2 Avels): 15           Site Data         Vehicle Mix           Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Observer: 63.0 feet         Moles Ouroe Elevations (in feet)           Molese Ourser Height (Abover): 90.5 feet Barrier Distance to Observer: 63.0 feet         Noise Source Elevations (in feet)         Venice           Barrier Distance to Observer: 63.0 feet Road Elevation: 0.0 feet         Medium Trucks: 2.297         Heavy Trucks: 8.006         Grade Adjustment: 0.0           Barrier Distance to Observer: 63.0 feet Road Elevation: 0.0 feet         Medium Trucks: 2.297         Heavy Trucks: 8.006         Grade Adjustment: 0.0           Centerline Dist. to Diserver: 0.0 feet Road Elevation: 0.0 feet         Heavy Trucks: 8.006         Grade Adjustment: 0.0           Left View: -90.0 degrees         Medium Trucks: 2.551         Left View: -90.0         Left View: -90.0
Highway Data     Site Conditions (Hard = 10, Soft = 15)       Average Daily Traffic (Adt): 35,600 vehicles     Autos: 15       Peak Hour Porentage: 10%     Medium Trucks (24/vels): 15       Peak Hour Volume: 3,560 vehicles     Medium Trucks (24/vels): 15       Vehicle Speed: 55 mph     Vehicle Mix       Site Data     Autos: 78.2% 12.3% 9.5% 93.6       Barrier Height: 0.0 feet     Autos: 85.9% 5.5% 8.6% 3.6       Barrier Jype (0-Wall, 1-Berm): 0.0     Centerline Dist. to Barrier: 63.0 feet       Deserver Height (Above Pad): 5.0 feet     Autos: 0.000       Barrier Jistance to Observer: 63.0 feet     Autos: 0.000       Barrier Jistance to Observer: 0.0 feet     Autos: 0.006       Road Elevation: 0.0 feet     Autos: 49.729       Road Grade: 0.0%     Left View: -90.0 degrees
Average Daily Traffic (Adt): 35,600 vehicles     Autos: 15       Peak Hour Percentage:     10%       Peak Hour Volume:     3,560 vehicles       Vehicle Speed:     55 mph       Vehicle Speed:     55 mph       Vehicle Speed:     56 mph       Vehicle Speed:     57 mph       Vehicle Speed:     56 mph       Vehicle Speed:     56 mph       Vehicle Speed:     56 mph       Vehicle View:     0.0 feet       Barrier Height:     0.0 feet       Barrier Distance to Observer:     63.0 feet       Centerline Dist. to Observer:     63.0 feet       Barrier Distance to Observer:     63.0 feet       Pad Elevation:     0.0 feet       Road Elevation:     0.0 feet       Road Elevation:     0.0 feet       Road Elevation:     0.0 feet       Left View:     -90.0 degrees
Barrier Height:     0.0     feet       Barrier Height:     0.0     feet       Barrier Height:     0.0     feet       Barrier Distance:     0.0     feet       Barrier Distance:     6.0     feet       Barrier Distance:     6.0     feet       Barrier Distance:     0.0     feet       Barrier Distance:     0.0     feet       Deserver Height (how: Pad Elevation:     0.0     feet       Deserver Height (how: Pad Elevation:     0.0     feet       Road Grade:     0.0%     Left View: -90.0     degium Trucks:       Road Grade:     0.0%     Left View: -90.0     degium Trucks:
Peak Hour Volume:     3,560 vehicles       Vehicle Speed:     55 mph       Near/Far Lane Distance:     78 feet       Vehicle Mix       Barrier Height:     0.0 feet       Barrier Jype (-Wall, 1-Berrn):     0.0       Centerline Dist. to Barrier:     63.0 feet       Barrier Distance to Observer:     0.0 feet       Barrier Distance to Observer:     0.0 feet       Barrier Distance to Observer:     0.0 feet       Road Elevation:     0.0 feet       Road Grade:     0.0%       Left View:     -90.0 degrees
Vehicle Speed:     55 mph       Near/Far Lane Distance:     78 feet       Vehicle Mix       Vehicle Type     Day       Earrier Height:     0.0 feet       Barrier Type (O-Walt, 1-Berm):     0.0       Centerline Dist. to Barrier:     63.0 feet       Barrier Distance to Observer:     63.0 feet       Deserver Height (Above Pad):     5.0 feet       Pad Elevation:     0.0 feet       Road Elevation:     0.0 feet       Road Elevation:     0.0 feet       Left View:     -90.0 degrees
Near/Far Lane Distance:         78 feet         Vehicle Wix         Day         Evening         Night         Dai           Site Data         Autos:         78.2%         12.3%         9.5%         93.6           Barrier Height:         0.0 feet         Medium Trucks:         89.9%         5.5%         8.6%         3.6           Barrier Height:         0.0         64         Medium Trucks:         89.4%         5.6%         5.0%         2.6           Centerline Dist. to Barrier:         63.0 feet         Noise Source Elevations (in feet)         Autos:         0.000           Barrier Distance to Observer:         60.1 feet         Autos:         2.237         Medium Trucks:         8.006         Grade Adjustment:         0.0           Observer Height (Above Pad):         5.0 feet         Heavy Trucks:         8.006         Grade Adjustment:         0.0           Pad Elevation:         0.0 feet         Lane Equivalent Distance (in feet)         Lane Equivalent Distance (in feet)           Road Elevation:         0.0 degrees         Medium Trucks:         49.551
Date Call         Vehicle type         Day         Default
Barrier Height:         0.0 feet         Medium Trucks:         85.9%         5.5%         8.6%         3.6           Barrier Type (0-Wall, 1-Berm):         0.0         1-Berny:         63.0 feet         Heavy Trucks:         89.4%         5.6%         5.0%         2.6           Centerline Dist. to Dbserver:         63.0 feet         Noise Source Elevations (in feet)         Autos:         0.000           Barrier Distance to Observer:         0.0 feet         Autos:         0.000         Medium Trucks:         2.297           Observer Height (Above Pad):         5.0 feet         Heavy Trucks:         8.006         Grade Adjustment:         0.0           Pad Elevation:         0.0 feet         Laft View:         -90.0 degrees         Autos:         49.729           Left View:         -90.0 degrees         Medium Trucks:         49.751         -
Barrier Type (IV-Wall, 1-Bernier)     0.0       Centerline Dist. to Barrier:     63.0 feet       Centerline Dist. to Dbserver:     63.0 feet       Barrier Type (IV-Wall, 1-Bernier)     0.0 feet       Autos:     0.000       Medium Trucks:     2.297       Heavy Trucks:     8.006       Grade Adjustment:     0.0       Road Elevation:     0.0 feet       Left View:     -90.0 degrees       Medium Trucks:     49.729
Barrier Type (0-Wall, 1-Bern):         0.0         Heavy Trucks:         89.4%         5.6%         5.0%         2.6           Centerline Dist. to Observer:         63.0 feet         Noise Source Elevations (in feet)         Autos:         0.000           Barrier Distance to Observer:         63.0 feet         Autos:         0.000         Medium Trucks:         2.297           Observer Height (Above Pad):         5.0 feet         Medium Trucks:         8.006         Grade Adjustment:         0.0           Road Grade:         0.0%         Autos:         49.729         Autos:         49.751
Centerline Dist. to Observer:     63.0 feet     Autos:     0.000       Barrier Distance to Observer:     0.0 feet     Autos:     0.000       Observer Height (Above Pad):     5.0 feet     Heavy Trucks:     2.297       Pad Elevation:     0.0 feet     Heavy Trucks:     8.006     Grade Adjustment:     0.0       Road Grade:     0.0%     Late Equivalent Distance (in feet)     Autos:     4.979       Left View:     -90.0 degrees     Medium Trucks:     49.551
Centerline Dist. to Observer:     63.0 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 Adjustment:     0.0       Road Elevation:     0.0 feet     Lane Equivalent Distance (in feet)     Lanes:     49.729       Left View:     -90.0 degrees     Medium Trucks:     49.551
Barrier Distance to Observer:     0.0 feet     Medium Trucks:     2.297       Observer Height (Above Pad):     5.0 feet     Heavy Trucks:     8.006     Grade Adjustment:     0.0       Pad Elevation:     0.0 feet     Late Equivalent Distance (in feet)     Late Grade:     0.0%     Autos:     49.751       Left View:     -90.0 degrees     Medium Trucks:     49.551     49.551
Observer Height (Above Pad):     5.0 feet     Heavy Trucks:     8.006     Grade Adjustment:     0.0       Pad Elevation:     0.0 feet     Lane Equivalent Distance (in feet)     1       Road Grade:     0.0%     Autos:     49.729       Left View:     -90.0 degrees     Medium Trucks:     49.551
Pad Elevation:     0.0 feet       Road Elevation:     0.0 feet       Left View:     -90.0 degrees   Medium Trucks: 49.751
Road Grade: 0.0% Autos: 49.729 Left View: -90.0 degrees Medium Trucks: 49.551
Left View: -90.0 degrees Medium Trucks: 49.551
Right View: 90.0 degrees Heavy Trucks: 49.568
FHWA Noise Model Calculations
VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berm Atte
Autos: 71.78 2.52 -0.07 -1.20 -4.70 0.000 0.0
Medium Trucks: 82.40 -11.60 -0.04 -1.20 -4.88 0.000 0.0
Heavy Trucks: 86.40 -12.90 -0.05 -1.20 -5.32 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: 73.0 71.2 69.2 63.3 71.9 7
Medium Trucks: 69.6 68.1 62.2 59.3 68.2 6
Heavy Trucks: 72.3 71.0 65.0 59.7 70.1 7
Vehicle Noise: 76.6 75.1 71.2 65.9 75.1 7
Centerline Distance to Noise Contour (in feet)
70 dBA 65 dBA 60 dBA 55 dBA
Ldn: 138 297 639 1,377
CNEL: 148 318 685 1,476

### Tuesday, March 19, 2019

	FH\	VA-RD-77-108	HIGH	IWAY N	IOISE P	REDICTIO	ON MC	DEL			
	: Gene Autry		dopted)	)		Project I Job Nu					
SITE S Highway Data	PECIFIC IN	IPUT DATA			Site Co	N( nditions (				S	
Average Daily T Peak Hour F Peak Ho	, ,	35,000 vehicle 10% 3,500 vehicle 55 mph			Me He	edium True eavy Truck	cks (2	Autos: Axles):	15 15 15 15		
Near/Far Lan	e Distance:	78 feet		H	Vehicle	nicleType		Day	Evening	Night	Daily
Site Data							utos:	78.2% 85.9%	12.3%	9.5% 8.6%	93.68%
Barrier Type (0-Wa		0.0 feet 0.0				Heavy Tru		89.4%		5.0%	
Centerline Dist		63.0 feet			Noise S	ource Ele	vatior	ns (in fe	eet)		
Centerline Dist. to Barrier Distance to Observer Height (A Pao	o Observer:	63.0 feet 0.0 feet 5.0 feet 0.0 feet			Hea	Autos: m Trucks: vy Trucks:	: 2	.000 .297 .006	Grade Ad	ljustment	: 0.0
	d Elevation:	0.0 feet			Lane Ec	uivalent			feet)		
	oad Grade: Left View: Right View:	0.0% -90.0 degre 90.0 degre				Autos: m Trucks: vy Trucks:	49	.729 .551 .568			
FHWA Noise Model	l Calculation	s									
VehicleType	REMEL	Traffic Flow		tance		Road	Fres		Barrier Att		rm Atten
Autos:	71.78	2.45		-0.0		-1.20		-4.70		000	0.00
Medium Trucks: Heavy Trucks:	82.40 86.40	-11.67 -12.97		-0.0 -0.0		-1.20 -1.20		-4.88 -5.32		000 000	0.00 0.00
Unmitigated Noise	Levels (with	out Topo and	barrie	er atten	uation)						
VehicleType L	eq Peak Hou	Ir Leq Day	/	Leq E	vening	Leq N	light		Ldn	С	NEL
Autos:	73		71.1		69.1		63.		71.8		72.
Medium Trucks:	69		68.0		62.2		59.	-	68.2	-	68.
Heavy Trucks:	72		70.9		64.9		59.	-	70.0	-	70.
Vehicle Noise:	76		75.0		71.1		65.	8	75.0	D	75.
Centerline Distance	e to Noise Co	ontour (in fee	<i>1</i> )	70 0	dBA	65 d	BA	6	0 dBA	55	dBA
			Ldn:	13	36	29	3		632	1.	362
		С	NEL:	14	46	31	4		677		460

F	HWA-R	D-77-108	HIGH	IWAY N	OISE PR	EDICT	ION MO	DEL			
Scenario: General Road Name: Mountai Road Segment: n/o Varr	n View F		opted	i)			Name: umber:				
SITE SPECIFIC	INPUT	DATA							L INPUT	s	
Highway Data				S	ite Con	ditions	(Hard =	10, Sc	oft = 15)		
Average Daily Traffic (Adt,	: 37,50	0 vehicles	5					Autos:	15		
Peak Hour Percentage	e 1	0%			Med	dium Tri	ucks (2 /	Axles):	15		
Peak Hour Volume	: 3,75	0 vehicles	6		Hea	avy True	cks (3+ )	Axles):	15		
Vehicle Speed	: 5	5 mph		L.	ehicle N	Nix					
Near/Far Lane Distance	c 7	8 feet		-		cleType		Day	Evening	Night	Daily
Site Data					VCIII		Autos:	78.2%		9.5%	
		.0 feet			Me	, dium T		85.9%		8.6%	3.63%
Barrier Height		.0 reet			h	leavy T		89.4%		5.0%	
Barrier Type (0-Wall, 1-Berm, Centerline Dist, to Barrie		.0 feet									
Centerline Dist. to Observe		.0 feet		۸	loise So				eet)		
Barrier Distance to Observe		1.0 feet				Auto		000			
Observer Height (Above Pad		.0 feet			Mediun			297			
Pad Elevation		.0 feet			Heav	y Truck	s: 8.	006	Grade Ad	justment:	0.0
Road Elevation		.0 feet		L	ane Equ	ivalen	Distan	ce (in i	feet)		
Road Grade		0.0%		-		Auto		729			
Left View		.0 degree	s		Mediun	n Truck	s: 49.	551			
Right View		.0 degree			Heav	y Truck	s: 49.	568			
FHWA Noise Model Calculat	ons										
VehicleType REMEL	Trat	fic Flow	Dis	stance	Finite	Road	Fresr	nel	Barrier Att	en Ber	m Atten
Autos: 71.	78	2.75		-0.07		-1.20		-4.70	0.0	000	0.00
Medium Trucks: 82.		-11.37		-0.04		-1.20		-4.88		000	0.00
Heavy Trucks: 86.	40	-12.67		-0.05		-1.20		-5.32	0.0	000	0.00
Unmitigated Noise Levels (w										1	
VehicleType Leq Peak I		Leq Day		Leq Ev		Leq	Night		Ldn		VEL
Autos:	73.3		71.4		69.4		63.5		72.		72.
Medium Trucks:	69.8		58.3		62.5		59.6		68.		68.
Heavy Trucks:	72.5		71.2		65.2		59.9		70.3		70.
Vehicle Noise:	76.8		75.3		71.4		66.1	1	75.3	3	75.
Centerline Distance to Noise	Contou	ır (in feet)	1	70 -		67	dD A		C dBA	57	dBA
			Ldn:	70 d			dBA 07	1 6	662		<i>ава</i> 426
		1	Lan:	143	2	3	JI		002	1,4	+∠10
		C1	IFI :	15	2	2	29		709	4.1	528

Tuesday, March 19, 2019

Scenar	io: General Pla	an Buildout (Ad	opted	i)		Project	Name:	CCGP					
	ne: Landau Bl.			·		Job NL	imber:	11475					
Road Segme	nt: n/o Ramon	Rd.											
	SPECIFIC IN	IPUT DATA			NOISE MODEL INPUTS Site Conditions (Hard = 10, Soft = 15)								
Highway Data					Site Con	ditions (	Hard =	10, Sc	oft = 15)				
Average Daily	Traffic (Adt):	35,100 vehicles	5					Autos:	15				
Peak Hour	Percentage:	10%			Mee	dium Tru	cks (2 /	Axles):	15				
Peak H	lour Volume:	3,510 vehicles	3		Hea	avy Truc	ks (3+ /	Axles):	15				
Ve	hicle Speed:	45 mph		-	Vehicle I	Nix							
Near/Far La	ne Distance:	60 feet		F		cleType		Day	Evening	Night	Daily		
Site Data						A	utos:	78.2%	12.3%	9.5%	93.68%		
Ba	rrier Heiaht:	0.0 feet			Me	dium Tr	ucks:	85.9%	5.5%	8.6%	3.63%		
Barrier Type (0-V		0.0			H	leavy Tr	ucks:	89.4%	5.6%	5.0%	2.69%		
Centerline Di	ist. to Barrier:	56.0 feet		-	Noise So	urce Fle	vation	s (in fø	et)				
Centerline Dist.	to Observer:	56.0 feet		-		Autos		000	.00				
Barrier Distance	to Observer:	0.0 feet			Mediur	n Trucks		297					
Observer Height	(Above Pad):	5.0 feet				y Trucks		006	Grade Adj	ustment	0.0		
P	ad Elevation:	0.0 feet		_		·			,				
	ad Elevation:	0.0 feet		_	Lane Equ				'eet)				
	Road Grade:	0.0%				Autos		550					
	Left View:	-90.0 degree				n Trucks		364					
	Right View:	90.0 degree	es		Heav	y Trucks	: 47.	382					
FHWA Noise Mod	el Calculation	-											
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite		Fresr		Barrier Atte		m Atten		
Autos:	68.46	3.33		0.2		-1.20		-4.67	0.0		0.000		
Medium Trucks:		-10.79		0.2		-1.20		-4.87	0.0		0.000		
Heavy Trucks:	84.25	-12.09		0.2	25	-1.20		-5.37	0.0	00	0.000		
Unmitigated Nois					· · ·								
VehicleType	Leq Peak Hou			Leq E	vening	Leq I	·		Ldn		NEL		
Autos:			69.0		67.0		61.0		69.7		70.3		
Medium Trucks:			66.3		60.4		57.5		66.4		66.7		
Heavy Trucks:			69.9		64.0		58.6	-	69.0		69.4		
Vehicle Noise:	74	.9	73.4		69.3		64.1		73.4		73.8		
Centerline Distan	ce to Noise Co	ontour (in feet)	)										
			L		dBA	65 c		6	0 dBA		dBA		
			Ldn:	g	94	20	2		435	9	37		
			IEL:		00	21	-		465		003		

	FHW.	A-RD-77-108 HIG	SHWAY I	NOISE PI	REDICTI	ON MOI	DEL			
Road Nan	rio: General Plar ne: Cathedral Cy nt: n/o Dinah Sh		ed)			Name: 0 umber: 1				
SITE	SPECIFIC INF	PUT DATA			N	OISE N	IODEI	L INPUT	S	
Highway Data				Site Con	ditions	(Hard =	10, So	ft = 15)		
• •	Traffic (Adt): 17 Percentage:	7,800 vehicles 10%		Мо	dium Tri	A Icks (2 A	Autos:	15 15		
		.780 vehicles				ks (3+ A		15		
	hicle Speed:	45 mph		110	avy mad	1010171		10		
	ne Distance:	45 mpn 44 feet		Vehicle I						
Neal/Fal La	ine Distance.	44 1661		Veh	icleType	1	Day	Evening	Night	Daily
Site Data					A	utos:	78.2%	12.3%	9.5%	93.68%
Ba	rrier Height:	0.0 feet		Me	edium Tr	ucks: 8	35.9%	5.5%	8.6%	3.63%
Barrier Type (0-W		0.0		ŀ	leavy Tr	ucks: 8	39.4%	5.6%	5.0%	2.69%
Centerline Di	ist. to Barrier:	44.0 feet	ŀ	Noise So	ource Fl	evations	: (in fe	et)		
Centerline Dist.	to Observer:	44.0 feet	ŀ	10/30 00	Autos			00		
Barrier Distance	to Observer:	0.0 feet		Modiu	n Trucks					
Observer Height	(Above Pad):	5.0 feet			v Trucks			Grade Ad	iustmont	. 0.0
P	ad Elevation:	0.0 feet						,	usunoni	. 0.0
Ro	ad Elevation:	0.0 feet		Lane Eq	uivalent	Distanc	e (in f	eet)		
	Road Grade:	0.0%			Autos	: 38.4	32			
	Left View:	-90.0 degrees		Mediu	n Trucks	38.2	201			
	Right View:	90.0 degrees		Heav	y Trucks	: 38.2	24			
FHWA Noise Mod	lel Calculations									
VehicleType	REMEL	Traffic Flow D	Distance	Finite	Road	Fresn	el I	Barrier Att	en Ber	m Atten
Autos:	68.46	0.38	1.6	61	-1.20		4.61	0.0	000	0.000
Medium Trucks:	79.45	-13.73	1.6	5	-1.20		4.87	0.0	000	0.000
Heavy Trucks:		-15.04	1.6	-	-1.20		-5.50	0.0	000	0.000
Unmitigated Nois										
VehicleType	Leq Peak Hour	1 1		vening	Leq	Night		Ldn		NEL
Autos:				65.4		59.5		68.1		68.7
Medium Trucks:		• • • • • • • • • • • • • • • • • • • •		58.8		55.9		64.8		65.1
Heavy Trucks:		68.4	•	62.4		57.1		67.5		67.8
Vehicle Noise:	-		)	67.8		62.5		71.8	3	72.2
Centerline Distan	ce to Noise Cor	ntour (in feet)								
				dBA	65 (		6	0 dBA		dBA
		Ldn		58	12			269		80
		CNEL	: 6	62	13	34		288	6	20

Tuesday, March 19, 2019

	FH\	WA-RD-77-108	HIGHW	AY NOIS	E PREDICT	ION MO	DDEL			
	e: Cathedral (		lopted)				CCGP 11475			
	PECIFIC IN	NPUT DATA						L INPUT	s	
Highway Data				Site	Conditions	(Hard :	= 10, So	ft = 15)		
Average Daily	. ,		s				Autos:	15		
Peak Hour		10%			Medium Tr			15		
	our Volume:	2,000 vehicle	s		Heavy Tru	cks (3+	Axles):	15		
	nicle Speed:	45 mph		Veh	icle Mix					
Near/Far Lar	e Distance:	44 feet			VehicleType	÷	Day	Evening	Night	Daily
Site Data						Autos:	78.2%	12.3%	9.5%	
Bar	rier Height:	0.0 feet			Medium T		85.9%	5.5%	8.6%	
Barrier Type (0-Wa	all, 1-Berm):	0.0			Heavy T	rucks:	89.4%	5.6%	5.0%	2.69%
Centerline Dis		44.0 feet		Nois	se Source E	levatio	ns (in fe	et)		
Centerline Dist. t		44.0 feet			Auto		.000			
Barrier Distance t		0.0 feet		M	edium Truck	s: 2	.297			
Observer Height (/	,	5.0 feet			Heavy Truck	s: 8	.006	Grade Ad	iustment	0.0
	d Elevation: d Elevation:	0.0 feet		Lan	e Equivalen	t Dista	100 (in 1	inot)		
	a Elevation: Road Grade:	0.0 feet 0.0%		Lan	Auto		432	eel)		
r	Left View:	-90.0 degre			edium Truck		201			
	Right View:	90.0 degre			Heavy Truck		.224			
FHWA Noise Mode	l Calculation	ıs								
VehicleType	REMEL	Traffic Flow	Distar	ce F	inite Road	Fres	nel	Barrier Att	en Ber	m Atten
Autos:	68.46			1.61	-1.20		-4.61	0.0		0.00
Medium Trucks:	79.45			1.65	-1.20		-4.87		000	0.00
Heavy Trucks:	84.25			1.65	-1.20		-5.50	0.0	000	0.00
Unmitigated Noise							-		-	
VehicleType Autos:	Leq Peak Hou		/ Le	eq Eveni	ng Leq 65.9	Night		Ldn 68.6		NEL 69.3
Medium Trucks:			67.9 65.2		65.9 59.3	60. 56.		65.3		65.0
Heavy Trucks:			68.9		59.5 62.9	57		68.0		68.3
Vehicle Noise:		3.9	72.4		68.3	63.	-	72.3		72.
Centerline Distanc	e to Noise C	ontour (in fee	)							
				70 dBA	65	dBA	6	0 dBA	55	dBA
			Ldn:	63	1	35		291	e	627
			NFI :	67		44				

F	HWA-RC	0-77-108	HIGH	WAY N	IOISE PR	EDICTI	ON MO	DDEL			
Scenario: General Road Name: Date Pal Road Segment: s/o Varn	m Dr.	dout (Add	opted)			Project Job Ni		CCGP 11475			
SITE SPECIFIC	INPUT	DATA				N	OISE	MODE	L INPUT	s	
Highway Data				5	Site Con	ditions	(Hard =	= 10, So	oft = 15)		
Average Daily Traffic (Adt)	: 30,300	vehicles						Autos:	15		
Peak Hour Percentage	: 10	%			Med	dium Tru	icks (2	Axles):	15		
Peak Hour Volume	: 3,030	vehicles			Hea	avy Truc	ks (3+	Axles):	15		
Vehicle Speed	: 50	mph			Vehicle I	liv					
Near/Far Lane Distance	: 78	feet		-		cleType	1	Dav	Evening	Night	Dailv
Site Data					Vern		utos:	78.2%	•	9.5%	
	-				Me	dium Tr		85.9%		8.6%	
Barrier Height		0 feet				leavy Tr		89.4%		5.0%	
Barrier Type (0-Wall, 1-Berm)		-				eavy 11	ucns.	05.470	5.0%	3.078	2.037
Centerline Dist. to Barrier		0 feet		1	Noise So	urce El	evatio	ns (in fe	eet)		
Centerline Dist. to Observer		0 feet				Autos	a: 0	.000			
Barrier Distance to Observer		0 feet			Mediun	n Trucks	: 2	.297			
Observer Height (Above Pad)		0 feet			Heav	y Trucks	: 8	.006	Grade Ad	justment:	0.0
Pad Elevation	. 0.	0 feet			Lane Equ		Dista		64)		
Road Elevation		0 feet		1	Lane Equ	Autos		.729	reet)		
Road Grade		0%			1 4 m all 1 m						
Left View		0 degree				n Trucks		.551			
Right View	: 90.	0 degree	S		Heav	y Trucks	: 49	.568			
FHWA Noise Model Calculati											
VehicleType REMEL		ic Flow	Dist	ance	Finite		Fres		Barrier Att	en Ber	m Atten
Autos: 70.2	20	2.24		-0.07	7	-1.20		-4.70	0.0	000	0.00
Medium Trucks: 81.	00	-11.88		-0.04	1	-1.20		-4.88	0.0	000	0.00
Heavy Trucks: 85.3	38	-13.18		-0.05	5	-1.20		-5.32	0.0	000	0.000
Unmitigated Noise Levels (w	ithout To	po and l	barrie	r atten	uation)						
VehicleType Leq Peak H		Leq Day		Leg Ev		Leq I			Ldn		VEL
Autos:	71.2	e	9.3		67.3		61.	4	70.0	D	70.6
	67.9		6.4		60.5		57.		66.0	-	66.8
Heavy Trucks:	70.9	e	9.7		63.7		58.	4	68.8	3	69.1
Vehicle Noise:	75.0	7	3.5		69.5		64.	2	73.	5	73.9
Orantaulius Distance to Naise	Contour	r (in feet)									
Centerline Distance to Noise				70 a	1RA	65 (	1BA	6	60 dBA	55	dBA
Centerline Distance to Noise				70 0	10/1	000					
Centerline Distance to Noise		L	.dn:	10		23			497	1,0	070

Tuesday, March 19, 2019

						EDICTIO					
	io: General Pla ie: Date Palm	an Buildout (Ado	opted)			Project I	vame: ( mber: 1				
	nt: s/o I-10 EB					JOD INL	mber.	1475			
÷											
SITE Highway Data	SPECIFIC IN	PUIDAIA			Site Con				L INPUTS oft = 15)	>	
	Traffic (Adt):	46,600 vehicles						utos:	,		
,	Percentage:	10%			Mee	dium Tru	cks (2 A	xles):	15		
	lour Volume:	4,660 vehicles			Hea	avy Truci	ks (3+ A	, xles):	15		
Ve	hicle Speed:	50 mph		-	Vehicle I			-			
Near/Far La	ne Distance:	78 feet		-		leType		Dav	Evening	Night	Daily
Site Data					Veni			78.2%	•	9.5%	
				_	Ma	edium Tru		35.9%		9.5%	
	rrier Height:	0.0 feet				leavv Tru		39.4%		5.0%	
Barrier Type (0-W	vall, 1-Berm): ist. to Barrier:	0.0 63.0 feet				icavy m	10/10.	JJ.470	5.070	0.070	2.007
Centerline Di Centerline Dist.		63.0 feet			Noise So	urce Ele	vations	; (in fe	eet)		
Barrier Distance		0.0 feet				Autos.					
Observer Height		5.0 feet				n Trucks					
	ad Elevation:	0.0 feet			Heav	y Trucks	8.0	06	Grade Adj	ustment	: 0.0
	ad Elevation: ad Elevation:	0.0 feet		5	Lane Equ	ivalent	Distand	e (in i	feet)		
	Road Grade:	0.0%		F		Autos	49.7	29	,		
	Left View:	-90.0 degree	s		Mediur	n Trucks		51			
	Right View:	90.0 degree			Heav	y Trucks	49.5	68			
FHWA Noise Mod	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dist	ance	Finite	Road	Fresn	e/	Barrier Atte	en Ber	m Atten
Autos:	70.20	4.11		-0.0	7	-1.20		4.70	0.0	00	0.00
Medium Trucks:	81.00	-10.01		-0.0	4	-1.20		4.88	0.0	00	0.00
Heavy Trucks:	85.38	-11.31		-0.0	5	-1.20		5.32	0.0	00	0.00
Unmitigated Nois											
VehicleType	Leq Peak Hou			Leq E	vening	Leq N	5		Ldn		NEL
Autos:			1.2		69.2		63.3		71.9		72.
Medium Trucks:			68.3		62.4		59.5		68.4		68.
Heavy Trucks:		-	1.5		65.6		60.2		70.6		71.
Vehicle Noise:	76	.9 7	75.3		71.3		66.1		75.3		75.
Centerline Distan	ce to Noise Co	ontour (in feet)									
			L		dBA	65 d		6	0 dBA		dBA
			dn:	14	43	30	(		662	- 1,	426
		-	IFI :		53	32			709		527

	FHV	VA-RD-77-108	HIGH	IWAY N	IOISE PR	REDICT		EL			
Road Nam	io: General Pla ne: Date Palm nt: n/o 30th Av	Dr.	opted	1)			Name: Cl lumber: 11				
SITE	SPECIFIC IN	PUT DATA				D	IOISE M	ODEL	INPUT	S	
Highway Data				3	Site Con		(Hard = 1				
Average Daily	Traffic (Adt):	32,800 vehicle	S				A	utos:	15		
Peak Hour	Percentage:	10%			Me	dium Tri	ucks (2 Ax	les):	15		
Peak H	lour Volume:	3,280 vehicles	s		He	avy Tru	cks (3+ Ax	les):	15		
Ve	hicle Speed:	50 mph		1	Vehicle I	Mix					
Near/Far La	ne Distance:	78 feet		H		icleType		ay	Evening	Night	Daily
Site Data					1011			8.2%	12.3%	9.5%	
		0.0 ()			Me	edium T		5.9%	5.5%	8.6%	3.63%
	rrier Height:	0.0 feet 0.0				leavy Ti		9.4%	5.6%	5.0%	2.69%
Barrier Type (0-W Centerline Di		0.0 63.0 feet				,				0.070	2.0070
Centerline Dist.		63.0 feet		1	Noise So	ource E	levations	(in fe	et)		
Barrier Distance		0.0 feet				Auto		0			
Observer Height		5.0 feet			Mediu	m Truck	s: 2.29	7			
	ad Elevation:	0.0 feet			Heav	y Truck	s: 8.00	6	Grade Adj	iustment.	0.0
	ad Elevation: ad Elevation:	0.0 feet		-	ane Fo	uivalen	t Distance	íin f	eet)		
	Road Grade:	0.0%		F	Lano Lq	Auto			000)		
	Left View:	-90.0 degree			Modiu	n Truck					
	Right View:	90.0 degree				v Truck					
	Night view.	SULU UEGIE	55		neav	y much	3. 43.00	.0			
FHWA Noise Mod	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fresne	1 1	Barrier Att	en Ber	m Atten
Autos:	70.20	2.58		-0.07	7	-1.20	-4	1.70	0.0	000	0.000
Medium Trucks:	81.00	-11.54		-0.04	1	-1.20	-4	1.88	0.0	000	0.000
Heavy Trucks:	85.38	-12.84		-0.05	5	-1.20	-5	5.32	0.0	000	0.000
Unmitigated Nois	e Levels (with	out Topo and	barri	er atten	uation)						
VehicleType	Leq Peak Hou	r Leq Day	'	Leg Ev	/ening	Leq	Night		Ldn		VEL
Autos:	71	.5	69.7		67.7		61.7		70.4	Ļ	71.0
Medium Trucks:	68	.2	66.8		60.9		58.0		66.9	)	67.2
Heavy Trucks:	71	.3	70.0		64.0		58.7		69.1		69.4
Vehicle Noise:	75	.4	73.8		69.8		64.6		73.8	3	74.2
Centerline Distan	ce to Noise Co	ontour (in feet	)								
			L	70 c	1BA	65	dBA	-	0 dBA	55	dBA
			Ldn:	11			43		524		128
		CI	VEL:	12	!1	2	60		561	1,	208

Tuesday, March 19, 2019

	FH\	VA-RD-77-108	HIGHWAY	r NC	ISE PR	REDICTIO	N MOI	DEL			
	e: Date Palm		opted)			Project N Job Nur					
SITES	SPECIFIC IN	IPUT DATA				NO	ISE N	IODE	L INPUTS	5	
Highway Data				Si	te Con	ditions (H	lard =	10, So	ft = 15)		
	Traffic (Adt): 3 Percentage: our Volume:	30,000 vehicles 10% 3,000 vehicles				dium Truc avy Truck	ks (2 A	/	15 15 15		
Vel	hicle Speed:	50 mph		V	hicle N	Nix					
Near/Far Lar	ne Distance:	78 feet		-		cleType		Day	Evening	Night	Daily
Site Data								78.2%	12.3%	9.5%	
Par	rier Height:	0.0 feet			Me	dium True	cks:	85.9%	5.5%	8.6%	3.63%
Barrier Type (0-Wa	all, 1-Berm):	0.0			H	leavy Tru	cks:	89.4%	5.6%	5.0%	2.69%
Centerline Dis		63.0 feet		N	oise So	urce Elev	ation	s (in fe	et)		
Centerline Dist. t		63.0 feet				Autos:	0.0	000	,		
Barrier Distance t		0.0 feet			Mediun	n Trucks:	2.2	297			
Observer Height (/	,	5.0 feet			Heav	v Trucks:	8.0	006	Grade Adj	ustment	0.0
	ad Elevation:	0.0 feet		_					,		
	ad Elevation:	0.0 feet		Lá	ine Equ	uivalent D			eet)		
F	Road Grade:	0.0%				Autos:	49.7				
	Left View: Right View:	-90.0 degree 90.0 degree				n Trucks: y Trucks:	49.5 49.5				
FHWA Noise Mode	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Distance	e	Finite	Road	Fresn	el i	Barrier Atte	en Bei	m Atten
Autos:	70.20	2.19	-0	.07		-1.20		-4.70	0.0	00	0.00
Medium Trucks:	81.00	-11.92	-0	.04		-1.20		-4.88	0.0	00	0.00
Heavy Trucks:	85.38	-13.23	-0	.05		-1.20		-5.32	0.0	00	0.00
Unmitigated Noise	e Levels (with	out Topo and	barrier att	enu	ation)						
	Leq Peak Hou			Eve	ning	Leq Ni			Ldn		NEL
Autos:	71		69.3		67.3		61.3		70.0		70.0
Medium Trucks:	67		6.4		60.5		57.6		66.5		66.
Heavy Trucks:	70		69.6		63.6		58.3		68.7		69.
Vehicle Noise:	75		73.4		69.4		64.2		73.4		73.
Centerline Distanc	e to Noise Co	ontour (in feet)		0.15		05.15					10.4
				0 dE	A	65 dE		6	0 dBA		dBA
			Ldn:	106		229			493		063
		Ch	IEL:	114		245			528	1,	138

	FH\	VA-RD-77-108	HIGHW	AY N	IOISE PR	REDICTIC	N MO	DEL			
Road Nan	io: General Pla ne: Date Palm nt: n/o Dinah S		opted)			Project N Job Nu					
SITE	SPECIFIC IN	IPUT DATA				NC	DISE N	<b>IODE</b>		s	
Highway Data					Site Con	ditions (l	lard =	10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	31,200 vehicles					,	Autos:	15		
Peak Hour	Percentage:	10%			Med	dium Truc	:ks (2 A	Axles):	15		
Peak H	lour Volume:	3,120 vehicles			Hea	avy Truck	s (3+ A	Axles):	15		
Ve	hicle Speed:	45 mph			Vehicle I	Niv					
Near/Far La	ne Distance:	78 feet		H		cleTvpe		Dav	Evening	Night	Dailv
Site Data					1011			78.2%	•		93.689
	rrier Height:	0.0 feet			Me	dium Tru		85.9%		8.6%	
ваrrier Type (0-И		0.0			h	leavy Tru	cks:	89.4%	5.6%	5.0%	2.699
Centerline Di		63.0 feet									
Centerline Dist.		63.0 feet		1	Voise So	ource Ele			eet)		
Barrier Distance		0.0 feet				Autos:		000			
Observer Height		5.0 feet				n Trucks:		297			
	ad Flevation:	0.0 feet			Heav	y Trucks:	8.0	006	Grade Ad	justment	: 0.0
Ro	ad Elevation:	0.0 feet		1	Lane Equ	uivalent l	Distand	ce (in i	feet)		
	Road Grade:	0.0%				Autos:	49.	729	,		
	Left View:	-90.0 degree	s		Mediun	n Trucks:	49.	551			
	Right View:	90.0 degree			Heav	y Trucks:	49.	568			
FHWA Noise Mod	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Distar	nce	Finite	Road	Fresn	nel	Barrier Att	en Ber	m Atten
Autos:	68.46	2.82		-0.07	7	-1.20		-4.70	0.0	000	0.00
Medium Trucks:	79.45	-11.30		-0.04	1	-1.20		-4.88	0.0	000	0.00
Heavy Trucks:	84.25	-12.60		-0.05	5	-1.20		-5.32	0.0	000	0.00
Unmitigated Nois	e Levels (with	out Topo and I	barrier a	atten	uation)						
VehicleType	Leq Peak Hou			eq Ev	/ening	Leq N			Ldn		NEL
Autos:	70		68.2		66.2		60.2		68.9		69.
Medium Trucks:	66		65.5		59.6		56.7		65.6		65.
Heavy Trucks:			69.1		63.1		57.8		68.2		68.
Vehicle Noise:	74	.1 7	72.6		68.5		63.3	3	72.5	5	73.
Centerline Distan	ce to Noise Co	ontour (in feet)		=0							
				70 c		65 di		6	0 dBA		dBA
			dn:	93	4	201			432	9	132
		-	IFI :	10		215			463		97

Tuesday, March 19, 2019

	FH\	WA-RD-77-108	HIGH	WAY I	NOISE PR	EDICTIC	N MO	DEL			
Road Nan	rio: General Plane: Date Palm ne: Date Palm nt: n/o Gerald		lopted)	)		Project N Job Nu					
	SPECIFIC IN	NPUT DATA			<u></u>					s	
Highway Data					Site Con	ditions (I			,		
• •	, ,	34,800 vehicle	s					Autos:			
	Percentage:	10%				dium Truc					
	lour Volume:	3,480 vehicle	S		Hea	avy Truck	s (3+ A	Axles):	15		
	hicle Speed:	40 mph			Vehicle I	Лix					
Near/Far La	ne Distance:	78 feet			Vehi	cleType		Day	Evening	Night	Daily
Site Data						AL	itos:	78.2%	12.3%	9.5%	93.68
Pa	rrier Height:	0.0 feet			Me	dium Tru	cks:	85.9%	5.5%	8.6%	3.63
Barrier Type (0-V	Vall, 1-Berm):	0.0			H	leavy Tru	cks:	89.4%	5.6%	5.0%	2.69
	st. to Barrier:	63.0 feet			Noise So	urce Ele	vation	s (in fe	eet)		
Centerline Dist.		63.0 feet				Autos:	0.0	000			
Barrier Distance		0.0 feet			Mediur	n Trucks:	2.2	297			
Observer Height	· /	5.0 feet			Heav	y Trucks:	8.0	006	Grade Ad	iustment	: 0.0
	ad Elevation:	0.0 feet		-	1 E	de cala ca de la	N-4	(!	6		
	ad Elevation:	0.0 feet		H	Lane Equ				reet)		
	Road Grade:	0.0%				Autos:		729			
	Left View: Right View:	-90.0 degre 90.0 degre				n Trucks: v Trucks:		551 568			
FHWA Noise Mod	°	0				,					
VehicleType	REMEL	Traffic Flow	Dist	tance	Finite	Road	Fresr	iel	Barrier Att	en Bei	rm Atter
Autos:	66.51	3.81		-0.0	7	-1.20		-4.70	0.0	000	0.00
Medium Trucks:	77.72	-10.31		-0.0	4	-1.20		-4.88	0.0	000	0.00
Heavy Trucks:	82.99	-11.61		-0.0	5	-1.20		-5.32	0.0	000	0.00
Unmitigated Nois	e Levels (with	out Topo and	barrie	er atter	nuation)						
VehicleType	Leq Peak Hou	ur Leq Day	·	Leq E	vening	Leq N	ight		Ldn	С	NEL
Autos:	69	9.1	67.2		65.2		59.3	3	67.9	)	68
Medium Trucks:	66	3.2	64.7		58.8		55.9	)	64.8	3	65
Heavy Trucks:	70	).1	68.9		62.9		57.6	6	67.9	)	68
Vehicle Noise:	73	3.5	72.0		67.8		62.6	5	71.9	)	72
Centerline Distan	ce to Noise C	ontour (in feet	)								
					dBA	65 di		6	60 dBA		dBA
			Ldn:	8	4	182	>		391	8	343
			VFI :		0	194			418		901

FHW	A-RD-77-108 HIG	HWAY	NOISE PF	REDICTIO	ON MODEI	_		
Scenario: General Plar Road Name: Date Palm D Road Segment: n/o Hwy. 111	r.	d)			lame: CC0 mber: 114			
SITE SPECIFIC INF	PUT DATA			N	DISE MOI	DEL INPU	TS	
Highway Data			Site Con	ditions (I	Hard = 10,	Soft = 15)		
Average Daily Traffic (Adt): 28	3,900 vehicles				Auto	os: 15		
Peak Hour Percentage:	10%		Me	dium Truc	cks (2 Axle	s): 15		
Peak Hour Volume:	2,890 vehicles		Hea	avy Truck	s (3+ Axle	s): 15		
Vehicle Speed:	40 mph	ŀ	Vehicle I	Also .				
Near/Far Lane Distance:	78 feet	ŀ		cleType	Da	/ Evenin	g Nigh	t Daily
Site Data			Veni		utos: 78.		· ·	5% 93.68%
			Me	dium Tri				
Barrier Height:	0.0 feet			leavy Tru				
Barrier Type (0-Wall, 1-Berm): Centerline Dist, to Barrier:	0.0 63.0 feet			ioury no	00.	0.01	0.0	2.0070
Centerline Dist. to Observer:	63.0 feet		Noise So	ource Ele	vations (ii	n feet)		
Barrier Distance to Observer:	0.0 feet			Autos:				
Observer Height (Above Pad):	5.0 feet		Mediur	n Trucks:	2.297			
Pad Elevation:	0.0 feet		Heav	y Trucks:	8.006	Grade /	Adjustme	ent: 0.0
Road Elevation:	0.0 feet	ŀ	Lane Equ	uivalent	Distance (	in feet)		
Road Grade:	0.0%	ŀ		Autos		,		
I eft View:	-90.0 degrees		Mediur	n Trucks:				
Right View:	90.0 degrees			y Trucks:				
FHWA Noise Model Calculations		I						
VehicleType REMEL	Traffic Flow D	istance	Finite	Road	Fresnel	Barrier /	Atten E	Berm Atten
Autos: 66.51	3.00	-0.0	)7	-1.20	-4.7	70	0.000	0.000
Medium Trucks: 77.72	-11.12	-0.0	14	-1.20	-4.8	38	0.000	0.000
Heavy Trucks: 82.99	-12.42	-0.0	15	-1.20	-5.3	32	0.000	0.000
Unmitigated Noise Levels (witho	ut Topo and barr	ier atter	nuation)					
VehicleType Leq Peak Hour	Leq Day	Leq E	vening	Leq N	light	Ldn		CNEL
Autos: 68.2	2 66.4		64.4		58.5	6	7.1	67.7
Medium Trucks: 65.4			58.0		55.1		4.0	64.3
Heavy Trucks: 69.3	3 68.0		62.1		56.8	6	7.1	67.5
Vehicle Noise: 72.7	7 71.2		67.0		61.8	7	1.1	71.5
Centerline Distance to Noise Con	ntour (in feet)							
			dBA	65 d		60 dBA		55 dBA
	Ldn:		74	16	-	346		744
	CNEL:	8	30	17	1	369		796

Tuesday, March 19, 2019

	FH	WA-RD-77-108	HIGH	WAY N	OISE P	REDICT	ION M	ODEL			
	e: Da Vall Dr		dopted)					CCGP 11475			
SITE S Highway Data	SPECIFIC II	NPUT DATA			Site Co				L INPUT	S	
Average Daily Peak Hour Peak H	Traffic (Adt): Percentage: our Volume: hicle Speed:	27,300 vehicle 10% 2,730 vehicle 45 mph			Me He	edium Tri eavy Tru	ucks (2	Autos: Axles):	15 15		
Near/Far Lar		60 feet		'	Vehicle	Mix nicleType		Dav	Evening	Night	Daily
Site Data							Autos:	78.2%	12.3%	9.5%	93.68%
Bar Barrier Type (0-Wa	rier Height: all, 1-Berm):	0.0 feet 0.0				ledium T Heavy T		85.9% 89.4%		8.6% 5.0%	
Centerline Dis		56.0 feet		1	Voise S	ource E	levatio	ns (in f	eet)		
Centerline Dist. t Barrier Distance t Observer Height (/ Pa	to Observer:	56.0 feet 0.0 feet 5.0 feet 0.0 feet			Mediu	Auto m Truck vy Truck	s: ( s: 2	0.000 2.297 3.006	Grade Ad	ljustmen	t: 0.0
Roa	d Elevation:	0.0 feet		1	Lane Eq	luivalen	t Dista	nce (in	feet)		
F	Road Grade: Left View: Right View:	0.0% -90.0 degre 90.0 degre				Auto m Truck vy Truck	s: 4	7.550 7.364 7.382			
FHWA Noise Mode	el Calculation	15									
VehicleType	REMEL	Traffic Flow	Dist	ance		Road	Fre	snel	Barrier At	ten Be	rm Atter
Autos:	68.46			0.22		-1.20		-4.67		000	0.00
Medium Trucks: Heavy Trucks:	79.45 84.25			0.25		-1.20 -1.20		-4.87 -5.37	•••	000 000	0.00
Unmitigated Noise	Levels (with	nout Topo and	barrie	r atten	uation)						
-	Leg Peak Ho			Leg Ev		Leg	Night		Ldn	0	NEL
Autos:		9.7	67.9	.,	65.9		59	.9	68.		69.
Medium Trucks:	66	6.6	65.2		59.3		56	.4	65.	3	65.
Heavy Trucks:	70	D.1	68.8		62.9		57	.6	67.	9	68.
Vehicle Noise:			72.3	-	68.2		63	.0	72.	3	72.
Centerline Distanc	e to Noise C	ontour (in fee	t)								
			L	70 a			dBA	(	60 dBA		5 dBA
		~	Ldn:	79			71		368		792
		C	NEL:	85	C	1	83		394		848

	FHV	A-RD-77-108	HIGHW	AY N	DISE PR	EDICTI	ON MO	DEL			
Road Nam	o: General Pla e: Da Vall Dr. nt: s/o Ramon	n Buildout (Ado Rd.	opted)			Project Job Ni	Name: umber:				
SITE	SPECIFIC IN	PUT DATA				N	OISE	NODE		s	
Highway Data				S	ite Con						
Average Daily	( )							Autos:	15		
Peak Hour	Percentage:	10%				dium Tru					
Peak H	our Volume:	2,040 vehicles			Hea	avy Truc	ks (3+ /	Axles):	15		
	hicle Speed:	50 mph		ν	ehicle N	<i>lix</i>					
Near/Far Lar	ne Distance:	60 feet		-		cleType		Day	Evening	Night	Daily
Site Data							utos:	78.2%		9.5%	
Day	rier Height:	0.0 feet			Me	dium Tr	ucks:	85.9%	5.5%	8.6%	3.63%
Barrier Type (0-W	•	0.0 1001			н	leavy Tr	ucks:	89.4%	5.6%	5.0%	
Centerline Dis		56.0 feet									
Centerline Dist.		56.0 feet		N	loise So				eet)		
Barrier Distance		0.0 feet				Autos		000			
Observer Height (.		5.0 feet				n Trucks		297			
0,1	d Flevation:	0.0 feet			Heavy	y Trucks	: 8.	006	Grade Ad	justment.	0.0
	d Elevation:	0.0 feet		L	ane Equ	iivalent	Distan	ce (in	feet)		
	Road Grade:	0.0%				Autos		550			
	Left View:	-90.0 degree	\$		Mediun	n Trucks		364			
	Right View:	90.0 degree			Heavy	y Trucks	: 47.	382			
FHWA Noise Mode	el Calculation:	5									
VehicleType	REMEL	Traffic Flow	Dista	nce	Finite I	Road	Fresr	nel	Barrier Att	en Ber	m Atten
Autos:	70.20	0.52		0.22		-1.20		-4.67	0.0	000	0.00
Medium Trucks:	81.00	-13.60		0.25		-1.20		-4.87	0.0	000	0.00
Heavy Trucks:	85.38	-14.90		0.25		-1.20		-5.37	0.0	000	0.00
Unmitigated Noise	e Levels (with	out Topo and I	barrier	attenu	lation)						
	Leq Peak Hou			.eq Ev		Leq I			Ldn		VEL
Autos:	69.		7.9		65.9		60.0		68.6		69.3
Medium Trucks:	66.		5.0		59.1		56.2		65.1		65.4
	69.	56	8.2		62.3		57.0		67.3		67.
Heavy Trucks:					68.1		62.8	3	72.0	C	72.
Vehicle Noise:	73		2.0		00.1		62.8	,			
-	73		2.0	70 d		6E /		-		55	dD A
Vehicle Noise:	73	ntour (in feet)		70 di	BA	65 0	iBA	-	0 dBA		dBA
Vehicle Noise:	73	ntour (in feet)	2.0 .dn: !EL:	70 di 76 82	BA	65 c 16 17	<i>IBA</i> 15	-	355 380	7	<i>dBA</i> 64 18

Tuesday, March 19, 2019

Seener	io: Conoral Di	an Buildout (Add	ntod)			Project A	lame: CC	GP		
	ie: Bob Hope		opted)				mber: 114			
	nt: n/o I-10 WI					<i>300 Mu</i>	111001. 114	15		
•									_	
SITE Highway Data	SPECIFIC IN	IPUT DATA		2	Site Con			DEL INPUT: Soft = 15)	5	
* *	Troffic (Adt):	51,700 vehicles				and one (i	Aut			
• •	Percentage:	10%			Mei	dium Tru	cks (2 Axle			
	lour Volume:	5.170 vehicles					is (3+ Axle	,		
	hicle Speed:	55 mph								
	ne Distance:	78 feet		_	Vehicle I					
	ne bistance.	10 1001			Vehi	cleType	Da		Night	Daily
Site Data								2% 12.3%	9.5%	
Ba	rrier Height:	0.0 feet				edium Tru		9% 5.5%	8.6%	3.63
Barrier Type (0-W	/all, 1-Berm):	0.0			H	leavy Tru	icks: 89.	4% 5.6%	5.0%	2.69
Centerline Di	st. to Barrier:	63.0 feet			Noise So	urce Ele	vations (i	n feet)		
Centerline Dist.	to Observer:	63.0 feet		F		Autos		,		
Barrier Distance	to Observer:	0.0 feet			Mediur	n Trucks:	2.297			
Observer Height	(Above Pad):	5.0 feet				v Trucks:			iustment	0.0
	ad Elevation:	0.0 feet								
	ad Elevation:	0.0 feet		1	Lane Equ		Distance (	,		
	Road Grade:	0.0%				Autos:				
	Left View:	-90.0 degree	S			n Trucks:				
	Right View:	90.0 degree	s		Heav	y Trucks:	49.568			
FHWA Noise Mod	el Calculation	s								
VehicleType	REMEL	Traffic Flow	Dista	ance	Finite	Road	Fresnel	Barrier Att	en Ber	m Atter
Autos:	71.78	4.14		-0.0	7	-1.20	-4.	70 0.0	000	0.00
Medium Trucks:	82.40	-9.98		-0.04	4	-1.20	-4.8	98 0.0	000	0.00
Heavy Trucks:	86.40	-11.28		-0.0	5	-1.20	-5.	32 0.0	000	0.0
Unmitigated Nois	e Levels (with	out Topo and I	barrier	atten	uation)					
VehicleType	Leq Peak Ho			Leq Ei	/ening	Leq N	light	Ldn		VEL
Autos:	74	.7 7	2.8		70.8		64.9	73.5	5	74
Medium Trucks:	71	.2 6	9.7		63.8		61.0	69.9	)	70
Heavy Trucks:	73	.9 7	2.6		66.6		61.3	71.7	7	72
Vehicle Noise:	78	3.2 7	6.7		72.8		67.5	76.7	7	77
Centerline Distan	ce to Noise C	ontour (in feet)								
				70 0		65 d		60 dBA		dBA
		L	.dn:	17	7	38	1	820	1,	766

FH	WA-RD-77-108	HIGHW	/AY N	IOISE PF	REDICT	ION MO	DEL			
Scenario: General P Road Name: Bob Hope Road Segment: s/o I-10 E	Dr.	lopted)				t Name: lumber:				
SITE SPECIFIC I	NPUT DATA				P	NOISE I	NODE	L INPUT	s	
Highway Data			:	Site Con	ditions	(Hard =	10, Sc	oft = 15)		
Average Daily Traffic (Adt):	34,700 vehicle	s					Autos:	15		
Peak Hour Percentage:	10%					ucks (2 /		15		
Peak Hour Volume:	3,470 vehicle	s		Hea	avy Tru	cks (3+ /	Axles):	15		
Vehicle Speed:	55 mph			Vehicle I	Mix					
Near/Far Lane Distance:	78 feet				cleType		Day	Evening	Night	Daily
Site Data						Autos:	78.2%	•	9.5%	
Barrier Height:	0.0 feet			Me	edium T	rucks:	85.9%	5.5%	8.6%	3.63%
Barrier Type (0-Wall, 1-Berm):	0.0			F	leavy T	rucks:	89.4%	5.6%	5.0%	2.69%
Centerline Dist. to Barrier:	63.0 feet		-	Noise So	urce F	levation	s (in fø	pet)		
Centerline Dist. to Observer:	63.0 feet		Ľ.	10.00 00	Auto		000	,01)		
Barrier Distance to Observer:	0.0 feet			Modiur	n Truck		297			
Observer Height (Above Pad):	5.0 feet				y Truck		006	Grade Ad	iustment	· 0.0
Pad Elevation:	0.0 feet								Juoumoni	. 0.0
Road Elevation:	0.0 feet		1	Lane Equ	uivalen			feet)		
Road Grade:	0.0%				Auto	s: 49.	729			
Left View:	-90.0 degre	es		Mediur	n Truck					
Right View:	90.0 degre	es		Heav	y Truck	's: 49.	568			
FHWA Noise Model Calculatio	ns		-							
VehicleType REMEL	Traffic Flow	Dista		Finite		Fresr		Barrier Att	en Ber	m Atten
Autos: 71.78			-0.07		-1.20		-4.70		000	0.000
Medium Trucks: 82.40			-0.04		-1.20		-4.88		000	0.000
Heavy Trucks: 86.40	) -13.01		-0.05	5	-1.20		-5.32	0.0	000	0.000
Unmitigated Noise Levels (wit										
VehicleType Leq Peak Ho	, ,		eq E	vening	Leq	Night		Ldn		NEL
		71.1		69.1		63.1		71.8	-	72.4
		68.0		62.1		59.2		68.1		68.4
		70.9		64.9		59.6		69.9		70.3
Vehicle Noise: 7	6.5	75.0		71.1		65.8	3	75.0	)	75.4
Centerline Distance to Noise C	Contour (in feet	)								
			70 c			dBA	6	i0 dBA		dBA
		Ldn:	13			92		628		354
	C	NEL:	14	15	3	13		674	1,	451

### Tuesday, March 19, 2019

	FH\	WA-RD-77-108	HIGHWA	AY NO	ISE PR	EDICTIO	N MOI	DEL			
	e: Varner Rd.		lopted)			Project Na Job Nun					
	PECIFIC IN	IPUT DATA								s	
Highway Data				Si	te Con	ditions (H			,		
Average Daily 7	, ,	5,000 vehicle	S					Autos:	15		
Peak Hour F		10%				dium Truck		/	15		
	our Volume:	500 vehicle	s		Hea	avy Trucks	s (3+ A	xles):	15		
	icle Speed:	55 mph		Ve	ehicle N	/lix					
Near/Far Lan	e Distance:	60 feet			Vehi	cleType		Day	Evening	Night	Daily
Site Data						Aut	tos:	78.2%	12.3%	9.5%	93.68%
Bari	rier Height:	0.0 feet				edium Truc		85.9%	5.5%	8.6%	
Barrier Type (0-Wa	all, 1-Berm):	0.0			H	leavy Truc	cks:	89.4%	5.6%	5.0%	2.69%
Centerline Dis	t. to Barrier:	56.0 feet		N	nise So	urce Elev	ation	: (in fe	et)		
Centerline Dist. to	o Observer:	56.0 feet			0.00 00	Autos:	0.0				
Barrier Distance to	o Observer:	0.0 feet			Mediun	n Trucks:		97			
Observer Height (A	,	5.0 feet			Heav	v Trucks:	8.0	06	Grade Ad	justment	: 0.0
	d Elevation:	0.0 feet		-							
	d Elevation:	0.0 feet		Lá	ane Equ	ivalent D	47.5		eet)		
R	oad Grade:	0.0%			Madium	n Trucks:	47.3				
	Right View:	-90.0 degre 90.0 degre				y Trucks:	47.3				
FHWA Noise Mode	I Calculation	s									
VehicleType	REMEL	Traffic Flow	Distan	се	Finite	Road	Fresn	el	Barrier Att	en Bei	rm Atten
Autos:	71.78	-6.00		0.22		-1.20		4.67	0.0	000	0.00
Medium Trucks:	82.40	-20.12		0.25		-1.20		4.87		000	0.00
Heavy Trucks:	86.40	-21.42		0.25		-1.20		-5.37	0.0	000	0.00
Unmitigated Noise					- í.						
	Leq Peak Ho			eq Eve		Leq Ni			Ldn		NEL
Autos:			62.9		60.9		55.0		63.7		64.
Medium Trucks:			59.9 62.7		54.0		51.1 51.5		60.0 61.8	-	60. 62.
Heavy Trucks: Vehicle Noise:		4.0 8.4	66.8		56.8 62.9		51.5		66.9		67.
Centerline Distance	e to Noise C	ontour (in fee	)								
				70 dE	BA	65 dB	A	6	0 dBA	55	dBA
			🖵								
			Ldn:	35		75			161	3	346

	FH\	NA-RD-77-108	HIGH	NAY N	OISE PF	REDICTIO	ON MC	DEL			
Road Nan	io: General Pla ne: Varner Rd. nt: w/o Date P		opted)			Project I Job Nu					
SITE	SPECIFIC IN	IPUT DATA				N	DISE	MODE	L INPUT	s	
Highway Data				5	Site Con	ditions (					
Average Dailv	Traffic (Adt);	39,700 vehicles	6					Autos:	15		
	Percentage:	10%			Me	dium Tru	cks (2	Axles):	15		
	lour Volume:	3,970 vehicles	6		Hea	avy Truck	ks (3+	, Axles):	15		
Ve	hicle Speed:	55 mph			1-1-1-1-1						
Near/Far La	ne Distance:	78 feet		-	Vehicle I			Day	Evening	Night	Dailu
Site Data					veni	cleType	utos:	78.2%			Daily 93.689
					M	dium Tru		85.9%		8.6%	
	rrier Height:	0.0 feet				leavy Tru				5.0%	
Barrier Type (0-W		0.0			,	leavy III	ichs.	05.470	5.0%	5.076	2.09
Centerline Di		63.0 feet		1	Voise So	urce Ele	vatior	ns (in fe	eet)		
Centerline Dist.		63.0 feet				Autos.	0	.000			
Barrier Distance		0.0 feet			Mediur	n Trucks.	2	.297			
Observer Height	· ,	5.0 feet			Heav	y Trucks.	8	.006	Grade Ad	justment.	0.0
	ad Elevation:	0.0 feet		-	one Fr	uivalent	Diotor	nee (in	fa a 4)		
	ad Elevation:	0.0 feet		-	ane Equ	Autos		.729	ieel)		
	Road Grade:	0.0%			14-16-1	Autos. n Trucks.					
	Left View:	-90.0 degree				y Trucks.		.551			
	Right View:	90.0 degree	es		neav	y mucks.	49	.568			
FHWA Noise Mod	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dista	ance	Finite	Road	Fres	nel	Barrier Att	en Ber	m Atten
Autos:	71.78	3.00		-0.07	7	-1.20		-4.70	0.0	000	0.00
Medium Trucks:	82.40	-11.12		-0.04	ŧ	-1.20		-4.88	0.0	000	0.00
Heavy Trucks:	86.40	-12.42		-0.05	i	-1.20		-5.32	0.0	000	0.00
Unmitigated Nois	e Levels (with	out Topo and	barrier	ratten	uation)						
VehicleType	Leg Peak Hou			Leg Ev		Leg N	light		Ldn	CI	VEL
Autos:	73	.5	71.6		69.7		63.	7	72.4	4	73.
Medium Trucks:	70	.0	68.6		62.7		59.	8	68.	7	69.
Heavy Trucks:	72	.7	71.4		65.5		60.	2	70.	5	70.
Vehicle Noise:	77	.1	75.5		71.6		66.	4	75.0	6	76
Centerline Distan	ce to Noise Co	ontour (in feet,	)								
				70 c		65 d	BA	6	60 dBA	55	dBA
			Ldn:	14	-8	31	9		687	1,	481
											587

Tuesday, March 19, 2019

					OISE PF						
			opted)			Project					
						JOD IN	ımber:	11475			
÷											
	Vehicle Speed:         55 mg           Near/Far Lane Distance:         60 fed           bata         60 fed           Barrier Height:         0.0 fed           fer Type (0-Wall, 1-Berm):         0.0           Centerline Dist. to Barrier:         56.0 fed           nterline Dist. to Observer:         56.0 fed           rier Distance to Observer:         50.0 fed           erver Height (Above Pad):         5.0 fed           Road Elevation:         0.0 fed           Road Elevation:         0.0 fed           Road Elevation:         0.0 fed           Right View:         90.0 d           A Noise Model Calculations         50.0 fed				Site Con					5	
* /				3	Sile Com	anuons			,		
						. <del>.</del>		Autos:			
						dium Tru					
		2,280 vehicles			Hea	avy Truc	KS (3+ A	axles):	15		
		55 mph		V	/ehicle I	Mix					
Near/Far La	ne Distance:	60 feet			Vehi	cleType		Day	Evening	Night	Daily
Site Data						A	utos:	78.2%	12.3%	9.5%	93.68%
Pa	rrior Hoight:	0.0 feet			Me	edium Tr	ucks:	85.9%	5.5%	8.6%	3.63%
					H	łeavy Tr	ucks:	89.4%	5.6%	5.0%	2.69%
Centerline Di	st. to Barrier:	56.0 feet			Voise So	urco El	vation	e (in fr	not)		
Centerline Dist.	to Observer:	56.0 feet		-	10/36 30	Autos		300			
Barrier Distance	to Observer:	0.0 feet			Madium	n Trucks		297			
Observer Height	(Above Pad):	5.0 feet				y Trucks		297	Grade Adj	ustmont	0.0
P	ad Elevation:	0.0 feet			neav	y TTUCKS	. 0.1	000	Grade Auj	usunen.	0.0
Ro	ad Elevation:	0.0 feet		L	ane Equ	uivalent	Distan	ce (in i	feet)		
	Road Grade:	0.0%				Autos	: 47.	550			
	Left View:	-90.0 degree	s		Mediur	n Trucks	: 47.	364			
	Right View:	90.0 degree	s		Heav	y Trucks	: 47.	382			
- HWA Noise Mod	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Distar	се	Finite	Road	Fresr	el	Barrier Atte	en Ber	m Atten
Autos:	71.78	0.59		0.22	2	-1.20		-4.67	0.0	00	0.00
Medium Trucks:	82.40	-13.53		0.25	5	-1.20		-4.87	0.0	00	0.00
Heavy Trucks:	86.40	-14.83		0.25	5	-1.20		-5.37	0.0	00	0.00
<b>Unmitigated Nois</b>	e Levels (with	out Topo and	barrier a	attenu	uation)						
VehicleType	Leg Peak Hou	ır Leq Day	Le	eq Ev	rening	Leq I	Vight		Ldn	CI	VEL
Autos:		.4 6	39.5	-	67.5		61.6	5	70.3		70.
Medium Trucks:	67	.9 6	6.5		60.6		57.7	,	66.6		66.
	70	.6 6	69.3		63.4		58.0	)	68.4		68.
Heavy Trucks:	75	.0	73.4		69.5		64.3	3	73.5		73.
Heavy Trucks: Vehicle Noise:	75										
,		ontour (in feet)									
Vehicle Noise:		,		70 d		65 0		6	0 dBA		dBA
Vehicle Noise:		,	dn:	70 d 95		65 d 20		6	60 dBA 442		dBA 51

	FHV	VA-RD-77-108	HIGH	IWAY N	IOISE PI	REDICT	ION MOI	DEL			
Road Nan	io: General Pla ne: Valley Cent nt: e/o Palm D		opted)	)			Name: ( umber: ·				
SITE	SPECIFIC IN	IPUT DATA				ľ	IOISE N	IODE		s	
Highway Data					Site Con	ditions	(Hard =	10, S	oft = 15)		
Average Daily	. ,		6					Autos:			
	Percentage:	10%					ucks (2 A	,			
Peak F	lour Volume:	1,510 vehicles	6		He	avy Tru	cks (3+ A	(xles):	15		
	hicle Speed:	55 mph			Vehicle I	Mix					
Near/Far La	ne Distance:	60 feet				icleType		Day	Evening	Night	Daily
Site Data							Autos:	78.2%	5 12.3%	9.5%	93.68%
Ba	rrier Height:	0.0 feet			Me	edium T	rucks:	85.9%	5.5%	8.6%	3.63%
Barrier Type (0-V		0.0			ŀ	leavy T	rucks:	89.4%	5.6%	5.0%	2.69%
Centerline Di		56.0 feet		1	Noise So	ource E	levation	s (in f	eet)		
Centerline Dist.		56.0 feet				Auto	s: 0.0	000			
Barrier Distance		0.0 feet			Mediu	m Truck	s: 2.2	297			
Observer Height	, ,	5.0 feet			Heav	v Truck	s: 8.0	006	Grade Ad	justment.	0.0
	ad Elevation:	0.0 feet		H							
	ad Elevation:	0.0 feet		1	Lane Eq				feet)		
	Road Grade:	0.0%				Auto					
	Left View:	-90.0 degree	es			m Truck					
	Right View:	90.0 degree	es		Heav	y Truck	s: 47.3	382			
FHWA Noise Mod	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fresn	el	Barrier Att	en Ber	m Atten
Autos:	71.78	-1.20		0.22	2	-1.20		-4.67	0.0	000	0.000
Medium Trucks:	82.40	-15.32		0.25	5	-1.20		-4.87	0.0	000	0.000
Heavy Trucks:	86.40	-16.62		0.25	5	-1.20		-5.37	0.0	000	0.000
Unmitigated Nois	e Levels (with	out Topo and	barrie	er atten	uation)						
VehicleType	Leq Peak Hou	Ir Leq Day		Leg Ev	vening	Leq	Night		Ldn	CI	VEL
Autos:	69	.6	67.7		65.7		59.8		68.5		69.1
Medium Trucks:	66	.1 (	64.7		58.8		55.9		64.8	3	65.1
Heavy Trucks:	68	.8	67.5		61.6		56.3		66.6	6	67.0
Vehicle Noise:	73	.2	71.6		67.7		62.5		71.7	7	72.1
Centerline Distan	ce to Noise Co	ontour (in feet,	)								
				70 c			dBA	(	60 dBA		dBA
			Ldn:	7:	-		56		336		23
		CI	VEL:	7	7	1	67		360	7	75
		CI	VEL:	7	7	1	67		360	7	75

Tuesday, March 19, 2019

	FH	WA-RD-77-108	HIGH	NAY NO	DISE PI	REDICTI	ON MO	DDEL			
	e: Valley Cen		dopted)			Project Job Ni		CCGP 11475			
SITE S Highway Data	SPECIFIC IN	NPUT DATA			ito Con	N ditions				S	
Average Daily Peak Hour Peak H	Percentage: our Volume: hicle Speed:	9,100 vehicle 10% 910 vehicle 55 mph 60 feet			Me He <b>'ehicle l</b>	dium Tru avy Truc <b>Mix</b>	ıcks (2 :ks (3+	Autos: Axles): Axles):	15 15 15		
Site Data					Veh	icleType 4	utos:	Day 78.2%	Evening	Night 9.5%	Daily 93.68%
Bar Barrier Type (0-Wa		0.0 feet 0.0				edium Tr Heavy Tr	ucks:	85.9% 89.4%	5.5%	8.6% 5.0%	3.63%
	to Observer: to Observer:	56.0 feet 56.0 feet 0.0 feet 5.0 feet 0.0 feet			Mediui Heav	Autos Autos m Trucks y Trucks <b>uivalent</b>	s: 0 s: 2 s: 8	.000 .297 .006	Grade Ad	ljustmen	t: 0.0
F	Road Grade: Left View: Right View:	0.0 feet 0.0% -90.0 degre 90.0 degre		L	Mediur	Autos n Trucks y Trucks	s: 47 s: 47	.550 .364 .382			
FHWA Noise Mode											-
VehicleType Autos: Medium Trucks: Heavy Trucks:	REMEL 71.78 82.40 86.40	-17.52		ance 0.22 0.25 0.25		Road -1.20 -1.20 -1.20	Fres	-4.67 -4.87 -5.37	0.	ten Be 000 000 000	rm Atten 0.00 0.00 0.00
Unmitigated Noise	Levels (with	out Topo and	barrie	r attenu	uation)						
-	Leq Peak Ho			Leq Eve		Leq I	Night		Ldn	C	NEL
Autos: Medium Trucks:	•.		65.5 62.5		63.5 56.6	-	57. 53.	-	66. 62.	6	66. 62.
Heavy Trucks: Vehicle Noise:		3.6 1.0	65.3 69.4		59.4 65.5		54. 60.		64. 69.		64. 69.
Centerline Distanc	e to Noise C	ontour (in fee	t)								
			Ldn: NFI :	70 di 52 55		65 c 11 11	11	e	60 dBA 239 257	ţ	5 dBA 516 553
		C	WEL:	55		11	19		201	:	003

	FHV	/A-RD-77-108	HIGH	WAY N	OISE PR	EDICTI	ON MOD	EL			
	Valley Cent		opted)				Name: C Imber: 1				
SITE S	PECIFIC IN	PUT DATA				N	OISE M	ODEL	INPUT	s	
Highway Data				s	Site Cond	ditions (	Hard = 1	0, So	ft = 15)		
Average Daily T	raffic (Adt):	6,000 vehicles	S				A	utos:	15		
Peak Hour P	ercentage:	10%			Med	lium Tru	cks (2 Ax	des):	15		
Peak Ho	ur Volume:	600 vehicles	S		Hea	avy Truc	ks (3+ Ax	des):	15		
Vehi	cle Speed:	55 mph		V	ehicle N	Niv					
Near/Far Lane	Distance:	60 feet		v		cleType		)ay	Evening	Night	Daily
Site Data					Venic			ay 8.2%	12.3%	9.5%	
					Mo	dium Tr		5.9%	5.5%	8.6%	3.63%
	ier Height:	0.0 feet				leavy Tr		9.4%	5.6%	5.0%	2.69%
Barrier Type (0-Wa		0.0				eavy II	JUNS. 0	3.4 /0	3.076	3.076	2.057
Centerline Dist		56.0 feet		N	loise So	urce Ele	evations	(in fe	et)		
Centerline Dist. to		56.0 feet				Autos	: 0.00	00			
Barrier Distance to		0.0 feet			Medium	n Trucks	: 2.29	97			
Observer Height (A	,	5.0 feet			Heavy	/ Trucks	: 8.00	)6	Grade Adj	iustment:	0.0
	Elevation:	0.0 feet			ono Em	ui valant	Distance	/in f	0.041		
	Elevation:	0.0 feet		L	ane Equ	Autos			eel)		
R	oad Grade: Left View:	0.0%				า Trucks					
		-90.0 degree				/ Trucks / Trucks					
1	Right View:	90.0 degree	es		neavy	/ TTUCKS	. 47.30	32			
FHWA Noise Model	Calculations	;									
VehicleType	REMEL	Traffic Flow	Dist	tance	Finite I	Road	Fresne	1 1	Barrier Att	en Ber	m Atten
Autos:	71.78	-5.21		0.22		-1.20	-4	4.67	0.0	000	0.00
Medium Trucks:	82.40	-19.33		0.25		-1.20	-4	1.87	0.0	000	0.00
Heavy Trucks:	86.40	-20.63		0.25		-1.20	-{	5.37	0.0	000	0.00
Unmitigated Noise	Levels (with	out Topo and	barrie	r attenu	uation)						
	eq Peak Hou			Leq Ev		Leq I			Ldn		VEL
Autos:	65.		63.7		61.7		55.8		64.5		65.
Medium Trucks:	62.		60.7		54.8		51.9		60.8		61.
Heavy Trucks:	64.	-	63.5		57.6		52.2		62.6		63.
Vehicle Noise:	69.	2	67.6		63.7		58.5		67.7	,	68.
Centerline Distance	to Noise Co	ntour (in feet	)								
				70 di		65 0		-	0 dBA		dBA
			Ldn: VEL:	39 42		8- 91			181 194		91 19

Tuesday, March 19, 2019

Se	ia. Canaral Di	n Ruildout / A -	optod)			Drains!	Nomo	2005			
	ne: Vista Chino	an Buildout (Ad	opted)			Project	Name: umber:				
	nt: w/o Landau					000 14	annoon.	11473			
SITE	SPECIFIC IN	IPUT DATA		1					L INPUTS	;	
Highway Data					Site Con	ditions	(Hard =	10, Se	oft = 15)		
Average Daily	Traffic (Adt):	33,100 vehicles	5					Autos:	15		
Peak Hour	Percentage:	10%			Mee	dium Tru	icks (2 A	(xles)	15		
Peak H	lour Volume:	3,310 vehicles	5		Hea	avy Truc	ks (3+ A	(xles)	15		
Ve	ehicle Speed:	50 mph		h	Vehicle I	<i>liv</i>					
Near/Far La	ane Distance:	78 feet		H		cleType		Day	Evening	Night	Daily
Site Data								78.2%	•	9.5%	
Ba	rrier Heiaht:	0.0 feet			Me	dium Tr	ucks:	85.9%	5.5%	8.6%	3.63%
Barrier Type (0-V		0.0			H	leavy Tr	ucks:	89.4%	5.6%	5.0%	2.69%
Centerline D	ist. to Barrier:	63.0 feet			Noise So	urco El	ovation	e (in f	not)		
Centerline Dist.	to Observer:	63.0 feet		Ľ	10/36 30	Autos		3 ( <i>III I</i>			
Barrier Distance	to Observer:	0.0 feet			Modiur	n Trucks		297			
Observer Height	(Above Pad):	5.0 feet				v Trucks		006	Grade Adju	istment	. 0.0
P	ad Elevation:	0.0 feet				·	-			Journoint	. 0.0
	ad Elevation:	0.0 feet		1	Lane Equ				feet)		
	Road Grade:	0.0%				Autos					
	Left View:	-90.0 degree	:S			n Trucks					
	Right View:	90.0 degree	:S		Heav	y Trucks	: 49.	568			
FHWA Noise Mod	lel Calculation	s									
VehicleType	REMEL	Traffic Flow	Dista	nce	Finite	Road	Fresr	el	Barrier Atte	en Ber	m Atten
Autos:	70.20	2.62		-0.07	7	-1.20		-4.70	0.0	00	0.000
Medium Trucks:	81.00	-11.50		-0.04	4	-1.20		-4.88	0.0	00	0.000
Heavy Trucks:	85.38	-12.80		-0.05	5	-1.20		-5.32	0.0	00	0.000
Unmitigated Nois											
VehicleType	Leq Peak Hou			.eq Ei	/ening	Leq I	· ·		Ldn	C	NEL
Autos:			69.7		67.7		61.8		70.4		71.0
Medium Trucks:			6.8		60.9		58.0		66.9		67.2
Heavy Trucks:			70.1		64.1		58.8		69.1		69.5
Vehicle Noise:	75	.4	73.8		69.9		64.6		73.8		74.3
Centerline Distan	ce to Noise C	ontour (in feet,									
				70 c	1BA	65 0		(	60 dBA		dBA
			Ldn: IFL:	11	-	24 26			527 564		135 215

		NOISE PR	EDICTION MOI	DEL			
Scenario: General Plan Buildo Road Name: Vista Chino Road Segment: w/o Date Palm Dr.	out (Adopted)		Project Name: ( Job Number: 1				
SITE SPECIFIC INPUT D	АТА		NOISE N	IODEL	INPUTS		
Highway Data		Site Cond	litions (Hard =				
Average Daily Traffic (Adt): 30,400 v Peak Hour Percentage: 10%		Mod	A lium Trucks (2 A	Autos:	15 15		
Peak Hour Volume: 3.040			vy Trucks (3+ A		15		
		i ica	vy mucks (3+ A	kies).	15		
Vehicle Speed: 50 r Near/Far Lane Distance: 78 f		Vehicle M	lix				
Near/Far Lane Distance: 78 f	eet	Vehic	leType	Day E	vening	Night	Daily
Site Data			Autos:	78.2%	12.3%	9.5%	93.68%
Barrier Height: 0.0	feet	Mee	dium Trucks:	85.9%	5.5%	8.6%	3.63%
Barrier Type (0-Wall, 1-Berm): 0.0		He	eavy Trucks:	89.4%	5.6%	5.0%	2.69%
Centerline Dist. to Barrier: 63.0		Noise Sol	urce Elevations	s (in feet	)		
Centerline Dist. to Observer: 63.0			Autos: 0.0	000	,		
Barrier Distance to Observer: 0.0	feet	Medium	Trucks: 2.2	97			
Observer Height (Above Pad): 5.0	feet	Heavy	Trucks: 8.0	06 G	rade Adju	stment:	0.0
Pad Elevation: 0.0	feet						
Road Elevation: 0.0	feet	Lane Equ	ivalent Distand		et)		
Road Grade: 0.09	6		Autos: 49.7				
Left View: -90.0	degrees		Trucks: 49.5				
Right View: 90.0	degrees	Heavy	Trucks: 49.5	568			
FHWA Noise Model Calculations		1					
VehicleType REMEL Traffic	Flow Distance	e Finite F	Road Fresn	el Ba	arrier Atte	n Bern	n Atten
Autos: 70.20	2.25 -0	.07	-1.20	-4.70	0.00	00	0.000
Medium Trucks: 81.00	-11.87 -0	.04	-1.20	-4.88	0.00	0	0.000
Heavy Trucks: 85.38	-13.17 -0	.05	-1.20	-5.32	0.00	00	0.000
		onuction					
Unmitigated Noise Levels (without Top	o and barrier att	enuacion)					
Unmitigated Noise Levels (without Top		Evening	Leq Night	L	dn	CN	EL
Unmitigated Noise Levels (without Top		,	Leq Night 61.4		dn 70.1	CN	
Unmitigated Noise Levels (without Top VehicleType Leq Peak Hour L	eq Day Leq	Evening	1 0			CN	70.6
Unmitigated Noise Levels (without Top VehicleType Leq Peak Hour Li Autos: 71.2	eq Day Leq 69.3	Evening 67.3	61.4		70.1	CN	70.6
Unmitigated Noise Levels (without Top VehicleType Leq Peak Hour Li Autos: 71.2 Medium Trucks: 67.9	eq Day Leq 69.3 66.4	Evening 67.3 60.6	61.4 57.7		70.1 66.6	CN	70.6 66.9 69.1
Unmitigated Noise Levels (without Top           VehicleType         Leq Peak Hour         L.           Autos:         71.2           Medium Trucks:         67.9           Heavy Trucks:         71.0	eq Day Leq 69.3 66.4 69.7 73.5 in feet)	Evening 67.3 60.6 63.7 69.5	61.4 57.7 58.4 64.2		70.1 66.6 68.8 73.5		70.6 66.9 69.1 73.9
Unmitigated Noise Levels (without Top VehicleType Leq Peak Hour L Autos: 71.2 Medium Trucks: 67.9 Heavy Trucks: 71.0 Vehicle Noise: 75.0	eq Day Leq 69.3 66.4 69.7 73.5 in feet) 7	Evening 67.3 60.6 63.7 69.5	61.4 57.7 58.4 64.2 65 dBA	60	70.1 66.6 68.8 73.5 dBA	55 0	70.6 66.9 69.1 73.9
Unnitigated Noise Levels (without Top VehicleType Leq Peak Hour L Autos: 71.2 Medium Trucks: 67.9 Heavy Trucks: 71.0 Vehicle Noise: 75.0	eq Day Leq 69.3 66.4 69.7 73.5 in feet)	Evening 67.3 60.6 63.7 69.5	61.4 57.7 58.4 64.2	60 4	70.1 66.6 68.8 73.5		70.6 66.9 69.1 73.9 //BA 72

Tuesday, March 19, 2019

	FH\	WA-RD-77-108	HIGH	WAY N	OISE PI	REDICTIC	ON MO	DEL			
	e: 30th Av.	an Buildout (Ac Palm Dr.	lopted)			Project N Job Nu					
SITE S Highway Data	SPECIFIC IN	NPUT DATA			Sito Cor	NC ditions (I				s	
Average Daily Peak Hour Peak H	Traffic (Adt): Percentage: our Volume: hicle Speed:	15,600 vehicle 10% 1,560 vehicle 35 mph			Ме	dium Truc avy Truck	:ks (2 )	Autos: Axles):	15 15 15 15		
Near/Far Lar	ne Distance:	44 feet		-		icleType		Day	Evening	Night	Daily
Site Data					Ven		itos:	78.2%	0	9.5%	
Barrier Type (0-W		0.0 feet 0.0				edium Tru Heavy Tru		85.9% 89.4%		8.6% 5.0%	
Centerline Dis		44.0 feet		1	Voise S	ource Ele	vation	s (in fe	eet)		
	to Observer: Above Pad): ad Elevation:	44.0 feet 0.0 feet 5.0 feet 0.0 feet			Heav	Autos: m Trucks: /y Trucks:	2. 8.	000 297 006	Grade Ad	justment	± 0.0
	ad Elevation:	0.0 feet		L	.ane Eq	uivalent l			feet)		
ŀ	Road Grade: Left View: Right View:	0.0% -90.0 degre 90.0 degre				Autos: m Trucks: ıy Trucks:	38.	432 201 224			
FHWA Noise Mode	el Calculation	IS									-
VehicleType	REMEL	Traffic Flow	Dist	ance		Road	Fresi		Barrier Att	en Bei	rm Atten
Autos:	64.30			1.61		-1.20		-4.61		000	0.00
Medium Trucks: Heavy Trucks:	75.75 81.57			1.65 1.65		-1.20 -1.20		-4.87 -5.50		000 000	0.00 0.00
Unmitigated Noise	e Levels (with	out Topo and	barrie	r atten	uation)						
	Leg Peak Hou			Leg Ev		Leg N	ight		Ldn	С	NEL
Autos:			63.8		61.8		55.8	3	64.5	5	65.
Medium Trucks:	63	3.0	61.5		55.6		52.8	3	61.7	7	61.
Heavy Trucks:	67	7.5	66.2		60.2		54.9	9	65.3	3	65.
Vehicle Noise:		).5	69.0		64.7		59.5	5	68.8	3	69.
Centerline Distance	e to Noise C	ontour (in fee	)	70 d	ID A	65 di	D A	6	0 dBA	55	i dBA
			I dn:	70 0		65 di 79		1 0	171		369
		~	Lan: NFL:	39		79			171		369 393
		C.	YLL.	35	,	00			100		133

	FH\	VA-RD-77-108	HIGH	NAY N		REDICTIC	N MC	DEL			
Road Nan	e: 30th Av.		opted)			Project N Job Nui					
	Road Name: 30th Av. Road Segment: elo Date Palm Dr. SITE SPECIFIC INPUT DATA way Data Average Daily Traffic (Ad): 16,100 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 16,100 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 44 feet Data Barrier Height: 0.0 feet rier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 44.0 feet enterline Dist. to Observer: 0.0 feet rier Distance to Observer: 0.0 feet Peak Hour Pad): 5.0 feet Ped Elevation: 0.0 feet Road Flevation: 0.0 feet Road Elevation: 0.0 feet R					NC	ISE	MODE		\$	
Highway Data	Scenario: General Plan Buildout (Adopted) Road Name: 30th Av.         Road Segment: elo Date Palm Dr.         SITE SPECIFIC INPUT DATA         vay Data         verage Daily Traffic (Adt): 16,100 vehicles         Peak Hour Percentage: 10%         Peak Hour Volume: 1,610 vehicles         Vehicle Speed: 40 mph         Near/Far Lane Distance: 44 feet         Data         Barrier Height: 0.0 feet         ier Type (0-Wall, 1-Berm): 0.0         Centerline Dist. to Barrier: 44.0 feet         Proble Observer: 0.0 feet         Pada Elevation: 0.0 feet         Road Cade: 0.0%         Left View: 90.0 degrees         Right View: 90.0 degrees         Right View: 90.0 degrees         Autos: 66.51       0.46         dium Trucks: 77.72       -13.66				Site Con	ditions (F				5	
	Bade Name:         30th Av.           Road Segment:         elo Date Palm Dr.           SITE SPECIFIC INPUT DAT           ray Data           verage Daily Traffic (Adt):         16,100 vet           Peak Hour Percentage:         10%           Peak Hour Volume:         1,610 vet           Peak Hour Volume:         1,610 vet           Vehicle Speed:         40 mp           Near/Far Lane Distance:         44 fee           ata		9					Autos:	15		
• •	way Data verage Daily Traffic (Adi): 1 Peak Hour Percentage: Peak Hour Volume: Vehicle Speed: Near/Far Lane Distance: Data Barrier Height: ier Type (0-Wall, 1-Barm): Centerline Dist. to Barrier: interline Dist. to Observer: enver Height (Above Pad): Pad Elevation: Road Elevation: Road Elevation: Road Grade: Left View: Right View:		0		Me	dium Truc					
			s			avy Truck					
		1		F				,			
				-	Vehicle I		1	0	Curning	Allenter	Delle
Site Data					veni	icleType	itos:	Day 78.2%	Evening 12.3%	Night	Daily 93.68
						AL dium Tru		85.9%		9.5%	
	•					leavy Tru		89.4%		5.0%	
					'	ieavy iiu	una.	09.470	5.078	5.078	2.05
					Noise So	ource Ele	vation	ns (in fe	eet)		
				Γ		Autos:	0.	000			
					Mediur	n Trucks:	2.	297			
	,				Heav	y Trucks:	8.	006	Grade Ad	justment	0.0
				H	Lone Fr	uivalent I		(!	(		
				-	Lane Eq	Autos:		.432	ieel)		
					Madiu	n Trucks:					
						y Trucks:	00	.201			
	Right view.	90.0 degrei	es		neav	y muchs.	30	.224			
FHWA Noise Mod	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dist	ance	Finite	Road	Fres	nel	Barrier Att	en Ber	m Atter
Autos:	66.51	0.46		1.6	i1	-1.20		-4.61	0.0	000	0.00
Medium Trucks:	77.72	-13.66		1.6	5	-1.20		-4.87	0.0	000	0.00
Heavy Trucks:	82.99	-14.96		1.6	5	-1.20		-5.50	0.0	000	0.00
Unmitigated Nois	e Levels (with	out Topo and	barrie	r atten	nuation)						
VehicleType	Leq Peak Hou	ir Leq Day	'	Leq E	vening	Leq N	ight		Ldn	C	NEL
Autos:	67	.4	65.5		63.5		57.	6	66.3	3	66
Medium Trucks:	64	.5	63.1		57.2		54.	3	63.2	2	63
Heavy Trucks:	68	.5	67.2		61.2		55.	9	66.3	3	66
	71	.9	70.3		66.1		60.	9	70.2	2	70
Vehicle Noise:	/ 1										
Vehicle Noise: Centerline Distan		ontour (in feet	)								
		ontour (in feet	)	70 (	dBA	65 dl	ЗA	6	60 dBA	55	dBA
			) Ldn: VFL :		<i>dBA</i> 16	65 dl 98		6	0 dBA 212		<i>dBA</i> 56

Tuesday, March 19, 2019

		VA-RD-77-108									
	io: General Pla		lopted)			Project N					
	ne: Ramon Rd.					Job Nu	mber:	11475			
÷	nt: w/o Landau										
SITE Highway Data	SPECIFIC IN	IPUT DATA			Sito Con	NC ditions (I			L INPUT	S	
					Sile Com	unions (i			,		
	Traffic (Adt):		S					Autos:			
	Percentage:	10%				dium Truc					
	lour Volume:	5,720 vehicle	S		Hea	avy Truck	s (3+7	axies):	15		
	hicle Speed:	40 mph		١	Vehicle I	/lix					
Near/Far La	ne Distance:	78 feet			Vehi	cleType		Day	Evening	Night	Daily
Site Data						Au	itos:	78.2%	12.3%	9.5%	6 93.689
Ba	rrier Height:	0.0 feet			Me	dium Tru	cks:	85.9%	5.5%	8.6%	6 3.639
Barrier Type (0-V		0.0			H	leavy Tru	cks:	89.4%	5.6%	5.0%	6 2.69
Centerline Di	ist. to Barrier:	63.0 feet		,	Voise So	urce Ele	vation	s (in f	eet)		
Centerline Dist.	to Observer:	63.0 feet		-	10.00 00	Autos		000	000		
Barrier Distance	to Observer:	0.0 feet			Modiur	n Trucks:		297			
Observer Height	(Above Pad):	5.0 feet				v Trucks:		006	Grade Ac	liustmen	t: 0.0
P	ad Elevation:	0.0 feet								,	
Ro	ad Elevation:	0.0 feet		L	ane Equ	livalent l	Distan	ce (in	feet)		
	Road Grade:	0.0%				Autos:	49.	729			
	Left View:	-90.0 degre	es		Mediur	n Trucks:	49.	551			
	Right View:	90.0 degre	es		Heav	y Trucks:	49.	568			
FHWA Noise Mod	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dista		Finite	Road	Fresi		Barrier At	ten Be	erm Atten
Autos:	66.51	5.96		-0.07	7	-1.20		-4.70	0.	000	0.00
Medium Trucks:	77.72	-8.15		-0.04	1	-1.20		-4.88	0.	000	0.00
Heavy Trucks:	82.99	-9.45		-0.05	5	-1.20		-5.32	0.	000	0.00
Unmitigated Nois											
VehicleType	Leq Peak Hou			Leq Ev	~	Leq N	5		Ldn		ONEL
Autos:	71		69.3		67.4		61.4		70.		70.
Medium Trucks:			66.9		61.0		58.1		67.	-	67.
Heavy Trucks:		-	71.0		65.0		59.7	7	70.	1	70.
Vehicle Noise:	75	.7	74.2		69.9		64.7	7	74.	1	74.
Centerline Distan	ce to Noise Co	ontour (in fee	)								
				70 a		65 d		(	60 dBA		5 dBA
				11		253			545	4	.174
			Ldn: NFL:	11		25	-		582		.254

Barrier Height:         0.0 feet           Barrier Type (0-Wall, 1-Berm):         0.0           Centerline Dist. to Barrier:         63.0 feet           Barrier Dist. to Dserver:         63.0 feet           Barrier Distance to Observer:         0.0 feet           Road Grade:         0.0%           Left View:         -90.0 degrees           Right View:         90.0 degrees           Right View:         90.0 degrees           FHWA Noise Model Calculations         Medium Trucks:           VehicleType         REMEL         Traffic Flow           Values:         77.7         -9.43           -0.05         -1.20         -4.70         0.000           Medium Trucks:         82.99         -10.73         -0.05         -1.20         -5.32         0.000         0.000           Medium Trucks:         67.0         65.6         59.7         66.8         65.7         66.8         65.7         66.8		FH\	NA-RD-77-108	BHIGH	WAYN	NOISE PF	REDICT	ION MO	DEL			
Highway Data         Site Conditions (Hard = 10, Soft = 15)           Average Daily Traffic (Adt): 42,600 vehicles Peak Hour Porcentage: 10%         Autos: 15           Peak Hour Volume: 4,260 vehicles Vehicle Speed: 40 mph         Medium Trucks (2 + Avles): 15           Near/Far Lane Distance: 78 feet         Vehicle Mix           Barrier Height: 0.0 feet Barrier Jiste no bist. to Barrier: 63.0 feet Centerline Dist. to Diserver: 63.0 feet Barrier Distance to Observer: 0.0 feet         No feet Road Grade: 0.0%           Barrier Height (Above Pad): 5.0 feet Road Grade: 0.0%         No feet           Barrier Height View: -90.0 degrees Right View: 90.0 degrees         No feet           Road Grade: 0.0%         Let View: -90.0 degrees           Kite/Day Trucks: 2.97         Medium Trucks: 49.561           Heavy Trucks: 49.563         Heavy Trucks: 49.568           FHWA Noise Model Calculations         Traffic Flow         Distance           VehicleType         REMEL         Traffic Flow         Distance           VehicleType         Leq View: -90.3 degrees         Finite Road         Fresnel         Barrier Atten           WehicleType         Leq Day         Leq Day         Leq Evening         Led Noo           Uent Weix: 49.561         Led View: -90.3 degrees         Finite Road         Fresnel         Barrier Atten           Wedium Trucks:         77.72	Road Nam	e: Ramon Rd		dopted)								
Average Daily Traffic (Adt): 42,600 vehicles         Autos:         15           Peak Hour Percentage:         10%         Medium Trucks (2 Axles):         15           Peak Hour Percentage:         10%         Heavy Trucks (3+ Axles):         15           Vehicle Speed:         40 mph         Heavy Trucks (3+ Axles):         15           Vehicle Speed:         40 mph         Vehicle Type         Day         Evening         Night         Daily           Site Data         Autos:         78 feet         Vehicle Type         Day         Evening         Night         Daily           Barrier Type (0: Wall, 1-Berm):         0.0         Centerline Dist. to Deserver:         63.0 feet         Autos:         0.00         Medium Trucks:         83.9%         5.6%         5.0%         2.699           Centerline Dist. to Deserver:         0.0 feet         Autos:         0.00         Medium Trucks:         8.006         Grade Adjustment:         0.0           Road Grade:         0.0%         Left Iview:         -90.0 degrees         Autos:         49.729         Heavy Trucks:         49.729           WebiciteType         REMEL         Traffic Flow         Distance         Finite Road         Fresnel         Barrier Atten         Berm Atten           Autos:	SITE S	SPECIFIC IN	IPUT DATA				ľ	NOISE N	/ODE	L INPUT	s	
Barler Hour Percentage:         10%         Medium Trucks (2 Axles):         15           Peak Hour Volume:         4,260 vehicles         Heavy Trucks (3+ Axles):         15           Vehicle Speed:         40 mph         Vehicle Mix         Vehicle Mix           Site Data         0.0 feet         Vehicle Mix         Vehicle System           Barrier Height:         0.0 feet         Medium Trucks:         8.9%         5.5%         8.6%         3.639           Barrier Height:         0.0 feet         Medium Trucks:         8.9%         5.6%         5.0%         2.699           Centerline Dist. to Diserver:         63.0 feet         Medium Trucks:         2.297         Noise Source Elevations (in feet)         0.0           Barier Distance to Observer:         0.0 feet         Medium Trucks:         2.297         Medium Trucks:         2.297           Observer Height (Abov Pad)         5.0 feet         Medium Trucks:         2.297         Medium Trucks:         49.551           Road Grade         0.0%         Lane Equivalent Distance (in feet)         Lane Equivalent Distance (in feet)         0.0           Road Grade         0.0%         Autos:         49.551         Heavy Trucks:         49.551           WehicleType         REMEL         Traffic Flow <td< th=""><th>Highway Data</th><th colspan="5">SITE SPECIFIC INPUT DATA ray Data verage Daily Traffic (Adt): 42,600 vehicles Peak Hour Volume: 4,260 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 78 feet ata Barrier Height: 0.0 feet er Type (0-Wal, 1-Berry): 0.0 Canterline Dist. to Barrier: 63.0 feet interline Dist. to Observer: 63.0 feet interline Dist. to Observer: 63.0 feet retrier Distance to Observer: 63.0 feet retrier Distance to Observer: 0.0 feet Pad Elevation: 0.0 feet Road Clevation: 0.0 feet Road Clevation: 0.0 feet</th><th>ditions</th><th>(Hard =</th><th>10, Sc</th><th>oft = 15)</th><th></th><th></th></td<>	Highway Data	SITE SPECIFIC INPUT DATA ray Data verage Daily Traffic (Adt): 42,600 vehicles Peak Hour Volume: 4,260 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 78 feet ata Barrier Height: 0.0 feet er Type (0-Wal, 1-Berry): 0.0 Canterline Dist. to Barrier: 63.0 feet interline Dist. to Observer: 63.0 feet interline Dist. to Observer: 63.0 feet retrier Distance to Observer: 63.0 feet retrier Distance to Observer: 0.0 feet Pad Elevation: 0.0 feet Road Clevation: 0.0 feet Road Clevation: 0.0 feet					ditions	(Hard =	10, Sc	oft = 15)		
Peak Hour Volume:         4,260 vehicles           Vehicle Speed:         40 mph           Near/Far Lane Distance:         78 feet           Site Data         Vehicle Type         Day         Levening         Night         Daily           Site Data         0.0 feet         Heavy Trucks:         8.5%         3.639         Medium Trucks:         8.5%         8.6%         3.639           Barrier Height:         0.0 feet         Heavy Trucks:         8.9%         5.5%         8.6%         3.639           Barrier Jiste No Barrier:         63.0 feet         Heavy Trucks:         8.94%         5.6%         5.0%         2.693           Centerline Dist. to Diserver:         63.0 feet         Autos:         0.000         Medium Trucks:         8.2.297           Observer Height (Above Pad):         5.0 feet         Heavy Trucks:         8.006         Grade Adjustment:         0.0           Road Grade:         0.0%         Left View:         -90.0 degrees         Medium Trucks:         4.2551           Heavy Trucks:         8.006         Grade Adjustment:         0.0         0.00         0.000           Medium Trucks:         7.72         -9.43         -0.04         -1.20         -4.70         0.000         0.000 <t< td=""><td>Average Daily</td><td>Traffic (Adt):</td><td>42,600 vehicle</td><td>s</td><td></td><td></td><td></td><td>,</td><td>Autos:</td><td></td><td></td><td></td></t<>	Average Daily	Traffic (Adt):	42,600 vehicle	s				,	Autos:			
Vehicle Speed: Near/Far Lane Distance:         40 mph 78 feet         Vehicle Type         Day         Evening         Night         Daity           Site Data         Autos:         78 feet         Vehicle Type         Day         Evening         Night         Daity           Site Data         Autos:         78 feet         Vehicle Type         Day         Evening         Night         Daity           Barrier Height:         0.0 feet         Medium Trucks:         85.9%         5.5%         8.6%         3.639           Centerline Dist. to Barrier:         63.0 feet         Autos:         0.00         Noise Source Elevations (in feet)         Conserver         Autos:         0.00         Redium Trucks:         83.4%         5.6%         5.0%         2.689           Pad Elevation:         0.0 feet         Medium Trucks:         8.006         Grade Adjustment:         0.0           Road Grade:         0.0%         Autos:         49.729         Heavy Trucks:         49.729           Left View:         90.0 degrees         Finite Road         Fresnel         Barrier Atten         Bern Atten           Autos:         65.1         4.68         -0.07         1.20         -4.70         0.000         0.00           Medium Trucks:	Peak Hour	Percentage:	10%									
Near/Far Lane Distance:         78 feet         Vehicle Mix         Leg	Peak H	our Volume:	4,260 vehicle	s		Hea	avy Tru	cks (3+ A	(xles)	15		
Near/Far Lane Distance:         78 feet         VehicleType         Day         Evening         Night         Daily           Site Data         Autos:         78.9         0.5%         9.5%         9.5%         9.5%         9.5%         9.5%         9.5%         9.5%         9.5%         9.5%         9.5%         9.5%         9.5%         9.5%         9.5%         9.5%         9.5%         9.5%         9.5%         9.5%         9.5%         9.5%         9.5%         9.5%         9.5%         9.5%         9.5%         9.5%         9.5%         9.5%         9.5%         9.5%         9.5%         9.5%         9.5%         9.5%         9.5%         9.5%         9.5%         9.5%         9.5%         9.5%         9.5%         5.0%         2.699           Centerline Dist. to Doserver:         0.0 feet         Autos:         0.000         Medium Trucks:         8.006         Grade Adjustment:         0.0           Barrier Distance to Observer:         0.0 feet         Autos:         8.006         Grade Adjustment:         0.0           Road Grade:         0.0%         Autos:         49.729         Heavy Trucks:         49.729         Heavy Trucks:         49.729         Heavy Trucks:         49.729         Heavy Trucks:	Vel	hicle Speed:	40 mph		ŀ	Vehicle I	Mix					
Site Data         Autos:         78.2%         12.3%         9.5%         93.69           Barrier Height:         0.0         feet         Medium Trucks:         85.9%         5.5%         8.6%         3.639           Barrier Height:         0.0         centerline Dist. to Barrier:         63.0 feet         Medium Trucks:         89.4%         5.6%         8.6%         3.639           Centerline Dist. to Diserver:         63.0 feet         Noise Source Elevations (in feet)         Autos:         0.000           Diserver Height (Above Pad):         5.0 feet         Autos:         2.297         Heavy Trucks:         8.066         Grade Adjustment:         0.0           Road Grade:         0.0%         Left View:         -90.0 degrees         Medium Trucks:         49.551         Heavy Trucks:         49.551           Heavy Trucks:         49.551         Heavy Trucks:         49.551         Heavy Trucks:         49.551           VehicleType         REMEL         Traffic Flow         Distance         Finite Road         Fresnel         Barrier Atten         Bermat Atten           Autos:         66.51         4.68         -0.07         -1.20         -4.70         0.000         0.00           Medium Trucks:         77.72         -9.43	Near/Far Lar	ne Distance:	78 feet		ŀ			9	Dav	Evening	Niaht	Daily
Barrier Type (IV-Wall, 1-Berm):         0.0 leet         Heavy Trucks:         89.4%         5.6%         5.0%         2.699           Centerline Dist. to Diserver:         63.0 leet         Noise Source Elevations (in feet)         Noise Source Elevations (in feet)           Barrier Type (IV-Wall, 1-Berri):         0.0 leet         Autos:         0.000         Redium Trucks:         2.97           Observer Height (Above Pad):         5.0 leet         Autos:         0.006         Grade Adjustment:         0.0           Road Elevation:         0.0 leet         Left Ivew:         90.0 degrees         Redium Trucks:         49.729           EHWA Noise Model Calculations         VehicleType         REMEL         Traffic Flow         Distance         Finite Road         Fresnel         Barrier Atten         Bern Atten           Autos:         66.51         4.68         -007         -120         -4.70         0.000         0.00           Medium Trucks:         77.72         -9.43         -0.04         -1.20         -4.88         0.000         0.00           Medium Trucks:         77.72         -9.43         -0.04         -1.20         -5.32         0.000         0.00           Unnitigated Noise Levels (without Topa and barrier attenuation)         Leg Evening         Leg Night <td>Site Data</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>~</td> <td>· ·</td> <td></td>	Site Data									~	· ·	
Barrier Type (0-Wall, 1-Berm):         0.0         Heavy Trucks:         89.4%         5.6%         5.0%         2.69%           Centerline Dist. to Desriver:         63.0 feet         Noise Source Elevations (in feet)         Autos:         0.000           Barrier Distance to Observer:         0.0 feet         Medium Trucks:         2.297           Observer Height (Above Pad):         5.0 feet         Medium Trucks:         2.297           Pad Elevation:         0.0 feet         Heavy Trucks:         89.769           Road Grade:         0.0%         Autos:         49.729           Left View:         90.0 degrees         Medium Trucks:         49.551           FHWA Noise Model Calculations         Medium Trucks:         49.561           FHWA Noise Model Calculations:         65.1         4.68         -0.07         -1.20         -4.70         0.000         0.000           Medium Trucks:         89.29         -10.73         -0.05         -1.20         -5.32         0.000         0.000           Medium Trucks:         69.9         68.1         66.1         66.1         68.8         69.           Medium Trucks:         67.9         65.6         59.7         56.8         65.7         66.8           Medium Trucks:	Bar	rior Hoight:	0.0 feet			Me	edium T	rucks:	85.9%	5.5%	8.6%	3.63%
Centerline Dist. to Observer:         63.0 feet         Noise Source Elevations (in feet)           Barrier Distance to Observer:         0.0 feet         Autos:         0.000           Pad Elevation:         0.0 feet         Medium Trucks:         2.297           Observer Height (Above Pad):         5.0 feet         Medium Trucks:         8.006         Grade Adjustment:         0.0           Pad Elevation:         0.0 feet         Lane Equivalent Distance (in feet)         Lane Equivalent Distance (in feet)           Road Grade         0.0 v/w         Autos:         49.551         Heavy Trucks:         49.551           VehicleType         REMEL         Traffic Flow         Distance         Finite Road         Fresnel         Barrier Atten         Berm Atten           Autos:         66.51         4.68         -0.07         -1.20         -4.70         0.000         0.00           Medium Trucks:         77.72         -9.43         -0.04         -1.20         -5.32         0.000         0.000           Unnittigated Noise Levels (without Topo and barrier attenuation)         Use Topo         -5.65         59.7         66.8         65.7         66.8         65.7         66.8         65.7         63.5         63.5         72.8         73.           Vehic		•				H	leavy T	rucks:	89.4%	5.6%	5.0%	2.69%
Centerline Dist. to Observer:         63.0 feet         Autos:         0.000           Barrier Distance to Observer:         0.0 feet         Autos:         0.000           Observer Height (Above Pad):         5.0 feet         Medium Trucks:         2.297           Pad Elevation:         0.0 feet         Lane Equivalent Distance (in feet)         Medium Trucks:         2.297           Road Grade:         0.0%         Autos:         49.551         Heavy Trucks:         49.551           Right View:         -90.0 degrees         Medium Trucks:         49.551         Heavy Trucks:         49.568           FHWA Noise Model Calculations           Vehicle Type         REMEL         Traffic Flow         Distance         Finite Road         Fresnel         Barrier Atten         Berm Atten           Autos:         66.51         4.68         -0.07         -1.20         -4.70         0.000         0.00           Medium Trucks:         77.72         -9.43         -0.04         -1.20         -5.32         0.000         0.00           Unnitigated Noise Levels (without Topo and barrier attenuation)         VehicleType         Leq Day         Leq Evening         Leq Evening         Leq Night         Ldn         CNEL           Autos:         69.9	Centerline Dis	t. to Barrier:	63.0 feet		H	Noise Sc	urco F	lovation	e (in fa	oot)		
Barrier Distance to Observer:         0.0 feet         Medium Trucks:         2.237           Observer Height (Above Pad):         5.0 feet         Heavy Trucks:         8.006         Grade Adjustment:         0.0           Pad Elevation:         0.0 feet         Lat Veiw:         90.0 feet         Lat Veiw:         90.0 degrees         Medium Trucks:         8.006         Grade Adjustment:         0.0           Road Elevation:         0.0 feet         Lat View:         90.0 degrees         Medium Trucks:         49.561           WehiceType         REMEL         Traffic Flow         Distance         Finite Road         Fresnel         Barrier Atten         Bern Atten           Autos:         66.51         4.68         -0.07         -1.20         -4.70         0.000         0.00           Medium Trucks:         77.72         -9.43         -0.05         -1.20         -5.32         0.000         0.00           Unnitigated Noise Levels (without Topo and barrier attenuation)         Leg Evening         Leg Night         Ldn         CNEL           Autos:         69.9         68.1         66.1         60.1         68.8         69.9           Medium Trucks:         71.0         69.7         66.8         65.7         66.8         65.7	Centerline Dist. t	to Observer:	63.0 feet		F	110/30 00						
Observer Height (Above Pad):         5.0 feet         Heavy Trucks:         8.006         Grade Adjustment:         0.0           Road Elevation:         0.0 feet         Lane Equivalent Distance (in feet)	Barrier Distance t	to Observer:	0.0 feet			Modiur						
Pad Elevation:         0.0 feet         Lane Equivalent Distance (in feet)           Road Girade:         0.0%         Autos:         49.729           Left View:         -90.0 degrees         Medium Trucks:         49.551           FHWA Noise Model Calculations         Distance         Finite Road         Fresnel         Barrier Atten           VehicleType         REMEL         Traffic Flow         Distance         Finite Road         Fresnel         Barrier Atten         Berm Atten           Medium Trucks:         77.72         -9.43         -0.04         -1.20         -4.70         0.000         0.00           Medium Trucks:         77.72         -9.43         -0.04         -1.20         -5.32         0.000         0.00           Unnitigated Noise Levels (without Topo and barrier attenuation)         VehicleType         Leg Day         Leg Evening         Leg Night         Ldn         CNEL           Autos:         69.9         68.1         66.1         60.1         68.8         69.           Medium Trucks:         71.0         69.7         66.8         65.7         66.8           Medium Trucks:         67.0         65.6         59.7         56.8         65.7         66.8           Medium Trucks: <td< td=""><td>Observer Height (J</td><td>Above Pad):</td><td>5.0 feet</td><td></td><td></td><td></td><td></td><td></td><td></td><td>Grade Ad</td><td>iustmen</td><td>· 0.0</td></td<>	Observer Height (J	Above Pad):	5.0 feet							Grade Ad	iustmen	· 0.0
Road Grade:         0.0%         Autos:         49.729           Left View:         -90.0 degrees         Medium Trucks:         49.551           Right View:         90.0 degrees         Medium Trucks:         49.568           FHWA Noise Model Calculations         Finite Road         Fresnel         Barrier Atten           VehicleType         REMEL         Traffic Flow         Distance         Finite Road         Fresnel           Medium Trucks:         77.72         -9.43         -0.04         -1.20         -4.70         0.000         0.00           Medium Trucks:         77.72         -9.43         -0.04         -1.20         -5.32         0.000         0.00           Unnitigated Noise Levels (without Topo and barrier attenuation)         VehicleType         Leg Peak Hour         Leg Zay         Leg Evening         Leg Night         Ldn         CNEL           Autos:         69.9         68.1         66.1         60.1         68.8         69.           Medium Trucks:         71.0         69.7         66.8         65.7         66.8           Medium Trucks:         71.0         69.7         63.5         58.4         68.8         69.	Pa	d Elevation:	0.0 feet				·				uoumoni	0.0
Left View:         -90.0 degrees         Medium Trucks:         49.551           Right View:         90.0 degrees         Heavy Trucks:         49.551           FHWA Noise Model Calculations         EMEL         Traffic Flow         Distance         Finite Road         Fresnel         Barrier Atten         Berm Atten           Autos:         66.51         4.68         -0.07         -1.20         -4.70         0.000         0.00           Medium Trucks:         77.72         -9.43         -0.04         -12.0         -4.88         0.000         0.00           Medium Trucks:         82.99         -10.73         -0.05         -1.20         -5.32         0.000         0.00           Unnitigated Noise Levels (without Topo and barrier attenuation)         VehicleType         Leq Day         Leq Evening         Leq Night         Ldn         CNEL           Autos:         69.9         68.1         66.1         60.1         68.8         69.           Medium Trucks:         71.0         65.7         66.8         65.7         66.8         65.7         66.8           Heavy Trucks:         71.0         69.7         63.5         53.5         72.8         73.	Roa	d Elevation:	0.0 feet		1	Lane Equ				feet)		
Right View:         90.0 degrees         Heavy Trucks:         49.568           FHWA Noise Model Calculations         Heavy Trucks:         49.568           VehicleType         REMEL         Traffic Flow         Distance         Finite Road         Fresnel         Barrier Atten         Berm Atten           Autos:         66.51         4.68         -0.07         -1.20         -4.70         0.000         0.00           Medium Trucks:         77.72         -9.43         -0.04         -1.20         -4.88         0.000         0.00           Heavy Trucks:         82.99         -10.73         -0.05         -1.20         -5.32         0.000         0.00           Unnitigated Noise Levels (without Topo and barrier attenuation)         VehicleType         Leq Peak Hour         Leq Day         Leq Reining         Leq Night         Ldn         CNEL           Autos:         69.9         68.1         66.1         60.1         68.8         69.           Medium Trucks:         67.0         65.6         59.7         66.8         65.7         66.8           Heavy Trucks:         71.0         69.7         68.3         68.4         69.           Vehicle Noise:         74.4         72.9         68.7         63.5 <td>F</td> <td>Road Grade:</td> <td>0.0%</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	F	Road Grade:	0.0%									
FHWA Noise Model Calculations           FWA Noise Model Calculations           VehicleType         REMEL         Traffic Flow         Distance         Finite Road         Fresnel         Barrier Atten         Berm Atten           Autos:         66.51         4.68         -0.07         -1.20         -4.70         0.000         0.00           Medium Trucks:         77.72         -9.43         -0.04         -1.20         -4.88         0.000         0.00           Heavy Trucks:         82.99         -10.73         -0.05         1.20         -5.32         0.000         0.00           Unnitigated Noise Levels (without Topo and barrier attenuation)         Leg Revening         Leg Night         Ldn         CNEL           Autos:         69.9         68.1         66.1         60.1         68.8         69.9           Medium Trucks:         67.0         65.6         59.7         56.8         65.7         66.8           Heavy Trucks:         71.0         69.7         63.8         63.5         72.8         73.		Left View:	-90.0 degre	es		Mediur	n Truck	s: 49.	551			
VehicleType         REMEL         Traffic Flow         Distance         Finite Road         Fresnel         Barrier Atten         Bern Atten           Autos:         66.51         4.68         -0.07         -1.20         -4.70         0.000         0.000           Medium Trucks:         77.72         -9.43         -0.04         -1.20         -4.78         0.000         0.00           Heavy Trucks:         82.99         -10.73         -0.05         1.20         -5.32         0.000         0.00           Unnitigated Noise Levels (without Topo and barrier attenuation)         Leq Evening         Leq Night         Ldn         CNEL           Autos:         69.9         68.1         66.1         60.1         68.8         69.           Medium Trucks:         67.0         65.6         59.7         56.8         65.7         66.           Heavy Trucks:         71.0         69.7         63.8         68.8         69.         69.         68.7         63.5         72.8         73.		Right View:	90.0 degre	es		Heav	y Truck	's: 49.	568			
Autos:         66.51         4.68         -0.07         -1.20         -4.70         0.000         0.00           Medium Trucks:         77.72         -9.43         -0.04         -1.20         -4.88         0.000         0.000           Heavy Trucks:         82.99         -10.73         -0.05         -1.20         -5.32         0.000         0.000           Unnitigated Noise Levels (without Topo and barrier attenuation)         VehicleType         Leg Peak Hour         Leg Day         Leg Evening         Leq Night         Ldn         CNEL           Autos:         69.9         68.1         66.1         60.1         68.8         69.           Medium Trucks:         67.0         65.6         59.7         56.8         65.7         66.8           Heavy Trucks:         71.0         69.7         63.8         58.4         68.8         69.           Vehicle Noise:         74.4         72.9         68.7         63.5         72.8         73.	FHWA Noise Mode	el Calculation	s									
Medium Trucks:         77.72         -9.43         -0.04         -1.20         -4.88         0.000         0.00           Heavy Trucks:         82.99         -10.73         -0.05         -1.20         -5.32         0.000         0.00           Unnitigated Noise Levels (without Topo and barrier attenuation)         Leq Reining         Leq Reining         Leq Reining         CNEL           VehicleType         Leg Peak Hour         Leg Deining         Leg Reining         CNEL         CNEL           Autos:         69.9         68.1         66.1         60.1         68.8         69.           Medium Trucks:         67.0         65.6         59.7         56.8         65.7         66.8           Heavy Trucks:         71.0         69.7         63.8         58.4         68.8         69.           Vehicle Noise:         74.4         72.9         68.7         63.5         72.8         73.	VehicleType	REMEL	Traffic Flow	Dist						Barrier Att	en Be	rm Atten
Heavy Trucks:         82.99         -10.73         -0.05         -1.20         -5.32         0.000         0.000           Unnitigated Noise Levels (without Topo and barrier attenuation)         Leq Night         Ldn         CNEL           VehicleType         Leq Peak Hour         Leq Day         Leq Evening         Leq Night         Ldn         CNEL           Autos:         69.9         68.1         66.1         60.1         68.8         69.           Medium Trucks:         67.0         65.6         59.7         56.8         65.7         66.           Heavy Trucks:         71.0         69.7         63.8         58.4         68.8         69.           Vehicle Noise:         74.4         72.9         68.7         63.5         72.8         73.												0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)           VehicleType         Leq Peak Hour         Leq Day         Leq Evening         Leq Night         Ldn         CNEL           Autos:         69.9         68.1         66.1         60.1         68.8         69.9           Medium Trucks:         67.0         65.6         59.7         66.8         65.7         66.8           Heavy Trucks:         71.0         69.7         63.8         58.4         68.8         69.9           Vehicle Noise:         74.4         72.9         68.7         63.5         72.8         73.3		=										0.000
VehicleType         Leq Peak Hour         Leq Day         Leq Evening         Leq Night         Ldn         CNEL           Autos:         69.9         68.1         66.1         60.1         68.8         69.9           Medium Trucks:         67.0         65.6         59.7         56.8         65.7         66.           Heavy Trucks:         71.0         69.7         63.8         58.4         68.8         69.9           Vehicle Noise:         74.4         72.9         68.7         63.5         72.8         73.	Heavy Trucks:	82.99	-10.73		-0.0	5	-1.20		-5.32	0.0	000	0.000
Autos:         69.9         68.1         66.1         60.1         68.8         69.           Medium Trucks:         67.0         65.6         59.7         56.8         65.7         66.           Heavy Trucks:         71.0         69.7         63.8         58.4         68.8         69.           Vehicle Noise:         74.4         72.9         68.7         63.5         72.8         73.				barrie	er atten	nuation)						
Medium Trucks:         67.0         65.6         59.7         56.8         65.7         66.           Heavy Trucks:         71.0         69.7         63.8         58.4         68.8         69.           Vehicle Noise:         74.4         72.9         68.7         63.5         72.8         73.					Leq E	•	Leq				-	
Heavy Trucks:         71.0         69.7         63.8         58.4         68.8         69.           Vehicle Noise:         74.4         72.9         68.7         63.5         72.8         73.												69.4
Vehicle Noise: 74.4 72.9 68.7 63.5 72.8 73.	Medium Trucks:	÷.										66.0
			-									69.2
	Vehicle Noise:	74	.4	72.9		68.7		63.5		72.8	3	73.2
Centerline Distance to Noise Contour (in feet)	Centerline Distanc	e to Noise C	ontour (in fee	t)								
70 dBA 65 dBA 60 dBA 55 dBA									e			
Ldn: 96 208 448 964					-	-	-					
CNEL: 103 222 478 1,031			С	NEL:	10	03	2	22		478	1,	,031

	FH	WA-RD-77-108	HIGH	WAY N	OISE PF	REDICTIO	N MO	DEL			
	e: Ramon Rd		dopted)			Project N Job Nur					
SITE : Highway Data	SPECIFIC I	NPUT DATA			Sito Con	NC ditions (F				S	
Average Daily Peak Hour Peak H	Traffic (Adt): Percentage: lour Volume: hicle Speed:	39,400 vehicle 10% 3,940 vehicle 40 mph			Me	dium Truc avy Truck	:ks (2	Autos: Axles):	15 15 15 15		
Near/Far La		78 feet		۱	Vehicle I		-				
Site Data							itos:	Day 78.2%	Evening 12.3%	Night 9.5%	
Barrier Type (0-W		0.0 feet 0.0				edium Tru Ieavy Tru		85.9% 89.4%	5.5% 5.6%	8.6% 5.0%	
Centerline Dis		63.0 feet		1	Voise So	ource Elev	vatio	ıs (in fe	et)		
	to Observer: Above Pad): ad Elevation:	63.0 feet 0.0 feet 5.0 feet 0.0 feet			Heav	Autos: n Trucks: y Trucks:	2		Grade Ad	ljustment	: 0.0
	ad Elevation:	0.0 feet		1	ane Eq	uivalent L			eet)		
,	Road Grade: Left View: Right View:	0.0% -90.0 degre 90.0 degre				Autos: n Trucks: y Trucks:	49	.729 .551 .568			
FHWA Noise Mode	el Calculation	ıs		!							
VehicleType	REMEL	Traffic Flow		ance	Finite		Fres		Barrier Att		rm Atten
Autos:	66.51			-0.07		-1.20		-4.70		000	0.00
Medium Trucks: Heavy Trucks:	77.72 82.99			-0.04 -0.05		-1.20 -1.20		-4.88 -5.32		000 000	0.00 0.00
Unmitigated Noise	e Levels (with	out Topo and	barrie	r atten	uation)						
VehicleType	Leq Peak Ho	ur Leq Da	/	Leq Ev	/ening	Leq N	ight		Ldn	С	NEL
Autos:	69	9.6	67.7		65.7		59.	8	68.5	5	69.
Medium Trucks:		6.7	65.2		59.4		56.	-	65.4		65.
Heavy Trucks:		).7	69.4		63.4		58.		68.5		68.
Vehicle Noise:		4.1	72.5		68.3		63.	1	72.4	4	72.
Centerline Distant	ce to Noise C	ontour (in fee	<i>t</i> )	70 a	ID A	65 dE	24	6	0 dBA	66	dBA
			Ldn:	70 0		65 dE 197		6	0 ава 425		0BA 915
		C	Lan: NFL:	92		211			425		915 978
		0			-	211					

	FHV	VA-RD-77-108	HIGHW	/AY N	IOISE PR	REDICTIC	ON MO	DEL			
	: Dinah Shor		opted)			Project N Job Nu					
SITE S	SPECIFIC INPUT DATA  / Traffic (Adt): 37,000 vehicles Percentage: 10% Hour Volume: 3,700 vehicles ehicle Speed: 40 mph ane Distance: 78 feet  arrier Height: 0.0 feet vehicle Speed: 63.0 feet to Observer: 63.0 feet to Observer: 63.0 feet (Above Pad): 5.0 feet ad Elevation: 0.0 feet					NC	DISE	NODE	L INPUT	s	
Highway Data	SPECIFIC INPUT DATA  Traffic (Adt): 37,000 vehicles  Percentage: 10% Hour Volume: 3,700 vehicles  whice Speed: 40 mph ane Distance: 78 feet  arrier Height: 0.0 feet  arrier Height: 0.0 feet  wall, 1-Berm): 0.0 feet  to Observer: 63.0 feet  to Observer: 63.0 feet  to Observer: 63.0 feet  do Observer: 0.0 feet  do Observer: 0.0 feet  ad Elevation: 0.0 feet  ad Elevation: 0.0 feet  Right View: -90.0 degrees  Right View: 90.0 degrees  Right View: 90.0 degrees  del Calculations  REMEL Traffic Flow Distance			3	Site Con	ditions (l	Hard =	10, Se	oft = 15)		
Average Daily T								Autos:	15		
Peak Hour P	ur Percentage: 10% (Hour Volume: 3,700 vehicles Vehicle Speed: 40 mph Lane Distance: 78 feet <b>Barrier Height:</b> 0.0 feet Wall, 1-Berm): 0.0 Dist. to Barrier: 63.0 feet st. to Observer: 63.0 feet to Observer: 0.0 feet th (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0%		Med	dium Truc	cks (2 /	Axles):	15				
Peak Ho	ur Volume:	3,700 vehicles	6		Hea	avy Truck	ks (3+ /	Axles):	15		
Vehi	icle Speed:	40 mph			Vehicle N			-			
Near/Far Lane	e Distance:	78 feet		Ľ		cleType		Dav	Evening	Night	Daily
Site Data					veni		utos:	Day 78.2%	•		93.68%
					Ma	AL dium Tru		85.9%		9.5%	
						leavy Tru		89.4%		5.0%	
						ieavy iiu	icha.	09.470	5.076	5.076	2.09
				1	Noise So	urce Ele	vation	s (in f	eet)		
						Autos:	0.	000			
					Mediun	n Trucks:	2.	297			
0 1	,				Heav	y Trucks:	8.	006	Grade Ad	justment	0.0
					<b>F</b>		Distan	//	64)		
				-	Lane Equ	uivalent I			ieel)		
R					1 4 m all 1 m	Autos: n Trucks:		729			
								551			
	Right view:	90.0 degree	s		neav	y Trucks:	49.	568			
FHWA Noise Model	Calculation	s									
VehicleType	REMEL	Traffic Flow	Dista	nce	Finite	Road	Fresr	nel	Barrier Att	en Ber	m Atten
Autos:	66.51	4.07		-0.07	7	-1.20		-4.70	0.0	000	0.00
Medium Trucks:	77.72	-10.04		-0.04	1	-1.20		-4.88	0.0	000	0.00
Heavy Trucks:	82.99	-11.35		-0.05	5	-1.20		-5.32	0.0	000	0.00
Unmitigated Noise	Levels (with	out Topo and	barrier	atten	uation)						
VehicleType L	eq Peak Hou	r Leq Day	L	.eq Ev	/ening	Leq N	light		Ldn	C	VEL
Autos:	69.	.3 (	67.5		65.5		59.5	5	68.2	2	68.
Medium Trucks:	66.	.4 6	65.0		59.1		56.2	2	65.1	I	65.
Heavy Trucks:	70.	.4 6	59.1		63.1		57.8	3	68.2	2	68.
Vehicle Noise:	73	.8	72.3		68.1		62.8	3	72.2	2	72.
Centerline Distance	e to Noise Co	ontour (in feet)									
				70 c	IBA	65 di	BA	6	60 dBA	55	dBA
									407		70
		1	Ldn:	88	В	189	9		407	8	78

Tuesday, March 19, 2019

Road Segment:	Dinah Shore		pted	)			Name: umber:					
	ECIFIC IN	PUT DATA			011 0					TS		
Highway Data					Site Con	ditions			,			
Average Daily Tra	, ,							Autos:				
Peak Hour Pe		10%				dium Tru						
Peak Hou		3,590 vehicles			He	avy Truc	:ks (3+)	Axles):	15			
	le Speed:	45 mph		ľ	Vehicle I	Mix						
Near/Far Lane	Distance:	78 feet		ľ	Veh	icleType		Day	Evening	Ni	ght	Daily
Site Data						A	utos:	78.2%	5 12.3%	5 9	9.5%	93.68%
Parrie	er Heiaht:	0.0 feet			Me	edium Tr	ucks:	85.9%	5.5%	5 8	3.6%	3.63%
Barrier Type (0-Wall,	1-Berm):	0.0			ŀ	leavy Ti	ucks:	89.4%	5.6%	5 5	5.0%	2.69%
Centerline Dist.		63.0 feet		Ī	Noise So	ource El	evation	s (in f	eet)			
Centerline Dist. to		63.0 feet		Ī		Autos	s: 0.	000				
Barrier Distance to		0.0 feet			Mediur	n Truck	s: 2.	297				
Observer Height (Ab	,	5.0 feet			Heav	y Truck	s: 8.	006	Grade A	djustr	nent:	0.0
	Elevation:	0.0 feet		-								
	Elevation:	0.0 feet		-	Lane Eq				feet)			
	ad Grade:	0.0%				Autos		729				
	Left View:	-90.0 degree				n Truck		551				
R	ight View:	90.0 degree	S		Heav	y Truck	s: 49.	568				
FHWA Noise Model (												
	REMEL	Traffic Flow	Dis	tance		Road	Fresi		Barrier A		Berr	n Atten
Autos:	68.46	3.43		-0.0		-1.20		-4.70	-	.000		0.000
Medium Trucks:	79.45	-10.69		-0.0		-1.20		-4.88	-	.000		0.000
Heavy Trucks:	84.25	-11.99		-0.0		-1.20		-5.32	C	.000		0.000
Unmitigated Noise L			barrie					-		-		
VehicleType Le Autos:	q Peak Hour		8.8	Leq E	vening 66.8	Leq	Night 60.8		Ldn 69		CI	IEL 70.1
Autos: Medium Trucks:	70.		8.8 6.1		60.2		57.3	-		.5		66.5
	71.0		0.1 9.7		63.8		58.4	-		.2		69.2
Heavy Trucks: Vehicle Noise:								· · ·				
	74.		3.2		69.1		63.9	9	73	1.2		73.
Centerline Distance	to Noíse Co	ntour (in feet)	T	70	dBA	65	dBA		60 dBA		55	dBA
		1	.dn:	-	02		20	1 '	475			)23
		CN			02		36		475 508			)23 )95

	FHV	VA-RD-77-108 H	IIGHWA	Y NOISI	E PREDICT		DEL			
	e: Gerald Ford		pted)			t Name: ( lumber: ·				
SITE S	SPECIFIC IN	IPUT DATA			1	NOISE N	IODE		s	
Highway Data				Site	Conditions	(Hard =	10, So	oft = 15)		
Average Daily	Traffic (Adt): 2	26,200 vehicles					Autos:	15		
Peak Hour	Percentage:	10%			Medium Tr	ucks (2 A	xles):	15		
Peak H	our Volume:	2,620 vehicles			Heavy Tru	cks (3+ A	xles):	15		
Vel	nicle Speed:	45 mph		Vahi	cle Mix					
Near/Far Lar	ne Distance:	60 feet			c <b>ie iviix</b> VehicleType		Day	Evening	Night	Daily
Site Data				_			78.2%	12.3%	9.5%	
				-	Medium T		85.9%	5.5%	8.6%	
	rier Height:	0.0 feet			Heavy T		89.4%		5.0%	
Barrier Type (0-W	. ,	0.0							0.070	2.0070
Centerline Dis Centerline Dist. t		56.0 feet 56.0 feet		Nois	e Source E	levation	s (in fe	et)		
Barrier Distance		0.0 feet			Auto		000			
Observer Height (		5.0 feet		Me	dium Truck	(s: 2.2	297			
0 1	Above Pad): d Flevation:	0.0 feet		E	leavy Truck	is: 8.0	006	Grade Ad	justment	: 0.0
	d Elevation: d Elevation:	0.0 feet		Lane	Equivalen	t Distan	e (in f	eet)		
	o Elevation. Road Grade:	0.0%		Lano	Auto			001)		
r	Left View:	-90.0 degrees		Me	dium Truck					
	Right View:	90.0 degrees			leavy Truck					
FHWA Noise Mode	el Calculation	s								
VehicleType	REMEL	Traffic Flow	Distanc	e Fi	nite Road	Fresn	el	Barrier Att	en Bei	m Atten
Autos:	68.46	2.06		0.22	-1.20		-4.67		000	0.000
Medium Trucks:	79.45	-12.06		0.25	-1.20		-4.87		000	0.000
Heavy Trucks:	84.25	-13.36		0.25	-1.20		-5.37	0.0	000	0.000
Unmitigated Noise										
,	Leq Peak Hou	1 1		q Evenin		Night		Ldn		NEL
Autos:	69		7.7	-	5.7	59.8		68.4		69.0
Medium Trucks:	66		5.0		9.1	56.2		65.1		65.4
Heavy Trucks:	69		3.7		2.7	57.4		67.7		68.1
Vehicle Noise:	73	.7 7:	2.1	6	8.0	62.8		72.1		72.5
Centerline Distance	e to Noise Co	ontour (in feet)				10.4	-			10.4
				70 dBA		dBA	6	0 dBA		dBA
		-	dn:	77		66		358		71
		CN	=L:	82	1	78		383	ξ	325

Tuesday, March 19, 2019

	FH	WA-RD-77-108	HIGH	WAY N	IOISE P	REDICTI	ON MO	DDEL			
	e: Perez Rd.	an Buildout (Ao dral Cyn. Dr.	dopted	)		Project Job N		CCGP 11475			
SITE S Highway Data	PECIFIC IN	NPUT DATA			Site Cou	N nditions				S	
Average Daily T Peak Hour F Peak Ho	, ,	21,500 vehicle 10% 2,150 vehicle 40 mph			Me	edium Tru eavy Truc	ucks (2	Autos: Axles):	15 15		
Near/Far Lan	e Distance:	60 feet		-		nicleType		Dav	Evening	Night	Daily
Site Data	ier Heiaht:	0.0 feet					Autos:	78.2%	12.3%	9.5%	93.68%
Barrier Type (0-Wa Centerline Dis	ull, 1-Berm):	0.0 feet				Heavy Tr	ucks:	89.4%	5.6%	5.0%	2.69%
Centerline Dist. to Barrier Distance to Observer Height (A	o Observer: o Observer:	56.0 feet 0.0 feet 5.0 feet 0.0 feet			Mediu Hea	Autos Autos m Trucks vy Trucks	s: 0 s: 2 s: 8	.000 .297 .006	Grade Ad	ljustmen	t: 0.0
R	d Elevation: oad Grade: Left View: Right View:	0.0 feet 0.0% -90.0 degre 90.0 degre			Mediu	Autos Autos m Trucks vy Trucks	s: 47 s: 47	7.550 7.364 7.382	reet)		
FHWA Noise Mode	I Calculation	ıs									
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fres	inel	Barrier At	ten Be	rm Atten
Autos: Medium Trucks: Heavy Trucks:	66.51 77.72 82.99	-12.40		0.2 0.2 0.2	5	-1.20 -1.20 -1.20		-4.67 -4.87 -5.37	0.	000 000 000	0.00 0.00 0.00
Unmitigated Noise	Levels (with	nout Topo and	barrie	er atten	uation)						
	eq Peak Ho				vening	Leg	Night		Ldn	C	NEL
Autos:	. 67	7.3	65.4	,	63.4		57	.5	66.	1	66.
Medium Trucks:	-	1.4	62.9		57.0		54		63.	-	63.
Heavy Trucks: Vehicle Noise:		3.3 1.7	67.1 70.2		61.1 66.0		55 60		66. 70.		66. 70.
Centerline Distance	e to Noise C	ontour (in fee	F)								
Contentine Distanto	110136 0	sinour (in lee	Ĺ		dBA		dBA	(	60 dBA		5 dBA
		с	Ldn: NEL:	5 6	7 1		22 31		264 282		568 607

F	HWA-RD-77-10	8 HIGHV	NAY NC			DDEL			
Scenario: General Road Name: Perez R Road Segment: e/o Cath	d.	dopted)			t Name: lumber:				
SITE SPECIFIC	INPUT DATA				NOISE	MODE		s	
Highway Data			Si	te Conditions				-	
Average Daily Traffic (Adt)	23.300 vehicle	es				Autos:	15		
Peak Hour Percentage				Medium Ti	ucks (2	Axles):	15		
Peak Hour Volume		es		Heavy Tru	cks (3+	Axles):	15		
Vehicle Speed	: 40 mph		16	ehicle Mix					
Near/Far Lane Distance	: 60 feet		Ve	VehicleTyp		Day	Evening	Night	Daily
Site Data					Autos:	78.2%	•	9.5%	
				Medium 1		85.9%		8.6%	3.63%
Barrier Height				Heavy 1				5.0%	
Barrier Type (0-Wall, 1-Berm)				,				0.070	2.007
Centerline Dist. to Barrier Centerline Dist. to Observer			No	oise Source E	levatio	ns (in fe	eet)		
Barrier Distance to Observer	00.0 1001			Auto	os: 0	.000			
Observer Height (Above Pad)	0.0 1001			Medium Truck	(s: 2	.297			
Pad Elevation				Heavy Truck	is: 8	.006	Grade Ad	justment:	0.0
Road Elevation	0.0 1001		1.	ane Equivaler	t Dista	nce (in	feet)		
Road Grade	0.0 1001			Auto		.550			
Left View	0.070	200		Medium Truck		.364			
Right View				Heavy Truck		.382			
FHWA Noise Model Calculati	ons								
VehicleType REMEL	Traffic Flow	Dista	ance	Finite Road	Fres	nel	Barrier Att	en Ber	m Atten
Autos: 66.	51 2.06	6	0.22	-1.20		-4.67	0.0	000	0.00
Medium Trucks: 77.	72 -12.05	5	0.25	-1.20		-4.87	0.0	000	0.00
Heavy Trucks: 82.	99 -13.35	5	0.25	-1.20		-5.37	0.0	000	0.00
Unmitigated Noise Levels (w				,		-			
VehicleType Leq Peak F			Leq Eve		Night		Ldn		VEL
	67.6	65.7		63.7	57		66.5		67.
	64.7	63.3		57.4	54		63.4		63.
	68.7	67.4		61.4	56		66.5	-	66.8
	72.1	70.6		66.3	61	.1	70.4	ł	70.
Centerline Distance to Noise	Contour (in fee	et)	70 dE	0.00	dBA	4	0 dBA	FF	dBA
		I dn:	70 UE 60		29		278		00
		NFL:	60 64		29 38		278	-	00 41

Tuesday, March 19, 2019

	FH	WA-RD-77-108 H	IGHWA	NO Y	ISE PF	EDICTIO	ON MO	DEL			
Road Nan	io: General Pl ne: Hwy. 111 nt: w/o Canyo	an Buildout (Adoj n Plaza Dr. W.	oted)			Project I Job Nu					
	SPECIFIC IN	IPUT DATA								S	
Highway Data				Sit	te Con	ditions (		<u> </u>	,		
		50,100 vehicles						Autos:			
	Percentage:	10%				dium Tru					
	lour Volume:	5,010 vehicles			Hea	avy Truci	ks (3+ A	(xles):	15		
	hicle Speed:	50 mph		Ve	hicle I	<i>lix</i>					
Near/Far La	ne Distance:	78 feet			Vehi	cleType		Day	Evening	Night	Daily
Site Data						A	utos:	78.2%	12.3%	9.5%	93.689
Pa	rrier Heiaht:	0.0 feet			Me	dium Tru	icks:	85.9%	5.5%	8.6%	3.63%
Barrier Type (0-V		0.0 1001			H	leavy Tru	icks:	89.4%	5.6%	5.0%	2.69%
Centerline D	ist. to Barrier:	63.0 feet		No	visa Sa	urce Ele	vation	e (in fa	oot)		
Centerline Dist.	to Observer:	63.0 feet		740	136 30	Autos		3 ( <i>III 1</i> 6	eel)		
Barrier Distance	to Observer:	0.0 feet			Modium	n Trucks		297			
Observer Height	(Above Pad):	5.0 feet				v Trucks		297	Grade Ad	ustmont	
P	ad Elevation:	0.0 feet			neav	y TTUCKS.	0.0	000	Graue Auj	usuneni	. 0.0
Ro	ad Elevation:	0.0 feet		La	ne Equ	livalent	Distan	ce (in i	feet)		
	Road Grade:	0.0%				Autos.	49.	729			
	Left View:	-90.0 degrees			Mediur	n Trucks	49.	551			
	Right View:	90.0 degrees			Heav	y Trucks	49.	568			
FHWA Noise Mod	el Calculation	S									
VehicleType	REMEL	Traffic Flow	Distan	се	Finite	Road	Fresr	el	Barrier Atte	en Ber	m Atten
Autos:	70.20	4.42		0.07		-1.20		-4.70	0.0	00	0.00
Medium Trucks:	81.00	-9.70		0.04		-1.20		-4.88	0.0	00	0.00
Heavy Trucks:	85.38	-11.00		0.05		-1.20		-5.32	0.0	00	0.00
Unmitigated Nois											
VehicleType	Leq Peak Ho			q Evei	~	Leq N	·		Ldn	-	NEL
Autos:			.5		69.5		63.6		72.2	-	72.
Medium Trucks:			.6		62.7		59.8		68.7		69.
Heavy Trucks:	73	3.1 7 <sup>-</sup>	.9		65.9		60.6		70.9	)	71.
Vehicle Noise:	77	.2 75	i.6		71.7		66.4		75.6	5	76.
		ontour (in feet)									
Centerline Distan	ce to Noise C					65 d	DA	1 F	60 dBA	55	dBA
Centerline Distan	ce to Noise C			70 dB.	A			, c			
Centerline Distan	ce to Noise C		in:	150 160	A	32	2		694 744	1,	496 602

FHV	VA-RD-77-108	HIGHWA	Y NOISE F	REDICTI	ON MOD	DEL			
: Hwy. 111	,	opted)							
PECIFIC IN	PUT DATA			N	OISE M	ODEL		s	
			Site Co	nditions	(Hard = 1	10, So	ft = 15)		
raffic (Adt): 4	4.000 vehicles	5			A	utos:	15		
ercentage:	10%		М	edium Tru	icks (2 A	xles):	15		
ur Volume:	4,400 vehicles	5	н	eavy Truc	ks (3+ A	xles):	15		
icle Speed:	40 mph					-			
e Distance:	78 feet					2014	Fuening	Niaht	Deily
			ve				•	·	Daily
ier Height:	0.0 feet		Λ.						
. ,				Heavy Ir	UCKS: E	39.4%	5.6%	5.0%	2.69%
			Noise S	ource El	evations	(in fe	et)		
	63.0 feet			Autos	: 0.0	00	,		
	0.0 feet		Medi	im Trucks	: 2.2	97			
,			Hea	vv Trucks	: 8.0	06	Grade Ad	justment.	: 0.0
Elevation:	0.0 feet			,					
d Elevation:	0.0 feet		Lane E	quivalent			eet)		
oad Grade:									
	-90.0 degree	s							
Right View:	90.0 degree	s	Hea	vy Trucks	: 49.5	68			
Calculations	s								
REMEL	Traffic Flow	Distan	ce Finite	e Road			Barrier Att	en Ber	m Atten
66.51	4.83	-	0.07	-1.20	-	4.70	0.0	000	0.00
77.72	-9.29	-	0.04	-1.20	-	4.88	0.0	000	0.000
									0.00
82.99	-10.59	-	0.05	-1.20	-	5.32	0.0	000	0.00
Levels (with	out Topo and	barrier a	ttenuation)						
Levels (with eq Peak Hou	out Topo and	barrier a	t <b>tenuation</b> ) q Evening	Leq	Vight		Ldn	CI	NEL
Levels (with eq Peak Hou 70.	r Leq Day	barrier a Le 58.2	ttenuation) q Evening 66.2	Leq	Night 60.3		Ldn 68.9	Cl	NEL 69.:
Levels (with eq Peak Hou 70. 67.	out Topo and r Leq Day 1	barrier a Le 38.2 35.7	ttenuation) q Evening 66.2 59.8	Leq I	Night 60.3 57.0		Ldn 68.9 65.9	CI 9	NEL 69.5 66.7
Levels (withous eq Peak Hou 70. 67. 71.	r Leq Day Leq Day 1 2 2	barrier a Le 58.2 55.7 59.9	ttenuation) q Evening 66.2 59.8 63.9	Leq I	Vight 60.3 57.0 58.6		Ldn 68.9 65.9 69.0	CI 9 9	NEL 69.5 66.7
Levels (with eq Peak Hou 70. 67.	r Leq Day Leq Day 1 2 2	barrier a Le 38.2 35.7	ttenuation) q Evening 66.2 59.8	Leq I	Night 60.3 57.0		Ldn 68.9 65.9	CI 9 9	NEL 69.5 66.7
Levels (witho eq Peak Hou 70. 67. 71. 74.	r Leq Day Leq Day 1 2 2	barrier a Le 58.2 55.7 59.9 73.0	ttenuation) q Evening 66.1 59.1 63.1 68.1	Leq 1	Night 60.3 57.0 58.6 63.6		Ldn 68.9 65.9 69.0 72.9		NEL 69.3 66. 69.3 73.3
Levels (witho eq Peak Hou 70. 67. 71. 74.	Leq Day Leq Day Leq Day 1 2 5 5 5 5 5 5 5 5 5 5 5 5 5	barrier a Le 58.2 55.7 59.9 73.0	ttenuation) q Evening 66.: 59.t 63.t 68.t 70 dBA	Leq 1 2 3 3 3 65 (	Night 60.3 57.0 58.6 63.6	6	Ldn 68.9 65.9 69.0 72.9 0 dBA	C/ 9 9 9 9 9 9 9 9 9 9	NEL 69.5 69.3 73.3 dBA
Levels (witho eq Peak Hou 70. 67. 71. 74.	nut Topo and r Leq Day 1 2 5 5 5 5 5	barrier a Le 58.2 55.7 59.9 73.0	ttenuation) q Evening 66.1 59.1 63.1 68.1	Leq 1	Night 60.3 57.0 58.6 63.6 dBA 12	6	Ldn 68.9 65.9 69.0 72.9	CI 29 29 29 255 9	NEL 69.5 66.1 69.3 73.3
	: General Ple : Hwy, 111 : Wo Cathed PECIFIC IN raffic (Adl): 4 tercentage: ur Volume: icle Speed: b Distance: icle Speed: icle Speed: ic	: General Plan Buildout (Ad : Hwy. 111 : who Cathedral Cyn. Dr. PECIFIC INPUT DATA raffic (Adt): 44,000 vehicles fercentage: 10% ur Volume: 4,400 vehicles icle Speed: 40 mph p Distance: 78 feet Fer Height: 0.0 feet II, 1-Berm): 0.0 to Barrier: 63.0 feet Dobserver: 0.0 feet Dobserver: 0.0 feet bove Pad): 5.0 feet I Elevation: 0.0 feet Dobserver: 90.0 degree Right View: 90.0 degree Right View: 90.0 degree Catculations REMEL Traffic Flow 66.51 4.83 77.72 -9.29	: General Plan Buildout (Adopted) : Hwy. 111 : who Cathedral Cyn. Dr. PECIFIC INPUT DATA PECIFIC INPUT DATA raffic (Adt): 44,000 vehicles tercentage: 10% I Volume: 4,400 vehicles icle Speed: 40 mph b Distance: 78 feet Fier Height: 0.0 feet II, 1-Berm): 0.0 to Barrier: 63.0 feet 0 Observer: 0.0 feet bove Pad): 5.0 feet bove Pad): 5.0 feet bove Pad): 5.0 feet 1 Elevation: 0.0 feet 1 Elevation:	: General Plan Buildout (Adopted) : Hwy. 111 : why Cathedral Cyn. Dr. PECIFIC INPUT DATA Site Co raffic (Ad): 44,000 vehicles 'ercentage: 10% ur Volume: 4,400 vehicles ide Speed: 40 mph vehicle Spe	Ceneral Plan Buildout (Adopted)         Project           : Hwy, 111         Job Ni           : word Cathedral Cyn. Dr.         Job Ni           PECIFIC INPUT DATA         Site Conditions           raffic (Ad): 44,000 vehicles         Medium Trace           iercentage:         10%         Heavy Truce           ur Volume:         4,400 vehicles         Medium Trace           ier Fleight:         0.0 feet         Heavy Truce           in Barrier:         63.0 feet         Medium Trucks           0 Observer:         0.0 feet         Medium Trucks           0 Observer:         63.0 feet         Medium Trucks           0 Observer:         0.0 feet         Heavy Trucks           Elevation:         0.0 feet         Heavy Trucks           Cale Grade:         0.00 degrees         Medium Trucks           Right View:         90.0 degrees         Heavy Trucks           Caletoride:	Ceneral Plan Buildout (Adopted)         Project Name: C           : Hwy, 111         Job Number: 1           : wo Cathedral Cyn. Dr.         Job Number: 1           PECIFIC INPUT DATA         NOISE M           Percentage:         10%           lercentage:         10%           wor Volume:         Xite Conditions (Hard =           volume:         4,400 vehicles           bistance:         78 feet           workine:         0.0 feet           II, 1-Berm):         0.0           0 Observer:         0.0 feet           Jobserver:         0.0 feet           Pievation:         0.0 feet           Jelevation:         0.0 feet           Jelevation:         0.0 feet           Jelevation:         0.0 feet           Left View:         90.0 degrees           Right View:         90.0 degrees           REMEL         Traffic Flow         Distance           REMEL         Traffic Flow         Distance           77.72         -9.29         -0.04	: Hwy, 111 Job Number: 11475 : wo Cathedral Cyn. Dr.  PECIFIC INPUT DATA Site Conditions (Hard = 10, So raffic (Adt): 44,000 vehicles rereentage: 10% Site Conditions (Hard = 10, So raffic (Adt): 44,000 vehicles rerentage: 10% Vehicle Mix U Volume: 4,400 vehicles bistance: 78 feet Vehicle Mix Vehicle Vehicle Vehicle Mix Vehicle Mix Vehicle	Ceneral Plan Buildout (Adopted)         Project Name: CCGP Job Number: 11475           : Hwy, 111         Job Number: 11475           : Wo Cathedral Cyn. Dr.         NOISE MODEL INPUT: Site Conditions (Hard = 10, Soft = 15)           PECIFIC INPUT DATA         Site Conditions (Hard = 10, Soft = 15)           raffic (Adt): 44,000 vehicles         Autos: 15           Introductions: 4,400 vehicles         Heavy Trucks (2 Axles): 15           Ur Volume:         4,400 vehicles           In Volume:         0.0 feet           In J-Berm):         0.0 feet           0 Observer:         0.0 feet           11 -Berm):         0.0 feet           0 Observer:         0.0 feet           12 Elevation:         0.0 feet           14 Elevation:         0.0 feet           15 Elevation:         0.0 feet           16 Elevation:         0.0 feet           17 TZ = 9.0.0 degrees         Medium Trucks: 49.568           Caclculations         Elevalor:	Ceneral Plan Buildout (Adopted)       Project Name: CCGP         Hwy, 111       Job Number: 11475         PECIFIC INPUT DATA       NOISE MODEL INPUTS         Site Conditions (Hard = 10, Soft = 15)       Autos: 15         raffic (Adt): 44,000 vehicles       Autos: 15         bercentage: 10%       Medium Trucks (2 Aules): 15         U Volume: 4,400 vehicles       Heavy Trucks (3+ Aules): 15         icle Speed: 40 mph       Vehicle Mix         b Distance: 78 feet       Vehicle Mix         Vehicle Mix       Day         j Observer: 0.0 feet       Medium Trucks: 85.9%       5.5%         j Observer: 0.0 feet       Medium Trucks: 2.297         b Observer: 0.0 feet       Heavy Trucks: 49.561         j Elevation: 0.0 feet       Autos: 19.729         j Elevation: 0.0 feet       Autos: 49.751         j Elevation: 0.0 feet       Heavy Trucks: 49.551         j Elevation: 0.0 feet       Autos: 49.551         j Elevation: 0.0 feet       Heavy Trucks: 49.561         j Calculations       Presnel       Barrier Atten         REMEL       Traffic Flow       Distance       Finite Road         66.51       4.83       -0.07       -1.20       -4.70       0.000

Tuesday, March 19, 2019

	FH\	WA-RD-77-108	HIGHW	AY NO	ISE PRE	DICTION	I MODEI	L			
	e: Hwy. 111	an Buildout (Ao alm Dr.	lopted)			Project Na Job Num					
	PECIFIC IN	IPUT DATA					SE MO			s	
Highway Data				Sit	e Condi	itions (Ha			,		
Average Daily 1	. ,		s				Aut		15		
Peak Hour I		10%				um Truck		·	15		
	our Volume:	4,740 vehicle	s		Heav	y Trucks	(3+ Axle	s):	15		
	nicle Speed:	40 mph		Ve	hicle Mi	x					
Near/Far Lar	e Distance:	78 feet			Vehicl	leType	Daj	y E	vening	Night	Daily
Site Data						Auto	os: 78.	2%	12.3%	9.5%	93.68%
Ban	rier Height:	0.0 feet				lium Truci			5.5%	8.6%	
Barrier Type (0-Wa	all, 1-Berm):	0.0			He	avy Truci	ks: 89.	4%	5.6%	5.0%	2.69%
Centerline Dis	t. to Barrier:	63.0 feet		No	ise Sou	rce Eleva	ations (i	n feet	•)		
Centerline Dist. t		63.0 feet				Autos:	0.000	,	/		
Barrier Distance t		0.0 feet			Medium	Trucks:	2.297				
Observer Height (#	,	5.0 feet			Heavy	Trucks:	8.006	Gr	rade Ad	justment	: 0.0
	d Elevation:	0.0 feet			-	and and Di					
	d Elevation:	0.0 feet		La	ne Equi	valent Di Autos:	49.729		et)		
F	l eft View:	0.0%			Medium		49.729				
	Right View:	-90.0 degre 90.0 degre				Trucks: Trucks:	49.551				
FHWA Noise Mode	l Calculation	s									
VehicleType	REMEL	Traffic Flow	Distan	се	Finite R	oad I	resnel	Ba	arrier Att	en Bei	rm Atten
Autos:	66.51	5.15		-0.07		-1.20	-4.7	70	0.0	000	0.000
Medium Trucks:	77.72	-8.97		-0.04		-1.20	-4.8			000	0.00
Heavy Trucks:	82.99	-10.27		-0.05		-1.20	-5.3	32	0.0	000	0.00
Unmitigated Noise											
21	Leq Peak Hou			eq Evel		Leq Nig		Lo	dn		NEL
Autos:			68.5		66.5		60.6		69.3	-	69.9
Medium Trucks:	67		66.0 70.2		60.2 64.2		57.3 58.9		66.2 69.3	-	66.
Heavy Trucks: Vehicle Noise:	71	.5	70.2		69.1		58.9 63.9		73.2		69.0 73.1
Centerline Distanc					00.1		00.0		10.2	-	70.
Contenine Distanc	e to 11013e C		/	70 dB	A	65 dB/	1	60 0	dBA	55	dBA
			Ldn:	104		223		48	31	1,	035

	FH\	VA-RD-77-108	HIGHV	NAY N	OISE PF	REDICTIC	ON MO	DEL			
Road Nan	io: General Pla ne: Hwy. 111 nt: e/o Sungati	an Buildout (Ade e Wy.	opted)			Project N Job Nui					
SITE	SPECIFIC IN	IPUT DATA				NC	DISE N	/IODE		s	
Highway Data				5	Site Con	ditions (F	Hard =	10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	58,300 vehicles					,	Autos:	15		
Peak Hour	Percentage:	10%			Me	dium Truc	:ks (2 A	(xles):	15		
Peak H	lour Volume:	5,830 vehicles			He	avy Truck	is (3+ A	(xles):	15		
Ve	hicle Speed:	40 mph			/ehicle l	Mix					
Near/Far La	ne Distance:	78 feet		-		icleTvpe		Day	Evening	Night	Daily
Site Data					ven			78.2%			93.689
		0.0.4			Me	edium Tru		85.9%		8.6%	
	rrier Height:	0.0 feet 0.0				leavy Tru		89.4%		5.0%	
Barrier Type (0-W Centerline Di		0.0 63.0 feet									
Centerline Dist.		63.0 feet		N	loise Sc	ource Ele	vation	s (in fe	eet)		
Barrier Distance		0.0 feet				Autos:		000			
Observer Height		5.0 feet				n Trucks:		297			
	ad Elevation:	0.0 feet			Heav	y Trucks:	8.0	006	Grade Ad	justment.	: 0.0
	ad Elevation: ad Elevation:	0.0 feet		L	ane Eq	uivalent I	Distan	ce (in i	feet)		
	Road Grade:	0.0%				Autos:			,		
	Left View:	-90.0 degree	s		Mediur	n Trucks:	49.	551			
	Right View:	90.0 degree			Heav	y Trucks:	49.	568			
FHWA Noise Mod	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dista	ance	Finite	Road	Fresn	el	Barrier Att	en Ber	m Atten
Autos:	66.51	6.05		-0.07		-1.20		-4.70	0.0	000	0.00
Medium Trucks:	77.72	-8.07		-0.04	ļ.	-1.20		-4.88	0.0	000	0.00
Heavy Trucks:	82.99	-9.37		-0.05	i	-1.20		-5.32	0.0	000	0.00
Unmitigated Nois	e Levels (with	out Topo and I									
VehicleType	Leq Peak Hou			Leq Ev		Leq N			Ldn		NEL
Autos:	71		9.4		67.4		61.5		70.2	-	70.
Medium Trucks:	68		6.9		61.1		58.2		67.1		67.
Heavy Trucks:	72		'1.1		65.1		59.8		70.2		70.
Vehicle Noise:	75		'4.2		70.0		64.8	}	74.1	1	74.
Centerline Distan	ce to Noise Co	ontour (in feet)		70 a	IRA	65 dl	RA	6	0 dBA	55	dBA
			.dn:	11		256			552		189
			EL:	12		274			590		270
		0/1		12		21-				1,	

Tuesday, March 19, 2019

	o: Existing						lame: C				
	e: Palm Dr.					JOD INU	mber: 11	475			
Road Segmer	nt: n/o I-10 VV	3 Ramps									
	SPECIFIC IN	IPUT DATA							INPUTS	5	
Highway Data				5	Site Con	ditions (	Hard = 1				
Average Daily	Traffic (Adt):	35,600 vehicles						itos:	15		
	Percentage:	10%					cks (2 Ax		15		
Peak H	our Volume:	3,560 vehicles			Hea	avy Truck	ks (3+ Ax	les):	15		
Ve	hicle Speed:	55 mph		1	Vehicle N	Nix					
Near/Far La	ne Distance:	71 feet		F		cleType	D	av	Evening	Night	Daily
Site Data						A	utos: 78	3.2%	12.3%	9.5%	93.689
Bar	rier Height:	0.0 feet			Me	dium Tru	icks: 8	5.9%	5.5%	8.6%	3.63%
Barrier Type (0-W		0.0			н	leavy Tru	icks: 89	9.4%	5.6%	5.0%	2.69%
Centerline Dis	. ,	63.0 feet		-							
Centerline Dist.		63.0 feet		^	voise So		vations		et)		
Barrier Distance	to Observer:	0.0 feet				Autos:		-			
Observer Height (	Above Pad);	5.0 feet				n Trucks.			0		
0 1	d Elevation:	0.0 feet			Heav	y Trucks:	8.00	6 (	Grade Adj	ustment.	0.0
Roa	ad Elevation:	0.0 feet		L	ane Equ	livalent	Distance	(in fe	et)		
1	Road Grade:	0.0%				Autos:	52.28	5			
	Left View:	-90.0 degrees			Mediun	n Trucks.	52.11	6			
	Right View:	90.0 degrees			Heav	y Trucks:	52.13	2			
FHWA Noise Mode	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Distan	се	Finite	Road	Fresnel	E	Barrier Atte	en Ber	m Atten
Autos:	71.78	2.52		-0.39	9	-1.20	-4	.70	0.0	00	0.00
Medium Trucks:	82.40	-11.60		-0.37	7	-1.20	-4	.88	0.0	00	0.00
Heavy Trucks:	86.40	-12.90		-0.38	3	-1.20	-5	.32	0.0	00	0.00
Unmitigated Noise											
	Leq Peak Ho			eq Ev	/ening	Leq N			Ldn		VEL
Autos:	72		).8		68.9		62.9		71.6		72.
Medium Trucks:			7.8		61.9		59.0		67.9		68.
Heavy Trucks:			).6		64.7		59.4		69.7		70.
Vehicle Noise:	76	.3 74	1.7		70.8		65.6		74.8		75.
Centerline Distand	e to Noise C	ontour (in feet)	-	-		05.1					10.4
				70 d		65 d			) dBA		dBA
		Li CNF	dn:	13 14		28: 30:			608 652		310 404

	FHW	/A-RD-77-108	HIGHW	AY NOISE F	REDICTIO	ON MODE	EL		
Scenario: Road Name: Road Segment:	Gene Autry					Vame: CO Imber: 11			
SITE SF	PECIFIC IN	PUT DATA			N	DISE MO	DDEL INPUT	s	
Highway Data				Site Co	nditions (	Hard = 10	0, Soft = 15)		
Average Daily Tra			3				itos: 15		
Peak Hour Pe		10%			edium Tru	,	,		
Peak Hou	ır Volume:	3,500 vehicles	6	H	eavy Truci	ks (3+ Ax	<i>les):</i> 15		
Vehic	cle Speed:	55 mph		Vehicle	Mix				
Near/Far Lane	Distance:	71 feet			hicleType	D	ay Evening	Night	Daily
Site Data							3.2% 12.3%	9.5%	
Barrie	er Height:	0.0 feet		٨	ledium Tru	icks: 85	5.9% 5.5%	8.6%	3.63%
Barrier Type (0-Wall		0.0			Heavy Tru	icks: 89	9.4% 5.6%	5.0%	2.69%
Centerline Dist.	. ,	63.0 feet		Noise S	ource Ele	vations	(in feet)		
Centerline Dist. to	Observer:	63.0 feet			Autos		, ,		
Barrier Distance to	Observer:	0.0 feet		Modiu	Im Trucks				
Observer Height (Ab	bove Pad):	5.0 feet			vy Trucks			liustment	0.0
Pad	Elevation:	0.0 feet			,		-	Juoumonia	0.0
Road	Elevation:	0.0 feet		Lane Ed	quivalent	Distance	(in feet)		
Ro	ad Grade:	0.0%			Autos	52.28	15		
	Left View:	-90.0 degree	s	Mediu	ım Trucks	52.11	6		
R	Right View:	90.0 degree	s	Hea	vy Trucks	52.13	2		
FHWA Noise Model	Calculations	;		-					
VehicleType	REMEL	Traffic Flow	Distan	ce Finite	e Road	Fresnel	Barrier At	ten Ber	m Atten
Autos:	71.78	2.45		0.39	-1.20	-4	.70 0.0	000	0.000
Medium Trucks:	82.40	-11.67		-0.37	-1.20	-4	.88 0.0	000	0.000
Heavy Trucks:	86.40	-12.97		-0.38	-1.20	-5	5.32 0.0	000	0.000
Unmitigated Noise L	evels (with	out Topo and							
<i>,</i> ,	eq Peak Hou			q Evening	Leq N		Ldn		VEL
Autos:	72.		70.8	68.8		62.9	71.	-	72.1
Medium Trucks:	69.		67.7	61.8		58.9	67.	-	68.1
Heavy Trucks:	71.	-	70.6	64.6		59.3	69.		70.0
Vehicle Noise:	76.	2	74.7	70.8	3	65.5	74.	7	75.1
		ntour (in feet	)						
Centerline Distance	to Noise Co	niour (mileer)							
Centerline Distance	to Noise Co			70 dBA	65 a		60 dBA		dBA
Centerline Distance	to Noise Co		Ldn:	70 dBA 129 139	65 d 27 29	9	60 dBA 601 644	1,:	dBA 295 388

Tuesday, March 19, 2019

	FHW	/A-RD-77-108 HI	IGHWAY	NOISE PI	REDICTION	MODEL		
Road Nam	o: Existing e: Mountain Vi nt: n/o Varner F					me: CCGP ber: 11475		
	SPECIFIC IN	PUT DATA					L INPUTS	
Highway Data				Site Con	ditions (Ha	ard = 10, So	oft = 15)	
	Percentage:	7,500 vehicles 10% 3,750 vehicles				Autos: s (2 Axles): (3+ Axles):		
Vel	hicle Speed:	55 mph		Vehicle	Mix			
Near/Far Lar	ne Distance:	71 feet			icleType	Day	Evening I	Night Daily
Site Data					Aut		Ű	9.5% 93.68%
Bar	rier Height:	0.0 feet		M	edium Truc	ks: 85.9%	5.5%	8.6% 3.63%
Barrier Type (0-W	all, 1-Berm):	0.0		I	leavy Truc	ks: 89.4%	5.6%	5.0% 2.69%
Centerline Dis		58.0 feet		Noise So	ource Eleva	ations (in f	eet)	
Centerline Dist.		58.0 feet			Autos:	0.000		
Barrier Distance		0.0 feet		Mediu	n Trucks:	2.297		
Observer Height (	Above Pad): ad Flevation:	5.0 feet		Heav	y Trucks:	8.006	Grade Adjus	stment: 0.0
	ad Elevation: ad Elevation:	0.0 feet 0.0 feet		l ano Ea	uivalent Di	stance (in	foot)	
	Road Grade:	0.0%		Lune Ly	Autos:	46.138		
1	Left View:	-90.0 degrees		Mediu	n Trucks:	45.946		
	Right View:	90.0 degrees			y Trucks:	45.965		
FHWA Noise Mode	el Calculations	6						
VehicleType	REMEL	Traffic Flow	Distance	Finite	Road	Fresnel	Barrier Atter	Berm Atten
Autos:	71.78	2.75	0.4	42	-1.20	-4.68	0.00	0.00
Medium Trucks:	82.40	-11.37	0.	45	-1.20	-4.87	0.00	
Heavy Trucks:	86.40	-12.67	0.		-1.20	-5.35	0.00	0 0.00
Unmitigated Noise			1			1		
	Leq Peak Hou			evening	Leq Nig		Ldn	CNEL
Autos:	73.			69.9		64.0	72.6	73.2
Medium Trucks:	70.			62.9		60.1	69.0	69.3
Heavy Trucks:	73.	•		65.7		60.4	70.8	71.
Vehicle Noise:	77.		.8	71.9		66.6	75.8	76.
Centerline Distance	e to Noise Co	ntour (in feet)	70	dBA	65 dB/	4	60 dBA	55 dBA
		Id		42	305	- 1 (	657	1.415
		CNE		52	305		704	1,415
		ONE		02	521			.,517

	FHV	/A-RD-77-108 I	HIGH	WAY NO	DISE PF	REDICTIO	N MOI	DEL			
Scenario:	Existing					Project N	ame: (	CCGP			
Road Name:	Landau Bl.					Job Nur	nber: '	11475			
Road Segment:	n/o Ramon	Rd.									
	PECIFIC IN	PUT DATA							L INPUT	s	
Highway Data				S	ite Con	ditions (H	lard =	10, Sc	oft = 15)		
Average Daily Tr	affic (Adt): 3	6,200 vehicles						Autos:	15		
Peak Hour Pe	ercentage:	10%			Mee	dium Truc	ks (2 A	xles):	15		
Peak Hou	ır Volume:	3,620 vehicles			Hea	avy Trucks	s (3+ A	xles):	15		
Vehio	cle Speed:	45 mph		V	ehicle I	liv					
Near/Far Lane	Distance:	47 feet				cleTvpe		Dav	Evening	Night	Daily
Site Data					1011			78.2%			93.689
Borri	er Height:	0.0 feet			Me	dium Truc	cks:	85.9%	5.5%	8.6%	3.639
Barrier Type (0-Wal		0.0			F	leavy Truc	cks:	89.4%	5.6%	5.0%	
Centerline Dist.		51.0 feet		_							
Centerline Dist. to		51.0 feet		N	oise So	urce Elev			eet)		
Barrier Distance to		0.0 feet				Autos:		000			
Observer Height (Al		5.0 feet				n Trucks:		297			
	Elevation:	0.0 feet			Heav	y Trucks:	8.0	006	Grade Ad	justment.	: 0.0
	Elevation:	0.0 feet		L	ane Equ	uivalent D	Distand	e (in	feet)		
	ad Grade:	0.0%				Autos:	45.5				
110	Left View:	-90.0 degree:			Mediur	n Trucks:					
F	Right View:	90.0 degree:				y Trucks:					
	•	° .									
FHWA Noise Model											-
VehicleType	REMEL	Traffic Flow	Dist	ance	Finite		Fresn	-	Barrier Att		m Atten
Autos:	68.46	3.47		0.51		-1.20		-4.65		000	0.00
Medium Trucks:	79.45	-10.65		0.53		-1.20		-4.87		000	0.00
Heavy Trucks:	84.25	-11.95		0.53		-1.20		-5.42	0.0	000	0.00
Unmitigated Noise L										1	
	eq Peak Hou			Leq Eve		Leq Ni			Ldn		NEL
Autos:	71.		9.4		67.4		61.4		70.		70.
Medium Trucks:	68.		6.7		60.8		57.9		66.8	-	67.
Heavy Trucks:	71.	-	0.4		64.4		59.1		69.4		69.
Vehicle Noise:	75.	4 7	3.8		69.7		64.5		73.8	3	74.
Centerline Distance	to Noise Co	ntour (in feet)									
				70 dl		65 dE		6	i0 dBA		dBA
		L	dn:	91		196			422		10
			FL:	97		210			452		73

Tuesday, March 19, 2019

Seener	io: Existing					Project	Vame: C	CCP			
	ie: Cathedral (	Dr.					imber: 1				
	nt: n/o Dinah S					000 14	111001. 1	1473			
Ŷ				-							
SITE Highway Data	SPECIFIC IN	IPUT DATA			ito Con		DISE M Hard = 1		INPUTS		
* /	T (6 - (A - 4))	17.000		3	Sile Com	unions		utos:	15		
,	, ,	17,900 vehicles 10%			Ma	diu una Tru	н cks (2 A)		15		
	Percentage: lour Volume:	10% 1.790 vehicles					cks (2 A) ks (3+ A)		15		
		.,			1160	avy muc	ns (3+70	ues).	15		
	hicle Speed:	45 mph		V	/ehicle l						
Near/Far La	ne Distance:	43 feet			Vehi	cleType	L	Day E	vening	Night	Daily
Site Data						A	utos: 7	8.2%	12.3%	9.5%	93.689
Ba	rrier Height:	0.0 feet		1	Me	edium Tr	ucks: 8	5.9%	5.5%	8.6%	3.639
Barrier Type (0-W		0.0			E	leavy Tr	ucks: 8	9.4%	5.6%	5.0%	2.699
Centerline Di	st. to Barrier:	44.0 feet			loise So	urco El	vations	(in foo	<i>t</i> )		
Centerline Dist.	to Observer:	44.0 feet		-	10/36 30	Autos			9		
Barrier Distance	to Observer:	0.0 feet			Modiur	n Trucks					
Observer Height	(Above Pad):	5.0 feet				v Trucks			irade Adju	etmont.	0.0
P	ad Elevation:	0.0 feet				·				ournorne.	0.0
Ro	ad Elevation:	0.0 feet		L	ane Equ	ıivalent	Distance	e (in fe	et)		
	Road Grade:	0.0%				Autos		14			
	Left View:	-90.0 degree	s		Mediur	n Trucks	: 38.4	84			
	Right View:	90.0 degree	S		Heav	y Trucks	: 38.5	07			
FHWA Noise Mod	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Distar	псе	Finite	Road	Fresne	el Bi	arrier Atter	n Berr	n Atter
Autos:	68.46	0.41		1.56		-1.20		4.61	0.00	0	0.00
Medium Trucks:	79.45	-13.71		1.60		-1.20		4.87	0.00		0.00
Heavy Trucks:	84.25	-15.01		1.60	)	-1.20	-	5.50	0.00	0	0.00
Unmitigated Nois											
VehicleType	Leq Peak Hou			eq Ev	ening	Leq I	•	L	.dn	CI	IEL
Autos:	69		67.4		65.4		59.4		68.1		68
Medium Trucks:	66		64.7		58.8		55.9		64.8		65
Heavy Trucks:	69		68.4		62.4		57.1		67.4		67.
Vehicle Noise:	73	.4	71.8		67.7		62.5		71.8		72
	ce to Noise Ce	ontour (in feet)									
Centerline Distan				70 d	'BA	65 (	IBA 🗌	60	dBA	55	dBA
Centerline Distan				100	0/1						
Centerline Distan			_dn: IEL:	58	3	12			68 87	5	78

Scenario:         Existing         Project Name:         CCGP           Road Name:         Cathedral Cyn Dr.         Job Number:         11475           Road Segment:         s/o Dinah Shore Dr.         Job Number:         11475           SITE SPECIFIC INPUT DATA         NOISE MODEL INPUTS           Highway Data         Site Conditions (Hard = 10, Soft = 15)           Average Daily Traffic (Ad):         19,000 vehicles         Autos:         15           Peak Hour Porcentage:         1,900 vehicles         Autos:         15           Vehicle Speed:         45 mph         Medium Trucks (2 Axles):         15           Vehicle Speed:         43 feet         Vehicle Mix         Vehicle Mix           Site Data         Autos:         78.2%         12.3%         9.5%         5.5%           Barrier Height:         0.0 feet         Medium Trucks:         85.9%         5.5%         8.6%	
Highway Data     Site Conditions (Hard = 10, Soft = 15)       Average Daily Traffic (Adt): 19,000 vehicles     Autos:: 15       Peak Hour Volume: 1,900 vehicles     Medium Trucks (2 Axles): 15       Peak Hour Volume: 1,900 vehicles     Heavy Trucks (3 + Axles): 15       Vehicle Speed: 45 mph     Vehicle Mix       Vehicle Type     Day     Evening       Site Data     Autos: 78.2% 12.2% 9.5% 5	
Average Daily Traffic (Adt): 19,000 vehicles     Autos: 15       Peak Hour Percentage:     10%       Peak Hour Volume:     1,900 vehicles       Vehicle Speed:     45 mph       Near/Far Lane Distance:     43 feet       Site Data     Autos: 15       Vehicle Type     Day       Evening     Night       Autos:     15	
Peak Hour Percentage:     10%     Medium Trucks (2 Axles):     15       Peak Hour Volume:     1,900 vehicles     Heavy Trucks (3+ Axles):     15       Vehicle Speed:     45 mph     Vehicle Mix     Vehicle Mix       Near/Far Lane Distance:     43 feet     Vehicle Type     Day     Evening     Night       Site Data     Autos:     76.2%     12.3%     9.5%     5	
Peak Hour Volume:     1,900 vehicles       Vehicle Speed:     45 mph       Near/Far Lane Distance:     43 feet       Site Data     Autos:       78,2%     12,3%       9,0%     5,0%       9,0%     7,0%	
Vehicle Speed: 45 mph Near/Far Lane Distance: 43 feet Vehicle Mix Site Data Autos: 78.2% 12.3% 9.5% 6 Vehicle Type Day Evening Night Autos: 78.2% 12.3% 9.5% 6	
Near/Far Lane Distance:         43 feet         Vertice mix         Day         Evening         Night           Site Data         Autos:         78.2%         12.3%         9.5%         5	
Near/Far Lane Distance:         43 feet         VehicleType         Day         Evening         Night           Site Data         Autos:         78.2%         12.3%         9.5%         6.9%	
Site Data Autos: 78.2% 12.3% 9.5% S	Daily
Berrier Height: 0.0 feet Medium Trucks: 85.9% 5.5% 8.6%	
	3.63%
Barrier Type (0-Wall, 1-Berm): 0.0 Heavy Trucks: 89.4% 5.6% 5.0%	2.69%
Centerline Dist. to Barrier: 44.0 feet Noise Source Elevations (in feet)	
Centerline Dist. to Observer: 44.0 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 Adjustment: 0	).()
Pad Elevation: 0.0 feet	
Road Elevation: 0.0 feet Lane Equivalent Distance (in feet)	
Road Grade: 0.0% Autos: 38.714	
Left View: -90.0 degrees Medium Trucks: 38.484	
Right View: 90.0 degrees Heavy Trucks: 38.507	
FHWA Noise Model Calculations	
VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berm	Atten
Autos: 68.46 0.67 1.56 -1.20 -4.61 0.000	0.000
Medium Trucks: 79.45 -13.45 1.60 -1.20 -4.87 0.000	0.000
Heavy Trucks: 84.25 -14.75 1.60 -1.20 -5.50 0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)	-
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNE	:L
Autos: 69.5 67.6 65.6 59.7 68.4	68.9
Medium Trucks: 66.4 64.9 59.1 56.2 65.1	65.4
Heavy Trucks: 69.9 68.6 62.6 57.3 67.7	68.1
Vehicle Noise: 73.6 72.1 68.0 62.8 72.0	72.5
Centerline Distance to Noise Contour (in feet)	
70 dBA 65 dBA 60 dBA 55 d	
Ldn: 60 130 279 601	
CNEL: 64 139 299 643	

Tuesday, March 19, 2019

	FH\	WA-RD-77-108	HIGHWA	Y NOISE I	PREDICTIO	N MODEL			
	: Existing : Date Palm : s/o Varner					ame: CCGI aber: 11475			
	PECIFIC IN	IPUT DATA					L INPUT	S	
Highway Data				Site Co	onditions (H		,		
Average Daily T	, ,		s			Autos			
Peak Hour P		10%			ledium Truck	. ,			
	ur Volume: icle Speed:	3,030 vehicle 50 mph	s	F	leavy Trucks	(3+ Axles)	: 15		
Near/Far Lan		50 mpn 71 feet		Vehicle	e Mix				
	e Distance.	/ T Teet		Ve	hicleType	Day	Evening	Night	Daily
Site Data				_	Aut			9.5%	
Barr	ier Height:	0.0 feet			Medium Truc			8.6%	
Barrier Type (0-Wa		0.0			Heavy Truc	ks: 89.4%	6 5.6%	5.0%	2.69%
Centerline Dist		63.0 feet		Noise	Source Elev	ations (in	feet)		
Centerline Dist. to		63.0 feet			Autos:	0.000			
Barrier Distance to		0.0 feet		Medi	um Trucks:	2.297			
Observer Height (A	,	5.0 feet		Hea	avy Trucks:	8.006	Grade Adj	ustment	: 0.0
	d Elevation: d Elevation:	0.0 feet 0.0 feet		l ano F	quivalent D	istanco (in	foot)		
	oad Grade:	0.0 reet		Lane L	Autos:	52,285	leely		
	Left View:	-90.0 degre	oc	Medi	um Trucks:	52.116			
L. L	Right View:	90.0 degre			avy Trucks:	52.132			
FHWA Noise Model	Calculation	s							-
VehicleType	REMEL	Traffic Flow	Distan	ce Finit	e Road	Fresnel	Barrier Atte	en Ber	m Atten
Autos:	70.20	2.24		-0.39	-1.20	-4.70	0.0		0.00
Medium Trucks:	81.00	-11.88		-0.37	-1.20	-4.88			0.00
Heavy Trucks:	85.38	-13.18		-0.38	-1.20	-5.32	0.0	00	0.00
Unmitigated Noise			-						
	eq Peak Hou			q Evening	Leq Nig		Ldn		NEL
Autos: Medium Trucks:	70 67		69.0 66.1	67. 60.		61.1 57.3	69.7 66.2		70.3 66.5
Heavy Trucks:	70		69.3	63.		57.3 58.0	68.4		68.
Vehicle Noise:	70		73.1	69.		63.9	73.1		73.0
	to Noise C	ontour (in fee	)						
Centerline Distance			· · · · ·						
Centerline Distance	. 10 110/30 01			70 dBA	65 dB	A	60 dBA	55	dBA
Centerline Distance			Ldn:	70 dBA 102	65 dB 219	A	60 dBA 472		dBA 017

	FHV	VA-RD-77-108	HIGHV	VAY NO	DISE PF	REDICTIC	ON MO	DEL			
Scenari	io: Existing					Project N	lame:	CCGP			
Road Nam	e: Date Palm	Dr.				Job Nu	mber:	11475			
Road Segmer	nt: s/o I-10 EB	Ramps									
	SPECIFIC IN	IPUT DATA							L INPUT	s	
Highway Data				S	ite Con	ditions (l	Hard =	10, Sc	oft = 15)		
Average Daily	Traffic (Adt): 4	47,300 vehicles						Autos:	15		
Peak Hour	Percentage:	10%			Mee	dium Truc	:ks (2 A	Axles):	15		
Peak H	lour Volume:	4,730 vehicles			Hea	avy Truck	:s (3+ A	Axles):	15		
Ve	hicle Speed:	50 mph		v	ehicle l	Mix					
Near/Far La	ne Distance:	71 feet		-		icleType		Dav	Evening	Night	Daily
Site Data								78.2%			93.689
Bai	rrier Height:	0.0 feet			Me	edium Tru	cks:	85.9%	5.5%	8.6%	3.639
Barrier Type (0-W	•	0.0			F	leavy Tru	cks:	89.4%	5.6%	5.0%	2.69%
Centerline Dis		63.0 feet		-							
Centerline Dist.	to Observer:	63.0 feet		N	loise So	ource Ele			eet)		
Barrier Distance	to Observer:	0.0 feet				Autos:		000			
Observer Height (	Above Pad):	5.0 feet				n Trucks:		297			
	ad Elevation:	0.0 feet			Heav	y Trucks:	8.0	006	Grade Ad	justment.	0.0
Roa	ad Elevation:	0.0 feet		L	ane Equ	uivalent l	Distan	ce (in i	feet)		
1	Road Grade:	0.0%				Autos:	52.3	285			
	Left View:	-90.0 degree	s		Mediur	n Trucks:	52.	116			
	Right View:	90.0 degree	s		Heav	y Trucks:	52.	132			
FHWA Noise Mode	el Calculation	s			-						
VehicleType	REMEL	Traffic Flow	Dista	ance	Finite	Road	Fresn	nel	Barrier Att	en Ber	m Atten
Autos:	70.20	4.17		-0.39		-1.20		-4.70	0.0	000	0.00
Medium Trucks:	81.00	-9.95		-0.37		-1.20		-4.88	0.0	000	0.00
Heavy Trucks:	85.38	-11.25		-0.38		-1.20		-5.32	0.0	000	0.00
Unmitigated Noise	e Levels (with	out Topo and I	barrier	attenu	lation)						
VehicleType	Leq Peak Hou			Leq Ev		Leq N			Ldn		VEL
Autos:	72		0.9		68.9		63.0		71.		72.
Medium Trucks:	69		6.8		62.1		59.3		68.2	-	68.
Heavy Trucks:	72	-	'1.3		65.3		60.0		70.4		70.
Vehicle Noise:	76	-	'5.1		71.1		65.8	3	75.1	1	75.
Centerline Distand	ce to Noise Co	ontour (in feet)									
			. L	70 di		65 d		6	0 dBA		dBA
			.dn:	137		295			635		369
			IEL:	147	/	316			681	1.	466

Tuesday, March 19, 2019

								20		
	o: Existing	_					lame: CC0 mber: 114			
	e: Date Palm					JOD INU	mber: 114	/5		
Road Segmer	nt: n/o 30th Av	<i>.</i>								
	SPECIFIC IN	IPUT DATA						DEL INPUT	S	
Highway Data				5	Site Con	ditions (l	Hard = 10,	Soft = 15)		
Average Daily	Traffic (Adt): 3	34,000 vehicles					Auto	os: 15		
Peak Hour	Percentage:	10%			Mee	dium Truc	ks (2 Axle	s): 15		
Peak H	our Volume:	3,400 vehicles			Hea	avy Truck	s (3+ Axle	s): 15		
Ve	hicle Speed:	50 mph			Vehicle I	liv				
Near/Far La	ne Distance:	71 feet		-		cleType	Da	/ Evening	Night	Daily
Site Data					1011		itos: 78.	•	9.5%	
		0.0 ()			Me	dium Tru			8.6%	
Barrier Type (0-W	rier Height:	0.0 feet				leavy Tru			5.0%	
Centerline Dis		63.0 feet								
Centerline Dist		63.0 feet		1	Voise So		vations (ii	n feet)		
Barrier Distance		0.0 feet				Autos:				
Observer Height (		5.0 feet				n Trucks:				
0 1	ad Flevation:	0.0 feet			Heav	y Trucks:	8.006	Grade Ac	ljustmen	t: 0.0
	d Elevation:	0.0 feet		1	ane Equ	ivalent	Distance (	in feet)		
	Road Grade:	0.0%		F	Lano Lqu	Autos		,		
,	Left View:	-90.0 degree			Modiur	n Trucks:				
	Right View:	0				v Trucks:				
	Right view.	90.0 degree	5		i icav	y muchs.	52.152			
FHWA Noise Mode	el Calculation	s								
VehicleType	REMEL	Traffic Flow	Dista	nce	Finite	Road	Fresnel	Barrier At	ten Be	rm Atten
Autos:	70.20	2.74		-0.39	9	-1.20	-4.7	70 0.	000	0.00
Medium Trucks:	81.00	-11.38		-0.37	7	-1.20	-4.8	.0 88	000	0.00
Heavy Trucks:	85.38	-12.68		-0.38	3	-1.20	-5.3	32 0.	000	0.00
Unmitigated Noise	e Levels (with	out Topo and I	barrier	atten	uation)					
VehicleType	Leg Peak Hou	Ir Leq Day	L	.eq Ev	/ening	Leq N	light	Ldn	0	NEL
Autos:	71	.3 6	9.5		67.5		61.6	70.	2	70.
Medium Trucks:	68	.0 6	6.6		60.7		57.8	66.	7	67.0
Heavy Trucks:	71	.1 6	9.8		63.9		58.5	68.	9	69.3
Vehicle Noise:	75	.2 7	3.6		69.6		64.4	73.	6	74.
Centerline Distand	e to Noise Ce	ontour (in feet)								
		,,		70 a	iBA	65 d	BA	60 dBA	55	5 dBA
		1	dn:	11	0	23	7	510	1	.099

	FRV	VA-RD-77-108	HIGHW	AY NC	DISE PRI	EDICTIO	N MODE	L			
Road Nan	rio: Existing ne: Date Palm ent: n/o Ramon				F	Project N Job Nur	ame: CC nber: 114				
SITE	SPECIFIC IN	IPUT DATA							INPUT	S	
Highway Data				Si	ite Cond	itions (H	ard = 10	, So	ft = 15)		
• •	Traffic (Adt): 3		s				Au		15		
	Percentage:	10%				ium Truc	·		15		
	lour Volume:	3,160 vehicle	s		Hear	vy Trucks	s (3+ Axle	es):	15		
	hicle Speed:	50 mph		Ve	ehicle M	ix					
Near/Far La	ne Distance:	71 feet			Vehic	leType	Da	y	Evening	Night	Daily
Site Data						Au		.2%	12.3%	9.5%	93.68%
Ba	rrier Heiaht:	0.0 feet			Med	dium Truc	ks: 85	.9%	5.5%	8.6%	3.63%
Barrier Type (0-W		0.0			He	eavy Truc	ks: 89	.4%	5.6%	5.0%	2.69%
Centerline Di	. ,	63.0 feet		N	oise Sou	urco Elos	ations (	n fo	ot		
Centerline Dist.	to Observer:	63.0 feet		14	0136 301	Autos:	0.000		eij		
Barrier Distance	to Observer:	0.0 feet			Medium		2.297				
Observer Height	(Above Pad):	5.0 feet				Trucks:	8.006		Grade Ad	iustmon	t: 0.0
P	ad Elevation:	0.0 feet			Tieavy	muchs.	0.000		orade Adj	usunen	. 0.0
Ro	ad Elevation:	0.0 feet		Lá	ane Equi	ivalent D	istance	(in fe	eet)		
	Road Grade:	0.0%				Autos:	52.28	5			
	Left View:	-90.0 degre	es		Medium	Trucks:	52.116	6			
	Right View:	90.0 degre	es		Heavy	Trucks:	52.132	2			
	al Calaulat'	e									
FHWA Noise Mod	el calculation										
VehicleType	REMEL	Traffic Flow	Distan	ice	Finite R	Road	Fresnel	E	Barrier Att	en Be	rm Atten
	REMEL	-		-0.39		?oad -1.20	Fresnel -4.		Barrier Atte 0.0		rm Atten 0.000
,1	REMEL 70.20	Traffic Flow						70		000	0.000
VehicleType Autos: Medium Trucks: Heavy Trucks:	REMEL 70.20 81.00 85.38	Traffic Flow 2.42 -11.70 -13.00		-0.39 -0.37 -0.38		-1.20	-4.	70 88	0.0	000	0.000
VehicleType Autos: Medium Trucks: Heavy Trucks: <b>Unmitigated Nois</b>	REMEL 70.20 81.00 85.38 e Levels (with	Traffic Flow 2.42 -11.70 -13.00 out Topo and	barrier a	-0.39 -0.37 -0.38	ation)	-1.20 -1.20 -1.20	-4. -4. -5.	70 88 32	0.0 0.0 0.0	000 000 000	0.000 0.000 0.000
VehicleType Autos: Medium Trucks: Heavy Trucks: <b>Unmitigated Nois</b> VehicleType	REMEL 70.20 81.00 85.38 e Levels (with Leq Peak Hou	Traffic Flow           2.42           -11.70           -13.00           out Topo and           r         Leq Day	barrier a	-0.39 -0.37 -0.38	ation)	-1.20 -1.20	-4. -4. -5. ght	70 88 32	0.0 0.0 0.0	000 000 000	0.000 0.000 0.000
VehicleType Autos: Medium Trucks: Heavy Trucks: Unmitigated Nois VehicleType Autos:	REMEL 70.20 81.00 85.38 e Levels (with Leq Peak Hou 71	Traffic Flow           2.42           -11.70           -13.00           out Topo and           Ir         Leq Day           .0	barrier a	-0.39 -0.37 -0.38	ening 67.2	-1.20 -1.20 -1.20	-4. -4. -5. ght 61.2	70 88 32	0.0 0.0 0.0 <i>Ldn</i> 69.9	000 000 000 C	0.000 0.000 0.000 <i>NEL</i> 70.5
VehicleType Autos: Medium Trucks: Heavy Trucks: Unmitigated Nois VehicleType Autos: Medium Trucks:	REMEL 70.20 81.00 85.38 e Levels (with Leq Peak Hou 71 67	Traffic Flow           2.42           -11.70           -13.00           out Topo and           rr           Leq Day           .0           .7	barrier a / Le 69.2 66.3	-0.39 -0.37 -0.38	ening 67.2 60.4	-1.20 -1.20 -1.20	-4. -4. -5. ght 61.2 57.5	70 88 32	0.0 0.0 0.0 Ldn 69.9 66.4	000 000 000 C	0.000 0.000 0.000 <i>CNEL</i> 70.5 66.7
VehicleType Autos: Medium Trucks: Heavy Trucks: Unmitigated Nois VehicleType Autos: Medium Trucks: Heavy Trucks:	REMEL 70.20 81.00 85.38 e Levels (with Leq Peak Hou 71 67 70	Traffic Flow           2.42           -11.70           -13.00           out Topo and           rr           Leq Day           .0           .7           .8	barrier a / Le 69.2 66.3 69.5	-0.39 -0.37 -0.38	ening 67.2 60.4 63.5	-1.20 -1.20 -1.20	-4. -4. -5. ght 61.2 57.5 58.2	70 88 32	0.0 0.0 0.0 0.0 0.0 0.0 60.4 66.4 68.6		0.000 0.000 0.000 <i>CNEL</i> 70.5 66.7 69.0
VehicleType Autos: Medium Trucks: Heavy Trucks: Unmitigated Nois VehicleType Autos: Medium Trucks: Heavy Trucks: Vehicle Noise:	REMEL           70.20           81.00           85.38           e Levels (with           Leq Peak Hou           71           67           70           74	Traffic Flow           2.42           -11.70           -13.00           out Topo and           rr           Leq Day           .0           .7           .8           .9	barrier a 69.2 66.3 69.5 73.3	-0.39 -0.37 -0.38	ening 67.2 60.4	-1.20 -1.20 -1.20	-4. -4. -5. ght 61.2 57.5	70 88 32	0.0 0.0 0.0 Ldn 69.9 66.4		0.000 0.000 0.000 <i>CNEL</i> 70.5 66.7 69.0
VehicleType Autos: Medium Trucks: Heavy Trucks: Unmitigated Nois VehicleType Autos: Medium Trucks: Heavy Trucks: Vehicle Noise:	REMEL           70.20           81.00           85.38           e Levels (with           Leq Peak Hou           71           67           70           74	Traffic Flow           2.42           -11.70           -13.00           out Topo and           rr           Leq Day           .0           .7           .8           .9	barrier a 69.2 66.3 69.5 73.3	-0.39 -0.37 -0.38 attenu eq Eve	ening 67.2 60.4 63.5 69.3	-1.20 -1.20 -1.20 <i>Leq Ni</i>	-4. -4. -5. 61.2 57.5 58.2 64.1	70 88 32	0.0 0.0 0.0 <u>Ldn</u> 69.9 66.4 68.6 73.3	000 000 000 000 000 000 000 000	0.000 0.000 0.000 <i>CNEL</i> 70.5 66.7 69.0 73.8
VehicleType Autos: Medium Trucks: Heavy Trucks: Unmitigated Nois VehicleType Autos: Medium Trucks: Heavy Trucks:	REMEL           70.20           81.00           85.38           e Levels (with           Leq Peak Hou           71           67           70           74	Traffic Flow           2.42           -11.70           -13.00           out Topo and           ir         Leg Day           .0           .7           .8           .9           ontour (in feet)	<i>barrier a</i> / <i>Le</i> 69.2 66.3 69.5 73.3	-0.39 -0.37 -0.38 <b>attenu</b> eq Eve	ation) ening 67.2 60.4 63.5 69.3 BA	-1.20 -1.20 -1.20 <i>Leq Ni</i>	-4. -4. -5. 61.2 57.5 58.2 64.1	70 88 32 60	0.0 0.0 0.0 0.0 69.9 66.4 68.6 73.3	000 000 000 000 000 000 000 000 000 00	0.000 0.000 0.000 CNEL 70.5 66.7 69.0 73.8
VehicleType Autos: Medium Trucks: Heavy Trucks: Unmitigated Nois VehicleType Autos: Medium Trucks: Heavy Trucks: Vehicle Noise:	REMEL           70.20           81.00           85.38           e Levels (with           Leq Peak Hou           71           67           70           74	Traffic Flow           2.42           -11.70           -13.00           out Topo and           r           Leq Day           .0           .7           .8           .9           Dattour (in feet)	barrier a 69.2 66.3 69.5 73.3	-0.39 -0.37 -0.38 attenu eq Eve	ation) ening 67.2 60.4 63.5 69.3 BA	-1.20 -1.20 -1.20 <i>Leq Ni</i>	-4. -4. -5. 61.2 57.5 58.2 64.1	70 88 32 60	0.0 0.0 0.0 <u>Ldn</u> 69.9 66.4 68.6 73.3	000 000 000 000 000 000 000 000 000 00	0.000 0.000 0.000 <i>CNEL</i> 70.5 66.7 69.0 73.8

Tuesday, March 19, 2019

	FH	WA-RD-77-108	HIGHW	AY NC	ISE PI	REDICTIO	ON MO	DDEL			
	io: Existing					Project I					
	e: Date Palm					Job Nu	imber:	11475			
Road Segme	nt: n/o Dinah	Shore Dr.									
	SPECIFIC IN	NPUT DATA							L INPUT	s	
Highway Data				Si	te Con	ditions (	Hard	= 10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	33,000 vehicle	s					Autos:	15		
Peak Hour	Percentage:	10%				dium Tru			15		
	lour Volume:	3,300 vehicle	s		He	avy Truci	ks (3+	Axles):	15		
	hicle Speed:	45 mph		Ve	ehicle	Mix					
Near/Far La	ne Distance:	71 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data						A	utos:	78.2%	12.3%	9.5%	93.68%
Bai	rrier Height:	0.0 feet			M	edium Tru	ucks:	85.9%	5.5%	8.6%	3.63%
Barrier Type (0-W	/all, 1-Berm):	0.0			ŀ	Heavy Tru	ucks:	89.4%	5.6%	5.0%	2.69%
Centerline Dis		63.0 feet		N	oise So	ource Ele	evatio	ns (in fe	et)		
Centerline Dist.		63.0 feet				Autos.	: 0	.000			
Barrier Distance		0.0 feet			Mediu	m Trucks	: 2	.297			
Observer Height (		5.0 feet			Heav	y Trucks	: 8	.006	Grade Ad	justment	0.0
	ad Elevation: ad Elevation:	0.0 feet		1.	no Fa	uivalent	Dieter	naa (in i	[a.a.4]		
	ad Elevation: Road Grade:	0.0 feet		Le	пец	Autos		285	eel)		
	Left View:	0.0%			Modiu	m Trucks		.116			
	Right View:	-90.0 degre 90.0 degre				y Trucks		.132			
FHWA Noise Mode	el Calculation	15									
VehicleType	REMEL	Traffic Flow	Dista	nce	Finite	Road	Fres	nel	Barrier Att	en Be	m Atten
Autos:	68.46	3.06		-0.39		-1.20		-4.70	0.0	000	0.00
Medium Trucks:	79.45	-11.05		-0.37		-1.20		-4.88	0.0	000	0.00
Heavy Trucks:	84.25	-12.35		-0.38		-1.20		-5.32	0.0	000	0.00
Unmitigated Noise			barrier	attenu	ation)						
VehicleType	Leq Peak Ho			eq Eve		Leq N			Ldn		NEL
Autos:		9.9	68.1		66.1		60		68.8	-	69.4
Medium Trucks:			65.4		59.5		56		65.5		65.
Heavy Trucks:			69.0		63.1		57	-	68.1		68.
Vehicle Noise:		4.1	72.5		68.4		63	2	72.5	5	72.9
Centerline Distant	ce to Noise C	ontour (in fee	)	70 dE	RA I	65 d	IRA	6	0 dBA	55	dBA
			I dn:	92	~ .	19			427		20
		С	NFL:	98		21	-		457		84
		0		00		21	-				

F	HWA-	RD-77-108	HIGH	IWAY N	IOISE PR	EDICT		DDEL			
Scenario: Existing Road Name: Date Pa Road Segment: n/o Gera		d Dr.					t Name: lumber:				
SITE SPECIFIC	INPL	JT DATA				r	NOISE	MODE	L INPUT	s	
Highway Data					Site Con	ditions	(Hard	= 10, S	oft = 15)		
Average Daily Traffic (Adt	): 35,7	700 vehicles	;					Autos.	15		
Peak Hour Percentage	e:	10%			Med	dium Tr	ucks (2	Axles)	15		
Peak Hour Volume	e: 3,5	570 vehicles			Hea	avy Tru	cks (3+	Axles)	15		
Vehicle Speed	1:	40 mph			Vehicle N	Also .					
Near/Far Lane Distance	e:	71 feet		-		cleType	2	Day	Evening	Night	Daily
Site Data					Veni		Autos:	78.2%	•	9.5%	
					Me		rucks:	85.9%		8.6%	
Barrier Heigh		0.0 feet					rucks:			5.0%	
Barrier Type (0-Wall, 1-Berm, Centerline Dist, to Barrie		0.0 63.0 feet								0.070	2.007
Centerline Dist. to Barrie Centerline Dist. to Observe				1	Noise So	urce E	levatio	ns (in f	eet)		
Barrier Distance to Observe		63.0 feet 0.0 feet				Auto	os: 0	.000			
Observer Height (Above Pad		5.0 feet			Mediun	n Truck	(s: 2	.297			
Pad Flevation		0.0 feet			Heav	y Truck	is: 8	.006	Grade Ad	justment.	0.0
Road Elevation		0.0 feet		-	Lane Equ	iivələn	t Dista	nco (in	foot)		
Road Elevation Road Grade		0.0 reet		E F	Lane Ly	Auto		.285	1001/		
Left View		0.0% 90.0 dearee			Mediun			.116			
Right View		90.0 degree				y Truck		.132			
FHWA Noise Model Calculati	ions										
VehicleType REMEL	Tr	affic Flow	Dis	stance	Finite	Road	Fres	nel	Barrier At	en Ber	m Atten
Autos: 66.	51	3.92		-0.3	9	-1.20		-4.70	0.0	000	0.00
Medium Trucks: 77.	72	-10.20		-0.3	7	-1.20		-4.88	0.0	000	0.00
Heavy Trucks: 82.	99	-11.50		-0.3	8	-1.20		-5.32	0.0	000	0.00
Unmitigated Noise Levels (w			-		í ,						
VehicleType Leq Peak I		Leq Day		Leq E		Leq	Night		Ldn		VEL
Autos:	68.8		67.0		65.0		59		67.		68.
Medium Trucks:	65.9		64.5		58.6		55		64.	-	64.
Heavy Trucks:	69.9		6.88		62.7		57		67.		68.
Vehicle Noise:	73.3		71.8		67.6		62	.4	71.	7	72
Centerline Distance to Noise	Conte	our (in feet)		70	10.4	05	-/DA	-	00-104		-/D 4
			der	70 0			dBA 76		60 dBA 378		dBA
			_dn: IFI :	8	-				378 404		15
		Ch	IEL:	8	/	1	88		404	8	71

Tuesday, March 19, 2019

Socnari	: Existing					Project N	lame: CC0	20		
	). Existing 2: Date Palm I	Dr					mber: 114			
Road Segmen						000 110	11001. 114	/5		
ů										
SILE 3 Highway Data	PECIFIC IN	PUIDAIA			Site Con			DEL INPUTS Soft = 15)		
Average Daily 1	raffic (Adt): 3	1 700 vehicles					Auto	,		
Peak Hour I	, ,	10%			Med	dium Truc	cks (2 Axle			
	our Volume:	3.170 vehicles					(s (3+ Axle			
	icle Speed:	40 mph						-,		
Near/Far Lar		71 feet		1	Vehicle I					
	e bistance.	71 1000			Vehi	cleType	Day		J	Daily
Site Data				_			itos: 78.2			3.68%
	rier Height:	0.0 feet				edium Tru				3.63%
Barrier Type (0-Wa	all, 1-Berm):	0.0			H	leavy Tru	icks: 89.4	4% 5.6%	5.0%	2.69%
Centerline Dis		63.0 feet		1	Voise So	urce Ele	vations (ir	1 feet)		
Centerline Dist. t		63.0 feet				Autos:				
Barrier Distance t		0.0 feet			Mediur	n Trucks:	2.297			
Observer Height (A	,	5.0 feet			Heav	v Trucks:	8.006	Grade Adju	stment: 0	.0
	d Elevation:	0.0 feet								
	d Elevation:	0.0 feet		1	ane Equ		Distance (	in feet)		
F	load Grade:	0.0%				Autos:				
	Left View:	-90.0 degree				n Trucks:				
	Right View:	90.0 degree	6		Heav	y Trucks:	52.132			
FHWA Noise Mode	I Calculation:	5								
VehicleType	REMEL	Traffic Flow	Distar	се	Finite	Road	Fresnel	Barrier Atte	n Berm	Atten
Autos:	66.51	3.40		-0.39	9	-1.20	-4.7	0.00	00	0.00
Medium Trucks:	77.72	-10.72		-0.37	7	-1.20	-4.8	8 0.00	00	0.00
Heavy Trucks:	82.99	-12.02		-0.38	3	-1.20	-5.3	0.00	00	0.00
Unmitigated Noise	Levels (with	out Topo and b	arrier a	tten	uation)					
VehicleType	Leq Peak Hou	r Leq Day	Le	eq Ev	/ening	Leq N	light	Ldn	CNE	L
Autos:	68.	.3 6	6.5		64.5		58.5	67.2		67.
Medium Trucks:	65.	4 6	4.0		58.1		55.2	64.1		64.4
Heavy Trucks:	69.	.4 6	8.1		62.1		56.8	67.2		67.0
Vehicle Noise:	72	.8 7	1.3		67.1		61.8	71.2		71.
Centerline Distanc	e to Noise Co	ntour (in feet)								
				70 a		65 d		60 dBA	55 dE	
		L	dn:	75	-	16	-	350	753	
		CN		80		17:		374	805	

	FRV	VA-RD-77-108	niGnw,	AY N	OISE PF	REDICT	ION MO	DDEL			
Road Nar	rio: Existing ne: Da Vall Dr. ent: n/o Ramon	Rd.				Project Job N	Name: umber:				
SITE	SPECIFIC IN	PUT DATA				Ν	IOISE	MODE	L INPUT	s	
Highway Data				5	Site Con	ditions	(Hard =	= 10, So	oft = 15)		
Average Daily	Traffic (Adt):	29,000 vehicles	3					Autos:	15		
Peak Hou	Percentage:	10%			Me	dium Tri	ucks (2	Axles):	15		
Peak I	lour Volume:	2,900 vehicles	5		Hea	avy Tru	cks (3+	Axles):	15		
Ve	ehicle Speed:	45 mph			Vehicle I	Alex					
Near/Far La	ane Distance:	52 feet		-		cleTvpe		Day	Evening	Night	Daily
Site Data					Veni		Autos:	78.2%	v	9.5%	
				_	Me	, dium T		85.9%		8.6%	3.63%
	rrier Height:	0.0 feet				leavy Ti		89.4%		5.0%	2.69%
Barrier Type (0-V	. ,	0.0			,	icavy n	uons.	05.47	0.070	0.070	2.007
	ist. to Barrier:	56.0 feet		1	Voise So	urce E	levatio	ns (in fe	eet)		
Centerline Dist.		56.0 feet				Auto	s: 0	.000			
Barrier Distance		0.0 feet 5.0 feet			Mediur	n Truck	s: 2	.297			
Observer Height	(Above Pad): Pad Elevation:	0.0 feet			Heav	y Truck	s: 8	.006	Grade Ad	justment:	0.0
	ad Elevation. ad Elevation:	0.0 feet		,	Lane Equ	ivalen	Distar	nce (in	feet)		
R	Road Grade:	0.0%		F	Lano Lqu	Auto		.850			
	Left View:	-90.0 degree			Modiur	n Truck		.672			
	Right View:	90.0 degree				y Truck		.689			
FHWA Noise Mod	lel Calculation	e									
VehicleType	REMEL	Traffic Flow	Distan	се	Finite	Road	Fres	nel	Barrier Att	en Ber	m Atten
Autos.	68.46	2.50		-0.08	3	-1.20		-4.67		000	0.00
Medium Trucks	79.45	-11.61		-0.06	6	-1.20		-4.87	0.0	000	0.00
Heavy Trucks.	84.25	-12.92		-0.06	6	-1.20		-5.37	0.0	000	0.00
		out Tono and	barrier a	tten	uation)						
Unmitigated Nois	e Levels (with	out ropo una					Night		Ldn	CI	VEL
Unmitigated Nois VehicleType	e Levels (with Leq Peak Hou		Le	eq Ev	/ening	Leq					00
•	Leq Peak Hou	r Leq Day	Le 67.8	eq Ev	ening 65.8	Leq	59.	9	68.6	5	69.
VehicleType	Leq Peak Hou 69	r Leq Day		eq Ev	•	Leq			68.6 65.3		
VehicleType Autos	Leq Peak Hou 69 66	r Leq Day .7 .6	67.8	eq Ev	65.8	Leq	59.	4		3	65.
VehicleType Autos Medium Trucks	Leq Peak Hou 69 66 70	r Leq Day .7 .6 .1	67.8 65.1	eq Ev	65.8 59.2	Leq	59. 56.	4 5	65.3	3	65. 68.
VehicleType Autos. Medium Trucks. Heavy Trucks.	Leq Peak Hou 69 66 70 73	r Leq Day .7 ( .6 ( .1 ( .8	67.8 65.1 68.8 72.3		65.8 59.2 62.8 68.2		59. 56. 57. 62.	4 5 9	65.3 67.9 72.2	2	65. 68. 72.
VehicleType Autos. Medium Trucks. Heavy Trucks. Vehicle Noise.	Leq Peak Hou 69 66 70 73	r Leq Day .7 .6 .1 .8 ontour (in feet,	67.8 65.1 68.8 72.3	70 a	65.8 59.2 62.8 68.2	65	59. 56. 57. 62. dBA	4 5 9	65.3 67.9 72.2	55	65. 68. 72. dBA
VehicleType Autos. Medium Trucks. Heavy Trucks. Vehicle Noise.	Leq Peak Hou 69 66 70 73	r Leq Day 7.7.6.6.1.1.8.8.5.5.5.5.5.5.5.5.5.5.5.5.5.5.5.5	67.8 65.1 68.8 72.3		65.8 59.2 62.8 68.2 IBA	65 1	59. 56. 57. 62.	4 5 9	65.3 67.9 72.2	3 2 55 7	69. 65. 68. 72. dBA 87 42

Tuesday, March 19, 2019

	FH\	WA-RD-77-108	HIGHW	AY NOI	SE PRE	DICTION		DEL			
	o: Existing e: Da Vall Dr. nt: s/o Ramon					Project Na Job Num					
SITE S	SPECIFIC IN	NPUT DATA				NOI	SE N	IODE	L INPUT	s	
Highway Data				Sit	e Cond	itions (Ha	ard =	10, So	ft = 15)		
Average Daily	Traffic (Adt):	21,500 vehicle	s				,	Autos:	15		
Peak Hour	Percentage:	10%			Medi	ium Truck	s (2 A	(xles):	15		
Peak He	our Volume:	2,150 vehicle	s		Heav	vy Trucks	(3+ A	(xles):	15		
Vel	hicle Speed:	50 mph		Ve	hicle Mi	ix					
Near/Far Lar	ne Distance:	52 feet				leType		Day	Evening	Night	Daily
Site Data					-	Auto	os:	78.2%	12.3%	9.5%	93.68%
Bar	rier Height:	0.0 feet			Mea	lium Truci	ks:	85.9%	5.5%	8.6%	3.63%
Barrier Type (0-Wa	all, 1-Berm):	0.0			He	eavy Truci	ks:	89.4%	5.6%	5.0%	2.69%
Centerline Dis		56.0 feet		No	ise Sou	irce Eleva	ation	s (in fe	et)		
Centerline Dist. t		56.0 feet				Autos:	0.0	000			
Barrier Distance t		0.0 feet		1	Nedium	Trucks:	2.2	297			
Observer Height (/	,	5.0 feet			Heavy	Trucks:	8.0	006	Grade Ad	justment	: 0.0
	d Elevation: d Elevation:	0.0 feet		1.2	no Equi	ivalent Di	ictan	o (in f	inot)		
	Road Grade:	0.0 feet 0.0%		La	ie Lyui	Autos:	49.8		001/		
1	Left View:	-90.0 degre	00		Medium	Trucks:	49.6				
	Right View:	90.0 degre				Trucks:	49.6				
FHWA Noise Mode	el Calculation	IS									
VehicleType	REMEL	Traffic Flow	Distan	се	Finite R	load I	Fresn	el	Barrier Att	en Bei	rm Atten
Autos:	70.20	0.75		-0.08		-1.20		-4.67	0.0	000	0.00
Medium Trucks:	81.00			-0.06		-1.20		-4.87		000	0.00
Heavy Trucks:	85.38	-14.67		-0.06		-1.20		-5.37	0.0	000	0.00
Unmitigated Noise										T	
	Leq Peak Hou			eq Ever		Leq Nig			Ldn		NEL
Autos:	69		67.8		65.8		59.9		68.5	-	69.
Medium Trucks:			64.9 68.2		59.0 62.2		56.2 56.9		65.0 67.2		65.3 67.0
Heavy Trucks: Vehicle Noise:		9.4 3.5	72.0		62.2		62.7		71.9	-	72.4
Centerline Distanc											
Contentine Distante		ontour (mileo	/	70 dB/	4	65 dB/	4	6	0 dBA	55	dBA
			Ldn:	75		163		•	350	. 7	755
						100					

	FHW/	A-RD-77-108	HIGH	HWAY N	OISE PF	REDICT	ION MO	DEL			
Scenario: Existing						Projec	t Name:	CCGP			
Road Name: Bob Ho	pe Dr					Job I	lumber:	11475			
Road Segment: n/o I-10	WB	Ramps									
SITE SPECIFIC	: INP	UT DATA							L INPUT	'S	
Highway Data				5	Site Con	ditions	(Hard =	10, S	oft = 15)		
Average Daily Traffic (Adt		,700 vehicle	s					Autos:			
Peak Hour Percentage	ə:	10%					ucks (2 )	/			
Peak Hour Volume	e: 5	,170 vehicle	s		He	avy Tru	cks (3+ )	Axles):	15		
Vehicle Speed	1:	55 mph			/ehicle l	Mix					
Near/Far Lane Distance	ə:	83 feet		F		icleTyp	e	Day	Evening	Night	Daily
Site Data							Autos:	78.2%			
Barrier Heigh	t.	0.0 feet			Me	edium 1	rucks:	85.9%	5.5%	8.6%	3.63
Barrier Type (0-Wall, 1-Berm		0.0			ŀ	leavy 1	rucks:	89.4%	5.6%	5.0%	2.69
Centerline Dist. to Barrie		63.0 feet		-			levation	- // 6			
Centerline Dist. to Observe	r:	63.0 feet		'	voise sc				eel)		
Barrier Distance to Observe	r:	0.0 feet			1 4 m all 1 m	Auto n Truck		000			
Observer Height (Above Pad	Ŋ:	5.0 feet						297	Grada A	djustment	
Pad Elevation	n:	0.0 feet			Heav	y Truck	IS: 8.	006	Grade Ad	ijusimeni	. 0.0
Road Elevation	n:	0.0 feet		1	ane Eq	uivaler	t Distan	ce (in	feet)		
Road Grade	e:	0.0%				Auto	s: 47.	663			
Left View	V:	-90.0 degree	es		Mediur	n Truck	(s: 47.	477			
Right View	V:	90.0 degree	es		Heav	y Truck	is: 47.	495			
FHWA Noise Model Calculat	ions										
VehicleType REMEL	1	Traffic Flow	Dis	stance	Finite	Road	Fresi	nel	Barrier At	ten Ber	m Atter
Autos: 71	.78	4.14		0.21		-1.20		-4.70	0.	000	0.00
Medium Trucks: 82	.40	-9.98		0.23	3	-1.20		-4.88	0.	000	0.00
Heavy Trucks: 86	.40	-11.28		0.23	3	-1.20		-5.32	0.	000	0.00
Unmitigated Noise Levels (w	vithou	ut Topo and	barri	er atten	uation)						
VehicleType Leq Peak				Leq Ev		Leg	Night		Ldn		NEL
Autos:	74.9		73.1		71.1		65.1		73.		74
Medium Trucks:	71.5		70.0		64.1		61.3		70.		70
Heavy Trucks:	74.2		72.9		66.9		61.6		72.		72
Vehicle Noise:	78.5		77.0		73.1		67.8	3	77.	.0	77
Centerline Distance to Noise	e Con	tour (in feet	()					-		_	
			L	70 c			dBA	(	60 dBA		dBA
			Ldn:	18 19			97 26		855		843
			NFI :						917		975

Tuesday, March 19, 2019

		VA-RD-77-108	monv	TAT N							
	io: Existing ne: Bob Hope I	)r				Project N Job Nu					
	nt: s/o I-10 EB					000 110		11475			
	SPECIFIC IN	IPUT DATA								5	
Highway Data				1	Site Con	ditions (					
• •	, ,	34,700 vehicles						Autos:			
	Percentage:	10%				dium True					
Peak H	lour Volume:	3,470 vehicles			He	avy Truck	ks (3+ )	Axles):	15		
	hicle Speed:	55 mph			Vehicle I	Mix					
Near/Far La	ne Distance:	83 feet				cleType		Day	Evening	Night	Daily
Site Data						A	utos:	78.2%	12.3%	9.5%	93.68%
Da	rrier Heiaht:	0.0 feet			Me	edium Tru	icks:	85.9%	5.5%	8.6%	3.63%
Barrier Type (0-W		0.0			ŀ	leavy Tru	icks:	89.4%	5.6%	5.0%	2.69%
Centerline Di	st. to Barrier:	63.0 feet			Voise Sc	ource Ele	vation	s (in fe	eet)		
Centerline Dist.	to Observer:	63.0 feet		- F	10.00 00	Autos		000			
Barrier Distance	to Observer:	0.0 feet			Modiur	n Trucks		297			
Observer Height	(Above Pad):	5.0 feet				v Trucks:		006	Grade Adj	ustment	0.0
P	ad Elevation:	0.0 feet				·				dounioni	0.0
Ro	ad Elevation:	0.0 feet		1	ane Eq	uivalent	Distan	ce (in	feet)		
	Road Grade:	0.0%				Autos:	47.	663			
	Left View:	-90.0 degree	s		Mediur	n Trucks.	47.	477			
	Right View:	90.0 degree	S		Heav	y Trucks:	47.	495			
FHWA Noise Mod	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dista		Finite		Fresi		Barrier Atte		m Atten
Autos:	71.78	2.41		0.21		-1.20		-4.70	0.0		0.00
Medium Trucks:		-11.71		0.23	-	-1.20		-4.88	0.0		0.00
Heavy Trucks:	86.40	-13.01		0.23	3	-1.20		-5.32	0.0	00	0.00
Unmitigated Nois											
VehicleType	Leq Peak Hou			Leq E	•	Leq N	·		Ldn		VEL
Autos:	73		1.3		69.3		63.4		72.1		72.
Medium Trucks:	69		8.3		62.4		59.5		68.4		68.
Heavy Trucks:	72		'1.1		65.2		59.8	-	70.2		70.
Vehicle Noise:	76	.8 7	5.2		71.3		66.1		75.3		75.
Centerline Distan	ce to Noise C	ontour (in feet)		=				_			
			_ L	70 c		65 d		6	60 dBA		dBA
									656		413
		-	.dn: IFL :	14		32			703		514

	FH\	NA-RD-77-108	HIGH	WAYN		EDICTIC		EL _			
Road Nan	io: Existing ie: Varner Rd. nt: e/o Palm D					Project N Job Nu	lame: C mber: 11				
SITE	SPECIFIC IN	IPUT DATA				NC	DISE M	ODEL	INPUT	s	
Highway Data				:	Site Con	ditions (l	Hard = 1	0, So	ft = 15)		
Average Daily	Traffic (Adt):	5,000 vehicle	s				A	utos:	15		
Peak Hour	Percentage:	10%			Med	dium Truc	ks (2 Ax	les):	15		
Peak H	lour Volume:	500 vehicle	s		Hea	avy Truck	is (3+ Ax	les):	15		
Ve	hicle Speed:	55 mph		-	Vehicle I	Aise .					
Near/Far La	ne Distance:	54 feet		H		cleType		ay	Evening	Night	Daily
Site Data				-	VCIII			8.2%	12.3%	9.5%	
					Me	dium Tru		5.9%	5.5%	8.6%	
	rrier Height:	0.0 feet				leavy Tru		9.4%	5.6%	5.0%	
Barrier Type (0-W	. ,	0.0				,				5.070	2.037
Centerline Di Centerline Dist.		51.0 feet 51.0 feet		1	Noise So	urce Ele	vations	(in fe	et)		
Barrier Distance		0.0 feet				Autos:		0			
Observer Height		5.0 feet			Mediun	n Trucks:	2.29	7			
	ad Elevation:	0.0 feet			Heav	y Trucks:	8.00	)6	Grade Adj	iustment	: 0.0
	ad Elevation. ad Elevation:	0.0 feet		-	Lane Equ	ivalent l	Distance	íin f	eet)		
	Road Grade:	0.0%		F	Lano Lqu	Autos		-			
	Left View:	-90.0 degre	~~		Modium	n Trucks:					
	Right View:	90.0 degre				y Trucks:					
FHWA Noise Mod	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dist	ance	Finite	Road	Fresne	1 1	Barrier Att	en Ber	m Atten
Autos:	71.78	-6.00		0.80	0	-1.20	-4	1.65	0.0	000	0.00
Medium Trucks:	82.40	-20.12		0.83	3	-1.20	-4	1.87	0.0	000	0.000
Heavy Trucks:	86.40	-21.42		0.82	2	-1.20	-8	5.42	0.0	000	0.00
Unmitigated Nois	e Levels (with	out Topo and	barrie	r atten	uation)						
VehicleType	Leq Peak Hou	ur Leq Day	/	Leq E	vening	Leq N			Ldn	-	NEL
Autos:	65		63.5		61.5		55.6		64.2		64.
Medium Trucks:	61		60.5		54.6		51.7		60.6		60.
Heavy Trucks:	64	.6	63.3		57.3		52.0		62.4	ŀ	62.8
Vehicle Noise:			67.4		63.5		58.3		67.4		67.
Centerline Distan	ce to Noise C	ontour (in feet	)	70 .	dBA	05 -1	04	_	0 -10 4		-10.4
			I dn:	70 0		65 di 74		6	0 dBA 160		dBA 44
				-	4	74					
		0	NFI :	3		79			171		69

Tuesday, March 19, 2019

	FH\	WA-RD-77-108	BHIGHW	AY NO	ISE PR	EDICTIO		DEL			
Scenari	io: Existing					Project Na	ame: (	CCGP			
Road Name	e: Varner Rd.					Job Nurr	nber:	11475			
Road Segmen	nt: w/o Date P	alm Dr.									
	SPECIFIC IN	NPUT DATA		04	- 0					S	
Highway Data				Sn	e conc	ditions (H					
Average Daily	, ,		s					Autos:	15		
	Percentage:	10%				lium Truck			15		
	our Volume:	3,970 vehicle	es.		Hea	vy Trucks	: (3+ A	ixies):	15		
	hicle Speed:	55 mph		Ve	hicle N	lix					
Near/Far Lar	ne Distance:	71 feet			Vehic	cleType		Day	Evening	Night	Daily
Site Data						Aut	os:	78.2%	12.3%	9.5%	93.68%
Bar	rier Height:	0.0 feet			Me	dium Truc	ks:	85.9%	5.5%	8.6%	3.63%
Barrier Type (0-Wa	all, 1-Berm):	0.0			Н	eavy Truc	ks:	89.4%	5.6%	5.0%	2.69%
Centerline Dis		58.0 feet		No	ise So	urce Elev	ation	s (in fe	et)		
Centerline Dist. t		58.0 feet				Autos:	0.0	000			
Barrier Distance t		0.0 feet			Medium	1 Trucks:	2.2	297			
Observer Height (/	,	5.0 feet			Heavy	/ Trucks:	8.0	006	Grade Ad	iustment	: 0.0
	ad Elevation:	0.0 feet									
	ad Elevation:	0.0 feet		La	ne Equ	ivalent D			eet)		
F	Road Grade:	0.0%				Autos:	46.				
	Left View: Right View:	-90.0 degre				1 Trucks: / Trucks:	45.9 45.9				
	3	90.0 degre	es		Tieavy	/ ITUCKS.	45.3	905			
FHWA Noise Mode			Distar		Einite I	Deed	Fresn	-1	Damian All		A //
VehicleType Autos:	REMEL 71.78	Traffic Flow 3.00		0.42	Finite F	-1.20		ei -4.68	Barrier Att 0.0		rm Atten 0.00
Medium Trucks:	82.40			0.42		-1.20		-4.87		000	0.00
Heavy Trucks:	86.40			0.44		-1.20		-5.35		000	0.00
Unmitigated Noise	e Levels (with	out Topo and	barrier a	ttenua	tion)						
VehicleType	Leq Peak Hou	ur Leq Da	y Le	eq Evel	ning	Leq Nig	ght		Ldn	C	NEL
Autos:	74	1.0	72.1		70.1		64.2		72.9	)	73.
Medium Trucks:	70	).5	69.1		63.2		60.3		69.2	2	69.
Heavy Trucks:	73	3.2	71.9		66.0		60.6		71.0	)	71.4
Vehicle Noise:	77	7.6	76.0		72.1		66.9		76.1		76.
			t)								
Centerline Distanc	ce to Noise C	ontour (in fee	~								
Centerline Distanc	ce to Noise C	ontour (in fee		70 dB.	A	65 dB	Α	6	0 dBA		i dBA
Centerline Distanc	ce to Noise C		Ldn:	70 dB. 147 158	A	65 dB 317 339	A	6	0 dBA 682 731	1,	dBA ,470 .576

F	HWA-	RD-77-108 H	IGH	IWAY N	OISE PF	REDICTIO	N MO	DEL			
Scenario: Existing						Project N	ame:	CCGP			
Road Name: Varner F	۲d.					Job Nur	nber:	11475			
Road Segment: e/o Date	Palm	Dr.									
SITE SPECIFIC	INPU	T DATA							L INPUT	s	
Highway Data				5	Site Con	ditions (H	lard =	10, Sc	oft = 15)		
Average Daily Traffic (Adt)	: 22,8	00 vehicles					,	Autos:	15		
Peak Hour Percentage	2	10%			Me	dium Truc	ks (2 A	(xles)	15		
Peak Hour Volume	: 2,2	80 vehicles			Hea	avy Trucks	s (3+ A	(xles)	15		
Vehicle Speed		55 mph		1	/ehicle I	Nix					
Near/Far Lane Distance	:	54 feet		F		cleTvpe		Dav	Evenina	Niaht	Dailv
Site Data						Au	tos:	78.2%	12.3%	9.5%	93.68
Barrier Height		0.0 feet			Me	edium Truc	cks:	85.9%	5.5%	8.6%	3.63
Barrier Type (0-Wall, 1-Berm)		0.0			F	leavy Truc	cks:	89.4%	5.6%	5.0%	2.69
Centerline Dist. to Barrier		51.0 feet		-							
Centerline Dist. to Observer	. 6	51.0 feet		,	loise So	urce Elev			eet)		
Barrier Distance to Observer		0.0 feet				Autos:		000			
Observer Height (Above Pad)	:	5.0 feet				n Trucks:		297	Grade Ad	livetreent	
Pad Elevation	c	0.0 feet			Heav	y Trucks:	8.0	006	Grade Ad	jusimeni	. 0.0
Road Elevation	c	0.0 feet		L	ane Equ	uivalent D	Distan	ce (in i	feet)		
Road Grade	e .	0.0%				Autos:	43.	555			
Left View	-9	0.0 degrees			Mediur	n Trucks:	43.3	351			
Right View	. 6	0.0 degrees			Heav	y Trucks:	43.3	371			
FHWA Noise Model Calculati	ons										
VehicleType REMEL	Tr	affic Flow	Dis	tance	Finite	Road	Fresn	el	Barrier At	ten Ber	m Atter
Autos: 71.		0.59		0.80		-1.20		-4.65		000	0.00
Medium Trucks: 82.4		-13.53		0.83		-1.20		-4.87		000	0.00
Heavy Trucks: 86.	40	-14.83		0.82		-1.20		-5.42	0.0	000	0.00
Unmitigated Noise Levels (w	-		arrie							1	
VehicleType Leq Peak H		Leq Day		Leq Ev		Leq Ni			Ldn		NEL
	72.0		).1		68.1		62.2		70.		71
	68.5		7.0		61.2		58.3		67.		67
	71.2		9.9		63.9		58.6		69.	-	69
	75.6		1.0		70.1		64.8	5	74.	0	74
Centerline Distance to Noise	Conto	our (in feet)	Т	70 -	04	05 -15	2.4		0.404		-10.4
			dn:	70 a		65 dE 204		6	60 dBA 439		dBA 146
		Lo	<i>un:</i> –	95	)	∠04			439	9	40
		CNE	. I	10	1	219			471	1	014

Tuesday, March 19, 2019

FH	WA-RD-77-108	HIGHW	AY NO	DISE PR	REDICTIO	ON MC	DEL	_	_		
Scenario: Existing Road Name: Valley Cer Road Segment: e/o Palm I					Project I Job Nu						
SITE SPECIFIC I	NPUT DATA							L INPU			
Highway Data			S	ite Con	ditions (	Hard =	= 10, S	oft = 15)			
Average Daily Traffic (Adt):		5					Autos:				
Peak Hour Percentage:	10%				dium Tru						
Peak Hour Volume:	1,510 vehicles	5		Hea	avy Truc	ks (3+	Axles):	15			
Vehicle Speed:	55 mph		V	ehicle I	Mix						
Near/Far Lane Distance:	67 feet			Vehi	cleType		Day	Evenin	g Nig	ght	Daily
Site Data					A	utos:	78.2%	5 12.39	% 9	9.5%	93.689
Barrier Height:	0.0 feet			Ме	edium Tru	icks:	85.9%	5.5%	% 8	8.6%	3.63%
Barrier Type (0-Wall, 1-Berm):	0.0			H	leavy Tri	icks:	89.4%	5.6%	% 5	5.0%	2.69%
Centerline Dist. to Barrier:	56.0 feet		N	oise So	ource Ele	vatior	ns (in f	eet)			
Centerline Dist. to Observer:	56.0 feet				Autos	: 0	.000				
Barrier Distance to Observer:	0.0 feet			Mediur	n Trucks	: 2	.297				
Observer Height (Above Pad):	5.0 feet			Heav	v Trucks	: 8	.006	Grade /	Adjustr	nent:	0.0
Pad Elevation:	0.0 feet										
Road Elevation:	0.0 feet		L	ane Equ	uivalent			feet)			
Road Grade:	0.0%				Autos		.153				
Left View:	-90.0 degree				n Trucks		.956				
Right View:	90.0 degree	s		Heav	y Trucks	: 44	.975				
FHWA Noise Model Calculation											
VehicleType REMEL	Traffic Flow	Dista		Finite		Fres		Barrier /		Berr	n Atten
Autos: 71.78			0.56		-1.20		-4.67		0.000		0.00
Medium Trucks: 82.40			0.59		-1.20		-4.87		0.000		0.00
Heavy Trucks: 86.40			0.59		-1.20		-5.37		0.000		0.00
Unmitigated Noise Levels (with		-					1				
VehicleType Leq Peak Ho			eq Eve	~	Leq I	· ·	_	Ldn		CI	IEL
		58.1		66.1		60.	-		8.8		69.
		65.0		59.1		56.			5.2		65.
		67.9		61.9		56.	-		7.0		67. 72.
		72.0		68.1		62.	8	1.	2.0		72.
Centerline Distance to Noise C	ontour (in feet)		70 dł	BA	65 0	BA		60 dBA		55 (	dBA
							1				
		Ldn:	76		16	4		353		76	51

	FHV	/A-RD-77-108 H	IIGHW.	AY N		REDICT		DEL			
	2: Existing 2: Valley Cent 1: e/o Date Pa						Name: lumber:				
SITE S	PECIFIC IN	PUT DATA							L INPUT	S	
Highway Data					Site Con	ditions	(Hard =	: 10, So	oft = 15)		
Average Daily 1	raffic (Adt):	9,100 vehicles						Autos:	15		
Peak Hour I	Percentage:	10%			Me	dium Tri	ucks (2	Axles):	15		
Peak Ho	our Volume:	910 vehicles			He	avy Tru	cks (3+	Axles):	15		
Veh	icle Speed:	55 mph			Vehicle I	Mix					
Near/Far Lan	e Distance:	67 feet		- F		icleType		Day	Evening	Night	Daily
Site Data				_	VCIII		Autos:	78.2%	•	9.5%	
Bor	rier Height:	0.0 feet			Me	edium T	rucks:	85.9%		8.6%	
Barrier Type (0-Wa		0.0			F	leavy T	rucks:	89.4%	5.6%	5.0%	2.69%
Centerline Dis	. ,	56.0 feet				· _					
Centerline Dist. t		56.0 feet		/	Voise So				eet)		
Barrier Distance t	o Observer:	0.0 feet				Auto		000			
Observer Height (A		5.0 feet				n Truck		297			
	d Elevation:	0.0 feet			Heav	y Truck	s: 8	006	Grade Ad	ljustmen	t: 0.0
Roa	d Elevation:	0.0 feet		1	Lane Eq	uivalen	t Distan	ce (in	feet)		
F	load Grade:	0.0%				Auto	s: 45	.153			
	Left View:	-90.0 degrees	5		Mediur	n Truck	s: 44	956			
	Right View:	90.0 degrees	5		Heav	y Truck	s: 44	.975			
FHWA Noise Mode	I Calculations	5									
VehicleType	REMEL	Traffic Flow	Distar	nce	Finite	Road	Fres	nel	Barrier At	ten Be	rm Atten
Autos:	71.78	-3.40		0.56	6	-1.20		-4.67	0.	000	0.000
Medium Trucks:	82.40	-17.52		0.59	9	-1.20		-4.87	0.	000	0.000
Heavy Trucks:	86.40	-18.82		0.59	9	-1.20		-5.37	0.	000	0.000
Unmitigated Noise											
<i>,</i>	Leq Peak Hou			eq Ev	/ening	Leq	Night		Ldn		NEL
Autos:	67.		5.9		63.9		58.		66.		67.2
Medium Trucks:	64.		2.8		56.9		54.		63.		63.2
Heavy Trucks:	67.		5.7		59.7		54.		64.	-	65.1
Vehicle Noise:	71.	3 6	9.8		65.9		60.	6	69.	8	70.3
Centerline Distanc	e to Noise Co	ntour (in feet)		=0	10.4	05					
			. ட	70 c			dBA	e	60 dBA		5 dBA
		-	dn:	54			17		252		543
		CN	=L:	58	5	1:	25		270	-	582

Tuesday, March 19, 2019

	FHV	WA-RD-77-108	HIGHW	AY NO	ISE PF	EDICTIO	N MO	DEL			
Scenario:   Road Name: \ Road Segment: (	Valley Cent					Project N Job Nun					
	ECIFIC IN	IPUT DATA							L INPUT	s	
Highway Data				Si	te Con	ditions (H	lard =	10, So	ft = 15)		
Average Daily Tra	ffic (Adt):	6,000 vehicle	s				-	Autos:	15		
Peak Hour Per		10%				dium Truci		/	15		
Peak Hour		600 vehicle	S		Hea	avy Trucks	s (3+ A	(xles):	15		
	e Speed:	55 mph		Ve	hicle I	Лix					
Near/Far Lane L	Distance:	67 feet			Vehi	cleType		Day	Evening	Night	Daily
Site Data						Au	tos:	78.2%	12.3%	9.5%	93.68%
Barrie	r Height:	0.0 feet				edium Truc		85.9%	5.5%	8.6%	
Barrier Type (0-Wall,	1-Berm):	0.0			H	leavy Truc	cks:	89.4%	5.6%	5.0%	2.69%
Centerline Dist. te	o Barrier:	56.0 feet		No	oise So	urce Elev	ation	s (in fe	et)		
Centerline Dist. to C	Observer:	56.0 feet				Autos:		000			
Barrier Distance to C	Observer:	0.0 feet			Mediur	n Trucks:		297			
Observer Height (Abo	,	5.0 feet			Heav	v Trucks:			Grade Ad	iustment	0.0
	levation:	0.0 feet						(! 4	41		
	levation:	0.0 feet		Lä	ne Equ	ivalent D	45.		eet)		
	d Grade: eft View:	0.0%			Madium	n Trucks:	45.				
-	ght View:	-90.0 degre 90.0 degre				y Trucks:	44.9				
FHWA Noise Model C	alculation	s									
VehicleType I	REMEL	Traffic Flow	Distan	се	Finite	Road	Fresn	el	Barrier Att	en Ber	m Atten
Autos:	71.78	-5.21		0.56		-1.20		-4.67	0.0	000	0.00
Medium Trucks:	82.40	-19.33		0.59		-1.20		-4.87		000	0.00
Heavy Trucks:	86.40	-20.63		0.59		-1.20		-5.37	0.0	000	0.00
Unmitigated Noise Le					- í -						
	q Peak Hou			eq Eve		Leq Ni			Ldn		NEL
Autos:	65 62		64.1 61.0		62.1 55.1		56.1 52.2		64.8 61.1		65. 61.
Medium Trucks:	62		61.0 63.9		55.1 57.9		52.2		61.1 63.0		61. 63.
Heavy Trucks: Vehicle Noise:	69		68.0		57.9 64.1		52.6		68.0		68.
Centerline Distance to	o Noise Co	ontour (in fee	)								
			, 	70 dB	A	65 dE	8A	6	0 dBA	55	dBA
			-								
			Ldn:	41		89			191	4	12

	FHV	VA-RD-77-108	HIGHW	VAY NO	DISE PF	REDICTIC	ON MO	DEL			
Scenar	io: Existing					Project N	lame:	CCGP			
Road Nam	e: Vista Chino					Job Nu	mber:	11475			
Road Segme	nt: w/o Landau	BI.									
	SPECIFIC IN	IPUT DATA								s	
Highway Data				S	ite Con	ditions (l	Hard =	10, Sc	ft = 15)		
Average Daily	Traffic (Adt): 3	35,500 vehicles					,	Autos:	15		
Peak Hour	Percentage:	10%			Me	dium Truc	:ks (2 A	(xles)	15		
Peak H	lour Volume:	3,550 vehicles			He	avy Truck	:s (3+ A	(xles)	15		
Ve	hicle Speed:	50 mph		V	ehicle l	Niv					
Near/Far La	ne Distance:	48 feet		Ē		cleType		Dav	Evening	Night	Dailv
Site Data								78.2%		•	93.689
Pa	rrier Height:	0.0 feet			Me	dium Tru	cks:	85.9%	5.5%	8.6%	3.639
Barrier Type (0-W	•	0.0			F	leavy Tru	cks:	89.4%	5.6%	5.0%	2.69%
Centerline Di		58.0 feet									
Centerline Dist.		58.0 feet		N	oise So	ource Ele			et)		
Barrier Distance		0.0 feet				Autos:		000			
Observer Height (		5.0 feet				n Trucks:		297			
	ad Flevation:	0.0 feet			Heav	y Trucks:	8.0	006	Grade Ad	justment.	0.0
	ad Elevation:	0.0 feet		L	ane Eq	uivalent l	Distan	ce (in i	eet)		
	Road Grade:	0.0%			,	Autos:	53.	038	,		
	Left View:	-90.0 degree	s		Mediur	n Trucks:	52.	871			
	Right View:	90.0 degree			Heav	y Trucks:	52.	887			
FHWA Noise Mod	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dista	nce	Finite	Road	Fresn	el	Barrier Att	en Ber	m Atten
Autos:	70.20	2.92		-0.49		-1.20		-4.68	0.0	000	0.00
Medium Trucks:	81.00	-11.19		-0.47		-1.20		-4.87	0.0	000	0.00
Heavy Trucks:	85.38	-12.50		-0.47		-1.20		-5.35	0.0	000	0.00
Unmitigated Noise			oarrier	attenu	ation)						
VehicleType	Leq Peak Hou			Leg Ev		Leq N			Ldn		VEL
Autos:	71		9.6		67.6		61.7		70.3	-	70.
Medium Trucks:	68		6.7		60.8		57.9		66.8	-	67.
Heavy Trucks:	71	-	9.9		64.0		58.6		69.0		69.
Vehicle Noise:	75	-	3.7		69.7		64.5		73.7	7	74.
Centerline Distand	ce to Noise Co	ontour (in feet)		=0.1							
				70 d		65 di		6	0 dBA		dBA
			.dn:	103		22 <sup>-</sup> 23			476		026
		CN	EL:	110					510	1.0	099

Tuesday, March 19, 2019

Occurrentes E i i i					_	Due is i				_	_
Scenario: Existin Road Name: Vista (						Project	vame: v imber: ·				
Road Segment: w/o Da		les Dr				JUD IVL	imper.	114/5			
Road Seyment. Wo Da	ile Pa	um Dr.									
SITE SPECIFI	C IN	PUT DATA							L INPUTS	5	
Highway Data					Site Con	ditions (		<u> </u>	,		
Average Daily Traffic (Ad	<i>tt):</i> 3	2,000 vehicles						Autos:			
Peak Hour Percentag	ge:	10%				dium Tru					
Peak Hour Volun	ne:	3,200 vehicles			He	avy Truc	ks (3+ A	(xles)	15		
Vehicle Spee	ed:	50 mph		F	Vehicle I	Mix					
Near/Far Lane Distan	ce:	48 feet		F		cleType		Day	Evening	Night	Daily
Site Data								78.2%	•	9.5%	
	h.c.	0.0 feet			Me	dium Tr		85.9%		8.6%	
Barrier Heig Barrier Type (0-Wall, 1-Berr		0.0 feet 0.0				leavy Tr		89.4%		5.0%	
Centerline Dist. to Barn	·	58.0 feet		L						0.070	
Centerline Dist. to Observ		58.0 feet		L	Noise Sc	ource Ele	evation	s (in f	eet)		
Barrier Distance to Observ		0.0 feet				Autos		000			
Observer Height (Above Pa		5.0 feet				n Trucks		297			
Pad Elevati	·	0.0 feet			Heav	y Trucks	: 8.0	006	Grade Adj	ustment	: 0.0
Road Elevation		0.0 feet		F	Lane Eq	uivalent	Distand	ce (in	feet)		
Road Gra		0.0%		F		Autos			,		
Left Vie		-90.0 dearee	c .		Modiur	n Trucks					
Right Vie		90.0 degree				y Trucks					
rugin vic		Solo degree	3		mour	<i>y 11</i> uono	. 02.0				
FHWA Noise Model Calcula	tions	i									
VehicleType REME	L	Traffic Flow	Dista	ance	Finite	Road	Fresn	el	Barrier Atte	en Ber	m Atten
	0.20	2.47		-0.4	-	-1.20		-4.68	0.0		0.00
Medium Trucks: 8	1.00	-11.64		-0.4		-1.20		-4.87	0.0		0.00
Heavy Trucks: 8	5.38	-12.95		-0.4	7	-1.20		-5.35	0.0	00	0.00
Unmitigated Noise Levels (	witho	out Topo and I	oarrier	atter	nuation)						
VehicleType Leq Peak	Hou	r Leq Day	1	Leq E	vening	Leq I	light		Ldn	C	NEL
Autos:	71.	0 6	9.1		67.1		61.2		69.9		70.4
Medium Trucks:	67.	7 6	6.2		60.4		57.5		66.4		66.
Heavy Trucks:	70.	8 6	9.5		63.5		58.2		68.6		68.9
Vehicle Noise:	74.	8 7	3.3		69.3		64.0		73.3		73.7
Centerline Distance to Nois	se Co	ntour (in feet)									
		,,		70	dBA	65 0	IBA		60 dBA	55	dBA
		L	.dn:	9	16	20	6		444	S	58

F	HWA-RD-77-1	08 HIGHWA		EDICTION	MODEL			
Scenario: Existing Road Name: 30th Av. Road Segment: w/o Date	Palm Dr.			Project Nar Job Numb				
SITE SPECIFIC	INPUT DAT	A		NOIS	E MODE	L INPUT	S	
Highway Data			Site Cond	litions (Ha	rd = 10, S	oft = 15)		
Average Daily Traffic (Adt)	16,900 vehi	cles			Autos:	15		
Peak Hour Percentage	10%		Med	lium Trucks	(2 Axles).	: 15		
Peak Hour Volume	1,690 vehi	cles	Hea	vy Trucks (	3+ Axles).	: 15		
Vehicle Speed	35 mph		Vehicle M	liv				
Near/Far Lane Distance	24 feet			cleType	Day	Evening	Night	Daily
Site Data				Auto		•	~	93.68%
Barrier Height	0.0 fee	•	Mee	dium Truck	s: 85.9%	6 5.5%	8.6%	3.63%
Barrier Type (0-Wall, 1-Berm)			He	eavy Truck	s: 89.4%	6 5.6%	5.0%	2.69%
Centerline Dist. to Barrier			Noise Co.	urce Eleva	1	4)		
Centerline Dist. to Observer	: 44.0 feet		Noise Sol	Autos:	0.000	eet)		
Barrier Distance to Observer	: 0.0 feet		Madium	Autos: Trucks:	2.297			
Observer Height (Above Pad)	: 5.0 feet			Trucks: Trucks:	2.297	Grade Ad	iustmont:	0.0
Pad Elevation	: 0.0 feet		Heavy	/ Trucks:	8.006	Grade Adj	jusiment.	0.0
Road Elevation	0.0 feet		Lane Equ	ivalent Dis	tance (in	feet)		
Road Grade	0.0%			Autos:	42.626			
Left View	-90.0 deg	rees	Medium	n Trucks:	42.418			
Right View	90.0 deg	rees	Heavy	/ Trucks:	42.439			
FHWA Noise Model Calculati	ons		-					
VehicleType REMEL	Traffic Flow	v Distant	ce Finite F	Road F	resnel	Barrier Att	en Bern	n Atten
Autos: 64.3	30 1.2	25	0.94	-1.20	-4.61	0.0	000	0.00
Medium Trucks: 75.3			0.97	-1.20	-4.87		000	0.000
Heavy Trucks: 81.5	57 -14.1	17	0.96	-1.20	-5.50	0.0	000	0.00
Unmitigated Noise Levels (w	thout Topo a							
VehicleType Leq Peak H		,	q Evening	Leq Nigh		Ldn	CN	
	65.3	63.4	61.4		55.5	64.2	-	64.
	62.6	61.2	55.3		52.4	61.3		61.
	67.2	65.9	59.9		54.6	65.0	-	65.3
Vehicle Noise:	70.2	68.7	64.3		59.1	68.5	5	68.9
Centerline Distance to Noise	Contour (in fe							
			70 dBA	65 dBA		60 dBA	55 0	dBA
							_	
		Ldn: CNEL:	35 37	75		163 174	35	

Tuesday, March 19, 2019

	FH	WA-RD-77-108	HIGHW	AY NOIS	E PREDIC	ΓΙΟΝ Μ	ODEL			
Scenari	o: Existing						CCGP			
Road Name					Job I	Number	: 11475			
Road Segmen	nt: e/o Date P	alm Dr.								
SITE S Highway Data	SPECIFIC II	NPUT DATA		Sito	Conditions			L INPUT	S	
Average Daily	Troffic (Adt)	19,400 vehicle		0.10	oonanaona	, (mara	Autos:			
• •	Percentage:	10%	5		Medium T	rucks (2				
	our Volume:	1.840 vehicle	e		Heavy Tru					
	hicle Speed:	40 mph	.0		,					
Near/Far Lar		24 feet		Veh	icle Mix					
					VehicleTyp		Day	Evening	Night	Daily
Site Data				_		Autos:	78.2%		9.5%	
	rier Height:	0.0 feet			Medium		85.9%		8.6% 5.0%	
Barrier Type (0-Wa		0.0			Heavy	rucks:	89.4%	5.6%	5.0%	2.69%
Centerline Dis		44.0 feet		Nois	e Source E	levatio	ons (in f	eet)		
Centerline Dist. t		44.0 feet			Auto	os: (	0.000			
Barrier Distance t		0.0 feet		M	edium Truc	ks: 2	2.297			
Observer Height (/	,	5.0 feet		1	Heavy Truci	ks: 8	B.006	Grade Ad	justment	0.0
	d Elevation:	0.0 feet		Lan	e Equivaler	t Dicta	nco (in	foot)		
	Road Grade:	0.0 feet		Lan	Auto		2.626	ieel)		
r	Left View:	0.0%			edium Truc		2.418			
	Right View:	-90.0 degre 90.0 degre			Heavy Truci		2.410			
	0	°.	65		loary maa	.0	2.400			
FHWA Noise Mode			<b>D</b>	-		-		<b>D</b>		A
VehicleType	REMEL 66.51	Traffic Flow 1.04	Distar	0.94	inite Road -1.20		snel -4.61	Barrier Att		rm Atten 0.00
Autos: Medium Trucks:	77.72			0.94	-1.20		-4.61		000	0.00
Heavy Trucks:	82.99			0.97	-1.20		-4.67		000	0.00
Unmitigated Noise							-0.00	0.0	000	0.00
-	Leg Peak Ho			eq Eveni		Night		Ldn	G	NEL
Autos:		7.3	65.4		63.4		.5	66.2		66.7
Medium Trucks:	-	4.4	63.0		57.1		.0 I.2	63.1	-	63.4
Heavy Trucks:	6	3.4	67.1		61.1	55	5.8	66.2	2	66.
Vehicle Noise:	7	1.8	70.2		66.0	60	).8	70.1	1	70.
Centerline Distanc	e to Noise C	ontour (in fee	t)							
				70 dBA	65	5 dBA		60 dBA	55	dBA
				TOUDA	00	UDA		0 00/1		
			Ldn: NFL:	45 48		97 103		209	4	149

	FHV	/A-RD-77-108	HIGH	IWAY N	OISE PR	EDICT	ION MO	DEL			
Scenario: Ex Road Name: Ra Road Segment: w/	amon Rd.	BI.					Name: umber:				
SITE SPEC	CIFIC IN	PUT DATA				N	IOISE N	/IODE	L INPUT	s	
Highway Data				S	ite Con	ditions	(Hard =	10, So	oft = 15)		
Average Daily Traffic	c (Adt): 5	4,300 vehicles	6					Autos:	15		
Peak Hour Perce	entage:	10%			Med	dium Tru	ucks (2 A	(xles)	15		
Peak Hour V	olume:	5,430 vehicles	6		Hea	avy Truc	cks (3+ A	(xles)	15		
Vehicle	Speed:	40 mph		L.	ehicle N	Niv					
Near/Far Lane Dis	stance:	71 feet		-		cleType		Day	Evening	Night	Daily
Site Data					1011			78.2%	•	9.5%	
	In laula to	0.0 feet			Me	dium Ti	ucks:	85.9%		8.6%	3.63%
Barrier H Barrier Type (0-Wall, 1-		0.0 reet				leavy Ti		89.4%		5.0%	2.69%
Centerline Dist. to I		58.0 feet									
Centerline Dist. to Ob		58.0 feet		۸	loise So				eet)		
Barrier Distance to Ob		0.0 feet				Autos		000			
Observer Height (Abov		5.0 feet			Mediun			297			
Pad Fle		0.0 feet			Heav	y Truck	s: 8.0	006	Grade Ad	justment.	0.0
Road Ele	vation:	0.0 feet		L	ane Equ	iivalent	Distan	ce (in	feet)		
Road	Grade:	0.0%				Autos	s: 46.	138			
Lei	t View:	-90.0 degree	s		Mediun	n Truck	s: 45.	946			
Righ	t View:	90.0 degree	es		Heav	y Truck	s: 45.9	965			
FHWA Noise Model Cal	culations	5									
VehicleType RE	MEL	Traffic Flow	Dis	tance	Finite	Road	Fresn	el	Barrier Att	en Ber	m Atten
Autos:	66.51	5.74		0.42		-1.20		-4.68		000	0.00
Medium Trucks:	77.72	-8.38		0.45		-1.20		-4.87		000	0.00
Heavy Trucks:	82.99	-9.68		0.44		-1.20		-5.35	0.0	000	0.00
Unmitigated Noise Lev										Т	
	Peak Hou			Leq Ev		Leq	Night		Ldn		VEL
Autos:	71.		69.6		67.6		61.7		70.3		70.
Medium Trucks:	68.	-	67.1		61.2		58.4		67.3	-	67.
Heavy Trucks:	72.		71.3		65.3		60.0		70.4		70.
Vehicle Noise:	75.	-	74.4		70.2		65.0	)	74.3	3	74.
Centerline Distance to	Noise Co	ntour (in feet,	)	70 d	DA	6E	dBA		0 dBA	55	dBA
			I dn:	11:			ава 42		522		ава 125

Tuesday, March 19, 2019

		VA-RD-77-108	mon	HATI	TOISE FI					
Scenario:							Vame: CC			
Road Name:						Job NL	mber: 114	75		
Road Segment:	e/o Landau	BI.								
	ECIFIC IN	PUT DATA						DEL INPUT	S	
Highway Data					Site Con	ditions (	Hard = 10	Soft = 15)		
Average Daily Tra	. ,						Aut			
Peak Hour Per		10%					cks (2 Axle	-, -		
Peak Hour	Volume:	4,110 vehicles			He	avy Truc	ks (3+ Axle	es): 15		
Vehicle	e Speed:	40 mph		F	Vehicle I	Mix				
Near/Far Lane L	Distance:	71 feet				cleType	Da	y Evening	Night	Daily
Site Data								2% 12.3%	9.5%	
Parrio	r Heiaht:	0.0 feet			Me	edium Tru	icks: 85.	9% 5.5%	8.6%	3.63%
Barrier Type (0-Wall,		0.0			F	leavy Tru	icks: 89.	4% 5.6%	5.0%	2.69%
Centerline Dist. te	,	58.0 feet		-						
Centerline Dist. to (		58.0 feet		-	Noise Sc		evations (i	,		
Barrier Distance to C	)bserver:	0.0 feet				Autos				
Observer Height (Abo	ove Pad):	5.0 feet				n Trucks				
	levation:	0.0 feet			Heav	y Trucks	8.006	Grade Adj	ustment	: 0.0
Road E	levation:	0.0 feet			Lane Equ	uivalent	Distance	(in feet)		
Roa	d Grade:	0.0%		Ē		Autos	46.138			
L	eft View:	-90.0 degree	s		Mediur	n Trucks	45.946			
Rig	ght View:	90.0 degree	s		Heav	y Trucks	45.965			
FHWA Noise Model C	alculation	s								
VehicleType I	REMEL	Traffic Flow	Dist	tance	Finite	Road	Fresnel	Barrier Atte	en Ber	m Atten
Autos:	66.51	4.53		0.4	2	-1.20	-4.	58 0.0	00	0.00
Medium Trucks:	77.72	-9.59		0.4	5	-1.20	-4.	87 0.0	00	0.00
Heavy Trucks:	82.99	-10.89		0.4	4	-1.20	-5.	35 0.0	00	0.00
Unmitigated Noise Le	evels (with	out Topo and I	barrie	r atter	nuation)					
VehicleType Lea	q Peak Hou	r Leq Day		Leq E	vening	Leq I	light	Ldn	C	NEL
Autos:	70.	.3 6	8.4		66.4		60.5	69.1		69.
Medium Trucks:	67.		5.9		60.0		57.2	66.1		66.
Heavy Trucks:	71.	-	0.1		64.1		58.8	69.2		69.
Vehicle Noise:	74.	.7 7	3.2		69.0		63.8	73.1		73.
Centerline Distance to	o Noise Co	ontour (in feet)							T	
			L		dBA	65 a		60 dBA		dBA
			.dn:		93	20		434		35
		CA	IFI :	1	00	21	5	464	C	99

	FH\	NA-RD-77-108	HIGHWA	Y NOIS	e predict		DEL			
Road Nan	io: Existing ne: Ramon Rd nt: w/o Da Val	-				t Name: C lumber: 1				
SITE	SPECIFIC IN	IPUT DATA			1	NOISE M	ODEL	INPUTS	S	
Highway Data				Site	Conditions	(Hard = 1	10, Sof	t = 15)		
Average Daily	Traffic (Adt):	39,600 vehicle	S			A	utos:	15		
Peak Hour	Percentage:	10%			Medium Tr	ucks (2 A	xles):	15		
Peak F	our Volume:	3,960 vehicle	s		Heavy Tru	cks (3+ A	xles):	15		
Ve	hicle Speed:	40 mph		Vah	cle Mix					
Near/Far La	ne Distance:	71 feet		ven	<b>cie iviix</b> VehicleType		Day I	Evening	Night	Daily
Site Data				-			78.2%	12.3%	•	93.68%
				-	Medium T		35.9%	5.5%	8.6%	3.63%
	rrier Height:	0.0 feet			Heavy T		39.4%	5.6%	5.0%	2.69%
Barrier Type (0-W	. ,	0.0 58.0 feet			neavy i	<i>Tuons.</i> C	JJ. <del>4</del> 70	0.070	0.070	2.0070
Centerline Di Centerline Dist.		58.0 feet		Nois	e Source E	levations	(in fee	et)		
Barrier Distance		0.0 feet			Auto		00			
Observer Height		5.0 feet		M	edium Truck	s: 2.2				
	ADOVE Pad): ad Elevation:	0.0 feet		1	leavy Truck	s: 8.0	06 0	Grade Adj	iustment:	0.0
	ad Elevation: ad Elevation:	0.0 feet		Lan	Equivalen	t Distanc	e (in fe	et)		
	au Elevalion. Road Grade:	0.0%		2017	Auto		· ·			
	Left View:	-90.0 degree	20	M	edium Truck					
	Right View:	90.0 degree			leavy Truck					
FHWA Noise Mod	el Calculation	s								
VehicleType	REMEL	Traffic Flow	Distan	ce F	inite Road	Fresne	el B	arrier Atte	en Beri	m Atten
Autos:	66.51	4.37		0.42	-1.20	-	4.68	0.0	000	0.000
Medium Trucks:	77.72	-9.75		0.45	-1.20	-	4.87	0.0	000	0.000
Heavy Trucks:	82.99	-11.05		0.44	-1.20	-	5.35	0.0	000	0.000
Unmitigated Nois					,					
VehicleType	Leq Peak Hou			q Evenii	0	Night	l	dn		IEL
,1			68.2		6.2	60.3		69.0	)	69.6
Autos:	70									
Autos: Medium Trucks:	67	.2	65.8		59.9	57.0		65.9		
Autos: Medium Trucks: Heavy Trucks:	67 71	.2 .2	65.8 69.9		59.9 53.9	57.0 58.6		69.0	)	69.3
Autos: Medium Trucks: Heavy Trucks: Vehicle Noise:	67 71 74	.2 .2 .6	65.8 69.9 73.1		59.9	57.0			)	69.3
Autos: Medium Trucks: Heavy Trucks:	67 71 74	.2 .2 .6	65.8 69.9 73.1		59.9 53.9 58.8	57.0 58.6 63.6		69.0 72.9	)	69.3 73.4
Autos: Medium Trucks: Heavy Trucks: Vehicle Noise:	67 71 74	.2 .2 .6 ontour (in feet	65.8 69.9 73.1	70 dBA	59.9 53.9 58.8 65	57.0 58.6 63.6 dBA		69.0 72.9 0 dBA	55	66.2 69.3 73.4 dBA
Autos: Medium Trucks: Heavy Trucks: Vehicle Noise:	67 71 74	.2 .2 .6 ontour (in feet	65.8 69.9 73.1		59.9 53.9 58.8 65 1	57.0 58.6 63.6	4	69.0 72.9	55	69.3 73.4

Tuesday, March 19, 2019

	FH\	WA-RD-77-108	HIGHW	AY N	OISE PF	EDICTIO		EL			
	o: Existing e: Dinah Shor nt: w/o Cathed					Project Na Job Nun					
	SPECIFIC IN	IPUT DATA							INPUTS	;	
Highway Data				S	ite Con	ditions (H	ard = 1	0, So	ft = 15)		
	Traffic (Adt): 3 Percentage: our Volume:	33,200 vehicles 10% 3,320 vehicles				dium Truck avy Trucks	ks (2 A	/	15 15 15		
Vel	hicle Speed:	40 mph		L	ehicle l	Nix					
Near/Far Lar	ne Distance:	56 feet		F		cleType	[	Day	Evening	Night	Daily
Site Data								8.2%	12.3%	9.5%	
Par	rier Height:	0.0 feet			Ме	dium Truc	ks: 8	5.9%	5.5%	8.6%	3.63%
Barrier Type (0-Wa	all, 1-Berm):	0.0			H	leavy Truc	:ks: 8	9.4%	5.6%	5.0%	2.69%
Centerline Dis		52.0 feet		٨	loise So	urce Elev	ations	(in fe	et)		-
Centerline Dist. t		52.0 feet				Autos:	0.0				
Barrier Distance t		0.0 feet			Mediur	n Trucks:	2.2	97			
Observer Height (/	,	5.0 feet			Heav	v Trucks:	8.0	06	Grade Adjı	ıstment	: 0.0
	ad Elevation:	0.0 feet		-	_						
	ad Elevation:	0.0 feet		1	ane Equ	ivalent D			eet)		
F	Road Grade:	0.0%				Autos:	44.1				
	Left View: Right View:	-90.0 degree 90.0 degree				n Trucks: y Trucks:	43.9 43.9				
FHWA Noise Mode	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Distar	ice	Finite	Road	Fresne	el L	Barrier Atte	n Ber	m Atten
Autos:	66.51	3.60		0.71		-1.20	-	4.66	0.0	00	0.00
Medium Trucks:	77.72	-10.52		0.74		-1.20	-	4.87	0.0	00	0.00
Heavy Trucks:	82.99	-11.82		0.74		-1.20	-	5.41	0.0	00	0.00
Unmitigated Noise	e Levels (with	out Topo and	barrier a	nttenu	uation)						
	Leq Peak Hou			eq Ev	ening	Leq Ni			Ldn	C	NEL
Autos:	69		67.8		65.8		59.8		68.5		69.
Medium Trucks:	66		65.3		59.4		56.5		65.4		65.
Heavy Trucks:	70		69.4		63.5		58.1		68.5		68.9
Vehicle Noise:	74		72.6		68.4		63.2		72.5		72.9
Centerline Distanc	e to Noise Co	ontour (in feet)	1	70.0	-	05.15	. 1				10.4
			ட	70 d		65 dB	A		0 dBA		dBA
			Ldn:	76		164			353		60
		CN	IEL:	81		175			377	8	313

	FHV	VA-RD-77-108	HIGH	WAY N	OISE PF	REDICTIC	N MO	DEL			
	: Existing					Project N					
Road Name	: Dinah Shor	e Dr.				Job Nu	mber:	11475			
Road Segment	t: e/o Date Pa	alm Dr.									
SITE S	PECIFIC IN	IPUT DATA							l input	S	
Highway Data				5	Site Con	ditions (F	lard =	10, Sc	oft = 15)		
Average Daily T	raffic (Adt): 3	34,400 vehicles						Autos:	15		
Peak Hour F	Percentage:	10%			Me	dium Truc	:ks (2 /	Axles):	15		
Peak Ho	our Volume:	3,440 vehicles			He	avy Truck	's (3+ /	Axles):	15		
Veh	icle Speed:	45 mph		1	/ehicle	Mix					
Near/Far Lan	e Distance:	56 feet		F		icleType		Dav	Evening	Night	Daily
Site Data							itos:	78.2%			93.68
Barr	ier Height:	0.0 feet			Me	edium Tru	cks:	85.9%	5.5%	8.6%	3.639
Barrier Type (0-Wa		0.0			ŀ	leavy Tru	cks:	89.4%	5.6%	5.0%	2.69%
Centerline Dist		52.0 feet		H							
Centerline Dist. to		52.0 feet		^	Voise Sc	ource Ele			eet)		
Barrier Distance to	o Observer:	0.0 feet				Autos:		000			
Observer Height (A	bove Pad):	5.0 feet				n Trucks:		297	Grade Ad	i colmont	
Pad	d Elevation:	0.0 feet			Heav	y Trucks:	8.	006	Grade Ad	jusiment	0.0
Road	d Elevation:	0.0 feet		L	ane Eq	uivalent I	Distan	ce (in i	feet)		
R	oad Grade:	0.0%				Autos:	44.	102			
	Left View:	-90.0 degree	s		Mediur	n Trucks:	43.	901			
	Right View:	90.0 degree	S		Heav	y Trucks:	43.	921			
FHWA Noise Mode	I Calculation:	s									
VehicleType	REMEL	Traffic Flow	Dist	tance	Finite	Road	Fresr	nel	Barrier Att	en Ber	m Atten
Autos:	68.46	3.24		0.71	I	-1.20		-4.66	0.0	000	0.00
Medium Trucks:	79.45	-10.87		0.74	Ļ	-1.20		-4.87	0.0	000	0.00
Heavy Trucks:	84.25	-12.17		0.74	Ļ	-1.20		-5.41	0.0	000	0.00
Unmitigated Noise	Levels (with	out Topo and I	barrie								
	Leq Peak Hou			Leq Ev		Leq N			Ldn		VEL
Autos:	71.		69.4		67.4		61.4		70.1		70.
Medium Trucks:	68.		6.7		60.8		57.9		66.8	-	67.
Heavy Trucks:	71.	-	70.3		64.4		59.0		69.4		69.
Vehicle Noise:	75	-	73.8		69.7		64.5	5	73.8	3	74.
Centerline Distance	e to Noise Co	ontour (in feet)		70 -	04	05 -11	24		0.404		-/D 4
			day	70 a 93		65 dl 199		1 6	60 dBA		dBA
			_dn: IEL:	93		199			430		26
			1-1						460	9	91

Tuesday, March 19, 2019

					IOISE PF						
Scenario: E		-				Project I					
Road Name: G						JOD NU	mber:	11475			
Road Segment: e	/o Date Pa	im Dr.									
	CIFIC IN	PUT DATA							L INPUTS	6	
Highway Data					Site Con	ditions (	Hard =	10, S	oft = 15)		
Average Daily Traff	fic (Adt): 2	6,600 vehicles						Autos:	15		
Peak Hour Perc	centage:	10%			Me	dium Tru	cks (2 A	(xles)	15		
Peak Hour	Volume:	2,660 vehicles			He	avy Truci	ks (3+ A	(xles)	15		
Vehicle	Speed:	45 mph		F	Vehicle I	Mix					
Near/Far Lane D	istance:	52 feet				cleType		Day	Evening	Night	Daily
Site Data								78.2%	0	9.5%	
	Hoight	0.0 feet			Me	edium Tru		85.9%		8.6%	
Barrier Type (0-Wall, 1	Height:	0.0 feet			F	leavy Tru	icks:	89.4%		5.0%	
Centerline Dist. to	,	54.0 feet				,					
Centerline Dist. to O		54.0 feet		2	Noise So				eet)		
Barrier Distance to O		0.0 feet				Autos		000			
Observer Height (Abo		5.0 feet				n Trucks		297			
0 1	levation:	0.0 feet			Heav	y Trucks	8.0	006	Grade Adj	ustment	: 0.0
	levation:	0.0 feet		- h	Lane Eq	uivalent	Distan	ce (in	feet)		
	Grade:	0.0%		F		Autos			,		
	aft View:	-90.0 dearee	c		Mediur	n Trucks	47.4	106			
	ht View:	90.0 degree			Heav	y Trucks	47.4	424			
FHWA Noise Model Ca	alculations										
	EMEL	Traffic Flow	Dista	ance	Finite	Road	Fresn	el	Barrier Atte	en Ber	m Atten
Autos:	68.46	2.13		0.2	2	-1.20		-4.67	0.0	00	0.00
Medium Trucks:	79.45	-11.99		0.2	4	-1.20		-4.87	0.0	00	0.00
Heavy Trucks:	84.25	-13.29		0.2	4	-1.20		-5.39	0.0	00	0.00
Unmitigated Noise Le	vels (witho	out Topo and I	barrier	atten	nuation)						
, , ,	Peak Hou			Leq E	vening	Leq N	·		Ldn		NEL
Autos:	69.		67.7		65.8		59.8		68.5		69.
Medium Trucks:	66.		65.1		59.2		56.3		65.2		65.
Heavy Trucks:	70.	-	68.7		62.7		57.4		67.8		68.
Vehicle Noise:	73.	7 7	2.2		68.1		62.9		72.1		72.
Centerline Distance to	Noise Co	ntour (in feet)									
					dBA	65 d		1	60 dBA		dBA
			dn:	7		16	2		348	7	'50
			IFL:	8	-	10			340		03

F	HWA-RD-77-10	8 HIGHWA		EDICTION	MODEL			
Scenario: Existing Road Name: Perez Ro Road Segment: w/o Cath				Project Nar Job Numb				
SITE SPECIFIC	INPUT DATA					L INPUT	S	
Highway Data			Site Con	ditions (Ha	rd = 10, S	oft = 15)		
Average Daily Traffic (Adt)	21,500 vehicle	es			Autos:			
Peak Hour Percentage	: 10%		Mee	dium Trucks	(2 Axles).	15		
Peak Hour Volume	2,150 vehicle	es	Hea	avy Trucks (	3+ Axles).	15		
Vehicle Speed	: 40 mph		Vehicle I	Nix				
Near/Far Lane Distance	24 feet			cleType	Day	Evening	Night	Daily
Site Data				Auto	s: 78.2%	6 12.3%	9.5% 9	3.68%
Barrier Height	: 0.0 feet		Me	edium Truck	s: 85.9%	5.5%	8.6%	3.63%
Barrier Type (0-Wall, 1-Berm)			F	leavy Truck	s: 89.4%	5.6%	5.0%	2.69%
Centerline Dist. to Barrier	: 54.0 feet		Noiso Sa	urce Eleva	tions (in f	oot)		
Centerline Dist. to Observer	: 54.0 feet		NOISE SU	Autos:	0.000	eelj		
Barrier Distance to Observer	: 0.0 feet		Modiur	n Trucks:	2.297			
Observer Height (Above Pad)	: 5.0 feet			v Trucks:	8.006	Grada Ad	iustment: C	0
Pad Elevation	: 0.0 feet						doumont. c	
Road Elevation	: 0.0 feet		Lane Equ	uivalent Dis	tance (in	feet)		
Road Grade	: 0.0%			Autos:	52.887			
Left View				n Trucks:	52.719			
Right View	: 90.0 degre	es	Heav	y Trucks:	52.736			
FHWA Noise Model Calculati	ons							
VehicleType REMEL	Traffic Flow	Distanc	e Finite	Road F	resnel	Barrier Att	en Berm	Atten
Autos: 66.			0.47	-1.20	-4.67		000	0.00
Medium Trucks: 77.			0.45	-1.20	-4.87	0.0	000	0.00
Heavy Trucks: 82.	-13.70	) - (	0.45	-1.20	-5.39	0.0	000	0.00
Unmitigated Noise Levels (w	ithout Topo and							
VehicleType Leq Peak H			q Evening	Leq Nigł		Ldn	CNE	
	66.6	64.7	62.7		56.8	65.4		66.
	63.7	62.2	56.3		53.4	62.3		62.
,	67.6	66.4	60.4		55.1	65.4		65.
Vehicle Noise:	71.0	69.5	65.3		60.1	69.4	L	69.
Centerline Distance to Noise	Contour (in fee					-		
			70 dBA	65 dBA		60 dBA	55 dE	ЗA
		Ldn: NFI :	49 53	106 113		229 244	493 526	-

Tuesday, March 19, 2019

	FH	WA-RD-77-108	HIGHW	AY NC	ISE PI	REDICTIO	ON MO	DDEL			
Scenari	io: Existing					Project N	Vame:	CCGP			
	e: Perez Rd.					Job Nu	mber:	11475			
Road Segmer	nt: e/o Catheo	iral Cyn. Dr.									
	SPECIFIC IN	NPUT DATA								S	
Highway Data				Si	te Con	ditions (	Hard :	= 10, Sc	oft = 15)		
Average Daily	, ,		s					Autos:	15		
	Percentage:	10%				dium True			15		
	our Volume:	2,330 vehicle	s		He	avy Truck	ks (3+	Axles):	15		
	hicle Speed:	40 mph		Ve	ehicle	Mix					-
Near/Far La	ne Distance:	24 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data						A	utos:	78.2%	12.3%	9.5%	93.68%
Bar	rier Height:	0.0 feet			M	edium Tru	icks:	85.9%	5.5%	8.6%	3.63%
Barrier Type (0-W	all, 1-Berm):	0.0			ŀ	Heavy Tru	icks:	89.4%	5.6%	5.0%	2.69%
Centerline Dis		54.0 feet		N	oise So	ource Ele	vatio	ns (in fe	eet)		-
Centerline Dist.		54.0 feet				Autos:	: 0	.000			-
Barrier Distance		0.0 feet			Mediu	m Trucks.	: 2	.297			
Observer Height (	,	5.0 feet			Heav	v Trucks	: 8	.006	Grade Ad	iustment	: 0.0
	ad Elevation:	0.0 feet					D'		( 4)		
	ad Elevation:	0.0 feet		La	ine Eq	uivalent			eet)		
, i	Road Grade:	0.0%				Autos:		.887			
	Left View:	-90.0 degre				m Trucks.		.719			
	Right View:	90.0 degre	es		Heav	y Trucks:	52	.736			
FHWA Noise Mode											
VehicleType	REMEL	Traffic Flow	Dista		Finite	Road	Fres		Barrier Att		rm Atten
Autos:	66.51			-0.47		-1.20		-4.67	0.0		0.00
Medium Trucks:	77.72			-0.45		-1.20		-4.87		000	0.00
Heavy Trucks:	82.99			-0.45		-1.20		-5.39	0.0	000	0.00
Unmitigated Noise											
VehicleType	Leq Peak Ho			eq Eve		Leq N			Ldn		NEL
Autos:			65.0 62.6		63.1 56.7		57. 53.		65.8 62.7		66.4 63.0
Medium Trucks:			62.6 66.7		56.7 60.7		53. 55.	-	62.7		
Heavy Trucks: Vehicle Noise:		3.0 1.4	66.7 69.9		65.6		55. 60.		65.8	-	66. 70.:
					05.6		60.	.4	69.7		70
Centerline Distance	ce to NOISE C	ontour (in fee	9	70 dE	3A	65 d	BA	6	0 dBA	55	dBA
			Ldn:	52		11			241		520
		С	NEL:	56		12	-		258	-	555
		0		00			-				

F	HWA-RD-77-	108 HIG	HWAY N	OISE PR	EDICTIC	N MOL	DEL			
Scenario: Existing					Project N	lame: 0	CCGP			
Road Name: Hwy. 11	1				Job Nu	mber: 1	1475			
Road Segment: w/o Can	yon Plaza Dr.	W.								
SITE SPECIFIC	INPUT DAT	A							s	
Highway Data			S	lite Cond	litions (F	lard =	10, Sc	oft = 15)		
Average Daily Traffic (Adt)	: 46,300 veh	icles				A	Autos:	15		
Peak Hour Percentage	: 10%			Med	ium Truc	ks (2 A	xles):	15		
Peak Hour Volume	: 4,630 veh	icles		Hea	vy Truck	s (3+ A	xles):	15		
Vehicle Speed	: 50 mpł	n i	1	ehicle M	liv					
Near/Far Lane Distance	: 71 feet		-		leType		Day	Evening	Night	Daily
Site Data				Venic			78.2%		9.5%	
				Mo	nı dium Tru		85.9%		8.6%	3.63%
Barrier Height		H.			avy Tru		89.4%		5.0%	
Barrier Type (0-Wall, 1-Berm)					eavy mu	CKS. (	09.470	5.0%	5.0%	2.097
Centerline Dist. to Barrier			٨	loise Sou	urce Ele	vations	s (in fe	et)		
Centerline Dist. to Observer					Autos:	0.0	000			
Barrier Distance to Observer	0.0 100			Medium	Trucks:	2.2	97			
Observer Height (Above Pad,				Heavv	Trucks:	8.0	006	Grade Ad	justment:	0.0
Pad Elevation	0.0100		_							
Road Elevation	0.0 100	et :	L	ane Equ				eet)		
Road Grade	0.070				Autos:					
Left View		•			Trucks:					
Right View	" 90.0 de	grees		Heavy	Trucks:	52.1	32			
FHWA Noise Model Calculati	ons									
VehicleType REMEL	Traffic Flo	w Di	istance	Finite F	Road	Fresn	el	Barrier Att	en Ber	m Atten
Autos: 70.	20 4	.08	-0.39		-1.20		-4.70	0.0	000	0.00
Medium Trucks: 81.	00 -10	.04	-0.37		-1.20		4.88	0.0	000	0.00
Heavy Trucks: 85.	38 -11	.34	-0.38		-1.20		-5.32	0.0	000	0.00
Unmitigated Noise Levels (w	ithout Topo a	nd barr	ier attenu	uation)						
VehicleType Leq Peak H			Leg Ev		Leq N			Ldn		VEL
Autos:	72.7	70.8		68.8		62.9		71.6		72.
Medium Trucks:	69.4	67.9		62.1		59.2		68.1		68.
Heavy Trucks:	72.5	71.2		65.2		59.9		70.3	3	70.
Vehicle Noise:	76.5	75.0		71.0		65.7		75.0	)	75.
Centerline Distance to Noise	Contour (in f	'eet)	r						1	
			70 d		65 dl		6	0 dBA		dBA
		Ldn:			291			627	,	350
		CNFL:	14		311			671		445

Tuesday, March 19, 2019

		/A-RD-77-108 F			010211						
Scenario: Exi						Project N					
Road Name: Hw Road Segment: w/o		ral Curp Dr				Job Nu	mber:	114/5			
ÿ		,								-	
SITE SPEC Highway Data	IFIC IN	PUIDAIA		s	Site Con	ditions (			L INPUT oft = 15)	5	
Average Daily Traffic	(Adt) A	4 500 vehicles						Autos:	15		
Peak Hour Perce		10%			Me	dium True					
Peak Hour Vo		4.450 vehicles				avy Truck					
Vehicle S		40 mph		_		,		,			
Near/Far I ane Dis		71 feet		v	/ehicle I			_			
					Veni	cleType		Day	Evening	Night	Daily
Site Data							utos:	78.2%			6 93.68%
Barrier H		0.0 feet				edium Tru		85.9%		8.6%	
Barrier Type (0-Wall, 1-		0.0			F	leavy Tru	icks:	89.4%	5.6%	5.0%	6 2.69%
Centerline Dist. to E		63.0 feet		٨	loise Sc	ource Ele	vation	s (in fe	eet)		
Centerline Dist. to Obs		63.0 feet				Autos	0.	000			
Barrier Distance to Obs		0.0 feet			Mediur	n Trucks.	2.	297			
Observer Height (Above		5.0 feet			Heav	y Trucks	8.	006	Grade Ad	ljustmer	ot: 0.0
Pad Ele		0.0 feet			_					-	
Road Ele		0.0 feet		L	ane Equ	uivalent			teet)		
Road 0		0.0%				Autos:		285			
	View:	-90.0 degrees				n Trucks.		116			
Right	View:	90.0 degrees			Heav	y Trucks.	52	132			
FHWA Noise Model Cale											
	MEL	Traffic Flow	Dista		Finite		Fresi		Barrier At		erm Atten
Autos:	66.51	4.87		-0.39		-1.20		-4.70		000	0.00
Medium Trucks:	77.72	-9.24		-0.37		-1.20		-4.88		000	0.00
Heavy Trucks:	82.99	-10.54		-0.38		-1.20		-5.32	0.	000	0.00
Unmitigated Noise Leve											-
	Peak Hou	11 17		.eq Ev	~	Leq N	·		Ldn		CNEL
Autos:	69.		7.9		65.9		60.	-	68.		69.
Medium Trucks:	66.		5.4		59.6		56.		65.	-	65.
Heavy Trucks:	70.	•	9.6		63.6		58.	-	68.		69.
Vehicle Noise:	74.	3 7.	2.7		68.5		63.3	3	72.	6	73.
Centerline Distance to I	Voise Co	ntour (in feet)								_	
				70 d		65 d		6	60 dBA		5 dBA
		L	dn:	94 10		20	-		438 468		944 1.009

	FHW	/A-RD-77-108	HIGHW	AY N	IOISE PF	REDICTI	ON MOI	DEL			
Scenario:     Road Name:     Road Segment:	Hwy. 111	alm Dr.					Name: ( umber: ·				
SITE SPI	ECIFIC IN	PUT DATA				N	OISE N	IODE	L INPUTS	5	
Highway Data				5	Site Con	ditions	(Hard =	10, So	oft = 15)		
Average Daily Tra	ffic (Adt): 4	6,200 vehicle	s					Autos:	15		
Peak Hour Per		10%			Me	dium Tru	icks (2 A	xles):	15		
Peak Hour	r Volume:	4,620 vehicle	s		He	avy Truc	:ks (3+ A	xles):	15		
Vehicl	le Speed:	40 mph			Vehicle I						
Near/Far Lane I	Distance:	71 feet		,		viix icleType		Dav	Evening	Night	Dailu
Site Data					ven			Day 78.2%	•	9.5%	Daily 93.68%
				_		ء edium Tr		78.2% 85.9%		9.5%	3.63%
	r Height:	0.0 feet						85.9% 89.4%		8.6% 5.0%	2.69%
Barrier Type (0-Wall,	,	0.0			r	leavy Tr	UCKS.	09.4%	5.0%	5.0%	2.09%
Centerline Dist. to		63.0 feet		1	Noise So	ource El	evation	s (in fe	eet)		
Centerline Dist. to C		63.0 feet				Autos	s: 0.0	000			
Barrier Distance to C		0.0 feet			Mediur	n Trucks	s: 2.2	297			
Observer Height (Abo	,	5.0 feet			Heav	y Trucks	s: 8.0	006	Grade Adj	ustment.	0.0
	Elevation:	0.0 feet			E-		Distant		641		
	Elevation:	0.0 feet		1	Lane Eq				reet)		
	ad Grade:	0.0%				Autos					
	eft View:	-90.0 degree				m Trucks					
Ri	ight View:	90.0 degree	es		Heav	y Trucks	s: 52.1	132			
FHWA Noise Model C											
	REMEL	Traffic Flow	Distai		Finite		Fresn		Barrier Atte		m Atten
Autos:	66.51	5.04		-0.39	-	-1.20		-4.70	0.0		0.000
Medium Trucks:	77.72	-9.08		-0.37		-1.20		-4.88	0.0		0.000
Heavy Trucks:	82.99	-10.38		-0.38	3	-1.20		-5.32	0.0	00	0.000
Unmitigated Noise Le											
<i>,</i>	q Peak Hou			eq Ev	/ening	Leq	Night		Ldn		VEL
Autos:	70.	-	68.1		66.1		60.2		68.8		69.4
Medium Trucks:	67.		65.6		59.7		56.8		65.7		66.0
Heavy Trucks:	71.	-	69.8		63.8		58.5		68.8		69.2
		4	72.9		68.7		63.5		72.8		73.2
Vehicle Noise:	74.										
,			)								
Vehicle Noise:		ntour (in feet		70 a			dBA	e	60 dBA		dBA
Vehicle Noise:		ntour (in feet	) Ldn: VFL:	70 a 97 10	7	65 e 20		ť	60 dBA 449		dBA 68

	FHW	A-RD-77-108 HIC	GHWAY	NOISE P	REDICTIC	N MODE	L		
Scenar	rio: Existing				Project N	ame: CC	GP		
	ne: Hwy. 111				Job Nu	nber: 11	175		
Road Segme	ent: e/o Sungate	Wy.							
	SPECIFIC IN	PUT DATA		044-044			DEL INPUT	S	
Highway Data				Site Cor	iditions (F		, Soft = 15)		
, ,	Traffic (Adt): 5						tos: 15		
	Percentage:	10%			dium Truc		·		
		5,740 vehicles		He	avy Truck	s (3+ Axl	es): 15		
	ehicle Speed:	40 mph		Vehicle	Mix				
Near/Far La	ane Distance:	71 feet		Veh	icleType	Da	y Evening	Night	Daily
Site Data					AL	tos: 78	.2% 12.3%	9.5%	93.68
Ra	rrier Height:	0.0 feet		М	edium Tru	cks: 85	.9% 5.5%	8.6%	3.63
Barrier Type (0-V	Vall, 1-Berm):	0.0			Heavy Tru	cks: 89	.4% 5.6%	5.0%	2.69
	ist. to Barrier:	63.0 feet		Noise Se	ource Ele	vations (	in feet)		
Centerline Dist.		63.0 feet			Autos:	0.000	,		
Barrier Distance	to Observer:	0.0 feet		Mediu	m Trucks:	2.297	,		
Observer Height	· /	5.0 feet		Heav	v Trucks:	8.006	Grade Ad	ustment	: 0.0
	ad Elevation:	0.0 feet			,				
	ad Elevation:	0.0 feet		Lane Eq	uivalent L		, ,		
	Road Grade:	0.0%			Autos:	52.28			
	Left View:	-90.0 degrees			m Trucks:	52.116	-		
	Right View:	90.0 degrees		Heav	/y Trucks:	52.13	2		
FHWA Noise Mod									
VehicleType	REMEL		Distance		Road	Fresnel	Barrier Atte		m Atten
Autos:		5.98	-0.		-1.20	-4.			0.00
Medium Trucks:	=	-8.14	-0.		-1.20		88 0.0		0.00
Heavy Trucks:		-9.44	-0.		-1.20	-5.	32 0.0	00	0.00
Unmitigated Nois VehicleType	e Levels (witho Leg Peak Hour		1		Log N	inht	l dn	0	NEL
Autos:				Evening 67.0	Leq N	61.1	Eun 69.8		TO.
Medium Trucks:			-	60.7		57.8	66.7		67.
			-	64.7		59.4	69.8		70.
Hoow Trucks				69.6		64.4	73.7		70.
Heavy Trucks:	75			00.0		04.4	10.1		74.
Vehicle Noise:	-								
,	-		70	) dBA	65 dl	BA	60 dBA	55	dBA
Vehicle Noise:	-			) dBA 112	65 dl 241		60 dBA 519		<i>dBA</i> 119